VOLUME I

DRAFT ENVIRONMENTAL IMPACT REPORT

SCH NO. 2013041063

BELMONT POOL REVITALIZATION PROJECT

CITY OF LONG BEACH

Submitted to:

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Project No. CLB1302

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1.0 EXECUTIVE SUMMARY

1.1 INTRODUCTION

The California Environmental Quality Act (CEQA) requires that local government agencies, before taking action on projects over which they have discretionary approval authority, consider the environmental consequences of such projects. An Environmental Impact Report (EIR) is a public document designed to provide both the public and local and State governmental agency decision-makers with an analysis of potential environmental consequences to support informed decision-making.

This Draft EIR has been prepared by the City of Long Beach (City) to analyze the potential environmental impacts of the proposed Belmont Pool Revitalization Project (proposed Project); to discuss alternatives; and to propose mitigation measures for identified potentially significant impacts that will minimize, offset, or otherwise reduce or avoid those environmental impacts. Data for this Draft EIR was obtained from on-site field observations; discussion with affected agencies; review of adopted plans and policies; review of available studies and reports; and specialized environmental assessments prepared for the proposed Project (e.g., air quality, biological resources, cultural resources, geology, hazards and hazardous materials, hydrology and water quality, paleontological resources, noise, and traffic).

1.2 SUMMARY OF PROJECT DESCRIPTION

The Belmont Plaza Olympic Pool (Belmont Pool) site is operated by the City Department of Parks, Recreation, and Marine and is located in the Belmont Shore Beach Park in southeast Long Beach. The proposed Project site is bordered on the south by the Pacific Ocean, the beach, bicycle and pedestrian pathways, and volleyball courts; on the west by Belmont Veterans Memorial Pier, Belmont Beach, and the Pier Parking Lot; and on the northwest by Surf Terrace Apartments, Belmont Shores Condominiums, and a Jack in the Box restaurant; on the north by several businesses located along the northern side of East Olympic Plaza; on the northeast by the Belmont Shore neighborhood; on the east by the City beach maintenance yard, the temporary outdoor pool, Rosie’s Dog Beach, a boat launch, and the Beach Parking Lot.

The proposed Project would replace the former Belmont Pool facility and provide the City with a revitalized and modern pool complex. The Project proposes the construction and operation of an approximately 125,500 square foot (sf) pool complex that includes indoor and outdoor pool components and an approximately 1,500 sf cafe. Permanent indoor seating for approximately 1,250 spectators would be provided to view competitive events at the indoor 50-Meter Competition Pool and the Dive Pool. Temporary outdoor seating would be provided for larger events at the outdoor 50-Meter Competition Pool with a maximum seating capacity of up to 3,000 spectators. The proposed Project does not include any permanent outdoor seating designed for spectator viewing.

The proposed Project would consist of three main areas: the pool facility; the open space/park area; and the outdoor café area, including a public restroom facility. The pool facility consists of the recreational and competitive aquatic components and would be the central focus of the Project site. The passive park area would be situated along the western and northern portions of the Project site and near the outdoor café on the east side, and would be intended for general park uses, similar to the uses at the existing passive park. A comparison of the proposed Project with the former Belmont Pool facility is presented in Table 1.A.

Table 1.A: Project Component Comparison Table

Project Component	Former Pool	Proposed Project	Change
Lot Size	5.8 ac	5.8 ac	0 ac
Building Size	45,595 sf	125,500 sf	+79,905 sf
Maximum Building Height	60 ft	71 ft	+11 ft
Indoor Pool Surface Area	14,010 sf	18,610 sf	+4,600 sf
Outdoor Pool Surface Area	4,400 sf	17,840 sf	+13,440 sf
Open Space Area	118,790 sf	127,085 sf	+8,295 sf
Passive Park/Landscaped Area	45,160 sf	55,745 sf	+10,585 sf
Seating	2,500	4,250*	+1,750[1]
Restaurant/Cafe	5,665 sf	1,500 sf	-4,165 sf
Public Restrooms	0 sf	600 sf	+600 sf

Source: City of Long Beach (2016).
* Permanent indoor seating = 1,250. Temporary outdoor seating = 3,000.
ac = acre(s)
ft = foot/feet
sf = square feet

A pick-up and drop-off area would be located along the eastern boundary and would be adjacent to the café/restroom area at the southeastern corner of the Project site. East Olympic Plaza would be closed to vehicular traffic.

See Chapter 3.0, Project Description, for a complete description of the Project components.

1.3 SIGNIFICANT UNAVOIDABLE IMPACTS

Section 15126.2(b) of the *State CEQA Guidelines* requires that an EIR describe significant environmental impacts that cannot be avoided if the proposed Project is implemented, including those effects that can be mitigated but not reduced to a less than significant level. As determined in the contents of this Draft EIR, implementation of the proposed Project would not result in any significant and unavoidable adverse impacts. All potentially significant impacts have been effectively mitigated to a less than significant level.

1.4 ALTERNATIVES

The following five alternatives to the proposed Project were selected for consideration, including the No Project/No Development Alternative as required by CEQA:

- Alternative 1: No Project/No Development
- Alternative 2: Maintain Temporary Pool with Ancillary Uses
- Alternative 3: Outdoor Diving Well
- Alternative 4: Reduced Project – No Outdoor Components
- Alternative 5: Reduced Project – No Diving Well and No Outdoor Components

In evaluating an appropriate range of alternatives to the proposed Project, a number of alternatives were considered and rejected by the Lead Agency. These included consideration of the following options:

- Fully Enclosed Pools Alternative
- Alternative Project Locations

Each of these alternatives was rejected for differing reasons, as described further in Chapter 5.0, Alternatives.

The No Project/No Development Alternative would be environmentally superior to the proposed Project on the basis of the lack of physical impacts that would occur with the No Project/No Development Alternative. While the No Project/No Development Alternative would lessen or avoid the impacts of the proposed Project, the beneficial impacts of the proposed Project—including the provisions of a permanent aquatic recreational complex not currently provided by the City—would not occur, and none of the Project objectives would be met. Overall, however, the No Project/No Development Alternative is considered environmentally superior because the physical impacts associated with this alternative are significantly less than the proposed Project and other alternatives.

The *State CEQA Guidelines* require that if the environmentally superior alternative is the No Project Alternative, "the EIR also identify an environmentally superior alternative among the other alternatives" (*State CEQA Guidelines* Section 15126.6[e][2]). Alternative 5, Reduced Project – No Diving Well and No Outdoor Pool Components, would lessen most of the environmental impacts as compared to the proposed Project. Although Alternative 5 would be considered environmentally superior to the proposed Project, the reduction of recreational facilities would not achieve the goals and objectives of the proposed Project, and would not be consistent with the primary objective of the City, which is to replace the former Belmont Pool facility with a more modern facility that better meets the needs of the local community, region, and State's recreational and competitive swimmers, divers, aquatic sports participants, and additional pool users due to the tremendous demand for these services in the local community, region, and State. Therefore, Alternative 5 would meet some of the Project objectives, but not to the same degree as the proposed Project.

The alternatives analysis is described in greater detail in Chapter 5.0, Alternatives, of this Draft EIR.

1.5 AREAS OF CONTROVERSY

Pursuant to *State CEQA Guidelines* Section 15123, this Draft EIR acknowledges the areas of controversy and issues to be resolved that are known to the City or that were raised by agencies and the public. Key environmental issues and concerns raised in the responses to the Initial Study/Notice of Preparation (IS/NOP) included (1) potential for increased traffic, (2) potential for discovery of cultural resources, (3) potential for air quality impacts, (4) increases in wastewater discharges, (5) potential for impacts to storm drain facilities, and (6) concerns of pool design and amenities meeting the overall desires of the swimming community. Additionally, based on input from the City Council, the Stakeholders Advisory Committee, the general public, and the California Coastal Commission, the major common issues of concern raised included (1) loss of park space, (2) wildlife, (3) parking, (4) noise, (5) aesthetics, (6) geologic stability, (7) design features, and (8) cost.

This Draft EIR addresses all environmental issues of concern raised during the NOP comment period, examines Project-related and cumulative environmental impacts, identifies significant adverse environmental impacts, and proposes mitigation measures designed to reduce or eliminate potentially significant impacts of the proposed Project.

1.6 SUMMARY OF IMPACTS AND MITIGATION MEASURES

Table 1.B identifies the potential environmental impacts, proposed mitigation measures, and level of significance after mitigation is incorporated into the proposed Project. Table 1.B also identifies cumulative impacts resulting from the proposed Project in conjunction with the approved and pending cumulative projects, which are listed in Chapter 4.0, Existing Environmental Setting, Environmental Analysis, Impacts, and Mitigation Measures, of this Draft EIR. Environmental topics addressed in this Draft EIR include Aesthetics, Air Quality, Biological Resources, Cultural Resources, Geology and Soils, Greenhouse Gas Emissions, Hazardous Materials, Hydrology and Water Quality, Land Use, Noise, Recreation, Transportation and Circulation, and Utilities and Service Systems.

In addition to identifying potentially significant impacts of the proposed Project that required additional study, the IS also identified effects determined not to be significant consistent with *State CEQA Guidelines* Section 15063(c)(3)(B). Impacts that were determined to be less than significant were discussed and evaluated in the IS contained in Appendix A of this Draft EIR. The analysis determined that the proposed Project would result in no impacts to agricultural resources, public services, population and housing, or mineral resources. Additionally, the IS substantiates the determination that the proposed Project would result in less than significant impacts associated with the following thresholds: 4.2.5 under Section 4.2, Air Quality; 4.3.2, 4.3.3, and 4.3.6 under Section 4.3, Biological Resources; 4.4.1, 4.4.2, and 4.4.4 under Section 4.4, Cultural and Paleontological Resources; 4.5.1 (iv) and 4.5.5 under Section 4.5, Geology and Soils; 4.7.5, 4.7.7, and 4.7.8 under Section 4.7, Hazards and Hazardous Materials; 4.8.7 under Section 4.8, Hydrology and Water Quality; 4.9.1 and 4.9.3 under Section 4.9, Land Use and Planning; 4.11.1, under Section 4.1, Recreation; 4.12.3 and 4.12.4 under Section 4.12, Transportation and Traffic; and 4.13.10 under Section 4.13, Utilities and Service Systems. No new information identifying a change in the level of impacts was discovered during the scoping process. As a result, these thresholds are not considered further in the analyses of the potential impacts of the proposed Project.

Table 1.B: Summary of Potential Environmental Impacts, Project Design Features, Mitigation Measures, Standard Conditions, and Level of Significance

Potential Environmental Impact	Project Design Features, Mitigation Measures, Standard Conditions	Level of Significance After Mitigation
4.1: AESTHETICS		
Threshold 4.1.1: Have a substantial adverse effect on a scenic vista. **Less than Significant Impact.** There are no locally designated scenic vistas on or surrounding the Project site but expansive ocean views from public right-of-ways can generally be considered to have aesthetic value. The proposed pool complex would be located generally on the same building footprint of the former Belmont Pool facility. The proposed placement and alignment of the Bubble would allow for increased views of the coastline that were previously blocked by the former Belmont Pool structure. Additionally, the curved elliptical shape of the Bubble reduces the structural scale and mass, when compared to a traditional rectangular building, by eliminating the corners of the building, allowing for an increase in viewable area. Therefore, the change in the building alignment on the site, in combination with the reduced structural mass from the Bubble's elliptical design, would not result in a substantial adverse effect on scenic vistas and a less than significant impact would occur. No mitigation is required.	No mitigation is required.	Less than Significant.
Threshold 4.1.2: Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State-designated scenic highway. **Less than Significant Impact.** While Ocean Boulevard adjacent to the Project site is not a designated State Highway, the Scenic Routes Element of the City of Long Beach (City) General Plan has identified the portion of Ocean Boulevard adjacent to the Project site as a designated scenic route associated with the Recreational	No mitigation is required.	Less than Significant.

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Scenic Route. While implementation of the proposed Project would modify the views to and from the Project site by replacing the former Belmont Pool facility with a new pool complex, the proposed Project would not substantially alter the existing character of the surrounding area. Motorists along Ocean Boulevard would experience increased views of the coastline following implementation of the proposed Project. Therefore, potential impacts of the proposed Project on the Recreational Scenic Route would be less than significant, and no mitigation is required.		
Threshold 4.1.3: Substantially degrade the existing visual character or quality of the site and its surroundings. **Less than Significant Impact with Mitigation Incorporated.** Construction of the proposed Project would involve on-site grading and construction activities that would be visible to travelers along Ocean Boulevard and other adjacent roadways. Construction activities for the proposed Project would be short-term and temporary fencing would be placed along the perimeter of the site to screen construction activities from the street level. Construction fencing could serve as a potential target for graffiti if not appropriately monitored. Mitigation Measure 4.1.1, requiring the maintenance of the Project site fencing, would ensure that impacts associated with unwanted debris and graffiti would be less than significant. Operation of the proposed Project would alter the existing visual character of the site because the design of the proposed structure would be dramatically different than the former Belmont Pool	**Mitigation Measure 4.1.1: Maintenance of Construction Barriers.** Prior to issuance of any construction permits, the Development Services Director, or designee, shall verify that construction plans include the following note: During construction, the Construction Contractor shall ensure, through appropriate postings and daily visual inspections, that no unauthorized materials are posted on any temporary construction barriers or temporary pedestrian walkways, and that any such temporary barriers and walkways are maintained in a visually attractive manner. In the event that unauthorized materials or markings are discovered on any temporary construction barrier or temporary pedestrian walkway, the Construction Contractor shall remove such items within 48 hours.	Less than Significant.

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facility. However, the proposed Project design has a comparable mass, scale, and height and would also be aligned to provide for increased coastal views. Additionally, the proposed Project would replace one large recreational pool complex with another recreational pool complex and although the design would be different, the visual character of the Project site would not be substantially degraded with the implementation of the proposed Project. Project impacts would be less than significant impacts, and no mitigation is required.		
Threshold 4.1.4: Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area. **Less than Significant Impact.** Lighting required during the construction period could generate light spillover in the vicinity of the proposed Project site. However, construction activities would occur only during daylight hours and any construction-related illumination would be used for safety and security purposes only (in compliance with Long Beach Municipal Code (LBMC) light intensity requirements) and would occur only for the duration required for the temporary construction process. Minor glare from sunlight on construction equipment and vehicle windshields is not anticipated to impact visibility in the area because the construction site would be fenced and shielded from pedestrian views and passenger vehicle views. In addition, construction vehicles would not be operating at night and thus would not create nighttime sources of glare. Therefore, construction of the proposed Project would not create a new source of substantial light or glare that would adversely affect day or nighttime views in the area, and light	No mitigation is required.	Less than Significant.

Table 1.B: Summary of Potential Environmental Impacts, Project Design Features, Mitigation Measures, Standard Conditions, and Level of Significance

Potential Environmental Impact	Project Design Features, Mitigation Measures, Standard Conditions	Level of Significance After Mitigation
impacts associated with construction would be less than significant. The proposed Project would include the installation of new lighting for the pool, which would replace the existing lighting for the outdoor pools, park, and associated street lights. Additionally, nighttime lights are necessary for the safety and security of the visitors and employees on site and along the park pathways, but outdoor light fixtures would be shielded and directed in compliance with the existing LBMC. The Project signage would be illuminated by light-emitting diode lights in conformance with the existing LBMC, and would be required to obtain Site Plan Review and approval. The Bubble shell is made from a low reflective. While the proposed Project's building accents may include metal or other highly polished surfaces around building entrances, such accents would be small relative to the size of the facade and would be partially blocked by landscaping buffers. Additionally, daytime glare and nighttime glare would be reduced due to the obstruction from the proposed landscaping in the interior portions of the Project site. The nighttime glare produced by the signage, exterior lighting, and vehicular headlights would be similar to the existing nighttime glare produced by the surrounding residential and commercial uses and would not result in enough glare to be considered substantial or affect nighttime views. In addition, the interior lighting of the Bubble would not be considered a glare-producing light because the structure would be illuminated from the inside, which would produce a glow and not a direct light. Additionally, the lighting of the Bubble structure would be limited to end at 10:00 p.m., the operational hours of the facility, and		

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would not be lit throughout the night. Therefore, impacts due to light and glare generation and interference with the performance of an off-site activity or adverse effects on views would be less than significant during operation of the proposed Project, and no mitigation is required.		
Cumulative Aesthetic Impacts. **Less than Significant Impact.** The proposed Project is located in an urban area with a number of existing sources of light and glare. Because the proposed Project would replace the former Belmont Pool with a modernized pool complex, light and glare as a result of the proposed Project would be consistent with the baseline conditions in the area and would not impact views in the area. The potential aesthetic impacts to scenic vistas, scenic resources, and existing visual character were evaluated and found to be less than significant. Therefore, the contribution of the proposed Project to potential cumulative visual/aesthetic impacts in the study area is considered less than cumulatively considerable.	No mitigation is required.	Less than Significant.
4.2: AIR QUALITY		
Threshold 4.2.1: Conflict with or obstruct implementation of the applicable air quality plan. **Less than Significant Impact.** Emissions associated with the proposed Project are not anticipated to exceed the General Plan projections or contribute to air quality deterioration beyond South Coast Air Quality Management District (SCAQMD) thresholds. The proposed Project is consistent with the site's current General Plan land use designation. Therefore, since the Air Quality Management Plan (AQMP) is based on local General Plans and the	No mitigation is required. **Standard Condition 4.2.1: Construction Emissions.** The proposed Project is required to comply with regional rules that assist in reducing short-term air pollutant emissions. The South Coast Air Quality Management District (SCAQMD) Rule 403 requires that fugitive dust be controlled with best available control measures so that the presence of such dust does not remain visible in the atmosphere beyond the property line of the emission source. In addition, SCAQMD Rule 402 requires implementation of dust suppression techniques to prevent fugitive dust from creating a	Less than Significant.

Table 1.B: Summary of Potential Environmental Impacts, Project Design Features, Mitigation Measures, Standard Conditions, and Level of Significance

Potential Environmental Impact	Project Design Features, Mitigation Measures, Standard Conditions	Level of Significance After Mitigation
proposed Project is consistent with the General Plan, the proposed Project would not conflict with the AQMP. However, the proposed Project would be required to adhere to Standard Conditions 4.2.1 and 4.2.2, which include a variety of measures aimed at controlling dust during Project construction, consistent with the General Plan Air Quality Element Policy 6.1. In addition, the proposed Project would be built to meet Leadership in Energy and Environmental Design (LEED) Gold (or higher) certification standards and would implement a variety of conservation and sustainability features aimed at reducing energy consumption, consistent with General Plan policies. Furthermore, the proposed Project would be compliant with all Mandatory Measures outlined in the California Green Building Standards Code (Cal Green Code) aimed at the improvement of air quality. Therefore, because the proposed Project would be consistent with the City's General Plan Air Quality Element, the Cal Green Code, and the Final 2012 AQMP, the proposed Project would have a less than significant impact related to conflict with applicable goals and policies, and no mitigation would be required.	nuisance off site. Applicable dust suppression techniques from Rules 403 and 402 are summarized below. Implementation of these dust suppression techniques can reduce the fugitive dust generation (and thus the particulate matter less than 10 microns in diameter [PM_{10}] component). **Standard Condition 4.2.2: Applicable Rules 403 and 402 Measures.** The Project construction contractor shall develop and implement dust-control methods that shall achieve this control level in a SCAQMD Rule 403 dust control plan, designate personnel to monitor the dust control program, and order increased watering, as necessary, to ensure a 55 percent control level. Those duties shall include holiday and weekend periods when work may not be in progress. Additional control measures to reduce fugitive dust shall include, but are not limited to, the following: • Apply water twice daily, or nontoxic soil stabilizers according to manufacturers' specifications, to all unpaved parking or staging areas or unpaved road surfaces or as needed to areas where soil is disturbed. • Use low-sulfur fuel for stationary construction equipment. This is required by SCAQMD Rules 431.1 and 431.2. • During earthmoving or excavation operations, fugitive dust emissions shall be controlled by regular watering or other dust-preventive measures using the following procedures: o All material excavated shall be sufficiently watered to prevent excessive amounts of dust. Watering, with complete coverage, shall occur at least twice daily, preferably in the late morning and after work is done for	

Table 1.B: Summary of Potential Environmental Impacts, Project Design Features, Mitigation Measures, Standard Conditions, and Level of Significance

Potential Environmental Impact	Project Design Features, Mitigation Measures, Standard Conditions	Level of Significance After Mitigation
	the day. ○ All earthmoving or excavation activities shall cease during periods of high winds (i.e., winds greater than 20 miles per hour [mph] averaged over 1 hour). ○ All material transported off site shall be either sufficiently watered or securely covered to prevent excessive amounts of dust. ○ The area disturbed by earthmoving or excavation operations shall be minimized at all times. • After earthmoving or excavation operations, fugitive dust emissions shall be controlled using the following measures: ○ Portions of the construction area to remain inactive longer than a period of 3 months shall be revegetated and watered until cover is grown. ○ All active portions of the construction site shall be watered to prevent excessive amounts of dust. • At all times, fugitive dust emissions shall be controlled using the following procedures: ○ On-site vehicle speed shall be limited to 15 mph. ○ Road improvements shall be paved as soon as feasible, watered periodically, or chemically stabilized. • At all times during the construction phase, ozone precursor emissions from mobile equipment shall be controlled using the following procedures: ○ Equipment engines shall be maintained in good condition and in proper tune according to manufacturers' specifications. ○ On-site mobile equipment shall not be left idling for a period longer than 60 seconds.	

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Potential Environmental Impact	Project Design Features, Mitigation Measures, Standard Conditions	Level of Significance After Mitigation
	• Outdoor storage piles of construction materials shall be kept covered, watered, or otherwise chemically stabilized with a chemical wetting agent to minimize fugitive dust emissions and wind erosion.	
Threshold 4.2.2: Violate any air quality standard or contribute to an existing or projected air quality violation. **Less than Significant Impact.** **Construction Emissions.** The use of construction equipment on the site would result in localized exhaust emissions. However, with implementation of Standard Conditions 4.2.1 and 4.2.2., the proposed Project would be required to adhere to a variety of measures aimed at controlling dust during Project construction. Therefore, with incorporation of these SCAQMD Rules and emission control measures, construction emissions would not exceed any of SCAQMD's thresholds. **Operation Emissions**. The proposed Project's emissions (from both stationary sources and vehicular sources) would not exceed SCAQMD daily emissions thresholds. Therefore, the long-term air quality impacts of the proposed Project would be less than significant, and no mitigation is required.	No mitigation is required. Refer to Standard Conditions 4.2.1 and 4.2.2, above.	Less than Significant.
Threshold 4.2.3: Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors). **Less than Significant Impact.** The projected construction,	No mitigation is required.	Less than Significant.

Table 1.B: Summary of Potential Environmental Impacts, Project Design Features, Mitigation Measures, Standard Conditions, and Level of Significance

Potential Environmental Impact	Project Design Features, Mitigation Measures, Standard Conditions	Level of Significance After Mitigation
operational, and localized significance threshold (LST) emissions of criteria pollutants as a result of the proposed Project are expected to be below the emissions thresholds established for the region. Cumulative emissions are part of the emission inventory included in the AQMP for the Project area. Therefore, there would be no cumulatively considerable net increase of the criteria pollutants that are in "nonattainment" status in the South Coast Air Basin, and Project impacts would have a less than significant impact; no mitigation is required.		
Threshold 4.2.4: Expose sensitive receptors to substantial pollutant concentrations. **Less than Significant Impact.** The sensitive land uses within the vicinity of the proposed Project include the existing Belmont Shores Children's Center (Preschool/Child Care) facility located within 25 feet of the northern boundary of the Project site, residences approximately 80 feet (ft) to the west, and residences across East Ocean Boulevard approximately 100 ft to the northeast of the Project site. Fugitive dust emissions would occur during construction of the proposed Project; however, the Project would be required to comply with SCAQMD Standard Conditions and Rule 403, as specified in Standard Conditions 4.2.1 and 4.2.2. Therefore, with implementation of Standard Conditions 4.2.1 and 4.2.2, no significant impacts to sensitive receptors related to fugitive dust during Project construction would occur. Carbon monoxide (CO) and nitrogen oxides (NO_X) emissions during construction would not exceed SCAQMD thresholds. Therefore, the Project construction would result in less than	No mitigation is required. Refer to Standard Conditions 4.2.1 and 4.2.2, above.	Less than Significant.

Table 1.B: Summary of Potential Environmental Impacts, Project Design Features, Mitigation Measures, Standard Conditions, and Level of Significance

Potential Environmental Impact	Project Design Features, Mitigation Measures, Standard Conditions	Level of Significance After Mitigation
significant air quality impacts related to CO and NO_X emissions, and no mitigation is required. Long-term operational criteria pollutant emission impacts are those associated with stationary and mobile sources. The maximum emissions from Project operation would not cause or contribute to an exceedance of applicable federal or State ambient air quality standards. Therefore, the long-term operation of the Project would result in less than significant air quality impacts related to CO, NO_x, or other criteria pollutants and would not expose sensitive receptors to substantial pollutant concentrations, and no mitigation is required. **Long-Term Microscale (CO Hot Spot) Analysis.** Because the intersections evaluated for the proposed Project would not be congested and the Project area has low background CO levels, the likelihood for CO concentrations to reach unhealthful levels is low. Therefore, the proposed Project would not have a significant impact on local air quality for CO, and no mitigation measures are required.		
Cumulative Air Quality Impacts. **Less than Significant Impact.** The proposed Project would not result in significant operational air quality impacts, contribute to an ozone (O_3) exceedance at a nearby monitoring station, cause the area to be in noncompliance with the AQMP, or result in a significant health risk for any of the analyzed pollutants. As described further in this table in Section 4.12, Transportation and Traffic, there would not be a significant cumulative traffic impact,	No mitigation is required.	Less than Significant.

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Potential Environmental Impact	Project Design Features, Mitigation Measures, Standard Conditions	Level of Significance After Mitigation
and so there would not be a cumulative traffic emissions impact. Therefore, the proposed Project's air quality emissions, when considered in combination with the cumulative projects within the Project vicinity, would be incremental and would be considered less than cumulatively considerable.		
4.3: BIOLOGICAL RESOURCES		
Threshold 4.3.1: Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service. **Less than Significant Impact.** No sensitive natural community or special-status plant species were identified on the Project site, and no designated critical habitat is located in the Project Site. Although the on-site vegetation is nonnative, Allen's hummingbirds were observed foraging on the Project site. However, bird species known to be utilizing the site, including Allen's hummingbird, would be able to relocate to other hunting and foraging habitats once the Project is implemented. The loss of disturbed nonnative habitat and the associated reduction of locally common wildlife populations are not considered a significant impact. The removal of on-site vegetation is not expected to have a significant adverse effect on candidate, sensitive, or special-status species, as defined by the California Department of Fish and Wildlife (CDFW) or the United States Fish and Wildlife Service (USFWS). Therefore, any impacts to sensitive or special-status species would be less than significant, and no mitigation is	No mitigation is required.	Less than Significant.

Table 1.B: Summary of Potential Environmental Impacts, Project Design Features, Mitigation Measures, Standard Conditions, and Level of Significance

Potential Environmental Impact	Project Design Features, Mitigation Measures, Standard Conditions	Level of Significance After Mitigation
required.		
T**hreshold 4.3.4: Interfere with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.** **Less than Significant Impact with Mitigation Incorporated.** The Project site is developed and located in an urban area subject to frequent intense human activity and does not function as a wildlife movement corridor. However, because of the presence of several mature ornamental trees, implementation of the proposed Project may interfere with native resident or migratory bird species. A total of 30 trees would be removed or relocated. In addition, noise and activities during construction could cause the potential abandonment of nests by migratory birds and may result in some temporary disruptions to the roosting activities. Implementation of Mitigation Measure 4.3.1 would be required to ensure that potential impacts to migratory birds are reduced to a less than significant level. Construction of the pool facilities and renovations to the passive park areas has the potential to cause a direct loss of nesting trees or the abandonment of nests. However, the bird species present in the Project area are currently coexisting with pool and park users and are accustomed to human intrusion and noise and are anticipated to be able to reestablish to the relocated trees and adapt to the additional trees installed as a part of the proposed Project. Therefore, long-term operation of the proposed Project is anticipated to have less than significant impacts on nesting and/or roosting birds.	**Mitigation Measure 4.3.1: Migratory Bird Treaty Act.** Tree and vegetation removal shall be restricted to outside the likely active nesting season (January 15 through September 1) for those bird species present or potentially occurring within the proposed Project area. That time period is inclusive of most other birds' nesting periods, thus maximizing avoidance of impacts to any nesting birds. If construction is proposed between January 15 and September 1, a qualified biologist familiar with local avian species and the requirements of the Migratory Bird Treaty Act (MBTA) and the California Fish and Game Code shall conduct a preconstruction survey for nesting birds no more than 3 days prior to construction. The survey shall include the entire area that will be disturbed. The results of the survey shall be recorded in a memorandum and submitted to the City of Long Beach (City) Parks, Recreation, and Marine Director within 48 hours. If the survey is positive, and the nesting species are subject to the MBTA or the California Fish and Game Code, the memorandum shall be submitted to the California Department of Fish and Wildlife (CDFW) to determine appropriate action. If nesting birds are present, a qualified biologist shall be retained to monitor the site during initial vegetation clearing and grading, as well as during other activities that would have the potential to disrupt nesting behavior. The monitor shall be empowered by the City to halt construction work in the vicinity of the nesting birds if the monitor believes the nest is at risk of failure or the birds are excessively disturbed.	Less than Significant.

Table 1.B: Summary of Potential Environmental Impacts, Project Design Features, Mitigation Measures, Standard Conditions, and Level of Significance

Potential Environmental Impact	Project Design Features, Mitigation Measures, Standard Conditions	Level of Significance After Mitigation
No bats were observed emerging from the former Belmont Pool building complex at any time during the emergence survey, no bats were observed flying or foraging in the vicinity, and no bats were detected with acoustic equipment. Therefore, no impacts to day-roosting bats or bat colonies on the Project site or in the vicinity of the Project site are expect to occur.		
Threshold 4.3.5: Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance. **Less than Significant Impact with Mitigation Incorporated.** The proposed Project would be constructed within an existing developed area that contains ornamental landscaping and nonnative vegetation. The proposed Project would comply with the Tidelands Area Tree Trimming policy by restricting tree trimming within 300 feet of any tree containing an active nest or nesting activity during the period from January 15 through September 1. Construction of the pool facilities as currently planned would result in removal or relocation of 30 trees. In accordance with the City of Long Beach (City) Municipal Code, Chapter 14.28, a ministerial permit from the Public Works Director would be required before the removal of any trees on City-owned property. A tree removal permit would be obtained prior to any grading or construction activities. The City's Tree Maintenance Policy requires a 1:1 replacement ratio and payment of a fee that is equivalent to the cost of a City-approved 15-gallon tree. Therefore, with implementation of Mitigation Measure 4.3.2, impacts related	**Mitigation Measure 4.3.2: Local Tree Removal Ordinances.** Prior to the start of any demolition or construction activities, the City of Long Beach (City) Parks, Recreation, and Marine Director, or designee, shall obtain a tree removal permit from the City's Public Works Director. A City-approved Construction Plan shall be submitted with the permit to remove tree(s). The City-approved Plan shall show that the existing City (parkway) tree has a direct impact on the design and function of the proposed Project. The City shall incur all removal costs, including site cleanup, make any necessary repair of hardscape damage, and replace the tree. The removed tree shall be replaced with an approved 15-gallon tree and payment of a fee that is equivalent to a City-approved 15-gallon tree.	Less than Significant.

Table 1.B: Summary of Potential Environmental Impacts, Project Design Features, Mitigation Measures, Standard Conditions, and Level of Significance

Potential Environmental Impact	Project Design Features, Mitigation Measures, Standard Conditions	Level of Significance After Mitigation
to the City's tree protection ordinance would be reduced to a less than significant level.		
Cumulative Biological Resource Impacts. The proposed Project has a limited potential to result in a cumulative impact to nesting migratory bird species or biological resources. However, Mitigation Measures 4.3.1 and 4.3.2, requiring avoidance of construction during nesting season and replacement of removed trees at a 1:1 ratio, would reduce potential impacts to migratory bird species to a less than significant level. Therefore, overall adverse impacts to nesting migratory bird species would not be cumulatively significant. The Project site does not contain any native habitat, and is in an area with substantial urban development and limited native habitat. Therefore, loss of potential habitat on the Project site would not be a substantial impact. As a result, when considered with the potential effects of other development in this part of the City on biological resources, the proposed Project would not contribute appreciably to cumulative adverse impacts on biological resources. Therefore, the contribution of the proposed Project to cumulative adverse impacts on biological resources would be considered less than cumulatively considerable.	Refer to Mitigation Measures 4.3.1 and 4.3.2, above.	Less than Significant.
4.4: CULTURAL AND PALEONTOLOGICAL RESOURCES		
Threshold 4.5.3: Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature. **Less than Significant Impact with Mitigation Incorporated.** During Project construction, there is a potential for significant fossil remains to be encountered during grading activities at depths	**Mitigation Measure 4.4.1: Paleontological Resources Impact Mitigation Program.** Prior to commencement of any grading or excavation activity on site, the City of Long Beach (City) Development Services Director, or designee, shall verify that a paleontologist has been retained on an on-call basis for all excavation from the surface to depths of 23 feet (ft) below the	Less than Significant.

Table 1.B: Summary of Potential Environmental Impacts, Project Design Features, Mitigation Measures, Standard Conditions, and Level of Significance

Potential Environmental Impact	Project Design Features, Mitigation Measures, Standard Conditions	Level of Significance After Mitigation
of 23 feet (ft) or greater. Mitigation Measure 4.4.1 requires a qualified paleontologist to be retained to monitor grading activities. Implementation of Mitigation Measure 4.4.1 would ensure that impacts to paleontological resources are reduced to below a less than significant level.	surface. Once a depth of 23 ft is reached, the paleontologist shall visit the site and determine if there is a potential for the sediments at this depth to contain paleontological resources. A paleontologist shall not be required on site if excavation is only occurring in depths of less than 23 ft, unless there are discoveries at shallower depths that warrant the presence of a paleontological monitor. In the event that there are any unanticipated discoveries, the on-call paleontologist shall be called to the site to assess the find for significance, and if necessary, prepare a Paleontological Resources Impact Mitigation Program (PRIMP) as outlined below. If excavation will extend deeper than 23 ft, exclusive of pile-driving and vibro-replacement soil stabilization techniques, the paleontologist shall prepare a PRIMP for the proposed Project. The PRIMP should be consistent with the guidelines of the Society of Vertebrate Paleontologists (SVP, 1995 and 2010) and shall include but not be limited to the following: • Attendance at the pre-grade conference or weekly tailgate meeting if the PRIMP is initiated after the commencement of grading, in order to explain the mitigation measures associated with the Project. • During construction excavation, a qualified vertebrate paleontological monitor shall initially be present on a full-time basis whenever excavation shall occur within the sediments that have a high paleontological sensitivity rating. Based on the significance of any recovered specimens, the qualified paleontologist may set up conditions that shall allow	

Table 1.B: Summary of Potential Environmental Impacts, Project Design Features, Mitigation Measures, Standard Conditions, and Level of Significance

Potential Environmental Impact	Project Design Features, Mitigation Measures, Standard Conditions	Level of Significance After Mitigation
	for monitoring to be scaled back to part-time as the Project progresses. However, if significant fossils begin to be recovered after monitoring has been scaled back, conditions shall also be specified that would allow increased monitoring as necessary. The monitor shall be equipped to salvage fossils and/or matrix samples as they are unearthed in order to avoid construction delays. The monitor shall be empowered to temporarily halt or divert equipment in the area of the find in order to allow removal of abundant or large specimens. • The underlying sediments may contain abundant fossil remains that can only be recovered by a screening and picking matrix; therefore, these sediments shall occasionally be spot-screened through 1/8 to 1/20-inch mesh screens to determine whether microfossils exist. If microfossils are encountered, additional sediment samples (up to 6,000 pounds) shall be collected and processed through 1/20-inch mesh screens to recover additional fossils. Processing of large bulk samples is best accomplished at a designated location within the Project that shall be accessible throughout the Project duration but shall also be away from any proposed cut or fill areas. Processing is usually completed concurrently with construction, with the intent to have all processing completed before, or just after, Project completion. A small corner of a staging or equipment parking area is an ideal location. If water is not available, the location should be accessible for a water truck to occasionally fill containers with water. • Preparation of recovered specimens to a point of identification and permanent preservation. This includes the washing and picking of mass samples to recover small invertebrate and	

Table 1.B: Summary of Potential Environmental Impacts, Project Design Features, Mitigation Measures, Standard Conditions, and Level of Significance

Potential Environmental Impact	Project Design Features, Mitigation Measures, Standard Conditions	Level of Significance After Mitigation
	vertebrate fossils and the removal of surplus sediment from around larger specimens to reduce the volume of storage for the repository and the storage cost. • Identification and curation of specimens into a museum repository with permanent retrievable storage, such as the Natural History Museum of Los Angeles County (LACM). • Preparation of a report of findings with an appended itemized inventory of specimens. When submitted to the City Development Services Director, or designee, the report and inventory would signify completion of the program to mitigate impacts to paleontological resources.	
Cumulative Cultural Resource Impacts. **Less than Significant Impact with Mitigation Incorporated.** Future development in the City of Long Beach (City) could include excavation and grading that could potentially impact archaeological and paleontological resources and human remains. The cumulative effect of the proposed Project would be the continued loss of these resources. The proposed Project, in conjunction with other development in the City, has the potential to cumulatively impact archaeological and paleontological resources; however, each development proposal received by the City undergoes environmental review pursuant to the California Environmental Quality Act (CEQA). If there is a potential for significant impacts to archaeological or paleontological resources, an investigation would be required to determine the nature and extent of the resources and to identify appropriate mitigation measures. If subsurface cultural resources are assessed and/or protected as they are discovered, impacts to these resources would	Refer to Mitigation Measure 4.4.1, above.	Less than Significant.

Table 1.B: Summary of Potential Environmental Impacts, Project Design Features, Mitigation Measures, Standard Conditions, and Level of Significance

Potential Environmental Impact	Project Design Features, Mitigation Measures, Standard Conditions	Level of Significance After Mitigation
be less than significant. In addition, applicable City ordinances and General Plan policies would be implemented as appropriate to reduce the effects of additional development within the City. Mitigation Measure 4.4.1 would be implemented during construction of the proposed Project to reduce potential Project impacts by ensuring avoidance, evaluation, and, as applicable, scientific recovery and study of any resources encountered. Therefore, with implementation of Mitigation Measures 4.4.1, the contribution of the proposed Project to the cumulative loss of known and unknown cultural resources throughout the City would be considered less than cumulatively considerable.		
4.5: GEOLOGY AND SOILS		
Threshold 4.5.1: Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving: **i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist, or based on other substantial evidence of a known fault (refer to DM&G Pub. 42).** **Less than Significant Impact.** According to the Geotechnical Evaluations prepared for the proposed Project, there are no known active fault or fault traces crossing the site. The Project site is not located within a currently designated Alquist-Priolo Earthquake Fault Zone, nor is it currently identified by the regulatory community as being located within zones of either primary or secondary co-seismic surface deformation (e.g., pressure ridges,	No mitigation is required.	Less than Significant.

Table 1.B: Summary of Potential Environmental Impacts, Project Design Features, Mitigation Measures, Standard Conditions, and Level of Significance

Potential Environmental Impact	Project Design Features, Mitigation Measures, Standard Conditions	Level of Significance After Mitigation
escarpments, or fissures). Therefore, the site is not expected to experience primary surface fault rupture or related ground deformation, and no mitigation is required.		
Threshold 4.5.1: Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving: **ii) Strong seismic ground shaking.** **Less than Significant Impact with Mitigation Incorporated.** The closest mapped active faults to the Project site are the Newport-Inglewood and Palos Verdes Fault Zones. Because the site is located approximately 1.5 miles northeast of the Newport-Inglewood Structural Zone, significant ground shaking or secondary seismic ground deformation effects could occur at the site should a major seismic event occur along the Newport-Inglewood Structural Zone. As with most areas in Southern California, damage to the proposed Belmont Pool facilities and infrastructure could be expected as a result of significant ground shaking during a strong seismic event in the region. However, the proposed Project structures would be designed and built in conformance with the most current adopted California Building Code (CBC), including seismic safety standards. Mitigation Measure 4.5.1 requires the City to comply with the recommendations of the Geotechnical Evaluations and the most current CBC, which stipulates appropriate seismic design provisions that shall be implemented with Project design and construction. With implementation of Mitigation Measure 4.5.1, potential Project impacts related to seismic ground shaking would	**Mitigation Measure 4.5.1: Conformance with the Project Geotechnical Studies.** All grading operations and construction shall be conducted in conformance with the recommendations included in the Report of Preliminary Geotechnical Investigation for the Proposed Belmont Plaza Olympic Pool Revitalization Project, prepared by MACTEC (April 14, 2009); the Geotechnical Investigation for the Temporary Myrtha Pool and Associated Improvements, Belmont Plaza Revitalization, prepared by GMU Geotechnical, Inc. (April 3, 2013); the Preliminary Geotechnical Report for the Belmont Plaza Pool Rebuild-Revitalization prepared by AESCO (April 24, 2014); and Soil Corrosivity Evaluation for the Belmont Plaza Pool Facility Rebuild/Revitalization Project, prepared by HDR Schiff (April 23, 2014), which together are referred to as the Geotechnical Evaluations. Design, grading, and construction shall be performed in accordance with the requirements of the City of Long Beach (City) Municipal Code (Title 18) and the California Building Code (CBC) applicable at the time of grading, appropriate local grading regulations, and the requirements of the Project geotechnical consultant as summarized in a final written report, subject to review and approval by the Development Services Director, or designee, prior to commencement of grading activities. Specific requirements in the Final Geotechnical Report shall address:	Less than Significant.

Table 1.B: Summary of Potential Environmental Impacts, Project Design Features, Mitigation Measures, Standard Conditions, and Level of Significance

Potential Environmental Impact	Project Design Features, Mitigation Measures, Standard Conditions	Level of Significance After Mitigation
be reduced to a less than significant level.	1. Seismic design considerations and requirements for structures and nonstructural components permanently attached to structures 2. Foundations including ground improvements (deep soil mixing and stone columns) and shallow foundation design 3. Earthwork, including site preparation for structural areas (building pad) and sidewalks, pavements, and other flatwork areas; fill material; temporary excavations; and trench backfill 4. Liquefaction 5. Site drainage 6. Slabs-on-grade and pavements 7. Retaining walls Additional site testing and final design evaluation shall be conducted by the Project geotechnical consultant to refine and enhance these requirements, if necessary. The City shall require the Project geotechnical consultant to assess whether the requirements in that report need to be modified or refined to address any changes in the Project features that occur prior to the start of grading. If the Project geotechnical consultant identifies modifications or refinements to the requirements, the City shall require appropriate changes to the final Project design and specifications. Grading plan review shall also be conducted by the City's Development Services Director, or designee, prior to the start of grading to verify that the requirements developed during the geotechnical design evaluation have been appropriately incorporated into the Project plans. Design, grading, and construction shall be conducted in accordance with the	

Table 1.B: Summary of Potential Environmental Impacts, Project Design Features, Mitigation Measures, Standard Conditions, and Level of Significance

Potential Environmental Impact	Project Design Features, Mitigation Measures, Standard Conditions	Level of Significance After Mitigation
	specifications of the Project geotechnical consultant as summarized in a final report based on the CBC applicable at the time of grading and building and the City Building Code. On-site inspection during grading shall be conducted by the Project geotechnical consultant and the City Building Official to ensure compliance with geotechnical specifications as incorporated into Project plans.	
Threshold 4.5.1: Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving: **iii) Seismic-related ground failure, including liquefaction.** **Less than Significant Impact with Mitigation Incorporated.** The Project site is located within a Liquefaction Hazard Zone as designated by the California Geological Survey (CGS). The Preliminary Geotechnical Report concluded that the proposed Project would experience a high liquefaction or lateral spreading potential due to its location, historical high groundwater levels, and the presence of soil conditions common to liquefaction areas. Compliance with applicable building codes and the incorporation of the design recommendations in the final geotechnical report into final design plans would reduce potential impacts related to liquefaction to a less than significant level. With implementation of Mitigation Measure 4.5.1, potential Project impacts related to liquefaction would be reduced to a less than significant level. See also response to Threshold 4.5.3 (Lateral Spreading and Liquefaction), below.	Refer to Mitigation Measure 4.5.1, above.	Less than Significant.
Threshold 4.5.2: Result in substantial soil erosion or the loss of topsoil.	Refer to Mitigation Measure 4.8.1 in Section 4.8, Hydrology and Water Quality, below.	Less than Significant.

Table 1.B: Summary of Potential Environmental Impacts, Project Design Features, Mitigation Measures, Standard Conditions, and Level of Significance

Potential Environmental Impact	Project Design Features, Mitigation Measures, Standard Conditions	Level of Significance After Mitigation
Less than Significant Impact with Mitigation Incorporated. During construction of the proposed Project, there is a potential for disruption of the soils on the entire Project site. Construction activities could potentially result in erosion and loss of topsoil. However, all excavation, trenching, and compaction activities would be performed under the observation of a qualified engineer and the Project would be required to adhere to all applicable construction standards with regard to erosion control. Standard Condition 4.2.2 (Applicable Rules 403 and 402 Measures) (refer to Section 4.2, Air Quality) and Mitigation Measure 4.8.1 (Construction General Permit) (refer to Section 4.8, Hydrology and Water Quality) would be implemented to reduce potential significant impacts related to soil erosion. Therefore, with implementation of Standard Condition 4.2.2 and Mitigation Measure 4.8.1, impacts would be considered less than significant.	Refer to Standard Condition 4.2.2 in Section 4.2, Air Quality, above.	
Threshold 4.5.3: Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse. **Landslides and Unstable Slopes.** **Less than Significant Impact with Mitigation Incorporated.** Because the site is located in a relatively flat area, landslides or other forms of natural slope instability do not represent a significant hazard to the Project. In addition, the site is not within a State-designated hazard zone for Earthquake-Induced Landsliding. Therefore, potential impacts related to landslides would be less than significant, and no mitigation is required.	Refer to Mitigation Measure 4.5.1, above. **Mitigation Measure 4.5.2: Corrosive Soils.** Prior to issuance of any building permits, the City of Long Beach (City) Development Services Director, or designee, shall verify that structural design conforms to the requirements of the geotechnical study with regard to the protection of ferrous metals and copper that will come into contact with on-site soil. In addition, on-site inspections shall be conducted during construction by the Project geotechnical consultant and/or City Building Official to ensure compliance with geotechnical specifications as incorporated into Project plans. The measures specified in the geotechnical study for steel pipes,	Less than Significant.

Table 1.B: Summary of Potential Environmental Impacts, Project Design Features, Mitigation Measures, Standard Conditions, and Level of Significance

Potential Environmental Impact	Project Design Features, Mitigation Measures, Standard Conditions	Level of Significance After Mitigation
Although no indications of landslide activity or gross slope instability were observed at the Project site, grading activities during construction would produce temporary construction slopes in some areas. Mitigation Measure 4.5.1 requires that planned grading and shoring conform to the recommendations of the Preliminary Geotechnical Investigation (2014), which contains specific recommendations for addressing potential slope instability during construction. With implementation of these recommendations in accordance with Mitigation Measure 4.5.1, potential impacts related to slope instability during construction would be reduced to a less than significant level. **Lateral Spreading and Liquefaction.** **Less than Significant Impact with Mitigation Incorporated.** The Project site is located within a Liquefaction Hazard Zone as designated by CGS. The Preliminary Geotechnical Report concluded that the proposed Project would experience a high liquefaction or lateral spreading potential due to its location, historical high groundwater levels, and the presence of soil conditions common to liquefaction areas. Compliance with applicable building codes and the incorporation of the design recommendations in the final geotechnical report into final design plans would reduce potential impacts related to liquefaction to a less than significant level. With implementation of Mitigation Measure 4.5.1, potential Project impacts related to liquefaction would be reduced to a less than significant level. The Geotechnical Evaluations determined that several feet of	iron pipes, copper tubing, plastic and vitrified clay pipe, other pipes, concrete, post tensioning slabs, concrete piles, and steel piles shall be incorporated into the structural design and Project plans where ferrous metals (e.g., iron or steel) and/or copper may come into contact with on-site soils.	

Table 1.B: Summary of Potential Environmental Impacts, Project Design Features, Mitigation Measures, Standard Conditions, and Level of Significance

Potential Environmental Impact	Project Design Features, Mitigation Measures, Standard Conditions	Level of Significance After Mitigation
lateral spreading toward the Pacific Ocean could occur in the event of earthquake ground motions. However, the Geotechnical Evaluations concluded that the proposed Project is feasible with implementation of the final engineering design recommendations and compliance with the most current CBC. Therefore, Mitigation Measure 4.5.1 requiring compliance with the recommendations contained in the Geotechnical Evaluations and the final geotechnical report would ensure that potential impacts related to lateral spreading are reduced to less than significant levels. **Subsidence.** **Less than Significant Impact.** Water injection was begun in 1958 to repressurize the former oil field and the area has since been stabilized (MACTEC 2009) and, therefore, is not expected to result in subsidence on the Project site. As a result, subsidence-related impacts are considered to be less than significant, and no mitigation is required. **Corrosive Soils.** **Less than Significant Impact with Mitigation Incorporated.** Corrosive soils could potentially create a significant hazard to the Project by weakening the structural integrity of the concrete and metal used to construct the building and potentially lead to structural instability. Laboratory testing indicates that on-site soils contain a negligible concentration of sulfates and severe concentrations of chlorides. Thus, the on-site soils should be considered severely corrosive to ferrous metals. Mitigation Measure 4.5.2 requires protection of		

Table 1.B: Summary of Potential Environmental Impacts, Project Design Features, Mitigation Measures, Standard Conditions, and Level of Significance

Potential Environmental Impact	Project Design Features, Mitigation Measures, Standard Conditions	Level of Significance After Mitigation
ferrous metals and copper against corrosion. Corrosion protection may include, but is not limited to, sacrificial metal, the use of protective coatings, and/or cathodic protection. With implementation of Mitigation Measure 4.5.2, potential impacts related to corrosive soils would be reduced to a less than significant level.		
Threshold 4.5.4: Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code, creating substantial risks to life or property. **Less than Significant Impact.** The on-site granular soil depths of at least 8 feet are non-expansive, while the underlying clay can be classified as having a moderate expansion potential based on the assessment of the soil classifications provided in the cone penetration test logs and results of expansion index testing contained in the Geotechnical Evaluations. A non-expansive potential should, therefore, be assumed for planning purposes for the proposed structures. Impacts related to expansive soils would be less than significant, and no mitigation is required.	No mitigation is required.	Less than Significant.
Cumulative Geology and Soil Impacts. **Less than Significant Impact with Mitigation Incorporated.** The Project site is in a fully built out area in which new development is infrequent. Any new development projects would also be required to meet similar engineering standards to reduce their own potential geologic impacts to a less than significant level. In addition, there are no other known activities or projects with activities that would affect the geology and soils at the Project site (e.g., projects requiring significant structural blasting or drilling,	Refer to Mitigation Measures 4.5.1 and 4.5.2, above.	Less than Significant.

Table 1.B: Summary of Potential Environmental Impacts, Project Design Features, Mitigation Measures, Standard Conditions, and Level of Significance

Potential Environmental Impact	Project Design Features, Mitigation Measures, Standard Conditions	Level of Significance After Mitigation
high vibration activities, or deep excavation). As discussed above, there are no geotechnical conditions on site that would prohibit construction, and no activities associated with the Project that would contribute to any cumulative geological effects (e.g., risk of ground failure, slope failure, or settlement problems) in the Project vicinity. Implementation of Mitigation Measure 4.5.1 ensures that the proposed Project complies with recommendations in the Geotechnical Evaluations and Mitigation Measure 4.5.2 requires protection of ferrous metals and copper against corrosion; adherence to these measures would ensure that the Project would have a less than significant impact on Geology and Soils. Therefore, with implementation of the proposed mitigation, the Project's geological impacts are considered less than cumulatively considerable.		
4.6: GREENHOUSE GAS EMISSIONS		
Threshold 4.7.1: Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment. **Less than Significant Impact.** During construction of the proposed Project, greenhouse gas emissions (GHGs) would be emitted through the operation of construction equipment and from worker and vendor vehicles, each of which typically use fossil-based fuels to operate. Construction emissions are typically amortized over 30 years when considering their contribution to global climate change (GCC); therefore, construction impacts are assessed as part of the long-term operation of the Project.	No mitigation is required.	Less than Significant.

Table 1.B: Summary of Potential Environmental Impacts, Project Design Features, Mitigation Measures, Standard Conditions, and Level of Significance

Potential Environmental Impact	Project Design Features, Mitigation Measures, Standard Conditions	Level of Significance After Mitigation
Long-term operation of the proposed Project would generate GHG emissions from area and mobile sources and indirect emissions from stationary sources associated with energy consumption. The proposed Project would produce an estimated 1,600 metric tons (MT) of carbon dioxide equivalent (CO_2e) per year above the existing condition. This does not include any credits for the Leadership in Energy and Environmental Design (LEED) certification Project features that would reduce energy use and, therefore, reduce GHG emissions from the Project. Even with the existing site emissions, the proposed Project would produce approximately 2,900 MT of CO_2e per year, which would not exceed the Tier 3 criterion of 3,000 MT of CO_2e per year for commercial/residential projects. Therefore, operational emissions would be below the screening threshold and Project operations would be considered to have a less than significant impact related to GHG emissions, and no mitigation is required.		
Threshold 4.7.2: Conflict with any applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases. **Less than Significant Impact.** The proposed Project is estimated to produce approximately 1,600 MT of CO_2e per year over existing conditions, representing approximately 0.002 million metric tons (MMT) of CO_2e per year of the State's reduction goals. Therefore, the proposed Project is not considered to result in GHG emission levels that would substantially conflict with implementation of the GHG reduction goals under Assembly Bill (AB) 32, Executive Order (EO) S-03-05, or other State regulations. The proposed Project would have a less than significant impact related to	No mitigation is required.	Less than Significant.

Table 1.B: Summary of Potential Environmental Impacts, Project Design Features, Mitigation Measures, Standard Conditions, and Level of Significance

Potential Environmental Impact	Project Design Features, Mitigation Measures, Standard Conditions	Level of Significance After Mitigation
potential conflicts with regulations outlined in the California Green Buildings Standard Code and GHG emissions reduction goals in AB 32. No mitigation is required.		
Cumulative Greenhouse Gas Emission Impacts. **Less than Significant Impact.** A project's GHG emissions and the resulting significance of potential impacts are more properly assessed on a cumulative basis. Thus, the Project-specific analysis conducted in Thresholds 4.7.1 and 4.7.2 is essentially already a cumulative analysis because it takes into consideration Statewide GHG reduction targets and demonstrates that the proposed Project would be consistent with those targets. The proposed Project emphasizes energy efficiency and water conservation and would be consistent with the AB 32 goals for 2020; the proposed Project would not generate GHG emissions that exceed any applicable threshold of significance; and the proposed Project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs. As a result, the proposed Project's climate change impacts with regard to GHG emissions would not be considered cumulatively considerable because they would not contribute to GHG emissions that exceed the AB 32 Statewide goals. Additionally, the proposed Project's long-term operational emissions would not exceed South Coast Air Quality Management District (SCAQMD) thresholds. The proposed Project would result in a GHG emission profile that would not exceed the Tier 3	No mitigation is required.	Less than Significant.

Table 1.B: Summary of Potential Environmental Impacts, Project Design Features, Mitigation Measures, Standard Conditions, and Level of Significance

Potential Environmental Impact	Project Design Features, Mitigation Measures, Standard Conditions	Level of Significance After Mitigation
criterion of 3,000 MT of CO_2e per year for commercial/residential projects, and is lower than the service population thresholds as allowed under Tier 4 analysis (4.8 MT of CO_2e per year per service population). Additionally, since climate change is a global issue, it is unlikely that the proposed Project would generate enough GHG emissions to influence GCC on its own. Because the proposed Project would be consistent with SCAQMD's thresholds and because the Project's impacts alone would not cause or significantly contribute to GCC, Project-related CO_2e emissions and their contribution to GCC impacts in the State would not make a significant contribution to cumulatively considerable GHG emission impacts. Therefore, the contribution of the proposed Project to potential cumulative GHG emission impacts in the City of Long Beach is considered less than cumulatively significant, and no mitigation is required. According to the Wave Uprush Study, wave run-up for the high 2060 and 2100 sea level rise scenarios (2.6 ft and 5.5 ft increase in sea level, respectively), would result in a run up elevation up to 8.2 ft and 10.4 ft (or greater) at the project site. However, the modeled scenario does not account for shore protection measures such as beach nourishment, storm berm construction, or other shore protection structures. Furthermore, because the main pool deck would be elevated 17 ft above mean sea level (amsl), the pool deck would be set 8.8 ft and 6.6 ft above the projected high water level in 2060 and 2100, respectively. Additional GHG reduction strategies implemented at the State, national, and international levels could reduce sea-level rise. Therefore, impacts related to climate change and sea level rise would not be cumulatively significant.		

Table 1.B: Summary of Potential Environmental Impacts, Project Design Features, Mitigation Measures, Standard Conditions, and Level of Significance

Potential Environmental Impact	Project Design Features, Mitigation Measures, Standard Conditions	Level of Significance After Mitigation
4.7: HAZARDS AND HAZARDOUS MATERIALS		
Threshold 4.7.1: Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials. **Less than Significant Impact with Mitigation Incorporated.** Construction activities would involve the use of potentially hazardous materials, including vehicle fuels, oils, and transmission fluids. All potentially hazardous materials would be contained, stored, and used in accordance with manufacturers' instructions and handled in compliance with existing federal, State, and local regulations to ensure that the amounts of these materials present during construction would be limited and would not pose a significant adverse hazard to workers or the environment. Furthermore, the construction contractor would be required to implement standard best management practices regarding hazardous materials storage, handling, and disposal during construction in compliance with the State Construction General Permit to protect water quality (refer to Mitigation Measure 4.8.1 in Section 4.8, Hydrology and Water Quality). Any associated risk would be reduced to a level that is less than significant through compliance with these standards and regulations; thus, the limited use and storage of hazardous materials during construction of the proposed Project would not pose a significant hazard to the public or the environment. Accordingly, potential impacts associated with the routine transport, use, or disposal of potentially hazardous materials during construction of the proposed Project would be less than significant.	**Mitigation Measure 4.7.1: Contingency Plan.** Prior to issuance of any excavation or grading permits or activities, the City of Long Beach (City) Fire Department (LBFD), or designee, shall review and approve a contingency plan that addresses the potential to encounter on-site unknown hazards or hazardous substances during construction activities. The plan shall require that if construction workers encounter underground tanks, gases, odors, uncontained spills, or other unidentified substances, the contractor shall stop work, cordon off the affected area, and notify the LBFD. The LBFD responder shall determine the next steps regarding possible site evacuation, sampling, and disposal of the substance consistent with local, State, and federal regulations. **Mitigation Measure 4.7.2: Predemolition Surveys.** Prior to commencement of demolition and/or construction activities, the City LBFD, or designee, shall verify that predemolition surveys for asbestos-containing materials (ACMs) and lead (including sampling and analysis of all suspected building materials) shall be performed. All inspections, surveys, and analyses shall be performed by appropriately licensed and qualified individuals in accordance with applicable regulations (i.e., American Society for Testing and Materials E 1527-05, and 40 Code of Federal Regulations [CFR], Subchapter R, Toxic Substances Control Act [TSCA], Part 716). If the predemolition surveys do not find ACMs or lead-based pipes (LBPs), the inspectors shall provide documentation of the inspection and its results to the City LBFD, or designee, to confirm that no further abatement actions are required.	Less than Significant.

Table 1.B: Summary of Potential Environmental Impacts, Project Design Features, Mitigation Measures, Standard Conditions, and Level of Significance

Potential Environmental Impact	Project Design Features, Mitigation Measures, Standard Conditions	Level of Significance After Mitigation
Based on the distance to known oil wells in the vicinity of the Project site, the potential presence of methane at the Project site is low. The low potential for encountering methane during excavation for the pool would be managed through compliance with a Contingency Plan that addresses the potential to encounter unknown hazards or hazardous substances during construction activities that would be approved by the City of Long Beach (City) Fire Department (LBFD). This Contingency Plan requirement is included as Mitigation Measure 4.7.1. Therefore, with implementation of Mitigation Measure 4.7.1, impacts related to the potential to encounter methane during construction would be less than significant. A site reconnaissance survey of the site revealed that asbestos-containing materials (ACMs) may be present in subsurface building materials at the site. While the majority of the buildings on the site were previously demolished under an emergency permit (Statutory Exemption SE14-01), several subsurface structures which may contain ACMs are currently present on the site. In addition to the potential to encounter ACMs in subsurface structures present on the site, the site reconnaissance survey indicated that the tile liners of the two outdoor pools to be demolished might contain lead. Mitigation Measure 4.7.2 requires the preparation of predemolition surveys to identify the presence of ACMs and lead in the existing on-site structures and outlines precautions to ensure the materials are properly removed. Therefore, with implementation of Mitigation 4.7.2, potential hazardous impacts associated with ACMs and lead would be reduced to a less than significant level.	If the predemolition surveys find evidence of ACMs or lead, all such materials shall be removed, handled, and properly disposed of by appropriately licensed contractors according to all applicable regulations during demolition of structures (40 CFR, Subchapter R, TSCA, Parts 745, 761, and 763). Air monitoring shall be completed by appropriately licensed and qualified individuals in accordance with applicable regulations both to ensure adherence to applicable regulations (e.g., South Coast Air Quality Management District [SCAQMD]) and to provide safety to workers. The City shall provide documentation (e.g., all required waste manifests, sampling, and air monitoring analytical results) to the LBFD showing that abatement of any ACMs or lead identified in these structures has been completed in full compliance with all applicable regulations and approved by the appropriate regulatory agencies (40 CFR, Subchapter R, TSCA, Parts 716, 745, 761, 763, and 795 and California Code of Regulations Title 8, Article 2.6). An Operating and Maintenance Plan shall be prepared for any ACM or lead to remain in place and shall be reviewed and approved by the LBFD. Refer to Mitigation Measure 4.8.1 in Section 4.8, Hydrology and Water Quality, below.	

Table 1.B: Summary of Potential Environmental Impacts, Project Design Features, Mitigation Measures, Standard Conditions, and Level of Significance

Potential Environmental Impact	Project Design Features, Mitigation Measures, Standard Conditions	Level of Significance After Mitigation
There is a potential to encounter dissolved metals levels in groundwater in excess of the allowable limits for discharge to the storm drain system. This will be addressed through compliance with the applicable National Pollution Discharge Elimination System (NPDES) permit or the Los Angeles Regional Water Quality Control Board's (RWQCB's) Groundwater Discharge Permit, which would require testing and treatment (as necessary) of groundwater encountered during groundwater dewatering prior to release to the storm drain system. If dewatered groundwater cannot meet the discharge limitations specified in the Groundwater Discharge Permit, groundwater would be disposed of in the sewer system and would have to meet Los Angeles County Sanitation District (LACSD) discharge limits prior to release to the storm drain system. The potential that groundwater is impacted by petroleum hydrocarbons beneath the site is low. The low potential for encountering petroleum hydrocarbons in groundwater during excavation for the pool would be managed through compliance with a Contingency Plan that addresses the potential to encounter unknown hazards or hazardous substances during construction activities that would be approved by the LBFD. This Contingency Plan requirement is included as Mitigation Measure 4.7.1. Therefore, with implementation of Mitigation Measure 4.7.1, impacts related to the potential to encounter petroleum hydrocarbons in groundwater during construction would be less than significant.		

Table 1.B: Summary of Potential Environmental Impacts, Project Design Features, Mitigation Measures, Standard Conditions, and Level of Significance

Potential Environmental Impact	Project Design Features, Mitigation Measures, Standard Conditions	Level of Significance After Mitigation
Operation of the proposed Project would not include uses with the potential to generate large quantities of hazardous and/or toxic materials, and would, therefore, have less than significant impacts related to the potential to cause fires or result in serious accidents from hazardous materials and substances. Pool and building maintenance associated with the proposed Project may include the use of chemicals that can be hazardous if not properly used, stored, or disposed. However, the use, storage, and handling of these pool maintenance hazardous materials is regulated by the United States Environmental Protection Agency (EPA), the California Building Code, the County of Los Angeles Department of Environmental Health, the LBFD and California Occupational Safety and Health Administration (Cal/OSHA). Compliance with applicable regulations would ensure that potential hazardous material impacts associated with the operation of the proposed Project would be less than significant.		
Threshold 4.7.2: Create a significant hazard to the public or the environment through reasonably foreseeable accident conditions involving the release of hazardous materials into the environment. **Less than Significant Impact with Mitigation Incorporated.** Refer to the impact discussion under Threshold 4.7.1, above.	Refer to Mitigation Measures 4.7.1 and 4.7.2, above.	Less than Significant.
Threshold 4.7.3: Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.	Refer to Mitigation Measure 4.7.2, above. Refer to Mitigation Measure 4.8.1, under Section 4.8, Hydrology and Water Quality, below.	Less than Significant.

Table 1.B: Summary of Potential Environmental Impacts, Project Design Features, Mitigation Measures, Standard Conditions, and Level of Significance

Potential Environmental Impact	Project Design Features, Mitigation Measures, Standard Conditions	Level of Significance After Mitigation
Less than Significant Impact with Mitigation Incorporated. Construction activities would involve the use of potentially hazardous materials, including vehicle fuels, oils, and transmission fluids. All potentially hazardous materials would be contained, stored, and used in accordance with manufacturers' instructions and handled in compliance with existing federal, State, and local regulations to ensure that the amounts of these materials present during construction would be limited and would not pose a significant adverse hazard to workers or the environment. Furthermore, with implementation of Mitigation Measure 4.8.1 of Section 4.8, Hydrology and Water Quality, as well as Mitigation Measure 4.7.2, any associated risk would be adequately reduced to a level that is less than significant through compliance with these mitigation measures and applicable standards and regulations. Therefore, the limited use and storage of hazardous materials during construction of the proposed Project would not pose a significant hazard to the public or the environment, including the Belmont Shore Children's Center. Operation of the proposed Project would not include uses with the potential to generate large quantities of hazardous and/or toxic materials and, therefore, the potential to cause fires or result in serious accidents from hazardous materials and substances during operations is less than significant. Pool and building maintenance associated with the proposed Project may include the use of chemicals that can be hazardous if not properly used, stored, or disposed. However, the use, storage, and handling of these pool maintenance hazardous materials is regulated by the EPA, the California Building Code, the County of Los Angeles Department		

Table 1.B: Summary of Potential Environmental Impacts, Project Design Features, Mitigation Measures, Standard Conditions, and Level of Significance

Potential Environmental Impact	Project Design Features, Mitigation Measures, Standard Conditions	Level of Significance After Mitigation
of Environmental Health, the LBFD, and Cal/OSHA. Proper routine use of these hazardous products would not result in a significant hazard to the school, residents, or workers in the vicinity of the proposed Project. The proposed Project would not produce any significant amounts of hazardous emissions; any hazardous materials on site would be handled in accordance with all applicable regulations, including containment, reporting, and remediation requirements, in the event of a spill or accidental release. Therefore, operation of the proposed Project would not result in a significant impact associated with hazardous emissions or the handling of hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school, and no mitigation is required.		
Threshold 4.7.4: Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment. **Less than Significant Impact.** The Hazardous Materials Assessment (HMA) prepared for the proposed Project (refer to Appendix F of this Draft EIR) determined that the Project site is not included on any hazardous materials sites pursuant to Government Code Section 65962.5, including the Cortese List, and would not create a significant hazard to the public or the environment. No mitigation is required.	No mitigation is required.	Less than Significant.
Cumulative Hazard and Hazardous Material Impacts. **Less than Significant Impact with Mitigation Incorporated.** There are no known projects adjacent to or in the vicinity of the	Refer to Mitigation Measures 4.7.1 and 4.7.2, above.	Less than Significant.

Table 1.B: Summary of Potential Environmental Impacts, Project Design Features, Mitigation Measures, Standard Conditions, and Level of Significance

Potential Environmental Impact	Project Design Features, Mitigation Measures, Standard Conditions	Level of Significance After Mitigation
Project site that could be affected by on-site handling of hazardous materials or that could result in significant hazards or hazardous materials impacts on site. The contribution of hazardous materials use and hazardous waste disposal with implementation of the Project is minimal, and combined hazardous materials effects from past, present, and reasonably foreseeable projects within the City would not be significant. As previously stated, the proposed Project would involve the use of potentially hazardous materials related to pool and building maintenance (e.g., solvents, cleaning agents, paints, pesticides, and diesel and petroleum fuels), but these products would be used in small amounts and any spills that do occur would be cleaned up when they occur. Proper and routine use of these products would not result in a significant hazard to residents or workers in the vicinity of the proposed Project. Impacts associated with removal of unknown hazardous materials during construction and use of hazardous materials on site would be controlled through application of the procedures set forth in Mitigation Measures 4.7.1 and 4.7.2. Accordingly, the proposed Project's contribution to hazardous materials impacts would be less than cumulatively significant with implementation of mitigation.		
4.8 HYDROLOGY AND WATER QUALITY		
Threshold 4.8.1: Violate any water quality standards or waste discharge requirements. **Less than Significant Impact with Mitigation Incorporated.** Pollutants of concern during construction include sediments, trash, petroleum products, concrete waste (dry and wet), sanitary waste, and chemicals. During construction activities, it is anticipated that	**Mitigation Measure 4.8.1: Construction General Permit.** Prior to issuance of a grading permit, the City of Long Beach (City) shall obtain coverage for the proposed Project under the State Water Resources Control Board National Pollutant Discharge Elimination System General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Order No. 2009-0009-DWQ, Permit No. CAS000002), as amended by Order	Less than Significant.

Table 1.B: Summary of Potential Environmental Impacts, Project Design Features, Mitigation Measures, Standard Conditions, and Level of Significance

Potential Environmental Impact	Project Design Features, Mitigation Measures, Standard Conditions	Level of Significance After Mitigation
the Project site would be graded and/or excavated, resulting in exposed soil. Consequently, there would be an increased potential for soil erosion compared to existing conditions. In addition, chemicals, liquid products, petroleum products (e.g., paints, solvents, and fuels), and concrete-related waste may be spilled or leaked and have the potential to be transported via storm runoff into downstream receiving waters (i.e., the beach and, ultimately, the Pacific Ocean). Furthermore, due to the anticipated depth of excavation and the depth of groundwater, groundwater is anticipated to be encountered during excavation, which would require groundwater dewatering. Groundwater may contain high levels of total dissolved solids and other constituents that could be introduced to surface waters. Implementation of Mitigation Measures 4.8.1 and 4.8.2, which require compliance with the General Construction Permit and the Groundwater Discharge Permit, including implementation of Best Management Practices (BMPs) to target pollutants of concern, would reduce potential construction impacts related to violation of water quality standards or waste discharge requirements and degradation of water quality to less than significant levels. Pollutants of concern during operation of the proposed on-site uses could potentially include pathogens, metals, nutrients, pesticides, organic compounds, sediment, trash and debris, oxygen-demanding substances, and oil and grease. The proposed Project would result in a permanent decrease in impervious surface area of approximately 0.5 acre (ac) and an increase in pervious area of approximately 0.5 ac. A decrease in impervious area would decrease the volume of runoff during a storm. As specified in Mitigation Measure 4.8.3, a Standard Urban Stormwater	Nos. 2010-0004-DWQ and 2012-0006-DWQ (Construction General Permit), or subsequent issuance. For projects with a disturbed area of 5 or more acres, a Storm Water Pollution Prevention Plan (SWPPP) with construction Best Management Plans (BMPs) is required to be submitted to both the Los Angeles Regional Water Quality Control Board (RWQCB) and the City. The City shall provide the Waste Discharge Identification Numbers to the Development Services Director to demonstrate proof of coverage under the Construction General Permit. A SWPPP shall be prepared and implemented for the proposed Project in compliance with the requirements of the Construction General Permit. The SWPPP shall identify construction BMPs to be implemented to ensure that the potential for soil erosion and sedimentation is minimized and to control the discharge of pollutants in storm water runoff as a result of construction activities. **Mitigation Measure 4.8.2: Dewatering During Construction Activities.** During project construction, the City of Long Beach Development Services Director, or designee, shall ensure that any dewatering activities during construction shall comply with the requirements of the Waste Discharge Requirements for Discharges of Groundwater from Construction and Project Dewatering to Surface Waters in Coastal Watersheds of Los Angeles and Ventura Counties (Order No. R4-2013-0095, Permit No. CAG994004) (Groundwater Discharge Permit) or subsequent permit. This Groundwater Discharge Permit shall include submission of a Notice of Intent (NOI) for coverage under the permit to the Los	

Table 1.B: Summary of Potential Environmental Impacts, Project Design Features, Mitigation Measures, Standard Conditions, and Level of Significance

Potential Environmental Impact	Project Design Features, Mitigation Measures, Standard Conditions	Level of Significance After Mitigation
Mitigation Plan (SUSMP) would be developed for the proposed Project, which would include the BMPs that would be consistent with the requirements of the City of Long Beach (City) Low Impact Development (LID) BMP Design Manual and would target pollutants of concern from the Project site. In addition, the SUSMP would include an operations and maintenance plan for the bioswales, drywell, filtration strip, and an underground detention basin to ensure their long-term performance. Implementation of BMPs that target pollutants of concern in runoff from the Project site, as required by Mitigation Measure 4.8.3, would reduce potential operational impacts related to violation of water quality standards or waste discharge requirements and degradation of water quality to less than significant levels.	Angeles RWQCB at least 45 days prior to the start of dewatering and compliance with all applicable provisions in the permit, including water sampling, analysis, and reporting of dewatering-related discharges. If dewatered groundwater cannot meet the discharge limitations specified in the Groundwater Discharge Permit, a permit shall be obtained from the Los Angeles County Sanitation District (LACSD) to discharge groundwater to the sewer per LACSD's Wastewater Ordinance. **Mitigation Measure 4.8.3: Standard Urban Stormwater Mitigation Plan.** Prior to issuance of grading permits, the City shall submit a Final Standard Urban Stormwater Mitigation Plan (SUSMP) for the proposed Project to the Development Services Director for review and approval. Project-specific site Design, Source Control, and Treatment Control BMPs contained in the Final SUSMP shall be incorporated into final design. The BMPs shall be consistent with the requirements of the *Low Impact Development (LID) Best Management Practices (BMP) Design Manual*. Additionally, the BMPS shall be designed and maintained to target pollutants of concern and reduce runoff from the Project site. The SUSMP shall include an operations and maintenance plan for the prescribed Treatment Control BMPs to ensure their long-term performance.	
Threshold 4.8.2: Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which	No mitigation is required.	Less than Significant.

Table 1.B: Summary of Potential Environmental Impacts, Project Design Features, Mitigation Measures, Standard Conditions, and Level of Significance

Potential Environmental Impact	Project Design Features, Mitigation Measures, Standard Conditions	Level of Significance After Mitigation
permits have been granted). **Less than Significant Impact.** Due to the depth of groundwater (i.e., 6 to 9 feet [ft] below existing grades) and the anticipated depth of excavation (up to 13 ft below existing grade), groundwater dewatering is anticipated to be required during removal of the remaining wooden piles, and construction of the pools. However, groundwater-dewatering activities would be temporary, and the volume of groundwater removed would not be substantial. In addition, grading and construction activities would compact soil, which can decrease infiltration during construction. However, construction activities would be temporary, and the reduction in infiltration would not be substantial. Therefore, construction of the proposed Project would not substantially deplete groundwater or interfere with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level. Construction impacts related to groundwater supplies would be less than significant, and no mitigation is required. Operation of the proposed Project would not require groundwater extraction. The proposed Project would not directly utilize local groundwater but would continue to use water from the local municipal supply. Additionally, the proposed Project would replace the existing facility with a similar facility. As discussed previously, the proposed Project would decrease impervious surface by 0.5 ac, which would increase infiltration. As a result, the proposed Project would not constitute interference with groundwater recharge such that there would be a net deficit in		

Table 1.B: Summary of Potential Environmental Impacts, Project Design Features, Mitigation Measures, Standard Conditions, and Level of Significance

Potential Environmental Impact	Project Design Features, Mitigation Measures, Standard Conditions	Level of Significance After Mitigation
aquifer volume or a lowering of the local groundwater table level. Operational impacts related to groundwater supplies would be less than significant, and no mitigation is required.		
Threshold 4.8.3: Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on or off site. **Less than Significant Impact with Mitigation Incorporated.** During construction, there is the potential for the drainage pattern on the Project site to be altered temporarily. During a storm event, soil erosion and sedimentation could occur at an accelerated rate. In addition, grading and construction activities would compact soil, which can increase runoff during construction. Implementation of Mitigation Measure 4.8.1, which requires compliance with the requirements of the Construction General Permit and implementation of BMPs during construction, would reduce potential construction impacts related to erosion, siltation, and flooding to less than significant levels. There are no on-site streams or rivers. Therefore, the proposed Project would not alter the course of a stream or river. The proposed Project would change on-site drainage patterns by adding impervious surface areas and structures. However, flows from the Project site would continue to discharge to the existing off-site storm drain system. The proposed Project would decrease the overall impervious area by 0.5 ac and increase the pervious area by 0.5 ac, resulting in an increase in filtration. The proposed	Refer to Mitigation Measures 4.8.1 and 4.8.3, above. **Mitigation Measure 4.8.4: Hydrology Reports.** Prior to issuance of grading permits, the City shall submit a final hydrology report for the proposed Project to the City Development Services Director, or designee, for review and approval. The hydrology report shall demonstrate, based on hydrologic calculations, that the proposed Project's on-site storm conveyance and detention and infiltration facilities are designed in accordance with the requirement of the Los Angeles County Department of Public Works Hydrology Manual.	Less than Significant.

Table 1.B: Summary of Potential Environmental Impacts, Project Design Features, Mitigation Measures, Standard Conditions, and Level of Significance

Potential Environmental Impact	Project Design Features, Mitigation Measures, Standard Conditions	Level of Significance After Mitigation
Project would also include a comprehensive drainage system to convey on-site storm flows, including on-site detention and infiltration BMPs. In the proposed condition, the impervious surface areas would not be prone to erosion or siltation. With implementation of Mitigation Measure 4.8.3, which requires the implementation of Treatment BMPs to control runoff, and Mitigation Measure 4.8.4, which requires the development of a hydrology report to ensure flows would not exceed existing storm drain facilities, the proposed Project would not contribute to an increase in downstream erosion, siltation, or flooding.		
Threshold 4.8.4: Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on or off site. **Less than Significant Impact with Mitigation Incorporated.** Refer to the impact discussion under Threshold 4.8.3, above.	Refer to Mitigation Measures 4.8.1, 4.8.3 and 4.8.4, above.	Less than Significant.
Threshold 4.8.5: Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff. **Less than Significant Impact with Mitigation Incorporated.** The proposed Project has the potential to introduce pollutants into the storm water drainage system through erosion, siltation, and accidental spills. In addition, grading and construction activities would compact soil, which can increase runoff during construction. Furthermore, due to the depth of groundwater (i.e., 6 to 9 ft below	Refer to Mitigation Measures 4.8.1 through 4.8.4, above.	Less than Significant.

Table 1.B: Summary of Potential Environmental Impacts, Project Design Features, Mitigation Measures, Standard Conditions, and Level of Significance

Potential Environmental Impact	Project Design Features, Mitigation Measures, Standard Conditions	Level of Significance After Mitigation
existing grades) and the anticipated depth of excavation (up to 13 ft below existing grade), groundwater dewatering is anticipated to be required during the removal of the remaining wooden piles and construction of the pools. However, groundwater-dewatering activities would be temporary, and the volume of groundwater removed would not be substantial. With implementation of Mitigation Measures 4.8.1 and 4.8.2, which require compliance with the General Construction Permit and the Groundwater Discharge Permit, construction impacts related to exceeding the capacity of, and providing additional sources of polluted runoff to, storm water drainage systems would be reduced to less than significant levels. The proposed Project would decrease impervious surface area by 0.5 ac and increase the pervious area by approximately 0.5 ac, which would decrease the volume and velocity of runoff on the site. The proposed Project would also include a comprehensive drainage system to convey on-site storm flows. With implementation of Mitigation Measure 4.8.3 which requires the implementation of Treatment BMPs to control runoff, and Mitigation Measure 4.8.4, which requires the development of a hydrology report to ensure flows would not exceed existing storm drain facilities, operational impacts related to exceedance of the capacity of, and providing additional sources of polluted runoff to, storm water drainage systems would be reduced to a less than significant level.		

Table 1.B: Summary of Potential Environmental Impacts, Project Design Features, Mitigation Measures, Standard Conditions, and Level of Significance

Potential Environmental Impact	Project Design Features, Mitigation Measures, Standard Conditions	Level of Significance After Mitigation
Threshold 4.8.6: Otherwise substantially degrade water quality. **Less than Significant Impact with Mitigation Incorporated.** Refer to the impact discussion under Threshold 4.8.1, above.	Refer to Mitigation Measures 4.8.1 and 4.8.2, above.	Less than Significant.
Threshold 4.8.8: Place within a 100-year flood hazard area structures which would impede or redirect flood flows. **Less Than Significant Impact with Mitigation Incorporated.** According to Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) No. 06037C1970F (September 26, 2008), the eastern half of the Project site is located within Zone A, a Special Flood Hazard Area (SFHA) subject to inundation by the 1-percent annual chance of flood, and the western half of the Project site is located within Zone X, areas determined to be outside the 0.2-percent chance (500-year) floodplain (see Figure 4.8.3). The City is a participant in the National Flood Insurance Program (NFIP), which allows City property owners to obtain federally backed flood insurance. FEMA requires that all projects within Zone A enforce NFIP floodplain management regulations and purchase mandatory flood insurance. In addition, implementation of Mitigation Measure 4.8.5 would require a floodplain report to be prepared in order to reduce impacts to the floodplain. Compliance with City and FEMA regulations and implementation of Mitigation Measure 4.8.5 would ensure that the proposed Project would not expose people or structures to the risk of flooding, create floodplains, or result in an increase in the base flood elevation. Therefore, impacts associated with flood hazard areas would be less than significant.	**Mitigation Measure 4.8.5: Floodplain Report.** During final design, the Project engineer shall prepare and submit a floodplain/hydrology report to the City Development Services Director, or designee, to address any potential impacts to the floodplain and, if required, reduce those impacts. The report shall comply with City and Federal Emergency Management Agency (FEMA) regulations and shall not increase the base flood elevation by more than 1 foot. Detailed analysis shall be conducted to ensure that the Project design specifically addresses floodplain issues so that the proposed Project complies with local and FEMA regulations on floodplains.	Less than Significant.

Table 1.B: Summary of Potential Environmental Impacts, Project Design Features, Mitigation Measures, Standard Conditions, and Level of Significance

Potential Environmental Impact	Project Design Features, Mitigation Measures, Standard Conditions	Level of Significance After Mitigation
Threshold 4.8.9: Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam. **Less than Significant Impact.** According to the City 2015 Natural Hazards Mitigation Plan (NHMP), three flood control dams lie upstream of the City: Sepulveda Basin, Hansen Basin, and Whittier Narrows Basin. Sepulveda and Hansen Basins lie more than 30 miles upstream from where the Los Angeles River passes through the City, which is north of the Project site. According to the Sepulveda and Hansen Dam Failure Inundation Maps, the Project site is not located within the dam inundation area. In addition, flood waters from these dam failures are expected to dissipate before reaching the City, due to low and flat ground and their distances from the City. The Project site is located within the dam inundation area for the Whittier Narrows Dam. [1] According to the United States Army Corps of Engineers (USACE), Dam Safety Program, the Whittier Narrows Dam received a Dam Safety Action Class II rating in December 2008. This rating is assigned to dams where failure could begin during normal operations or be initiated as the consequence of a natural event (e.g., an earthquake). This classification indicates that the likelihood of failure, prior to remediation, is too high to assure public safety, or that the combination of life or economic consequences with probability of	No mitigation is required.	Less than significant.

1 City of Long Beach. 2015. City of Long Beach Natural Hazards Mitigation Plan.

Table 1.B: Summary of Potential Environmental Impacts, Project Design Features, Mitigation Measures, Standard Conditions, and Level of Significance

Potential Environmental Impact	Project Design Features, Mitigation Measures, Standard Conditions	Level of Significance After Mitigation
failure is very high. However, because of the Project site's location at the furthest point away from the Whittier Narrows Dam within the inundation area, flooding would significantly dissipate by the time it reached the Project site. In addition, the City would have ample time to notify on-site users to evacuate and on-site users would have ample time to evacuate before waters reached the Project site. Additionally, the Project does not propose the development of habitable structures on site, thereby further minimizing the risk to life and property in the event of a dam failure. Furthermore, the USACE has implemented the following Interim Risk Reduction Measures to reduce impacts to life and property in the event of dam failure: remote monitoring, inspection and monitoring, flood mapping, updating the Emergency Action Plan annually, inspecting toe drain and gallery, and initiating a Dam Safety Modification Study. The City has also developed emergency preparedness plans that would help the public be prepared for these types of emergency situations. In addition, the County of Los Angeles has regional catastrophic preparedness planning and regional evacuation routes. Therefore, because the City and County have implemented mitigation plans, emergency preparedness plans, and evacuation routes, impacts associated with the failure of a dam or levee would be less than significant, and no mitigation is required.		
Threshold 4.8.10: Inundation by seiche, tsunami, or mudflow. **Less than Significant Impact.** According to the Geotechnical Evaluations (Appendix E of this Draft EIR) prepared for the proposed Project, the Project site is not located in the vicinity of any large enclosed bodies of water that could adversely affect the	No mitigation is required.	Less than significant.

Table 1.B: Summary of Potential Environmental Impacts, Project Design Features, Mitigation Measures, Standard Conditions, and Level of Significance

Potential Environmental Impact	Project Design Features, Mitigation Measures, Standard Conditions	Level of Significance After Mitigation
Project site in the event of earthquake-induced seiches. Therefore, the risk associated with possible seiche waves is not considered a potential constraint or a potentially significant impact of the proposed Project, and no mitigation is necessary. The proposed Project is adjacent to the beach and the Pacific Ocean and is within a tsunami inundation zone. Up to 900 patrons are anticipated as part of typical daily operations of the Belmont Pool. Although there could be an increase in visitors to the site during special events, the proposed Project is replacing an existing use and would not create a new risk. Additionally, the proposed Project would not increase the risk of a tsunami occurring. Furthermore, the City has adopted the 2015 Draft Hazard Mitigation Plan (as well as emergency preparedness plans) for the purpose of protecting the lives, property, and facilities of citizens, employees, businesses, industry, infrastructure, and the environment from natural hazards. In addition, the County of Los Angeles has developed regional catastrophic preparedness planning and regional evacuation routes. Therefore, the risks associated with tsunamis are considered less than significant, and no mitigation is required. The Project site is relatively level and the absence of nearby slopes precludes any slope stability hazards. Furthermore, the site is not in a State Earthquake-Induced Landslide Hazard Zone. Therefore, the proposed Project would result in less than significant impacts related to exposure of people or structures to risk of loss, injury, or death involving flooding as a result of inundation by mudflow, and no mitigation is required.		

Table 1.B: Summary of Potential Environmental Impacts, Project Design Features, Mitigation Measures, Standard Conditions, and Level of Significance

Potential Environmental Impact	Project Design Features, Mitigation Measures, Standard Conditions	Level of Significance After Mitigation
Cumulative Hydrology and Water Quality Impacts. **Less than Significant Impact.** As with the proposed Project, future development within the Project vicinity would be subject to NPDES and Municipal Separate Storm Sewer System (MS4) Permit requirements for both construction and operation. Each project would be required to develop a Storm Water Pollution Prevention Plan (SWPPP) and/or a SUSMP to target site-specific pollutants of concern. Each project would also be evaluated individually to determine appropriate BMPs to minimize impacts to surface water quality. Furthermore, because the Los Cerritos Channel and Alamitos Bay WMA are along the Pacific Ocean, there is the potential for cumulative projects, individually and cumulatively, to result in an encroachment into the 100-year flood zone, similar to the proposed Project. However, as with the proposed Project, each of the cumulative projects would be required to comply with City and FEMA regulations and prepare a Floodplain Report during final design to address any potential impacts to the floodplain, and if required, reduce those impacts. In addition, the City Development Services Director reviews all development projects on a case-by-case basis to ensure that sufficient local and regional drainage capacity is available. Thus, the proposed Project's contribution to cumulative impacts to hydrology and water quality would be less than cumulatively significant.	No mitigation is required.	Less than Significant.
4.9: LAND USE AND PLANNING		
Threshold 4.9.2: Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, the General Plan,	No mitigation is required.	Less than Significant.

Table 1.B: Summary of Potential Environmental Impacts, Project Design Features, Mitigation Measures, Standard Conditions, and Level of Significance

Potential Environmental Impact	Project Design Features, Mitigation Measures, Standard Conditions	Level of Significance After Mitigation
Specific Plan, Local Coastal Program, or Zoning Ordinance) adopted for the purpose of avoiding or mitigating an environmental effect. **Less than Significant Impact.** In November 1961, the Long Beach City Council voted to place an item in the February 1962 municipal election for the use of Tidelands funds for the construction of the "Belmont Plaza Beach Center" (now Belmont Plaza) Project, which included a swimming pool, wading pool, and public parking lot. Proposition 7 was approved by the voters in February 1962, clearing the way for the use of the site for public purposes. The City Council ratified the election results in March 1962, paving the way for site acquisition and eventual construction of the "Belmont Plaza Beach Center." In January 1967, plans were approved for a group of structures at Belmont Plaza, a site west of the Belmont Pier on the beach in Belmont Shore. The Belmont Pool opened in 1968 in time for the United States (U.S.) Olympic swimming trials. The facility hosted both the 1968 and the 1976 U.S. Olympic swimming trials, as well as the 1974 and 1978 National Collegiate Athletic Association (NCAA) swimming championships. Mark Spitz, Don Schollander, and Charles Hickox set men's records during these trials. After the 1968 trials, the Belmont Pool facility was opened to the public for recreational purposes and has remained open for public use on the site for approximately 45 years. As such, the Belmont Pool facility has long been included in applicable land use and planning documents regulating the site.		

Table 1.B: Summary of Potential Environmental Impacts, Project Design Features, Mitigation Measures, Standard Conditions, and Level of Significance

Potential Environmental Impact	Project Design Features, Mitigation Measures, Standard Conditions	Level of Significance After Mitigation
California Coastal Commission/California Coastal Act/Local Coastal Program: The proposed Project is consistent with the policies and guidelines contained in the Local Coastal Program (LCP), which states, "Belmont Plaza Pool is a facility which was designed and is utilized for Olympic-class swimming and diving events. It is, therefore, unusually important in the training of U.S. athletes for international events." The policies within Chapter 3 of the California Coastal Act are intended to provide protection for suitable oceanfront lands to be used for water-oriented and recreational purposes. The proposed Project is consistent with the intent of these policies. Because the proposed Project is consistent with applicable California Coastal Act policies, impacts are considered less than significant. No mitigation is required. **SCAG RCP:** The Southern California Association of Governments (SCAG) maintains an Intergovernmental Review Criteria List to assist agencies in determining whether a project is considered regionally significant. The proposed Project is not listed by SCAG as a project of regional significance. Therefore, the proposed Project would not result in impacts related to regional planning issues, and no mitigation is required. SCAG's Regional Comprehensive Plan (RCP) aims to reduce emissions and increase mobility through strategic land use changes. The proposed Project is a replacement/expansion of previous recreational facilities and would not alter the designated or previous land uses on the Project site. Therefore, these RCP		

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Potential Environmental Impact	Project Design Features, Mitigation Measures, Standard Conditions	Level of Significance After Mitigation
strategies are not applicable to the proposed Project. No mitigation is required. **General Plan Land Use Element:** The City of Long Beach (City) General Plan land use designations for the Project site are Land Use Division (LUD) No. 7, Mixed-Use, and LUD No. 11, Open Space and Parks. According to the City's General Plan, LUD No. 7 is intended for large vital activity centers. Combinations of land uses intended in LUD No. 7 include employment centers, visitor-serving uses, high-density residential, personal or professional services, and recreation uses. Consistent with the intent of LUD No. 7, the proposed Project includes the replacement of the former facility and construction of the new Belmont Pool complex, which is a visitor-serving recreational use. The proposed Project also includes an open space/park area (a park use), an outdoor café (a retail use) and gathering area, and public restrooms, consistent with permitted land uses as allowed within LUD No. 7. Permitted uses within LUD No. 11 include employment centers (e.g., retail, offices, and medical facilities), high-density residential uses, visitor-serving facilities, personal and professional services, and recreational uses. LUD No. 11 is intended to provide for "preserving natural habitat areas and promoting the mental and physical health of the community through recreational, cultural, and relaxation pursuits. Parks are characterized by open spaces devoted to leisure activities including the enjoyment of nature, wildlife, cultural heritage, sports, and similar activities." The proposed Project is a visitor-serving facility and provides recreational opportunities. Therefore, the proposed Project would be consistent with both LUD No. 7 and LUD No. 11.		

Table 1.B: Summary of Potential Environmental Impacts, Project Design Features, Mitigation Measures, Standard Conditions, and Level of Significance

Potential Environmental Impact	Project Design Features, Mitigation Measures, Standard Conditions	Level of Significance After Mitigation
The City's General Plan Land Use Element also contains goals and policies that are applicable to the proposed Project. Although the proposed Project's building height would be similar to the former Belmont Pool facility, the proposed Project would require a variance to allow for the proposed 71-foot (ft) high Belmont Pool structure. However, the former Belmont Pool facilities also exceeded the Zoning Code requirement with a maximum height of 60 ft. Additionally, because the proposed Project would be a domed structure, the maximum height would only be reached at one point and several portions of the structure would be lower in height than the former Belmont Pool facility. Replacing and improving the pool facilities and related ancillary uses on the Project site would also be consistent with the existing land uses in the area and would not conflict with the recreational objectives of the existing land use designations. Further, the proposed Project would improve the character of the recreation areas and would further the objective of supporting recreation uses. The proposed Project would result in a modern aquatics facility that is Americans with Disabilities Act of 1990 (ADA) compliant, which would increase the overall value of the Project site as a recreational resource consistent with the designations within the General Plan Land Use Element. The City is currently in the process of updating its General Plan Land Use Element. Under the new Land Use Element, the proposed Project would be in an area designated for waterfront uses which, among other things, would allow for redevelopment of the Belmont Pier and Pool Complex. As such, in the event that the proposed Project is approved after the General Plan is updated, the		

Table 1.B: Summary of Potential Environmental Impacts, Project Design Features, Mitigation Measures, Standard Conditions, and Level of Significance

Potential Environmental Impact	Project Design Features, Mitigation Measures, Standard Conditions	Level of Significance After Mitigation
proposed Project would be consistent with the City's General Plan land use designation for the site. Therefore, implementation of the proposed Project would not result in significant land use compatibility issues with the City's General Plan Land Use Element. **General Plan Open Space and Recreation Element:** The City's Open Space and Recreation Element defines the Belmont Pool complex as a special-use park because of the numerous recreational amenities and specialized aquatic uses it has provided. The proposed Project would be consistent with the objectives and policies established in the General Plan Open Space and Recreation Element for the Project area because the proposed Project would enhance recreation opportunities and facilities on the Project site. Therefore, no adverse impacts to open space and recreation amenities would result, and mitigation would not be required.		
Cumulative Land Use and Planning Impacts. **Less than Significant Impact.** The Project site is currently designated as LUD No. 7 and LUD No. 11 by the City's General Plan Land Use Element and General Plan Land Use Map. These land use designations allow for parks and open space and the development of a mix of commercial, recreation, and retail uses. As such, development of the proposed Project would be consistent with the existing General Plan land use designations. The land use patterns around the Project site have been long established with recreational, open space, and small areas of retail (food and concession areas) development. The proposed Project involves	No mitigation is required.	Less than Significant.

Table 1.B: Summary of Potential Environmental Impacts, Project Design Features, Mitigation Measures, Standard Conditions, and Level of Significance

Potential Environmental Impact	Project Design Features, Mitigation Measures, Standard Conditions	Level of Significance After Mitigation
replacement of a former pool facility and would be compatible with development in the immediate area surrounding the Project site. Therefore, the construction of the new Belmont Pool facilities would not result in a potential inconsistency with the City General Plan or other land planning documents, nor would the proposed Project result in significant land use compatibility issues. Land use compatibility is a combination of other impacts, including potential aesthetic, air quality, noise, and traffic impacts. Potential cumulative impacts associated with traffic generation and related air quality and noise impacts are addressed in those topical sections of this Draft EIR. None of these related environmental topics were found to have significant cumulative effects. Therefore, implementation of the proposed Project would not result in, or contribute to, a cumulatively significant land use impact, and no mitigation is required.		
4.10: NOISE		
Threshold 4.11.1: Expose persons to or generate noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies. **Less than Significant Impact with Mitigation Incorporated.** **Traffic Noise.** Project-related traffic noise levels would have a traffic noise increase of up to 2.4 A-weighted decibels (dBA), except for Bennett Avenue south of Ocean Boulevard. Although traffic noise levels along Bennett Avenue south of Ocean Boulevard would increase by up to 7.2 dBA, this roadway segment is the entrance to the proposed Project, and there are no off-site	**Mitigation Measure 4.10.1:** Prior to issuance of the occupancy permit, the City of Long Beach's (City) Development Services Director, or designee, shall verify that a sound engineer has designed the permanent and temporary sound systems such that the City's exterior noise standards (daytime exterior noise level of 50 dBA L_{50}) are not exceeded at the surrounding sensitive land uses. Measures capable of reducing the noise levels include, but are not limited to: • Reducing the source levels; • Reducing the speaker elevations; • Directing the speakers away from adjacent noise-sensitive	Less than Significant.

Table 1.B: Summary of Potential Environmental Impacts, Project Design Features, Mitigation Measures, Standard Conditions, and Level of Significance

Potential Environmental Impact	Project Design Features, Mitigation Measures, Standard Conditions	Level of Significance After Mitigation
noise-sensitive land uses adjacent to this segment of the road. The traffic noise increases of up to 2.4 dBA along other roadway segments in the vicinity of the Project are less than the 3 dBA threshold normally perceptible by the human ear in an outdoor environment. Therefore, no significant traffic noise impacts would occur on off-site noise-sensitive land uses. No mitigation measures for off-site uses would be required. Also, on-site traffic noise impacts would not occur because the Project is not considered to be noise sensitive, and mitigation measures for on-site uses are not required. **Long-Term Operation.** Noise levels generated from the outdoor pool under normal operations would be less than 50 dBA L_{eq} (equivalent continuous sound level measured in A-weighted decibels) at the perimeter of the facility. Noise levels generated from the indoor pool would not impact the closest residences at the Belmont Shore Condominiums, which is approximately 180 feet (ft) from the building edge of the proposed Project because the combination of building attenuation and distance attenuation would be 46 dBA. Therefore, noise generated under normal operations and from the indoor pool would not have the potential to impact nearby noise-sensitive uses. **Crowd, Spectator, and Public Address System Noise.** Noise levels generated from the outdoor pool during special events would have the potential to impact nearby noise-sensitive uses because these events would involve a substantial number of spectators, whistles from officiating water polo games, starting	land uses; and • Using highly directional speakers.	

Table 1.B: Summary of Potential Environmental Impacts, Project Design Features, Mitigation Measures, Standard Conditions, and Level of Significance

Potential Environmental Impact	Project Design Features, Mitigation Measures, Standard Conditions	Level of Significance After Mitigation
horns, and the use of a public address sound system. **Interior Noise.** Classrooms associated with the Belmont Shores Children's Center, the residences to the northeast, and the residences to the northwest may be subject to interior noise levels from crowd noise, speaker noise, and combined noise levels, with windows and doors open. However, noise levels at the outdoor seating area would not exceed any of the City's daytime interior standards at either the Belmont Shores Children's Center or the two residential locations. In addition, because the proposed Project is not expected to be used after 10:00 p.m., no nighttime operational noise would occur and, therefore, no violation of the City's nighttime noise standards would occur. **Exterior Noise**. The playground associated with the Belmont Shores Children's Center, the residences to the northeast, and the residences to the northwest may be subject to exterior noise levels from crowd noise. However, spectator noise levels from the temporary outdoor seating would not exceed any of the City's daytime exterior noise levels at the Belmont Shores Children's Center or the closest residences, therefore, no violation of the City's daytime noise standards would occur. The playground associated with the Belmont Shores Children's Center, outdoor living areas associated with residences to the northeast (across from Ocean Boulevard), and residences to the northwest (across from Termino Avenue) may be subject to exterior noise levels from speaker noise and combined noise levels from the crowd and speaker noise. Speaker noise levels would		

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Potential Environmental Impact	Project Design Features, Mitigation Measures, Standard Conditions	Level of Significance After Mitigation
potentially exceed the City's daytime exterior standard at the playground of the Belmont Shores Children's Center, and at the two residential locations. Implementation of Mitigation Measure 4.10.1, which requires measures to reduce noise levels from the speakers, would reduce the combined noise level to less than the City's exterior noise standards. Therefore, this impact would be less than significant after mitigation.		
Threshold 4.11.2: Expose persons to or generate excessive groundborne vibration or groundborne noise levels. **Less than Significant Impact.** The primary source of vibration during construction would be generated by front-end loaders, small bulldozers, dump trucks, hydraulic hammers, and pile drivers. The estimated vibration level at the closest receptors would be 0.049 inches/second and 0.097 inches/second, for residences to the northeast and northwest, respectively, and 0.101 inches/second at the Belmont Shores Children's Center and other commercial buildings. These construction vibration levels are below the damage threshold of 0.3 inches/second for older residential buildings and 0.5 inches/second for modern industrial commercial buildings. Therefore, the proposed Project would result in a less than significant impact, and no mitigation is required.	No mitigation is required.	Less than Significant.
Threshold 4.11.3: Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project. **Less than Significant Impact**. Project-related traffic noise levels would have a traffic noise increase of up to 2.4 dBA, except for Bennett Avenue south of Ocean Boulevard. Although traffic noise	No mitigation is required.	Less than Significant.

Table 1.B: Summary of Potential Environmental Impacts, Project Design Features, Mitigation Measures, Standard Conditions, and Level of Significance

Potential Environmental Impact	Project Design Features, Mitigation Measures, Standard Conditions	Level of Significance After Mitigation
levels along Bennett Avenue south of Ocean Boulevard would increase by up to 7.2 dBA, this roadway segment is the entrance to the proposed Project and there are no off-site noise-sensitive land uses adjacent to it. The traffic noise increases of up to 2.4 dBA along other roadway segments in the Project area are less than the 3 dBA threshold normally perceptible by the human ear in an outdoor environment. Therefore, no significant traffic noise impacts or permanent increase in ambient noise levels would occur in the Project vicinity or to off-site noise-sensitive land uses. No mitigation measures are required.		
Threshold 4.11.4: Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project. **Less than Significant Impact with Mitigation Incorporated.** **Construction Noise.** Two types of short-term noise impacts would occur during Project construction. The first type would be from construction crew commutes and the transport of construction equipment and materials to the Project site. A high single-event noise exposure potential at a maximum level of 84 dBA L_{max} from trucks passing at 50 ft will exist. However, the projected construction traffic will be minimal when compared to existing traffic volumes on Ocean Boulevard and other affected streets, and its associated long-term noise level change will not be perceptible. Therefore, short-term construction-related worker commutes and equipment transport noise impacts	**Mitigation Measure 4.10.2.** Prior to issuance of demolition or grading permits, the City of Long Beach's (City) Development Services Director, or designee, shall verify that construction and grading plans include the following conditions to reduce potential construction noise impacts on nearby sensitive receptors: • During all site excavation and grading, the construction contractors shall equip all construction equipment, fixed or mobile, with properly operating and maintained mufflers consistent with manufacturers' standards; • The construction contractor shall place all stationary construction equipment so that emitted noise is directed away from sensitive receptors nearest the Project site; • The construction contractor shall locate equipment staging to create the greatest distance between construction-related noise sources and noise-sensitive receptors nearest the Project site during all Project construction; • The construction contractor shall ensure that engine idling from construction equipment (i.e., bulldozers and haul trucks)	Less than Significant.

Table 1.B: Summary of Potential Environmental Impacts, Project Design Features, Mitigation Measures, Standard Conditions, and Level of Significance

Potential Environmental Impact	Project Design Features, Mitigation Measures, Standard Conditions	Level of Significance After Mitigation
would be less than significant. The second type of short-term noise impacts is related to the noise generated by heavy construction equipment operating at the Project site. The closest existing sensitive receptors would be subject to short-term noise levels that would be higher than existing ambient noise levels in the Project area but would no longer occur once construction of the Project is completed. In addition, noise generated from construction activities would be intermittent and temporary. Section 8.80.202 of the City of Long Beach (City) Municipal Code allows elevated construction-related noise levels as long as the construction activities are limited to the hours specified. Adherence to the City's noise regulations and implementation of Mitigation Measures 4.10.2 and 4.10.3, which require standard conditions for construction and conducting a preconstruction community meeting, would reduce construction noise impacts to sensitive receptors. Therefore, temporary increases in ambient noise levels in the proposed Project vicinity associated with Project construction would be reduced to less than significant levels.	is limited to a maximum of 5 minutes at any given time; and • The construction contractor shall ensure that all construction activities are scheduled to avoid operating several pieces of heavy equipment simultaneously. • Construction, drilling, repair, remodeling, alteration, or demolition work shall be limited to the hours of 7:00 a.m. to 7:00 p.m. Monday through Friday, and 9:00 a.m. to 6:00 p.m. on Saturday. In accordance with City standards, no construction activities are permitted outside of these hours. **Mitigation Measure 4.10.3.** Prior to issuance of a grading permit, the City of Long Beach Tidelands Capital Improvement Division shall hold a community preconstruction meeting in concert with the construction contractor to provide information to the public regarding the construction schedule. The construction schedule information shall include the duration of each construction activity and the specific location, days, frequency, and duration of the pile driving that will occur during each phase of the Project construction. Public notification of this meeting shall be undertaken in the same manner as the Notice of Availability mailings for this Draft Environmental Impact Report.	
Cumulative Noise Impacts. **Less than Significant Impact.** Currently, there are no proposed or approved but not yet fully constructed projects within the cumulative noise study area for the proposed Project. Because construction noise and vibration are localized and rapidly attenuate within an urban environment, other related projects are located too far from the Project site to contribute to cumulative impacts related	No mitigation is required.	Less than Significant.

Table 1.B: Summary of Potential Environmental Impacts, Project Design Features, Mitigation Measures, Standard Conditions, and Level of Significance

Potential Environmental Impact	Project Design Features, Mitigation Measures, Standard Conditions	Level of Significance After Mitigation
to noise levels due to construction activities. Construction activity at any related project site would not result in a noticeable increase in noise to sensitive receptors adjacent to the proposed Project site. Furthermore, all related projects would be required to comply with the City Noise Control Ordinance. Therefore, construction impacts would be less than cumulatively significant. Operations associated with the proposed Project are not anticipated to lead to a substantial increase in the number of visitors and vehicles to the Project site. Therefore, the long-term ambient noise levels associated with increased traffic are not anticipated to be significant as a result of the proposed Project, would not contribute substantially to cumulative roadway noise impacts, and would have a less than cumulatively considerable impact. Also, since no cumulative projects were identified for the cumulative noise study area, the proposed Project would not contribute to off-site cumulative noise impacts from on-site activities and would have a less than cumulatively considerable noise impact.		
4.11: RECREATION		
Threshold 4.11.2: Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment. **Less than Significant Impact.** Construction activities would occur in close proximity to the temporary pool. However, it is anticipated that the temporary pool would remain open until completion of the new pool complex in order to accommodate the ongoing pool activities.	No mitigation is required.	Less than Significant.

Table 1.B: Summary of Potential Environmental Impacts, Project Design Features, Mitigation Measures, Standard Conditions, and Level of Significance

Potential Environmental Impact	Project Design Features, Mitigation Measures, Standard Conditions	Level of Significance After Mitigation
Although access to the Belmont Veteran's Memorial Pier, parking lots, beach areas, and the pedestrian/bicycle path may be subject to disruption during construction of the proposed Project, Mitigation Measure 4.12.2 (see Section 4.12, Traffic and Circulation, of this Draft EIR) requires that a Construction Traffic Management Plan be implemented to ensure that construction activities do not prevent access to the Belmont Veteran's Memorial Pier, beach access, and nearby pedestrian/bicycle path facilities in the Project vicinity. With implementation of the Construction Traffic Management Plan, construction activities are expected to have less than significant impacts on access to the surrounding off-site recreational facilities. Therefore, even though construction staging would occur in the Beach Parking Lot, access to recreational activities would not be significantly adversely impacted during the construction phases of the Project because access to the temporary pool and recreational uses in the surrounding areas would remain available. With implementation of Mitigation Measure 4.12.2, short-term construction-related impacts on recreational resources would be less than significant. The proposed Project would result in construction of new recreation facilities on site to replace the previous pool facilities. The primary goal of the proposed Project is to develop a state-of-the-art aquatic facility to serve as an important recreational and competitive venue for the City, region, and State. The proposed Project would replace the previous facility with a more modern pool complex that better meets the needs of recreational and competitive swimmers, divers, and recreational pool users. The proposed Project would redesign the existing passive park and		

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Potential Environmental Impact	Project Design Features, Mitigation Measures, Standard Conditions	Level of Significance After Mitigation
open space areas to be situated along the western and northern portions of the Project site. The current passive park and open space areas occupy approximately 118,790 square feet (sf) and 45,160 sf of the site, respectively, but would increase to approximately 127,085 sf and 55,745 sf, respectively, as a result of the proposed Project. The passive park and open space areas would be intended for general park uses, similar to the uses at the existing passive park. The passive park and open space areas would also provide for linkages from the beach to the East Olympic Plaza area and other surrounding pathways, including the rerouted bicycle and pedestrian path. The modifications to the passive park and open space areas would adapt to the proposed Belmont Pool facilities while maintaining the site's open space and recreational benefits. Therefore, no long-term significant recreational impacts related to the operation of the proposed Project are anticipated, and no mitigation is required. **California Coastal Act Policies.** Refer to the impact discussion under Thresholds 4.9.2, under Section 4.9, Land Use and Planning. **City of Long Beach General Plan, Open Space and Recreation Element.** Refer to the impact discussion under Thresholds 4.9.2, under Section 4.9, Land Use and Planning. **The City Department of Parks, Recreation and Marine Strategic Plan.** Refer to the impact discussion under Thresholds 4.9.2, under Section 4.9, Land Use and Planning.		

Table 1.B: Summary of Potential Environmental Impacts, Project Design Features, Mitigation Measures, Standard Conditions, and Level of Significance

Potential Environmental Impact	Project Design Features, Mitigation Measures, Standard Conditions	Level of Significance After Mitigation
Cumulative Recreation Impacts. The Project site was previously developed as a community pool facility and would be replaced with similar recreational uses. The proposed Project would be consistent with the City's General Plan policies and with California Coastal Commission policies. In addition, the proposed Project would expand the former pool amenities and integrate the existing public open space areas into the site design. As the replacement of a recreational facility, the proposed Project, in conjunction with the cumulative projects in the City, would contribute to the recreational opportunities in the City. The proposed Project is not anticipated to significantly increase the use or need for additional City park facilities. Compliance with City and California Coastal Commission policies and an increase in public amenities demonstrates the proposed Project would not have cumulatively considerable impacts on such resources. In addition, the proposed Project does not include any residential housing or a substantial increase in long-term employment opportunities that would increase the population in the City. Therefore, the proposed Project would not, with any other planned or proposed projects, cumulatively contribute to the increased use of or need for additional or expanded recreational facilities in the City. Based on these factors, the proposed Project would not contribute to adverse cumulative impacts related to recreation when combined with other foreseeable projects that are planned or expected to occur in Long Beach or the region.	No mitigation is required.	Less than Significant.

Table 1.B: Summary of Potential Environmental Impacts, Project Design Features, Mitigation Measures, Standard Conditions, and Level of Significance

Potential Environmental Impact	Project Design Features, Mitigation Measures, Standard Conditions	Level of Significance After Mitigation
4.12 TRANSPORTATION/TRAFFIC		
Threshold 4.12.1: Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit. **Less than Significant Impact with Mitigation Incorporated.** **Construction Traffic.** Construction traffic is not anticipated to exceed the 100 inbound and 200 outbound trips already analyzed in the a.m. peak hour or the 200 inbound and 130 outbound trips already analyzed in the p.m. peak hour that would be expected with operation of the completed pool facility. Therefore, similar to operation of the completed pool facility, intersection operation is expected to remain at an acceptable level of service (LOS) during construction. Therefore, the proposed Project would not result in a significant impact related to construction traffic, and no mitigation is required. **Operational Traffic.** All study area intersections are anticipated to operate at LOS C or better in the future with new traffic generated as a result of the proposed Project. All study area intersections would operate at an LOS that is considered acceptable by the City of Long Beach (City) (LOS D or better). Therefore, the proposed Project is not anticipated to conflict with an applicable plan,	**Mitigation Measure 4.12.1: Event Traffic Management Plan.** In the event that a large special event (defined as more than 450 spectators) is held at Belmont Pool, the City of Long Beach (City) Parks and Recreation Director, or designee, shall develop an Event Traffic Management Plan for review and approval by the City Traffic Engineer. The plan shall be designed by a registered Traffic Engineer and shall address potential impacts to traffic circulation and the steps necessary to minimize potential impacts (e.g., active traffic management and/or off-site parking and shuttles) during the large special event.	Less than Significant.

Table 1.B: Summary of Potential Environmental Impacts, Project Design Features, Mitigation Measures, Standard Conditions, and Level of Significance

Potential Environmental Impact	Project Design Features, Mitigation Measures, Standard Conditions	Level of Significance After Mitigation
ordinance, or policy establishing measures of effectiveness for the performance of the circulation system and it would have a less than significant impact relative to this threshold. No mitigation is required. **Special Event Traffic.** In the event that a large special event (i.e., any event with more than 450 spectators) is held at Belmont Pool, an Event Traffic Management Plan would need to be developed that addresses potential impacts to traffic circulation and the steps necessary to avoid potential significant traffic congestion and parking impacts. Mitigation Measure 4.12.1 requires the City to prepare and implement an Event Traffic Management Plan that requires traffic and control measures for special events to be reviewed and approved by the City Traffic Engineer. Implementation of Mitigation Measure 4.12.1 would reduce construction traffic impacts to the surrounding residences and businesses to less than significant levels.		
Threshold 4.12.2: Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways. **Less than Significant Impact.** None of the arterial monitoring stations identified in Appendix A of the 2010 Congestion Management Plan (CMP) for the County of Los Angeles are located near the proposed Project, and the Project is not anticipated to conflict with standards established for designated roads or highways. The proposed Project would have a less than significant	No mitigation is required.	Less than Significant.

Table 1.B: Summary of Potential Environmental Impacts, Project Design Features, Mitigation Measures, Standard Conditions, and Level of Significance

Potential Environmental Impact	Project Design Features, Mitigation Measures, Standard Conditions	Level of Significance After Mitigation
impact relative to the adopted CMP and no mitigation is required.		
Threshold 4.12.5: Result in inadequate emergency access. **Less than Significant Impact with Mitigation Incorporated.** **Construction.** Potential temporary lane closures could restrict access for emergency vehicles. Mitigation Measure 4.12.2 requires that a Construction Traffic Management Plan be prepared for the proposed Project, which would ensure that emergency vehicles would be able to navigate through streets adjacent to the Project site that may experience congestion due to construction activities. With implementation of Mitigation Measure 4.12.2, potential impacts related to emergency access during construction would be less than significant. **Operation.** The emergency access to/from the site will be designed to meet all applicable City Codes and standards and would be subject to review by the City Fire and Police Departments for compliance with fire and emergency access standards and requirements. The redesign of Olympic Plaza will meet fire access lane standards. The final site plan will be subject to Site Plan Review by all relevant City Departments, and Site Plan Review approval by the Planning Commission. No changes to the existing parking lots (Pier Parking Lot and Beach Parking Lot) are included as part of the proposed Project. Therefore, operational impacts of the proposed Project to emergency access are considered less than significant and no mitigation is required.	**Mitigation Measure 4.12.2: Construction Traffic Management Plan.** Prior to the issuance of any demolition permits, the City Parks and Recreation Director, or designee, shall develop a Construction Traffic Management Plan for review and approval by the City Traffic Engineer. The plan shall be designed by a registered Traffic Engineer and shall address traffic control for any street closure, detour, or other disruption to traffic circulation and public transit routes and shall ensure that emergency vehicle access is maintained. The plan shall identify the routes that construction vehicles shall use to access the site, the hours of construction traffic, traffic controls and detours, and off-site staging areas. The plan shall also require that a minimum of one travel lane in each direction on Ocean Boulevard be kept open during construction activities. Access to Belmont Veterans' Memorial Pier, the Shoreline Beach Bike Path, and the beach shall be maintained at all times. The Construction Traffic Management Plan shall also require that access to the pier, the bike path, and the beach be kept open during construction activities. The plan shall also require the City to keep all haul routes clean and free of debris including, but not limited to, gravel and dirt.	Less than Significant.

Table 1.B: Summary of Potential Environmental Impacts, Project Design Features, Mitigation Measures, Standard Conditions, and Level of Significance

Potential Environmental Impact	Project Design Features, Mitigation Measures, Standard Conditions	Level of Significance After Mitigation
Threshold 4.12.6: Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities. **Less than Significant Impact.** The proposed Project reconstructs the Belmont Pool at the existing location, which is near a public transit stop and a Class I bike path. Existing pathways through the passive park would be rerouted to East Olympic Plaza to allow for utilization of the proposed pedestrian and bicycle enhancements. The facility would continue to be accessible for users of transit, bicycle, and pedestrian modes of travel because the site design allows for pedestrian linkages. The proposed pool facility would continue to be accessed via Long Beach Transit bus service (Routes 121 and 131) as well as sidewalks and the Shoreline Beach Bike Path (Class I off-street bike path). Therefore, the Project would not conflict with adopted plans supporting alternative transportation. The proposed Project would have less than significant impacts relative to public transit, bicycle, or pedestrian facilities, and no mitigation is required.	No mitigation is required.	Less than Significant.
Cumulative Traffic/Traffic Impacts. **Less than Significant Impact.** According to the City, one project was identified within the cumulative Project study area; the Leeway Sailing Center Pier Replacement. The City proposes to demolish and rebuild the existing Leeway Sailing Pier, Dock, and Gondola Shed Structure in its general same location and footprint. The existing gondola shed structure will be replaced in its general same location on the pier and will provide the same uses. A new	No mitigation is required.	Less than Significant.

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80-foot (ft) accessible gangway will connect the pier to a new 2,094-square-foot (sf) timber floating dock to improve Americans with Disabilities Act (ADA) access. This project is proposing to reconstruct the existing pier without expanding the size of the existing operation. Therefore, this project will not contribute new traffic to any of the study area intersections. Because no additional traffic from cumulative projects is anticipated at the study area intersections, no additional cumulative operational traffic impacts would occur. No mitigation is required.		
4.13: UTILITIES AND SERVICE SYSTEMS		
Threshold 4.13.1: Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board (RWQCB). **Less than Significant Impact.** Wastewater from the Project site would be treated at the Los Angeles County Sanitation District's (LACSD) Joint Water Pollution Control Plant (JWPCP). LACSD's JWPCP is responsible for adhering to Los Angeles Regional Water Quality Control Board (RWQCB) regulations as they apply to wastewater generated by the Project. As discussed in Section 4.8, Hydrology and Water Quality, due to the depth to groundwater (between 6 and 9 ft below ground surface [bgs]) and the anticipated depth of excavation (up to 13 feet [ft] below existing grade), there is a potential for the groundwater table to be encountered during excavation, which may require groundwater dewatering. As specified in Mitigation Measure 4.8.2, any groundwater dewatering during excavation would be conducted in accordance with the Los Angeles RWQCB's Groundwater Discharge Permit, which would require testing and treatment (as	Refer to Mitigation Measure 4.8.2, under Section 4.8, Hydrology and Water Quality, above.	

Table 1.B: Summary of Potential Environmental Impacts, Project Design Features, Mitigation Measures, Standard Conditions, and Level of Significance

Potential Environmental Impact	Project Design Features, Mitigation Measures, Standard Conditions	Level of Significance After Mitigation
necessary) of groundwater encountered during groundwater dewatering prior to release to a storm drain. If groundwater used during construction of the proposed Project cannot meet discharge limitations specified in the Ground Water Discharge Permit, a permit would be obtained from LACSD to dispose of the groundwater in the sewer system. The groundwater would have to meet LACSD discharge limitations prior to discharge to the sewer system. In addition, LACSD would ensure they have adequate capacity to accommodate the discharged groundwater prior to issuing a permit. Therefore, since the capacity and discharge limitations of the treatment facility that serve the Project would not be exceeded, impacts regarding the ability of the treatment facility to treat and dispose of wastewater would be less than significant, and no mitigation is necessary. The proposed Project would comply with all applicable sections of Title 15, Public Utilities, of the City of Long Beach Municipal Code (LBMC), and as such, would generate wastewater flows typical of similar uses in the City. In addition, the Project site has been developed with a recreational pool facility for approximately 45 years and has been provided wastewater service during that time. Although the proposed Project expands the size of the existing pool structure, the proposed Project would not produce wastewater atypical of flows received at the LACSD's JWPCP previously received from the Project site. Therefore, the proposed Project would not require or result in the construction of new wastewater treatment facilities or the expansion of existing facilities and would not result in a determination by the wastewater treatment provider that it has inadequate capacity to serve the		

Table 1.B: Summary of Potential Environmental Impacts, Project Design Features, Mitigation Measures, Standard Conditions, and Level of Significance

Potential Environmental Impact	Project Design Features, Mitigation Measures, Standard Conditions	Level of Significance After Mitigation
Project's projected demand in addition to existing commitments. Thus, Project impacts related to exceeding wastewater treatment requirements of the applicable RWQCB are considered less than significant, and no mitigation is required.		
Threshold 4.13.2: Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects. **Less than Significant Impact.** Refer to the impact discussion under Threshold 4.13.4 and 4.13.5, below.	No mitigation is required.	Less than significant.
Threshold 4.13.3: Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects. **Less than Significant with Mitigation Incorporated.** The proposed Project would result in a permanent decrease in impervious surface area of 0.5 acre (ac) and an increase of 0.5 ac in pervious area. As a result, in the proposed condition, the Project site would consist of 1.6 ac of impervious surface area and 4.2 ac of pervious surface. A decrease in impervious area would decrease the volume of runoff during a storm. The proposed Project would also include a comprehensive drainage system to convey on-site storm flows, including on-site detention and infiltration systems. A detailed hydrology report would be prepared for the proposed Project to ensure that the on-site storm drain facilities are designed in accordance with the requirement of the County of Los Angeles Department of Public Works Hydrology Manual to ensure that the runoff from the project site does not exceed existing conditions	Refer to Mitigation Measure 4.8.4, under Section 4.8, Hydrology and Water Quality.	Less than significant.

Table 1.B: Summary of Potential Environmental Impacts, Project Design Features, Mitigation Measures, Standard Conditions, and Level of Significance

Potential Environmental Impact	Project Design Features, Mitigation Measures, Standard Conditions	Level of Significance After Mitigation
(refer to Mitigation Measure 4.8.4 in Section 4.8, Hydrology and Water Quality). With implementation of Mitigation Measure 4.8.4, runoff from the Project site would not exceed the capacity of the existing storm water drainage system and the proposed Project would not require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects. Therefore, impacts related to new or expanded storm water facilities would be less than significant with implementation of Mitigation Measure 4.8.4.		
Threshold 4.13.4: Have sufficient water supplies available to serve the project from existing entitlements and resources, or require new or expanded entitlements. **Less than Significant Impact.** A short-term demand for water would occur during construction associated with excavation, grading, and other construction-related activities on the Project site. The temporary demand for water supplies for soil watering (fugitive dust control), clean up, masonry, and other related activities is not anticipated to result in water demand atypical of the size and scale of this construction Project. Therefore, impacts associated with short-term construction activities would be less than significant, and no mitigation is required. The Long Beach Water Department (LBWD) provided water services to the previous pool complex and pool facilities. Proposed water service to the Project site would include a connection to an existing 6-inch line which connects to an existing water main under East Olympic Plaza. No new off-site water mains or laterals	No mitigation is required.	Less than Significant.

Table 1.B: Summary of Potential Environmental Impacts, Project Design Features, Mitigation Measures, Standard Conditions, and Level of Significance

Potential Environmental Impact	Project Design Features, Mitigation Measures, Standard Conditions	Level of Significance After Mitigation
would be required to serve the proposed Project. The proposed Project would replace and update the former pool facility, resulting in an increase of 18,040 square feet (sf) of surface water (from a previous surface area of 18,410 sf total to the proposed 36,450 sf) and an additional 79,905 sf of building area, each of which would require a periodic increase in water service/supply. The increase in water demand associated with the proposed Project represents approximately 0.027 percent of the LBWD water supply in 2015. Given that the proposed Project is not changing the land use on the Project site and due to the relatively small increase in water demand, the increase in water demand attributable to the proposed Project is anticipated to fall within the available and projected water supplies of the 2010 Urban Water Management Plan (UWMP). The proposed Project would not necessitate new or expanded water entitlements or infrastructure as significant increases in water demands would not result from the proposed Project. In addition, like all new development in California, the proposed Project would comply with State law regarding water conservation measures, including pertinent provisions of Title 24 of the California Government Code (Title 24) regarding the use of water-efficient appliances. The proposed Project would also incorporate additional water conservation measures and would be built to meet the standards associated with the Leadership in Energy and Environmental Design (LEED) Gold rating, which includes features that would greatly enhance water conservation (see Section 3.0, Project Description, of this Draft EIR). Therefore, because it is anticipated that the increase in water demand attributable to the proposed		

Table 1.B: Summary of Potential Environmental Impacts, Project Design Features, Mitigation Measures, Standard Conditions, and Level of Significance

Potential Environmental Impact	Project Design Features, Mitigation Measures, Standard Conditions	Level of Significance After Mitigation
Project would fall within the available and projected water supplies of the 2010 UWMP and the proposed Project would incorporate additional water conservation features, impacts associated with the long-term operation of the proposed Project would be less than significant, and no mitigation is required. Furthermore, with the payment of fees pursuant to Chapter 18.23 of the Fire Code and the implementation of applicable building code requirements in accordance with the California Fire Code, including fire flow requirements, the City of Long Beach (City) Fire Department (LBFD) would be able to maintain acceptable performance ratios and fire flow requirements without requiring a new fire protection facility or expansion to the existing fire protection facility. Potential impacts related to fire flow would be less than significant, and no mitigation is required.		
Threshold 4.13.5: Result in a determination by the wastewater treatment provider that serves or may serve the project that it has inadequate capacity to serve projected demand in addition to the provider's existing commitments. **Less than Significant Impact.** **Construction.** No significant increase in wastewater flows is anticipated as a result of construction activities on the Project site. As discussed above under Threshold 4.13.1, if dewatered groundwater cannot be disposed of in the storm drain system, a permit would be obtained from LACSD to dispose of the groundwater to the sewer system. Groundwater-dewatering activities would be temporary, and the volume of groundwater removed would not be substantial. In addition, LACSD would ensure they have adequate capacity to accommodate the discharged	No mitigation is required.	Less than Significant.

Table 1.B: Summary of Potential Environmental Impacts, Project Design Features, Mitigation Measures, Standard Conditions, and Level of Significance

Potential Environmental Impact	Project Design Features, Mitigation Measures, Standard Conditions	Level of Significance After Mitigation
groundwater prior to issuing a permit. Therefore, during construction, potential impacts to wastewater treatment and wastewater conveyance infrastructure would be less than significant, and no mitigation is required. **Operation.** The anticipated increase in daily wastewater flow from the proposed Project would require approximately 0.33 percent of the existing available design capacity of the Anaheim Street Trunk Sewer and 0.27 percent of the existing available design capacity Joint Outfall C Unit Trunk Sewer. Both trunk sewers have sufficient capacity to accommodate anticipated wastewater flows from the proposed Project. As such, the proposed Project is not anticipated to cause a substantial increase in wastewater flows at a point where, and a time when, a sewer's capacity is already constrained or that would cause a sewer's capacity to become constrained. Impacts upon the local wastewater infrastructure system would, therefore, be considered less than significant, and no mitigation is required. **Wastewater Treatment.** The anticipated increase in daily wastewater flow that would result from Project implementation would represent 0.06 percent of the anticipated available daily capacity of the JWPCP. The anticipated increase in daily wastewater flow from the proposed Project could be accommodated within the existing design capacity of the JWPCP. The proposed Project would not substantially or incrementally exceed the current or future scheduled capacity of the JWPCP by generating flows greater than those anticipated. In addition, the projected wastewater flow calculations for the proposed Project do not account for the implementation of water conservation measures		

Table 1.B: Summary of Potential Environmental Impacts, Project Design Features, Mitigation Measures, Standard Conditions, and Level of Significance

Potential Environmental Impact	Project Design Features, Mitigation Measures, Standard Conditions	Level of Significance After Mitigation
proposed by the City, which would further reduce wastewater flows beyond the projections noted above. Potential Project impacts related to wastewater treatment would be less than significant, and no mitigation is required.		
Threshold 4.13.6: Be served by a landfill with insufficient permitted capacity to accommodate the project's solid waste disposal needs. **Less than Significant Impact.** Construction of the new Belmont Pool facilities would generate construction and demolition waste, including, but not limited to, soil, wood, asphalt, concrete, paper, glass, plastic, metals, and cardboard. The total amount of construction and demolition of waste that would be generated by the proposed Project has not been determined; however, the Project is required to comply with the City's 2007 Ordinance requiring that at least 60 percent of construction and demolition waste be recycled. In order to comply with the City's Ordinance, the City would implement a Construction & Demolition (C&D) Debris Recycling Program. In accordance with the C&D Debris Recycling program, a Waste Management Plan (WMP) must be completed. The WMP would detail how the Project will meet the requirement to divert 60 percent of construction and demolition waste through recycling, salvage, or deconstruction. At the conclusion of the Project, a final report detailing the amount of reuse, recycling, and disposal actually generated from the proposed Project must be submitted and approved by the City's Development Services Department. Solid waste generated by construction of the proposed Project	No mitigation is required.	Less than Significant.

Table 1.B: Summary of Potential Environmental Impacts, Project Design Features, Mitigation Measures, Standard Conditions, and Level of Significance

Potential Environmental Impact	Project Design Features, Mitigation Measures, Standard Conditions	Level of Significance After Mitigation
would be served by Southeast Resource Recovery Facility (SERRF), which currently has sufficient permitted capacity. Solid waste generated during construction of the proposed Project would not result in significant impacts related to landfill capacity or prevent compliance with federal, State, and local statutes and regulations related to solid waste. Therefore, impacts related to short-term construction and demolition waste would be less than significant, and no mitigation is required. The Project site was previously developed with the former Belmont Pool facilities. Based on the California Emission Estimator Model (CalEEMod), the total solid waste that would be generated during Project operation was estimated at 2.01 tons per day, which is an increase of 1.01 tons per day from the former uses. The Solid Waste Facility Permit from the County of Los Angeles Solid Waste Management Program for the SERRF authorizes the disposal of a maximum of 2,240 tons of waste per day. Currently, the SERRF accepts approximately 1,290 tons of waste per day. The anticipated increase in solid waste disposal attributable to the proposed Project would require 0.11 percent of the available daily disposal capacity at SERRF. The Mesquite Landfill is authorized to accept approximately 20,000 tons of waste per day. The anticipated increase in solid waste disposal attributable to the proposed Project would require 0.005 percent of the available daily disposal capacity at the Mesquite Landfill. Therefore, both SERFF and the Mesquite Landfill have adequate capacity to serve the proposed Project, and impacts related to operational solid waste		

Table 1.B: Summary of Potential Environmental Impacts, Project Design Features, Mitigation Measures, Standard Conditions, and Level of Significance

Potential Environmental Impact	Project Design Features, Mitigation Measures, Standard Conditions	Level of Significance After Mitigation
would be less than significant. No mitigation is required. **Compliance with Federal, State, and Local Statutes and Regulations related to Solid Waste.** Waste diversion for the proposed Project is anticipated to be consistent with other similar development within the City and divert a high percentage of trash from landfills based on compliance with standard City practices and regulations. In addition, the City would be required to implement a C&D program during construction. The City's C&D Debris Recycling Program required at least 60 percent of C&D waste (e.g., concrete, metals, and asphalt) to be recycled. Additionally, the proposed Project would include on-site recycling containers and adequate storage area for such containers. All containers and storage areas on the Project site would be sized in accordance with the applicable provisions in the LBMC, including Sections 8.60.025 and 8.60.020, which establish standards and guidelines regarding refuse and recycling receptacles. Based on these considerations, the proposed Project would be consistent with the State Solid Waste Reuse and Recycling Access Act of 1991. No mitigation is required.		
Threshold 4.13.7: Comply with federal, State, and local statutes and regulations related to solid waste. **Less than Significant Impact.** Refer to the impact discussion under Threshold 4.13.6, above.	No mitigation is required.	Less than Significant.
Threshold 4.13.8: Include a new or retrofitted storm water treatment control Best Management Practice (BMP), (e.g., water quality treatment basin, constructed treatment wetland), the operation of which could result in significant	Refer to Mitigation Measure 4.8.3, under Section 4.8, Hydrology and Water Quality, above.	Less than Significant.

Table 1.B: Summary of Potential Environmental Impacts, Project Design Features, Mitigation Measures, Standard Conditions, and Level of Significance

Potential Environmental Impact	Project Design Features, Mitigation Measures, Standard Conditions	Level of Significance After Mitigation
environmental effects (e.g., increased vectors and odors). **Less than Significant with Mitigation Incorporated.** As discussed in Section 4.8, Hydrology and Water Quality, treatment Best Management Practices (BMPs) are anticipated to include biofiltration swales (bioswales), filtration strip, an underground detention basin, and a drywell. In addition, as specified in Mitigation Measure 4.8.3, a Standard Urban Storm Water Mitigation Plan (SUSMP) would be prepared for the proposed Project. The SUSMP would include an operations and maintenance plan for the bioswales, drywell, filtration strip, and an underground detention basin to ensure their long-term performance and prevent odor and vector issues from developing. Because the BMPs would be designed, inspected, and maintained as specified in Mitigation Measure 4.8.3 to prevent vectors and odors, impacts related to operation of storm water BMPs would be reduced to a less than significant level.		
Threshold 4.13.9: Result in substantial adverse physical impacts associated with the provision of new or physically altered energy transmission facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable levels of service. **Less than Significant Impact.** **Electricity.** New development on site would result in an increase in long-term demand for electricity. However, because the Project site is currently served by all utilities and has previously operated with the same land use as proposed, no new off-site service lines or substations would be required to serve the proposed Project.	No mitigation is required.	Less than significant.

Table 1.B: Summary of Potential Environmental Impacts, Project Design Features, Mitigation Measures, Standard Conditions, and Level of Significance

Potential Environmental Impact	Project Design Features, Mitigation Measures, Standard Conditions	Level of Significance After Mitigation
In May 2013, the California Energy Commission (CEC) published preliminary California Energy Demands for the years 2014 through 2024. Based on CEC projections for the Southern California Edison (SCE) service area in 2024, the anticipated increase in Project-related annual electricity consumption would represent approximately 0.0004 percent of the forecasted net energy load. Based on these estimates, sufficient transmission and distribution capacity exists, and off-site improvements would not be necessary. The supply and distribution of electricity to the proposed Project would not disrupt power to the surrounding area or adversely affect service levels because the Project involves the continuation of a previous land use. Therefore, impacts related to the provision of electricity services to the proposed Project would be less than significant, and the proposed Project would not require new or physically altered transmission facilities (other than those facilities needed for on-site distribution and hook-up into the existing system). Similarly, no significant impacts to local or regional supplies of electricity would occur as a result of the proposed Project, and no mitigation is necessary. **Natural Gas.** The proposed Project, which has a larger building area than the former pool complex, would result in an increase in long-term demand for natural gas. However, no new off-site service lines or substations would be required to serve the proposed Project. The proposed Project would generate an annual natural gas		

Table 1.B: Summary of Potential Environmental Impacts, Project Design Features, Mitigation Measures, Standard Conditions, and Level of Significance

Potential Environmental Impact	Project Design Features, Mitigation Measures, Standard Conditions	Level of Significance After Mitigation
demand of 0.00229 billion cubic feet (bcf) per year, which is an increase of 0.00133 bcf per year. According to the 2014 California Gas Report, the City's gas use is expected to remain relatively constant, increasing from 9.0 bcf in 2014 to 9.6 bcf by 2035. Therefore, the increase in annual natural gas demand associated with the proposed Project would be a negligible percent of the estimated available withdrawal capacity of Long Beach Gas & Oil (LBGO) in 2035. Consequently, the supply and distribution of natural gas within the area surrounding the proposed Project would not be reduced or inhibited as a result of the proposed Project, and levels of service to off-site users would not be adversely affected. Furthermore, the proposed Project would reduce natural gas consumption through the installation of high-efficiency direct fire heating and pool blankets. Therefore, impacts related to the provision of natural gas services to the proposed Project would be less than significant, and the proposed Project would not require new or physically altered transmission facilities (other than those facilities needed for on-site distribution and hook-up into the existing system). Similarly, no significant impacts to local or regional supplies of natural gas would occur as a result of the proposed Project, and no mitigation is required.		

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2.0 INTRODUCTION

This Draft Environmental Impact Report (EIR) has been prepared to evaluate environmental impacts associated with the proposed Belmont Pool Revitalization Project (proposed Project) in the City of Long Beach (City). The City is the "public agency which has the principal responsibility for carrying out or approving the project" and, as such, is the "Lead Agency" for this project under the California Environmental Quality Act of 1970 (CEQA) (*State CEQA Guidelines for Implementation of CEQA* Section 15367). CEQA requires the Lead Agency to consider the information contained in the EIR prior to taking any discretionary action. This Draft EIR is intended to serve as an informational document to be considered by the City and the Responsible Agencies during deliberations on the proposed Project. The anticipated project approvals associated with the proposed Project are described in Section 3.0, Project Description.

The City prepared an Initial Study (IS) for the proposed Project to determine whether a Categorical Exemption (CE), a Mitigated Negative Declaration (MND), or an EIR would be the appropriate documentation for compliance with CEQA (Public Resources Code [PRC] Section 21000 et seq.) for the proposed Project. The analysis contained in the IS found that the project may have a significant effect on the environment unless mitigation is included to lessen or avoid the environmental effects of the project. The City staff determined that an EIR was the appropriate environmental document to be prepared for the proposed Belmont Pool Revitalization Project. The IS was prepared and circulated, along with a Notice to Prepare (NOP) an EIR, for public review from April 18 to May 17, 2013. Subsequent to issuance of the IS/NOP, changes were made to the site design that required the City to revise and reissue the IS. The revised IS was recirculated for public review from April 9 to May 8, 2014.

This Draft EIR was prepared in accordance with CEQA (PRC Section 21000 et seq.) and the *State CEQA Guidelines* (California Code of Regulations [CCR], Title 14, Section 15000 et seq.). This Draft EIR also complies with the procedures established by the City for implementation of CEQA.

Questions regarding the preparation of this document and the City review of the proposed Project should be referred to the following:

City of Long Beach
Department of Development Services
333 West Ocean Boulevard, 5th Floor
Long Beach, California 90802
Attention: Craig Chalfant, City Planner
(562) 570-6368
craig.chalfant@longbeach.gov

2.1 PURPOSE AND TYPE OF EIR/INTENDED USES OF THE EIR

This Draft EIR has been prepared to evaluate environmental impacts that may result from implementation of the proposed Project. As the Lead Agency, the City has the authority for preparation of this Draft EIR and, after the comment/response process, certification of the Final EIR and approval of the proposed Project as described in this Draft EIR.

The City and Responsible Agencies have the authority to make decisions on discretionary actions relating to development of the proposed Project. As stated previously, this Draft EIR is intended to serve as an informational document to be considered by the City and Responsible Agencies during deliberations on the proposed Project. This EIR evaluates and mitigates a reasonable worst-case scenario of potential impacts associated with the proposed Project.

This EIR will serve as a Project EIR pursuant to *State CEQA Guidelines* Section 15161. According to Section 15161 of the *State CEQA Guidelines*, a Project EIR is appropriate for specific development projects in which information is available for all phases of the project, including planning, construction, and operation.

As previously mentioned, the City is the Lead Agency for this Project under CEQA (*State CEQA Guidelines* Section 15367) and as such, must consider the information contained in the EIR prior to taking any discretionary action. This EIR provides information to the Lead Agency and other public agencies, the general public, and decision-makers regarding the potential environmental impacts from construction and operation of the proposed Project. The purpose of the public review of the EIR is to evaluate the adequacy of the environmental analysis in terms of compliance with CEQA. Section 15151 of the *State CEQA Guidelines* states the following regarding standards from which adequacy is judged:

> "An EIR should be prepared with a sufficient degree of analysis to provide decision-makers with information which enables them to make a decision which intelligently takes account of environmental consequences. An evaluation of the environmental effects of a proposed project need not be exhaustive, but the sufficiency of an EIR is to be reviewed in the light of what is reasonably feasible. Disagreement among experts does not make an EIR inadequate, but the EIR should summarize the main points of disagreement among experts. The courts have not looked for perfection but for adequacy, completeness, and a good faith effort at full disclosure."

Under CEQA (PRC Section 21002.1[a]):

> "The purpose of an environmental impact report is to identify the significant effects on the environment of a project, to identify alternatives to the project, and to indicate the manner in which those significant effects can be mitigated or avoided."

As previously discussed in Chapter 1.0, Executive Summary, an EIR is the most comprehensive form of environmental documentation identified in CEQA and the *State CEQA Guidelines* and provides the information needed to assess the environmental consequences of a proposed project. EIRs are intended to provide an objective, factually supported, full-disclosure analysis of the environmental consequences associated with a proposed project that has the potential to result in significant, adverse environmental impacts.

2.2 PUBLIC REVIEW PROCESS

In compliance with the *State CEQA Guidelines*, the City has taken steps to maximize opportunities for the public and public agencies to participate in the environmental review process. The City conducted the scoping process, issued an NOP and an IS for the proposed Project, and determined that an EIR was required to evaluate the potentially significant environmental effects of the proposed Project and related actions.

2.2.1 Notice of Preparation

On April 18, 2013, an NOP was distributed by the City for the proposed Belmont Pool Revitalization Project. The State of California Clearinghouse (SCH) issued a project number for the Draft EIR (SCH No. 2013041063). In accordance with *State CEQA Guidelines* Section 15082, the NOP was circulated to the agencies and individuals listed in Appendix A from April 18, 2013, through May 17, 2013, during which time written comments were solicited pertaining to environmental issues/topics that the Draft EIR should evaluate.

Subsequent to issuance of the IS/NOP, changes were made to the site design that required the City to revise and reissue the NOP and the IS. The revised NOP and IS were recirculated for public review from April 9 to May 8, 2014, during which time additional written comments were solicited and received. The recirculated NOP and responses to the NOP from agencies, organizations, and individuals are included in Appendix A of this EIR. Appendix A contains copies of the recirculated NOP comment letters that were received. Written responses to the NOP issued on April 18, 2013, were received from the following:

- South Coast Air Quality Management District
- Los Angeles County Department of Public Works
- County Sanitation Districts of Los Angeles County

Written responses to the NOP reissued on April 9, 2014, were received from the following:

- South Coast Air Quality Management District
- County Sanitation Districts of Los Angeles County
- Los Angeles County Metropolitan Transportation Authority
- Native American Heritage Commission
- Lucy Johnson (member of the public)

2.2.2 Areas of Controversy

Key environmental issues and concerns raised in the responses to the NOP included: (1) potential for increased traffic; (2) potential for discovery of cultural resources; (3) potential for air quality impacts; (4) increases in wastewater discharges; (5) potential for impacts to storm drain facilities; and (6) concerns of pool design and amenities meeting the overall desires of the swimming community.

Please note that this is not an exhaustive list of areas of controversy but rather key issues that were raised during the scoping process. The EIR addresses each of these areas of concern or controversy in detail, examines Project-related and cumulative environmental impacts, identifies significant adverse environmental impacts, and proposes mitigation measures designed to reduce or eliminate potentially significant impacts. Appendix A includes the recirculated NOP and copies of written comments received.

On June 17, 2014, the City Council conducted a study session on the programmatic requirements and conceptual plans for the roposed Project. The City Council suggested that a community stakeholder committee be convened to prioritize optional components of the conceptual plan for the City Council to consider for approval. The Stakeholder Advisory Committee consisted of representatives from a number of different stakeholders, including residents, business interests, aquatics community, competitive users, recreational users, diving, water polo, swimming, and representatives for the community at large. The Stakeholder Advisory Committee conducted three workshops in July and August 2014 and explored various issues related to the pool in a collaborative discussion. The Stakeholder Committee recommended a conceptual design and held a public meeting on September 17, 2014 at the Rogers Middle School. Approximately 150 to 200 people attended and asked questions and provided comments. Additionally, draft input was sought from the California Coastal Commission (CCC) local staff and, upon initial review the local staff of the CCC was supportive of the direction of the conceptual facility design and emphasized their preference for the facility to have a primarily public recreation focus with the availability to accommodate private/competitive events when public demand is low. Formal comments and approval by the Coastal Commission will occur later in the process. Another public City Council meeting was held October 21 2014, where the City Council unanimously approved the recommended programmatic requirement recommended by City staff, and based primarily on the recommendations of the Stakeholder Committee. Based on input from the City Council, Stakeholders Advisory Committee, the general public, and the CCC, the major common issues of concern raised included: (1) loss of park space; (2) wildlife; (3) parking; (4) noise; (5) aesthetics; (6) geologic stability (7) design features; and (8) cost.

Additionally, the EIR addresses each of the areas of concern addressed in the NOP comment period, examines Project-related and cumulative environmental impacts, identifies significant adverse environmental impacts, and proposes mitigation measures designed to reduce or eliminate potentially significant impacts of the proposed Project.

2.2.3 Public Review Period

This EIR is being distributed to numerous public agencies and other interested parties for review and comment. The EIR is also available at the following locations throughout the City and on the City's website.[1]

> City of Long Beach
> Development Services/Planning Bureau
> 333 West Ocean Boulevard, 5th Floor
> Long Beach, California 90802

[1] Long Beach Development Services. Website: http:// www.lbds.info/planning/environmental_planning/ environmental_reports.asp.

Long Beach Main Library
101 Pacific Avenue
Long Beach, California 90802
For hours of operation, call (562) 570-7500

Bay Shore Neighborhood Library
195 Bay Shore Avenue
Long Beach, California 90803
For hours of operation, call (562) 570-1039

All comments received from agencies and individuals on the EIR will be accepted during the public review period, which will not be less than 45 days in compliance with CEQA. All comments on the EIR should be sent to the following City contact person:

Craig Chalfant, City Planner
City of Long Beach,
Development Services/Planning Bureau
333 West Ocean Boulevard, 5th Floor
Long Beach, California 90802
Phone: (562) 570-6368
Email: craig.chalfant@longbeach.gov

Following the close of the review period, the City will prepare responses to all comments and will compile these comments and responses into a Final EIR. Responses to comments submitted on the EIR by agencies will be provided to those agencies at least 10 days prior to certifying the Final EIR. The City will make findings regarding the extent and nature of the impacts as presented in the Final EIR. The Final EIR will need to be certified as complete by the City prior to making a decision to approve or deny the Project. Public input is encouraged at all public hearings before the City.

2.3 SCOPE OF THIS EIR

As required by *State CEQA Guidelines* Section 15128, this EIR must identify the effects of the proposed Project determined not to be significant. The scoping process for this EIR included the preparation of an IS. Per *State CEQA Guidelines* Section 15063, the City prepared an IS to determine whether the Project could have a significant effect on the environment. The City determined that the proposed Project may have a significant impact on the environment and, as explained in Section 2.2.1 of this EIR, issued an NOP soliciting comments from Responsible and Trustee Agencies and other interested parties, including members of the public. In addition to identifying potentially significant impacts of the Project that required additional study, the IS also identified effects determined not to be significant consistent with *State CEQA Guidelines* Section 15063(c)(3)(B). Impacts that were determined to be less than significant were discussed and evaluated in the IS contained in Appendix A of this EIR. The analysis determined that the proposed Project would result in no impacts to agricultural resources, public services, population and housing, or mineral resources.

For this reason, potential impacts related to agricultural resources, public services, population and housing, and mineral resources are discussed solely in Appendix A of this EIR. The City's IS and Environmental Checklist Form are discussed in Chapter 4.0 of this document, and a copy of the IS and Environmental Checklist for the proposed Project are included in Appendix A of this EIR.

2.4 FORMAT OF THE EIR

Pursuant to *State CEQA Guidelines* Section 15120(c), this EIR contains the information and analysis required by Sections 15122 through 15131. Each of the required elements is covered in one of the sections described below.

2.4.1 Section 1.0: Executive Summary

Section 1.0 contains the Executive Summary of the EIR, listing all significant Project impacts, mitigation measures that have been recommended to reduce any significant impacts of the proposed Project, and the level of significance of each impact following mitigation. The summary is presented in a matrix (tabular) format.

2.4.2 Section 2.0: Introduction

Section 2.0 contains a discussion of the purpose and intended use of the EIR, a background on Project initiation and the NOP, and areas of controversy known to the Lead Agency, including issues raised by the public. A summary discussion of effects found not to be significant and, therefore, not included in the EIR analysis is also included in this section.

2.4.3 Section 3.0: Project Description

Section 3.0 includes a discussion of the Project's geographical setting, the history of the Project site, and the Project's goals, objectives, characteristics, and components.

2.4.4 Section 4.0: Environmental Analysis, Impacts, and Mitigation Measures

Section 4.0 includes an analysis of the Project's environmental impacts. It is organized into topical sections, including Aesthetics, Air Quality, Biological Resources, Cultural Resources, Geology and Soils, Greenhouse Gas Emissions, Hazardous Materials, Hydrology and Water Quality, Land Use, Noise, Recreation, Transportation and Circulation, and Utilities and Service Systems. The environmental setting discussions describe the "existing conditions" of the environment on the Project site and in the vicinity of the site as they pertain to the environmental issues being analyzed (Section 15125 of the *State CEQA Guidelines*).

The environmental setting will normally constitute the baseline physical conditions by which a Lead Agency determines whether an impact is significant (Section 15125[a] of the *State CEQA Guidelines*). In this case, the City, as the Lead Agency under CEQA, has used its discretion with regard to baseline in order to note that the existing pool had been operational for over 45 years, and the closure and demolition of the permanent facility was due to public safety concerns. Furthermore, it was well-known via the City's website and public discussion that a rehabilitation of the Belmont Pool was being pursued by the City. Had the pool not been closed in an emergency, the EIR for the rehabilitation Project would have occurred while the pool was still operational. Therefore, the City finds that the pre-closure operational levels of the Belmont Pool constitute the appropriate baseline for the CEQA analysis.

The project impact discussions identify and focus on the significant environmental effects of the proposed Project. The direct and indirect significant effects of the project on the environment are identified and described, giving due consideration to both the short-term and long-term effects, as necessary (Section 15126.2[a] of the *State CEQA Guidelines*).

Chapter 4.0 also includes within each environmental impact analyzed, a discussion of the cumulative effects of the Project when considered in combination with other projects, as required by Section 15130 of the CEQA Guidelines. Cumulative impacts are based on the build out of the Project and the surrounding area, including all other known projects in the surrounding area.

The discussions of mitigation measures identify and describe feasible measures that could minimize or lessen significant adverse impacts for each significant environmental effect identified in the EIR (Section 15126.4 of the *State CEQA Guidelines*). The level of significance after mitigation is reported in each section. Unavoidable adverse effects are identified where mitigation is not expected to reduce the effects to less than significant levels.

2.4.5 Section 5.0: Alternatives to the Proposed Project

In accordance with *State CEQA Guidelines* Section 15126.6, the alternatives discussion in Section 5.0 describes a reasonable range of alternatives that could feasibly attain the basic objectives of the Project and that are capable of eliminating any significant adverse environmental effects or reducing them to a less than significant level. Alternatives analyzed in Section 5.0 include the No Project/No New Development Alternative, the Maintain Temporary Pool with Ancillary Uses Alternative, the Outdoor Diving Well Alternative, a Reduced Project - No Outdoor Components Alternative, and Reduced Project - No Diving Well and No Outdoor Components Alternative.

2.4.6 Section 6.0: Long-Term Implications of the Project

Section 6.0 includes CEQA-mandated discussions required by Section 15126.2 of the *State CEQA Guidelines* regarding: (a) significant irreversible environmental changes that would result from implementation of the proposed Project, (b) significant adverse environmental impacts for which either no mitigation or only partial mitigation is feasible, and (c) growth-inducing impacts of the proposed Project.

2.4.7 Section 7.0: Mitigation Monitoring and Reporting Program

PRC Section 21081.6 requires that agencies adopt a mitigation monitoring and reporting program for any project for which findings have been made pursuant to PRC Section 21081. Section 7.0 provides a list of all proposed Project mitigation measures, defines the party responsible for implementation of those measures, and identifies the timing for implementation of each control measure.

2.4.8 Sections 8.0 and 9.0: Report Preparers and References

Sections 8.0 and 9.0, respectively, provide the EIR preparers, the technical report authors, and the organizations and persons contacted during preparation of the EIR; and the references used by the authors.

2.5 INCORPORATION BY REFERENCE

As permitted in Section 15150 of the *State CEQA Guidelines*, an EIR may reference all or portions of another document that is a matter of public record or is generally available to the public. Information from the documents that have been incorporated by reference has been briefly summarized in the appropriate sections of this EIR, along with a description of how the public may obtain and review these documents. These documents include:

- City of Long Beach General Plan, City of Long Beach, as amended
- City of Long Beach Municipal Code
- Local Coastal Program (LCP), City of Long Beach, 1980
- State Tidelands Grant, City of Long Beach
- City of Long Beach Parks, Recreation and Marine Strategic Plan, City of Long Beach, 2003

Documents that are incorporated by reference are available for review at the City of Long Beach, Department of Development Services, 333 West Ocean Boulevard, 5th Floor, Long Beach, California 90802.

3.0 PROJECT DESCRIPTION

3.1 PROJECT LOCATION AND SITE DESCRIPTION

The Belmont Plaza Olympic Pool (Belmont Pool) site is operated by the City of Long Beach (City) Department of Parks, Recreation, and Marine and is located in the Belmont Shore Beach Park in southeast Long Beach (see Figure 3.1). Due to several functional problems with the former pool (pool leaks, bulkhead issues, concerns regarding concrete cracking and corrosion, rust on concrete, etc.), the City implemented a needs assessment and analyses to determine the best course of action for the long term maintenance and repair of the facility. During the course of the analysis, the Building Official, based on the report from the structural engineering firm (TMAD Taylor and Gaines), determined that the natatorium was at risk for failure during a moderate earthquake event, resulting in the closure of the facility. The former Belmont Pool facility was closed to the public on January 13, 2013, as a result of these substandard seismic and structural conditions, and was demolished in February 2015 because it was determined to be an imminent threat to public safety.

The area of the Project site that contained the former Belmont Pool facility was backfilled, compacted, and, at the request of the California Coastal Commission (CCC), covered with a minimal sand "blanket" to temporarily blend with the adjacent beach. This backfilled sand area is temporary and is the location where the proposed Belmont Pool facility will be constructed. Signs indicating the City's intent to redevelop the site with the proposed Project are installed on the project site. The demolition of the structure was conducted under an emergency permit (Statutory Exemption SE14-01); therefore, this Draft Environmental Impact Report (EIR) does not analyze the demolition of the former Belmont Pool facility.

3.1.1 Former Belmont Pool Characteristics

The former Belmont Pool facility was located on the 5.8-acre Project site and totaled 45,595 square feet (sf) of building area. The facility provided a total of 18,410 sf of indoor and outdoor water surface area and reached a maximum of 60 feet (ft) in height. As shown in Figure 3.2, the former Belmont Pool facility consisted of five main areas: (1) the indoor pool; (2) the restaurant/banquet hall; (3) the locker room/aquatics administration office; (4) two outdoor pools (swimming and wading); and (5) the passive park. The two outdoor pools and the passive park are still currently open to the public. The passive park includes a pedestrian/bicycle path (separate lanes), a bicycle rack, and landscaping in the form of lawn and mature trees.

3.1.2 Temporary Pool

In order to provide aquatic services during the planning and construction of the proposed Project, the City had previously approved the installation and use of a temporary outdoor pool located immediately east of the Project site in the western portion of the Beach Parking Lot (see Figure 3.2).

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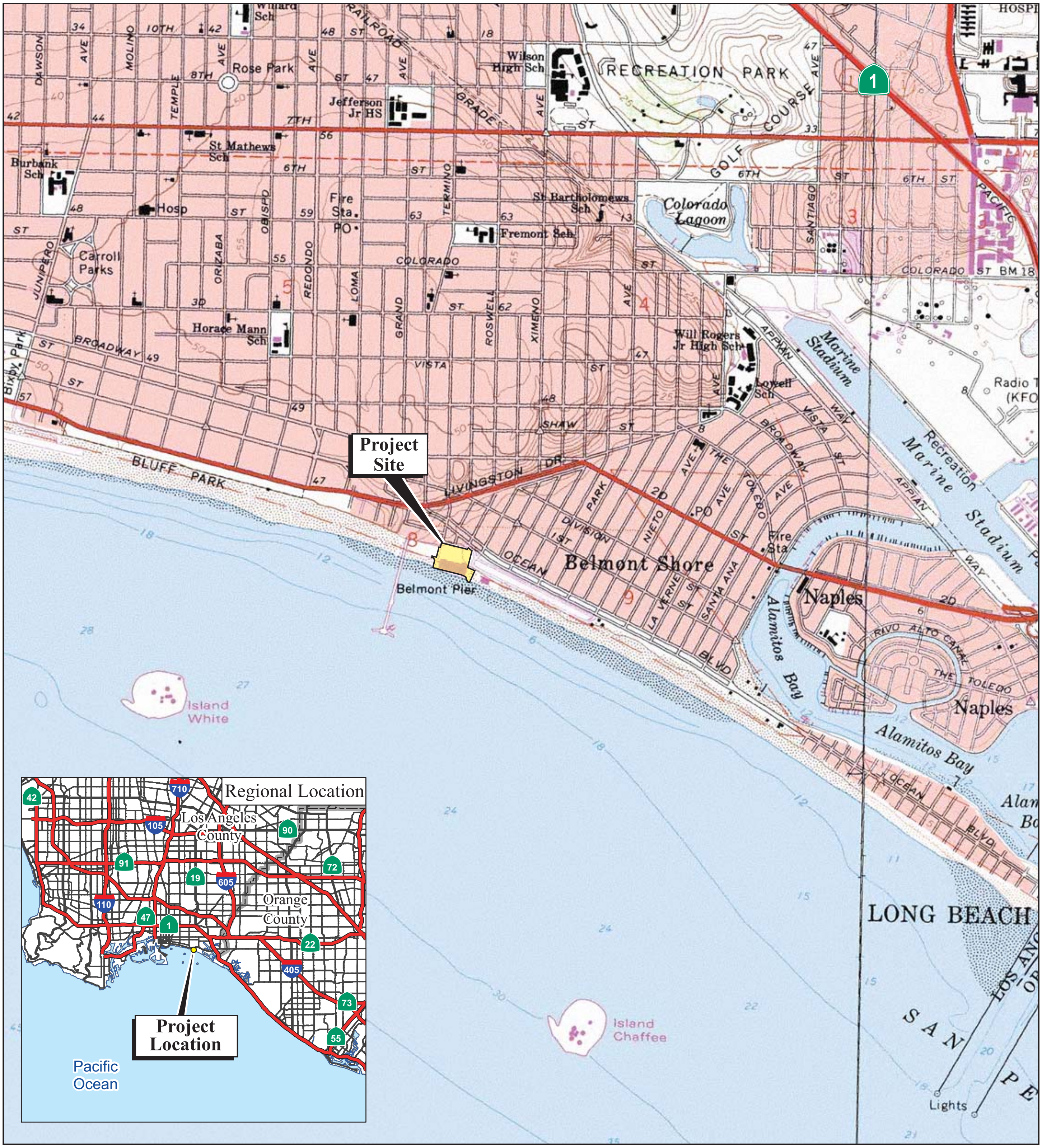

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FIGURE 3.1

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SOURCE: USGS 7.5' Quad - Long Beach, California

Belmont Pool Revitalization Project

Project Vicinity Map

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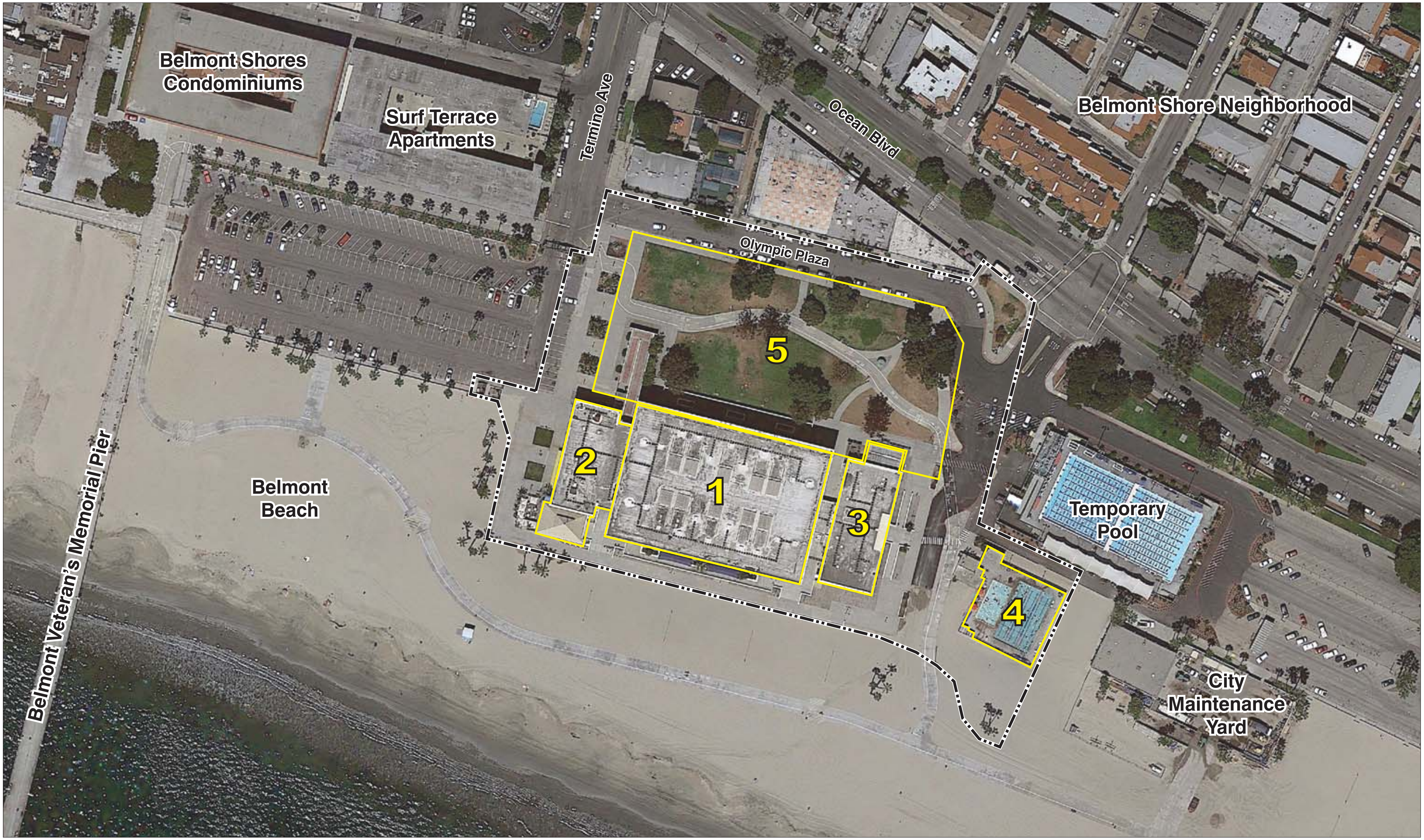

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FIGURE 3.2

LEGEND

- Project Site
1 - Indoor Pool
2 - Restaurant/Banquet Hall
3 - Locker Room/Aquatics Administration Trailer
4 - Outdoor Pool
5 - Open Space/Passive Park

0 120 240
FEET

SOURCE: Google Earth

Belmont Pool Revitalization Project

Former Pool Facility

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The temporary pool was installed and opened on December 19, 2013, in order to provide swimming facilities while the permanent facility is under construction. Although the temporary pool does have limitations on the number of years the existing permit can be extended, the temporary pool is expected to remain open until the proposed Project begins operations. Immediately following the removal of the temporary pool, the Beach Parking Lot will be resurfaced and restored as a part of a separate project.[1]

3.1.3 Existing Access and Parking

Patrons and visitors to Belmont Pool access the site via walking and bicycling (in the case of local residents), car, public buses (Long Beach Transit Route 121 has stops near the intersection of Termino Avenue/Ocean Boulevard), and team buses for certain competitions. Pedestrian access is from both the front (passive park) and from the beach. Belmont Pool has no dedicated parking lot, but vehicles may park in either of two pay lots; the Belmont Veteran's Memorial Pier Parking Lot (Pier Parking Lot) northwest of the Pool facility or the Beach Parking Lot southeast of the Project site.

The Pier Parking Lot is smaller and generally more heavily utilized than the Beach Lot, and existing signage promotes use of the Beach Parking Lot for swim meets. Access to the Pier Parking Lot is via South Termino Avenue. Access to the Beach Parking Lot is from Ocean Boulevard. The two parking lots are connected by East Olympic Plaza, which is located north of the pool and the passive park (see Figure 3.2).

3.1.4 Surrounding Land Uses

The land uses surrounding the site as shown on Figure 3.2 include the following:

- **North:** Several businesses are located along the northern side of East Olympic Plaza, including Belmont Shores Children's Center, a vacant commercial building, the former Yankee Doodles restaurant which has been entitled for a private sports club/gym, a dog wash, and Chuck's Coffee Shop. The Belmont Shore neighborhood is located across Ocean Boulevard to the northeast and includes predominantly single-family and multifamily residential uses with some retail/restaurant uses.
- **East:** The City of Long Beach beach maintenance yard, the temporary outdoor pool, Rosie's dog beach, a boat launch, kite surfing, and the Beach Parking Lot are located to the east and southeast. The maintenance yard is used for storage of City maintenance vehicles and equipment used to maintain the City's beach and waterway areas.
- **South:** The Pacific Ocean, the beach, bicycle and pedestrian pathways, and volleyball courts are to the south.
- **West:** Belmont Veterans Memorial Pier, Belmont Beach, and the Pier Parking Lot are to the west, and the Surf Terrace Apartments, Belmont Shores Condominiums, and a Jack in the Box restaurant are located to the northwest.

[1] Pursuant to conditions of Categorical Exemption CE 10-13.

3.2 CITY OF LONG BEACH LAND USE AND ZONING DESIGNATIONS

As shown in Figure 3.3, the Project site consists of both "Open Space and Parks" and "Mixed Uses" land use designations. The Open Space and Parks use (Land Use Designation No. 11 in the Land Use Element of the General Plan), which overlays the building footprint and a portion of the adjacent passive park, is intended to provide for "preserving natural habitat areas and promoting the mental and physical health of the community through recreational, cultural, and relaxation pursuits. Parks are characterized by open spaces devoted to leisure activities including the enjoyment of nature, wildlife, cultural heritage, sports, and similar activities." The portion of the Project area located on the northern portion of the Project site is designated as Mixed-Uses (Land Use Designation No. 7 in the Land Use Element of the General Plan). The Mixed-Uses land use designation accommodates a wide range of uses and is intended to provide for uses in large activity centers of the City. Land uses in this designation include retail, offices, medical facilities, higher-density residences, visitor-serving facilities, personal and professional services, and recreational facilities. As discussed in Section 4.9, Land Use, of this Draft EIR, the proposed Project would be consistent with both land use designations.

As shown in Figure 3.4, the Project site includes areas zoned Park (P) and Belmont Pier Planned Development District (PD-2, Subarea 1). The P zone generally matches the area for the Open Space and Parks land use designation, and the PD-2 zone generally matches the area for the Mixed-Uses land use designation. The P zoning designation encompasses the southern portion of the Project site, includes the building footprint, and was established to set aside and preserve publicly owned natural and open areas for active and passive public use for recreational, cultural, and community service activities. The PD-2 zoning designation encompasses the northern portion of the Project site, including the passive park, and was established to encourage a joint public and private effort to revitalize this underutilized area containing the significant public resource of the Belmont Pier and Olympic Plaza Pool. As discussed in Section 4.9, Land Use, of this Draft EIR, the proposed Project would require a height variance approval, as well as the approval of a Conditional Use Permit for the restaurant, in order be consistent with the site's zoning requirements.

3.3 PROJECT HISTORY AND BACKGROUND

3.3.1 Notable Aquatic Events

In November 1961, the Long Beach City Council voted to place an item in the February 1962 municipal election for the use of Tidelands funds for the construction of the "Belmont Plaza Beach Center" (now Belmont Plaza) project, which included a swimming pool, wading pool, and public parking lot. Proposition 7 was approved by the voters in February 1962, clearing the way for the use of the site for public purposes. The City Council ratified the election results in March 1962, paving the way for site acquisition and eventual construction of the "Belmont Plaza Beach Center."

In January 1967, plans were approved for a group of structures at Belmont Plaza, a site west of the Belmont Pier on the beach in Belmont Shore. The Belmont Pool opened in 1968 in time for the United States (U.S.) Olympic swimming trials. The facility hosted both the 1968 and the 1976 U.S. Olympic swimming trials, as well as the 1974 and 1978 National Collegiate Athletic Association (NCAA) swimming championships. Mark Spitz, Don Schollander, and Charles Hickox set men's records during these trials. After the 1968 trials, the Belmont Pool facility was opened to the public for recreational purposes.

FIGURE 3.3

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Belmont Pool Revitalization Project

General Plan Land Use Designations

SOURCE: Department of Planning & Building & Department of Technology Services, GIS Revised: November, 1998

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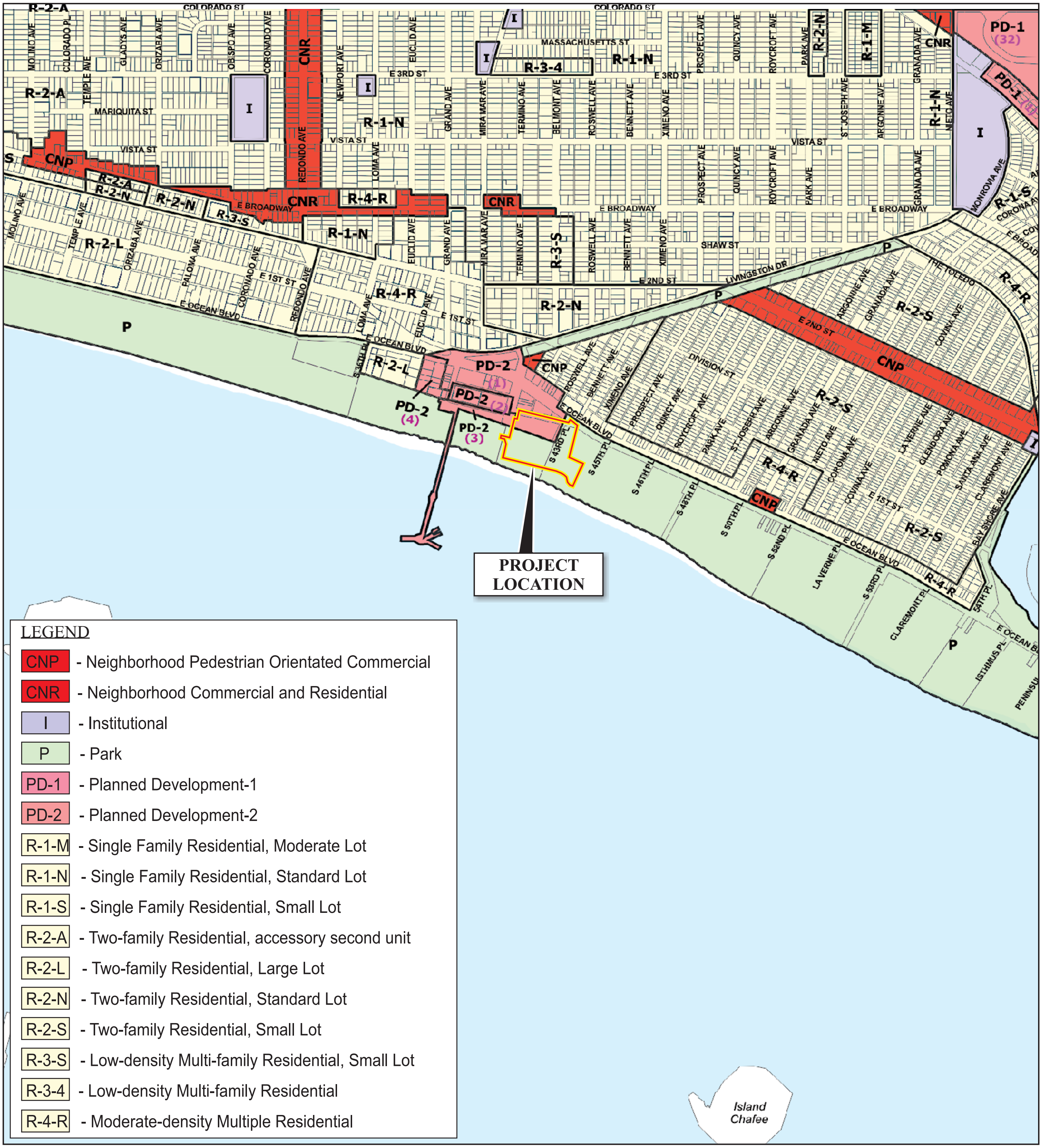

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FIGURE 3.4

Belmont Pool Revitalization Project

Zoning Designations in the Project Vicinity

SOURCE: Development Services & Department of Technology Services, July 2011

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Throughout the lifespan of the former Belmont Pool facility, several major swimming records were broken. During the 1975 U.S. Olympic development meet, Shirley Babashoff took first place in the 400 meter (m) freestyle event, and in 1976, she broke the record for the women's 100 m freestyle competition in Olympic trials at the Belmont Pool. Tom Shields set the current NCAA record in the 200 m butterfly in March 2011 with a time of 1:40.31, while Vlad Morozov set the current national high school record in the 50 m freestyle with a time of 19.43 seconds in May 2010.

The former Belmont Pool facility served as a training site during the 1984 Olympic Games held in Los Angeles, and was proposed as the site for diving in the Los Angeles bid for the 2012 Olympic Games. Francis Heusel and Frank Homolka, noted Long Beach architects, and Bole and Wilson, local engineers, designed the complex, which included an Olympic-size indoor pool, a community/private event building, and a locker room. The former building design was characterized as Greek Modern architecture.

3.3.2 Proposed Project Planning

The former indoor Belmont Pool was closed to the public on January 13, 2013, as a result of substandard seismic and structural conditions. A temporary outdoor pool was constructed in the Beach Parking Lot and opened to the public on December 19, 2013. In February 2015, the Belmont Pool facility was demolished to alleviate an imminent public safety threat, as described above.

On June 17, 2014, the City Council conducted a study session on the programmatic requirements and conceptual plans for the proposed Project. The City Council suggested that a community stakeholder committee be convened to prioritize optional components of the conceptual plan for the City Council to consider for approval. The Stakeholder Advisory Committee consists of representatives from a number of different stakeholders, including residents, business interests, aquatics community, competitive users, recreational users, diving, water polo, swimming, and representatives for the community at large. The Stakeholder Advisory Committee conducted three workshops in July and August 2014 and explored various program variations related to the pool through a collaborative programming process. Once the Stakeholder Committee recommended a conceptual program, a public meeting was held on September 17, 2014, at Rogers Middle School. Approximately 150 to 200 people attended and provided comments. Additionally, input was sought from the California Coastal Commission (Coastal Commission) staff. Upon initial review at a meeting conducted at Long Beach City Hall on August 21, 2014, the Coastal Commission expressed general support of the conceptual programming and emphasized its preference for the facility to maintain a primarily public recreation focus with availability to accommodate private/competitive events when public demand is low. Based on input from the City Council, the Stakeholders Advisory Committee, the general public, and Coastal Commission staff, the Project program was designed as is described and analyzed in this Draft EIR.

3.4 PROJECT CHARACTERISTICS

The proposed Project would replace the former Belmont Pool facility and provide the City with a revitalized and modern pool complex as depicted in Figure 3.5. The Project proposes the construction and operation of an approximately 125,500 sf pool complex that includes indoor and outdoor pool components (see Figures 3.6a through 3.6d) and an approximately 1,500 sf outdoor cafe. Permanent

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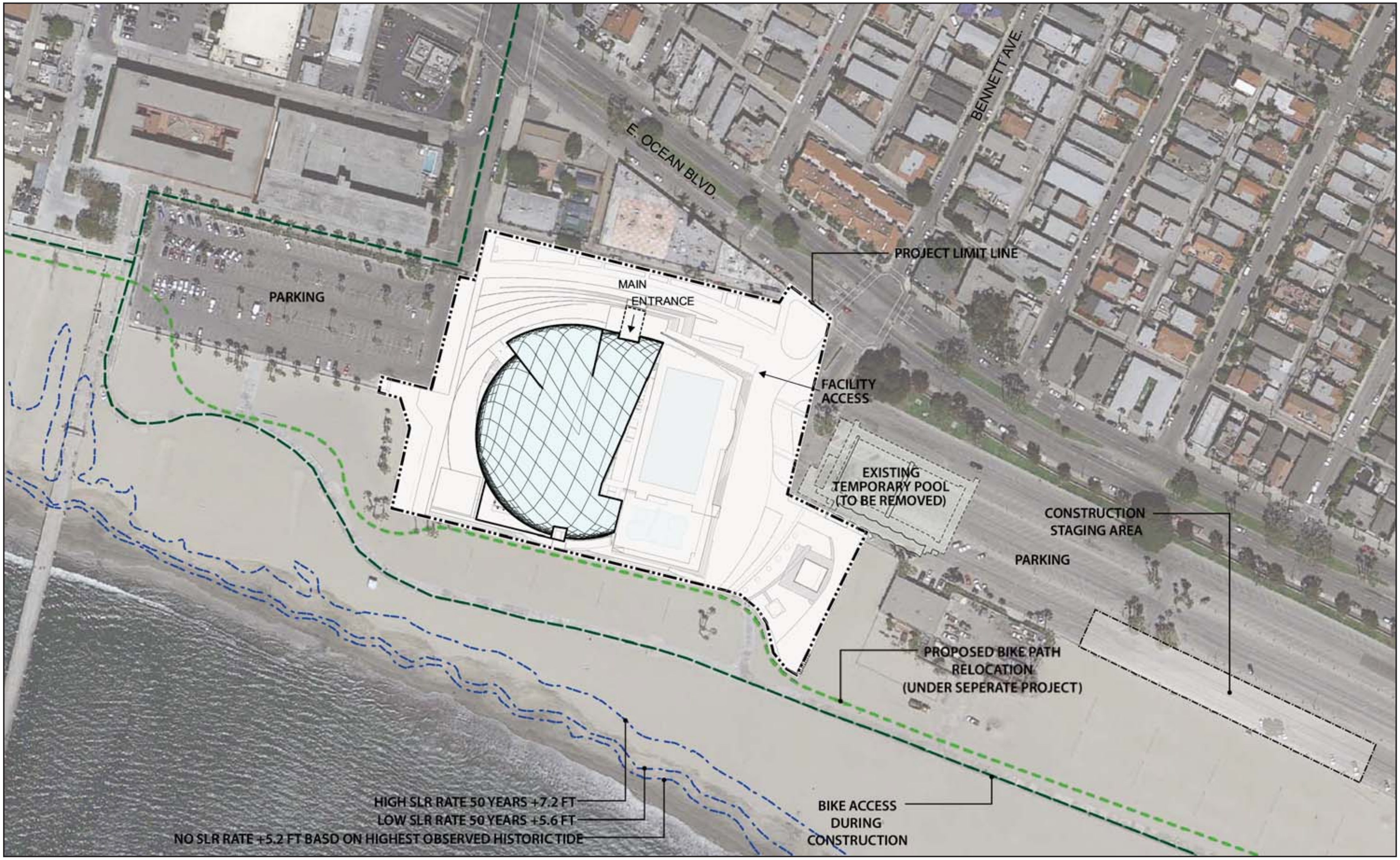

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FIGURE 3.5

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SOURCE: Hastings+Chivetta

Belmont Pool Revitalization Project

Proposed Site Plan

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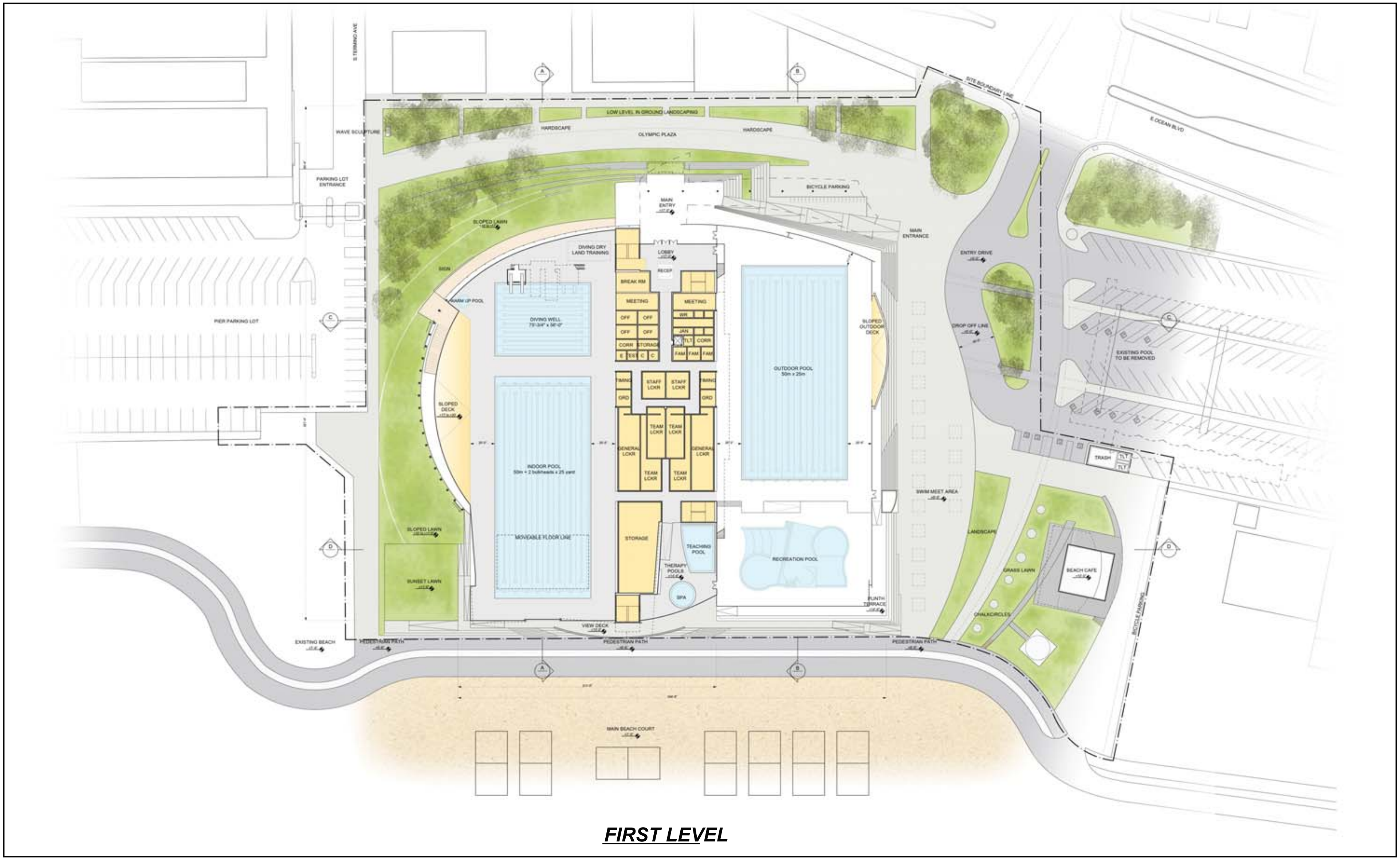

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FIGURE 3.6a

Belmont Pool Revitalization Project

Conceptual Building Layout Plan

SOURCE: Hastings+Chivetta

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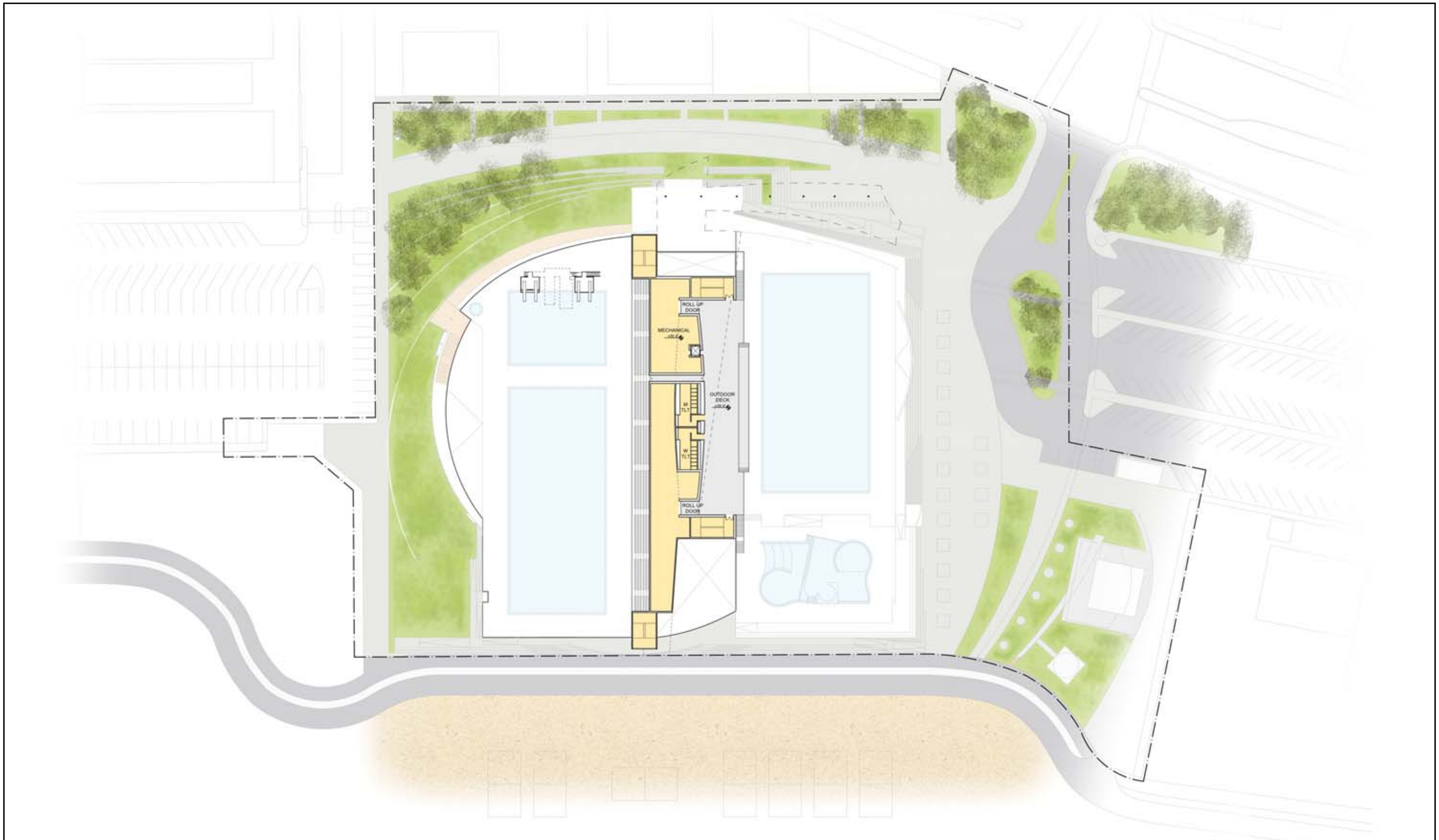

FIRST LEVEL MEZZANINE

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FIGURE 3.6b

Belmont Pool Revitalization Project

Conceptual Building Layout Plan

SOURCE: Hastings+Chivetta

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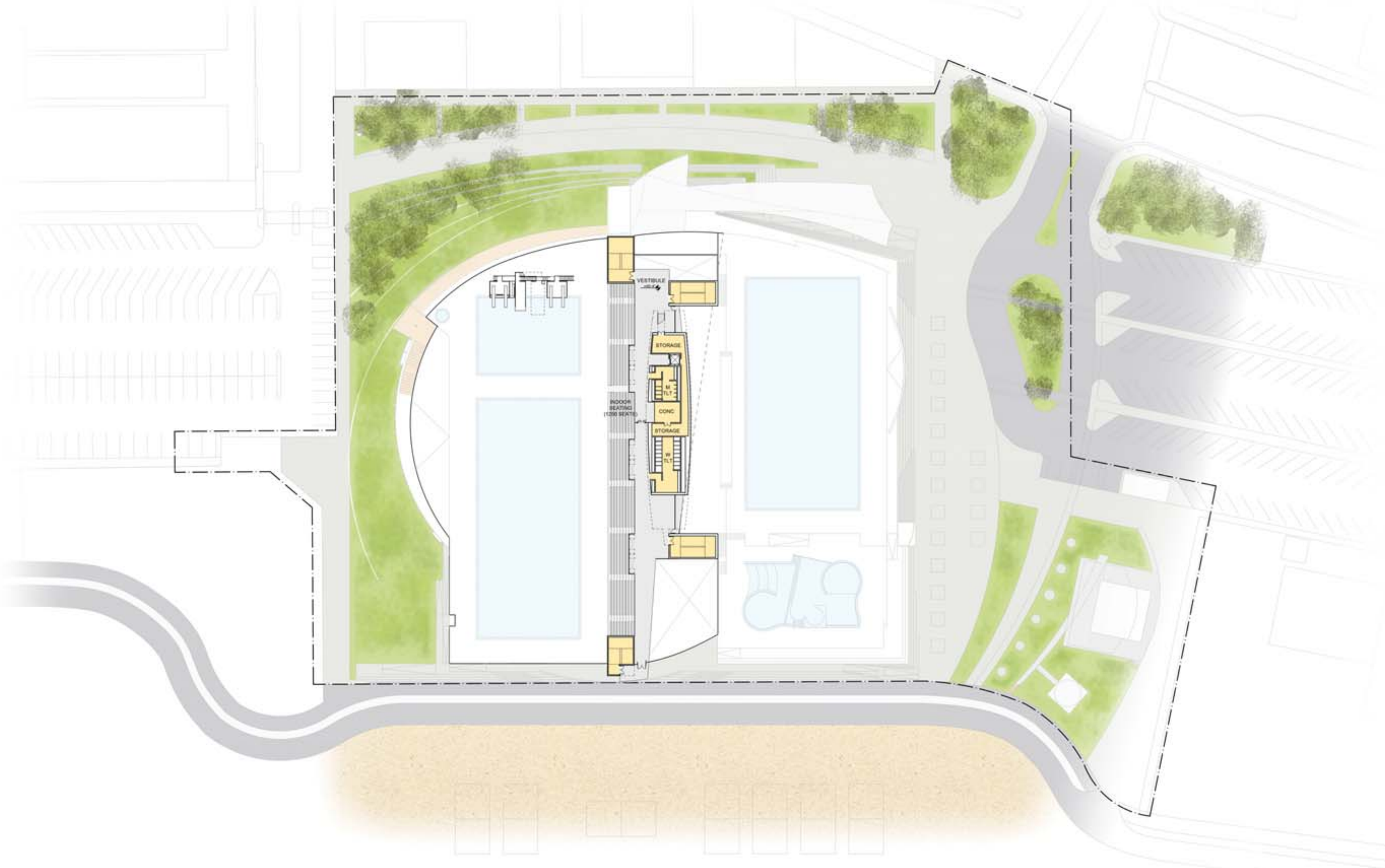

SECOND LEVEL

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FIGURE 3.6c

SOURCE: Hastings+Chivetta

Belmont Pool Revitalization Project

Conceptual Building Layout Plan

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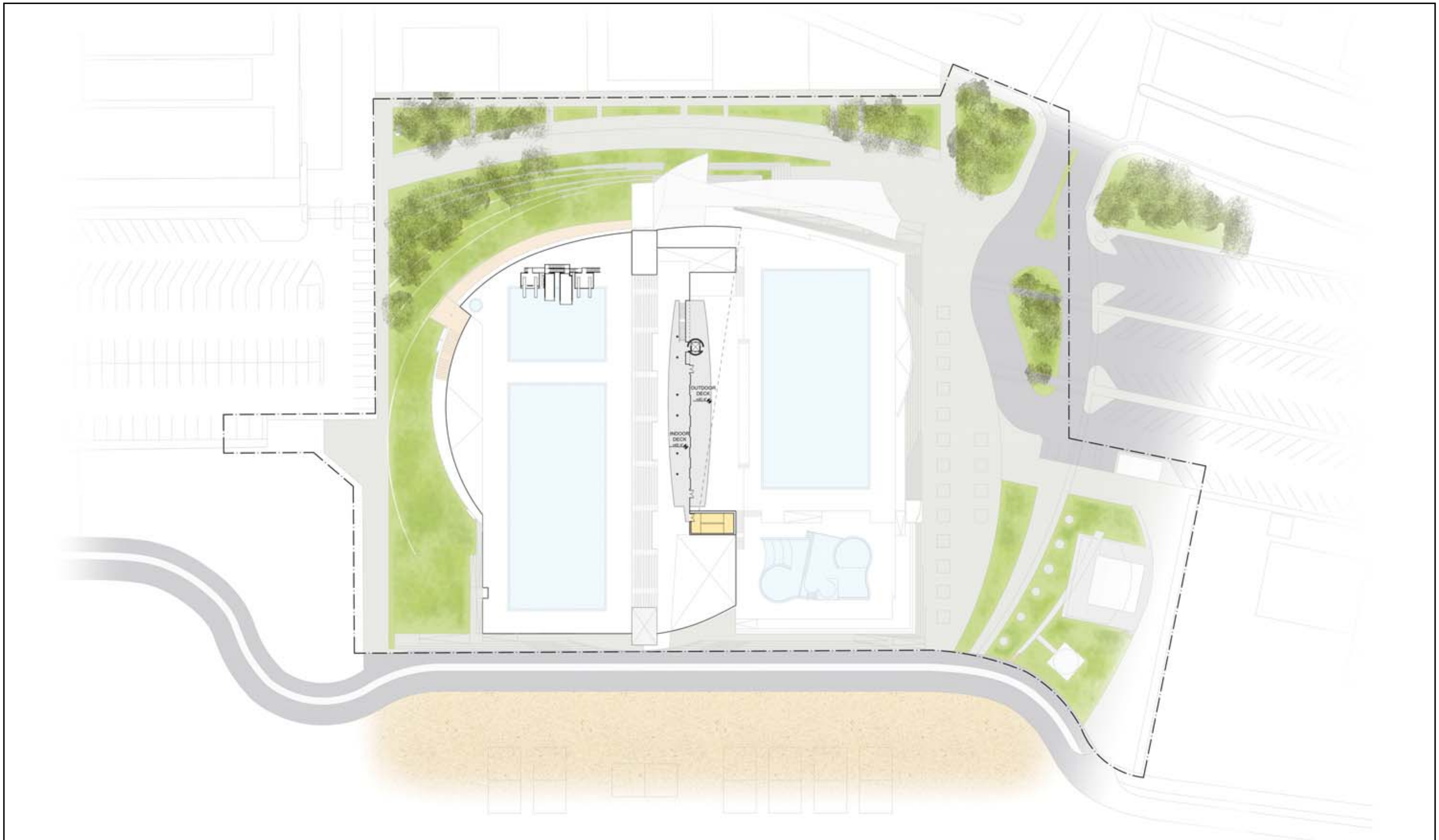

SECOND LEVEL MEZZANINE

L S A

FIGURE 3.6d

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Belmont Pool Revitalization Project

Conceptual Building Layout Plan

SOURCE: Hastings+Chivetta

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indoor seating for approximately 1,250 spectators would be provided to view competitive events at the 50-Meter Competition Pool and the Dive Pool. Temporary outdoor seating would be provided for larger events at the Outdoor 50-Meter Competition Pool with a maximum seating capacity of up to 3,000 spectators. The proposed Project does not include any permanent outdoor seating designed for spectator viewing. A comparison of the proposed Project with the former Belmont Pool facility is presented in Table 3.A.

Table 3.A: Project Component Comparison Table

Project Component	Former Pool Facility	Proposed Project	Change
Lot Size	5.8 acres	5.8 acres	0 acre
Building Size	45,595 sf	125,500 sf	+79,905 sf
Maximum Building Height	60 ft	71 ft	+11 ft
Indoor Pool Surface Area	14,010 sf	18,610 sf	+4,600 sf
Outdoor Pool Surface Area	4,400 sf	17,840 sf	+13,440 sf
Open Space Area	118,790 sf	127,085 sf	+8,295
Passive Park/Landscaped Area	45,160 sf	55,745	+10,585 sf
Seating	2,500	4,250*	+1,750[1]
Outdoor Cafe	5,665 sf	1,500 sf	-4,165 sf
Public Restrooms	0 sf	600 sf	+600 sf

Source: City of Long Beach (2016).
* Permanent indoor seating = 1,250. Temporary outdoor seating = 3,000.
ft = foot/feet
sf = square feet

3.4.1 Site Design/Layout

The proposed Project would include clearing and grading of the majority of the site, including the removal of the two existing outdoor pools during the construction phase. However, the removal of the outdoor pools and temporary pool would be phased so that there is continual access to pools for swim programming until the new facility is constructed and operational. As shown in Figure 3.5, the proposed Project would consist of three main areas: the pool facility; the open space/park area; and the outdoor café area, including a public restroom facility. The pool facility consists of the recreational and competitive aquatic components described in Section 3.4.3 and 3.4.4 below and would be the central focus of the Project site. The passive park area would be situated along the western and northern portions of the Project site, and near the outdoor café on the east side, and would be intended for general park uses, similar to the uses at the existing passive park. A pick-up and drop-off area would be located along the eastern boundary and would be adjacent to the outdoor restaurant/café and restroom area at the southeastern corner of the Project site. East Olympic Plaza would be closed to vehicular traffic.

3.4.2 Structural Components

The proposed Belmont Pool facility would be designed to be a landmark structure that would showcase a state-of-the-art facility intended to reflect the community's commitment to recreational and competitive aquatics. Conceptual elevations for the proposed structure are presented in Figures 3.7a and 3.7b. Conceptual interior cross-sections are presented in Figures 3.7c and 3.7d.

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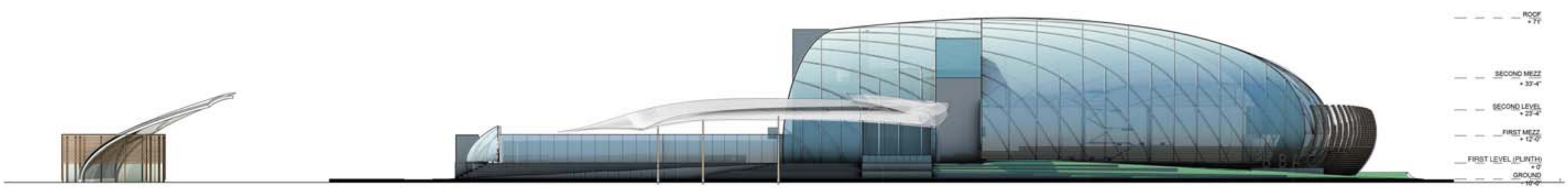
WEST ELEVATION



NORTH ELEVATION

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FIGURE 3.7a

Belmont Pool Revitalization Project

Pool Structure Elevations

SOURCE: Hastings+Chivetta

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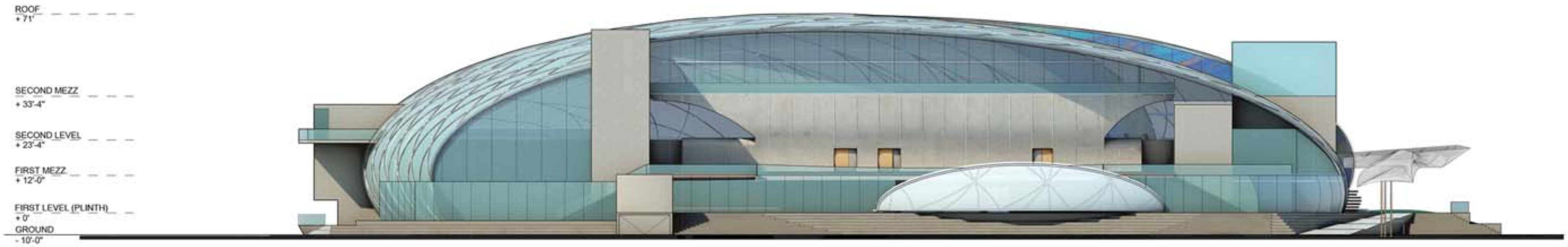
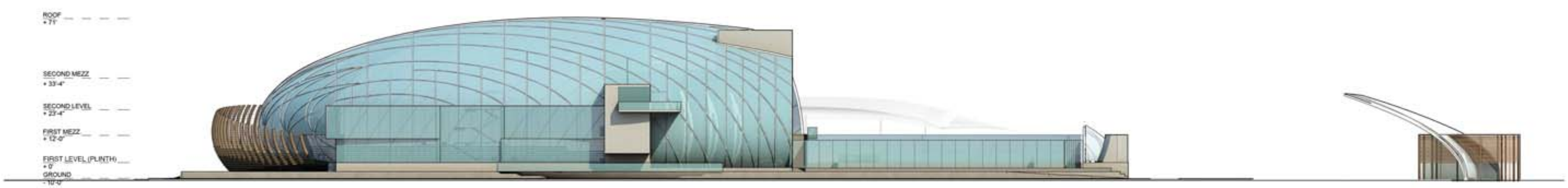


EAST ELEVATION



SOUTH ELEVATION

FIGURE 3.7b

Belmont Pool Revitalization Project

Pool Structure Elevations

SOURCE: Hastings+Chivetta

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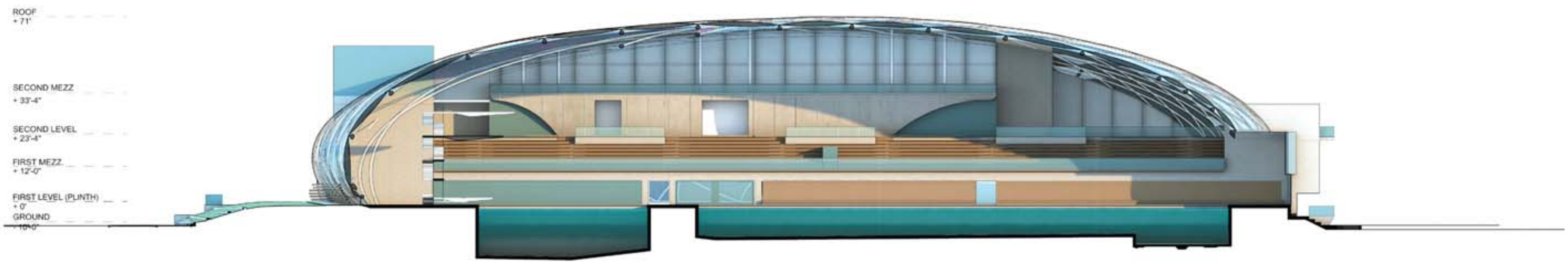

SECTION A

SECTION B

LSA

FIGURE 3.7c

Belmont Pool Revitalization Project

Interior Cross-Sections

SOURCE: Hastings+Chivetta

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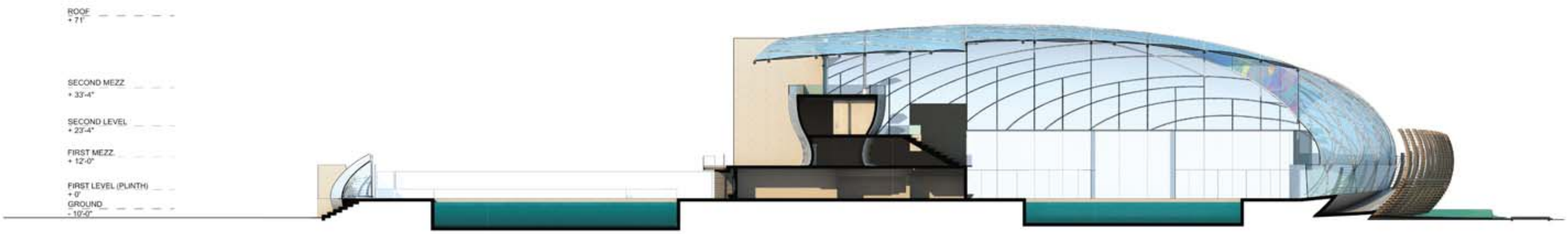
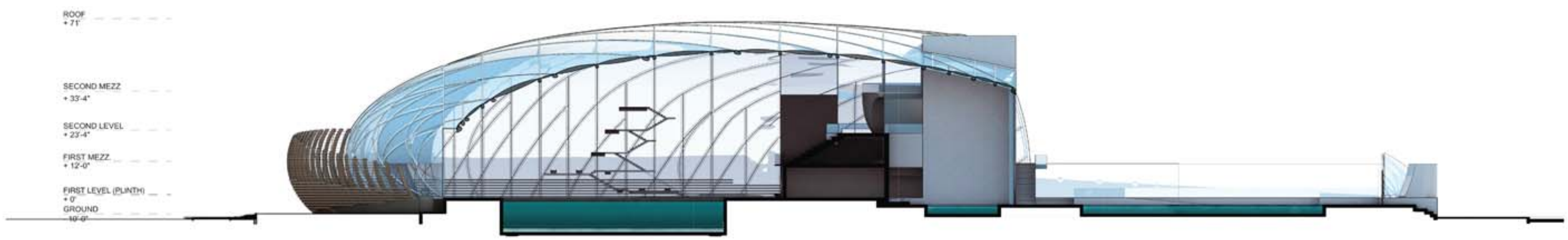


SECTION C



SECTION D

LSA

FIGURE 3.7d

Belmont Pool Revitalization Project

Interior Cross-Sections

SOURCE: Hastings+Chivetta

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Structural components include the following:

1. **The Bubble:** The Bubble would be a translucent cover to serve as the main arena and would house the indoor pools and permanent indoor bleachers. The structure would be an elliptical shaped dome, comprised of a web of structural steel, infilled with ethylene tetrafluoroethylene (ETFE) plastic, creating a continuous shell over the competition pool. Although the ETFE material is essentially self-cleaning, the City will engage the manufacturer to perform periodic inspections and cleaning through an extended warranty and maintenance program. The proposed Bubble structure would have a maximum height of 71 ft above the adjacent grade. A height variance would be required because the building would be located in the portion of the Project site zoned as "Park," which has a height limitation of 30 ft. The former Belmont Pool building was approximately 60 ft above the adjacent grade on the same location.
2. **Level 1: The Plinth:** The Plinth would be the foundation of the entire structure, consisting of a concrete platform at the pool decks and support functions for the indoor and outdoor pools, including lockers, offices, supply rooms, storage, stairs, and elevators. This level is raised approximately 7 ft above the surrounding beach and existing site based on the anticipated maximum ocean high-water mark to protect the pools, buildings, and structures from a high-water event. Below the pool deck level, utility spaces would house the pool equipment, water chambers, chemical storage, and other utilities required to operate the aquatic components.
3. **Level 1 Mezzanine:** The Level 1 Mezzanine would be located adjacent to the outdoor pool deck and would allow for additional outdoor patio space separate from the Plinth level. The Level 1 Mezzanine can be used by visitors and summer swim programs and includes public toilet facilities and mechanical rooms. The exterior patio space would be 6,000 sf.
4. **Level 2:** This level is primarily for visitor spectating and includes access to the indoor bleacher seating, concession area, and toilet facilities. This level would be 14,300 sf, which includes the bleacher seating.
5. **Level 2 Mezzanine:** Located at the highest publicly accessible level of the facility, the Level 2 Mezzanine includes indoor and outdoor spaces for flexible programming. This level would be 4,850 sf.
6. **Café:** This element would be a 1,500 sf building, located at the southwest corner of the Project site, separate from the other structural components. The outdoor cafe would be occupied by an independent tenant and would serve cafe food and beverages to the visitors of the pool facility, bicyclists, walkers, and beach-goers. A visitor drop-off location in this area would provide a safe and unobtrusive way for both passenger cars and buses to drop off visitors to the pool complex.

   A gathering area adjacent to the Café would include bicycle parking and interactive pedestrian features such as sandboxes, outdoor seating, landscaping, and public art opportunities.
7. **Public Restrooms:** A public restroom facility would be provided just east of the Café building and would be approximately 600 sf.

3.4.3 Indoor Aquatic Components

The proposed Bubble structure would house the indoor pool configuration providing approximately 18,610 sf of water surface area for recreational, instructional, and competitive uses. The indoor pools would comply with the preferred rules standards for all aquatic sports supported by the facility. The pool features within the Bubble would include the following:

- **Indoor 50-Meter Competition Pool.** A competition-sized pool, with a surface area of approximately 13,220 sf, would be usable year-round. This pool would feature a moveable floor to allow for floor depth adjustments ranging from 0 ft, 0 inches, to 8 ft, 0 inches deep. Eight 9 ft, 0-inch-wide lanes would be identified with solid black floor markers for 50-meter swimming. Twenty-one 7 ft, 6-inch-wide lanes would be provided across the pool. Wall targets and floor markers would be provided per the Federation Internationale de Natation (FINA) regulations. Race courses would contain buffer lanes at the outside of the racing lanes measuring at least 1 ft, 0 inches. Rope anchors would be provided in the pool for floating lane lines. Two 6 ft wide movable bulkheads would also be provided to divide the pool.
- **Indoor Teaching Pool.** The indoor teaching pool would be approximately 820 sf and vary from a minimum depth of 3–6 ft to a maximum depth of 5 ft. The pool would include a large stairway into the water for ease of access.
- **Indoor Spa Pool.** The indoor spa pool would be approximately 250 sf and 3 ft deep. The spa would be made of concrete, feature a ceramic tile interior, and contain hydrotherapy jets.
- **Dive Pool.** The indoor dive pool would be approximately 4,205 sf and would range from 16 to 17 ft deep. This pool would feature a dive tower with platforms at 1, 3, 5, 7.5, and 10 meters**.** Additionally, two 3-meter springboards and two 1-meter springboards would be provided on the platform side of the pool.
- **Dive Spa Pool.** The indoor dive spa pool would be located adjacent to the Dive Pool and would be approximately 115 sf and 3 ft deep. This spa would be made of concrete, feature a ceramic tile interior, and contain hydrotherapy jets.

3.4.4 Outdoor Aquatic Components

The proposed outdoor pool component would include two separate pools with an approximate total of 17,840 sf of water surface. The outdoor pools are proposed to be located directly adjacent to the indoor pools for utilization of the common support facilities. Viewing of the outdoor competition pool would take place from Level 1 of the Mezzanine or from the pool deck along the western side of the pool where temporary seating could be located for special events. The outdoor pool area does not have permanent spectator seating but has the potential to provide a maximum temporary seating capacity for 3,000 spectators. The amount of seating provided would depend on the type of special event to occur, and the temporary seating would be delivered to the site by the event organizers and removed at the conclusion of the event. A Public Address system would be used during special events. As illustrated by Figure 3.8, Conceptual Speaker Configuration Design, this system would include seven outdoor speakers aimed down at the pool and six temporary speakers that could be installed for special events. The north end of the outdoor pool facilities would be enclosed by a 12 ft high perimeter wall.

The outdoor pool features would include the following:

- **Outdoor 50-Meter Competition Pool**. The outdoor competition pool would have a surface area of approximately 14,120 sf, with a minimum depth of 8 ft, 6 inches, and a maximum depth of 10 ft. The Outdoor Competition Pool would have ten 8 ft, 0-inch-wide lanes marked with solid

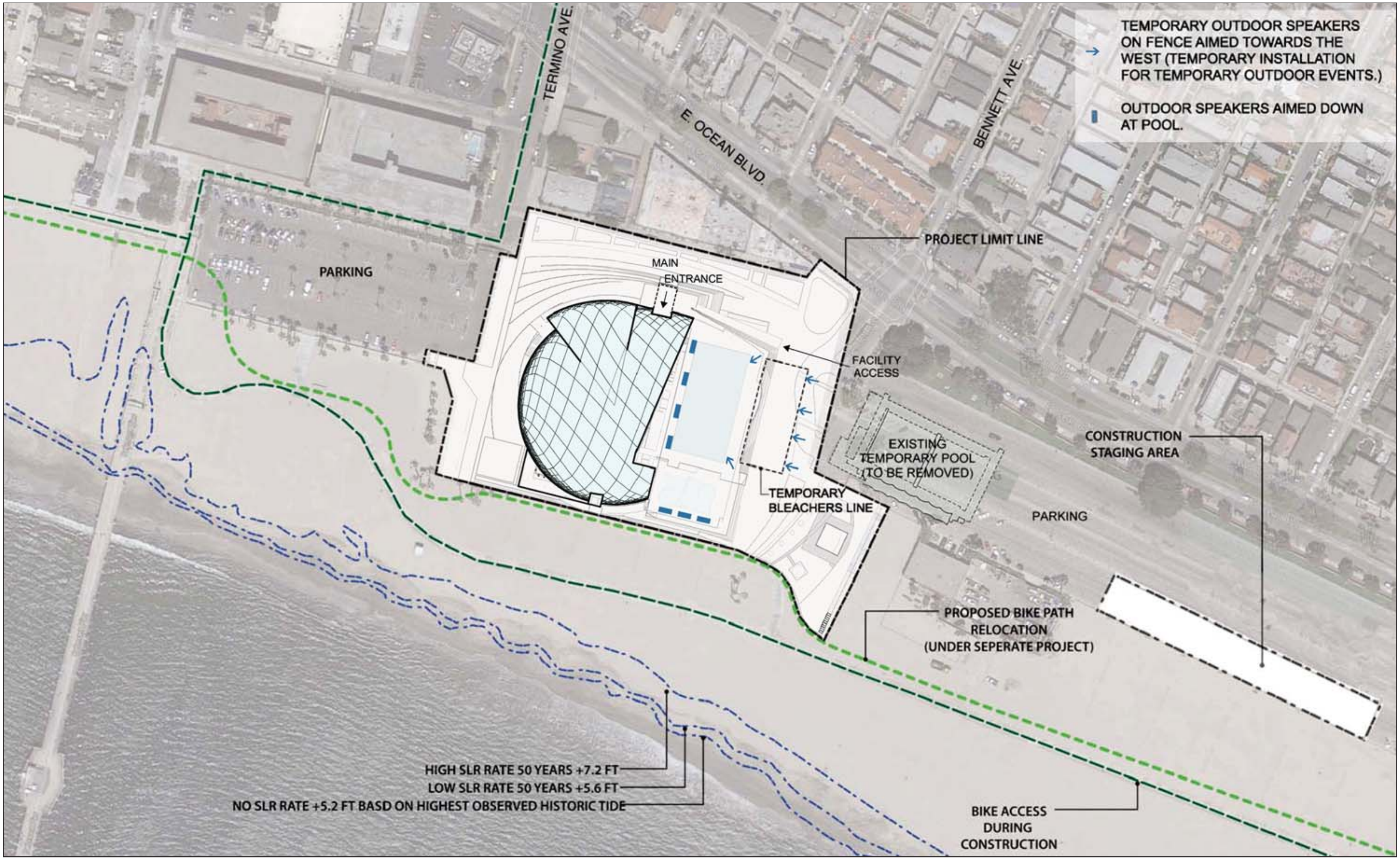

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FIGURE 3.8

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SOURCE: Hastings+Chivetta

Belmont Pool Revitalization Project

Conceptual Speaker Configuration Design

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black floor markers for 50-meter swimming. Twenty-one 7 ft, 6-inch-wide lanes would be provided across the pool. Wall targets and floor markers would be provided per FINA regulations. Race courses would contain buffer lanes at the outside of the racing lane measuring at least 1 ft, 0 inches. The outdoor competition pool would comply with the preferred rules standards for swimming, water polo, and synchronized swimming. One 6 ft wide movable bulkhead would be provided to divide the pool.

- **Outdoor Recreation Pool**. The outdoor recreation pool would be approximately 3,720 sf with a maximum depth of 4 ft. This pool would be used for numerous recreational activities and would include movable lifeguard stands, a handicap lift, and required safety equipment.

3.4.6 Operational Characteristics

The proposed Project addressed in this Draft EIR is the replacement of the former Belmont Pool facility with a larger and more modern pool complex. The proposed pool facility would provide opportunities for public swimming, as well as a venue for swimming, diving and aquatic sports training, and competitive events. These activities are very similar to the activities that have occurred during the past 45 years in the former pool facility, and meet the spirit and intent of the public purpose of the site's original acquisition and development.

The proposed Project includes approximately 36,450 sf of pool surface area, thereby increasing the surface water area of the 18,410 sf former Belmont Pool by 18,040 sf, which would allow for recreational and competitive activities to occur simultaneously, if necessary. Increased programmable water space would minimize the potential for scheduling conflicts that occurred at the former Belmont Pool facility. For example, the hours for public recreational swimming varied by season, but typically occurred in separate time blocks in the early morning, midday, and late afternoon or evening, and were required to be scheduled around the training schedule of competitive aquatic groups.

With the proposed facility, training could occur concurrently with public swim, allowing for increased public access and more club and team practice/training sessions. The former Belmont Pool facility had to be closed to the public during competitive swim meets. As a result of the improved facilities, the proposed Project would allow for simultaneous pool usage at previously conflicted times of day.

Competitive events occurred at both the indoor and outdoor pools of the former Belmont facility and would continue to do so under the proposed operations; however, the proposed Project is expected to attract a higher frequency of competitive uses. For example, a diving meet that typically occurs only once per year may increase its schedule to two or three times per year with the new facility, due to its increased functionality and attractiveness to aquatic teams and clubs. The intensity of each individual event would not change, but additional teams would have the capacity to compete more often. With the proposed Project, there is the capability for concurrent competitive events in the indoor component and the outdoor component at the same time, as well as the ability to continue recreational opportunities during competitive events, something the City has not had in the past.

3.4.7 Passive Park/Landscaping

The proposed open passive park area would be situated along the western and northern portions of the Project site and would be intended for general park uses, similar to the uses at the existing passive park. The existing open space and landscaped areas total approximately 118,790 sf and 45,160 sf, respectively. The proposed Project would include approximately 127,085 sf of open space and 55,745 sf of landscaped areas, thereby increasing open space and landscaped areas by 8,295 sf and 10,585 sf, respectively, when compared to the existing site.

Mature ornamental trees are currently located in the passive park and landscaped areas on the Project site. Ornamental tree species that are currently found in the Project study area include eucalyptus, ficus, oak, ornamental, and paperbark. Some of the existing trees on site may be relocated, depending on their condition and the potential to survive relocation. The City's current tree ordinance is found in Section 14.28 of the Long Beach Municipal Code and requires that a permit be obtained from the Director of Public Works for any trimming, planting, or removal of any tree planted along City streets or on other City property. The City also has a Tree Maintenance Policy to provide guidelines to administer its tree ordinance, which requires a 1:1 replacement ratio and payment of a fee that is equivalent to a City-approved 15-gallon tree. The proposed Project would comply with these requirements and would install a full landscape palette of trees, shrubs, and ground cover plants. The Project's landscape design includes non-invasive and climate-adapted plants that meet the City's landscape requirements. A conceptual Landscape Plan is provided as Figure 3.9.

As a result of California's drought conditions, the State Water Board adopted an extended and revised emergency regulation on February 2, 2016 to ensure that urban water conservation continues in 2016. To conserve water, the proposed Project would install a new low-flow irrigation system with CalSense automatic controllers that would be approved by the City's Parks, Recreation, and Marine Department. The new irrigation system for shrub areas would consist of a drip irrigation system that would provide 90 percent efficiency. Additional water conservation measures include rain sensors, in conjunction with the automatic irrigation system, the installation of mulch and/or soil amendments to help retain moisture, and low water efficient plants.

3.4.8 Proposed Pedestrian Access and Parking

Belmont Plaza is located near the intersection of Ocean Boulevard and Livingston Drive. Access to parking for the Project site is provided from Ocean Boulevard via Termino Avenue and Bennett Avenue. Public transportation in the vicinity of the Project site is provided by Long Beach Transit. Long Beach Transit Route 121 stops near the intersection of Termino Avenue/Ocean Boulevard. The Shoreline Beach Bike Path provides a Class I off-street bike path from the Los Angeles River to 54th Place and provides access to the Project site for bicycles. As a part of the proposed Project, the use of motorized vehicles would be prohibited on East Olympic Plaza to create a unique public space and to allow for increased pedestrian safety. Visitors may park in either of two pay lots, the Belmont Pier Parking Lot northwest of the Project site, or the Beach Parking Lot to the southeast. Together, these two lots contain an approximate total of 1,050 public parking spaces. After the temporary outdoor pool is removed, the Beach Parking Lot would be resurfaced and restriped as a part of a separate project.

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FIGURE 3.9

Belmont Pool Revitalization Project

Conceptual Landscape Plan

SOURCE: Hastings+Chivetta

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3.4.9 Signage

Several categories and sizes of signs would be incorporated into the design of the proposed Project. The monument signs would be used to identify the building and would be located where vehicles approach and enter the site, as well as on the building itself. Monument signs would be located over the main entry on both the north and south sides. Directory signs would include smaller signs located at or near points of entry and pathway intersections, and would direct visitors to the various functional areas of the Project site. Room and place signs would be fixed on the building to identify specific facility functions and direct visitors to their intended destination. A variety of informational and educational signs would also be located throughout the Project site and would provide historical and/or geographical context regarding the pool site.

Outdoor Lighting. Existing lighting on the Project site includes two street lights along East Olympic Plaza and 18 lamppost lights dispersed throughout the site to illuminate walkways. Additionally, light poles illuminate the outdoor pools. Seven lamppost lights adjacent to the former Belmont Pool facility were removed as a part of the emergency demolition of that structure. All of the existing lighting sources within the Project site would be removed and replaced with LED lights, as described below.

Outdoor lighting for the proposed Project would include bollards for directional and safety lighting, as well as pole mounted fixtures for general ambient light. In addition, outdoor illumination would include focused lighting (for stairs, entries, and ramps), accent lighting (for key landscape features), and signage lighting (for direction and building identity). Lighting for outdoor aquatic activities would be provided in compliance with building and competitive swimming standards. The locations of the proposed exterior lights would comply with the City's safety standards and would be shielded, recessed, or directed downward to taper off toward the property lines and prevent glare, spillover onto adjacent properties, and lighting of the night sky.

3.4.10 Utilities and Public Services

All facility and systems performance criteria for utilities will be addressed through the schematic, design development, and construction documents phases of design.

Water Service. The Long Beach Water Department provides water service to the entire City, including the Project site, through a system of underground pipelines. Water service to the proposed Project site would include connecting a 6-inch line to the existing water main under East Olympic Plaza. No new off-site water mains would be required to serve the proposed Project.

Sewer Service. The Los Angeles County Sanitation District serves the Project site's needs for wastewater disposal. The Project site currently connects with an 8-inch sewer main located under East Olympic Plaza. The proposed Project would utilize the existing connections to the sewer main, and would upgrade or relocate existing lines as required.

Electrical, Natural Gas, and Telephone Service. Gas, and telephone services are provided by the Long Beach Gas and Oil Department, and AT&T, respectively. Connections for these utilities would be located along East Olympic Plaza. No new off-site main lines would be required to serve the proposed Project.

Electricity service is provided by Southern California Edison (SCE). The electrical connection for the facility is served from an underground transmission line along East Olympic Plaza. New service conduits, transformer, and appurtenances will be connected to the transmission main along the west side of the facility and at the southeast corner of the Belmont Pier parking lot. No new off-site main lines or substations would be required to serve the proposed Project.

Solid Waste/Recycling. Within Long Beach and at the Project site, solid waste collection services are provided by the City's Environmental Services Bureau.

Drainage. The existing storm drain system consists of an 18-inch reinforced concrete pipe (RCP) in Olympic Plaza Drive that transitions to a 24-inch RCP in Bennett Drive flowing northeast. The majority of the Project site sheet flows into Olympic Plaza Drive or one of the adjacent parking lots to the west or east. The proposed Project would remove the existing on-site drainage network, redesign the drainage layout and replace necessary lines and connections to meet current National Pollution Discharge Elimination Systems (NPDES) and the City's Municipal Separate Storm Sewer Systems (MS4) requirements. As discussed in Hydrology and Water Quality, Section 4.8, the proposed Project would incorporate several Low Impact Development (LID) Best Management Practices (BMPs) in accordance with the City's *LID/BMP Design Manual*. The goal of using Site LID/BMP features is to calculate the necessary number of features to reduce or eliminate storm water pollution due to post-construction site activities. The proposed treatment BMPs are anticipated to include biofiltration swales (bioswales), filtration strip, an underground detention basin, and a drywell. Bioswales are vegetated channels that convey storm water and remove pollutants by filtration through the grass, sedimentation, adsorption to soil particles, and infiltration through the soil. Filtration strips are channels that convey storm water and remove pollutants by sedimentation and adsorption to soil particles, and infiltration through the soil. Detention basins are designed to reduce sediment and particulate loading in storm water runoff. Water is temporarily detained in the basin to allow sediment and particulates to settle out before the runoff is discharged to receiving waters. A drywell is an underground structure designed specifically for infiltration of stormwater.

3.4.11 Conservation and Sustainability Features

The proposed Project intends to be built to meet Leadership in Energy and Environmental Design (LEED) Gold certification standards. Several proposed design features would be implemented to assist in reaching the LEED certification through reducing water and energy consumption. Examples of some of the proposed aquatic conservation features include the following:

- **Aquatic Specific Variable Frequency Drives on Pumps.** The aquatic specific pumps would be in constant communication with the filtration system and chemical controller to provide the optimum electrical frequency to the pump, constantly maintaining the pump at its premium efficiency and reducing energy consumption by as much as 30 percent.

- **Filtration.** A single tank utilizing a Regenerative Media Filter System (RMF) would accommodate the same filter area as five or six traditional high-rate sand filters, creating a significant reduction in required mechanical room space. A typical RMF system may reduce a pool's water consumption by up to 97 percent.
- **High Efficiency Direct Fire Heating.** Improvements in burner design for the integrated heat exchanger have produced results that achieve 95 to 97 percent heater efficiency over conventional burner designs.
- **Underwater Pool Lights.** Utilizing light-emitting diode pool lighting would save energy costs and extend the life of a light bulb by up to 10 times.
- **Water Conservation Measures:** Examples of water conservation measures include the installation of efficient plumbing fixtures and irrigation methods combined with drought-tolerant landscaping that would reduce the water usage compared to traditional equipment and techniques.
- **Pool Blankets.** Using pool blankets reduces water evaporation, chemical use, and energy use. Pool blankets may reduce operating costs from water, heat, and chemical losses by as much as 50 percent and may result in an annual water savings of up to 809,000 gallons.

3.5 CONSTRUCTION ACTIVITIES

Construction activities of the proposed Project would include the grading and excavation of the site; removal of the existing two outdoor pools; potential groundwater dewatering; delivery of materials and personnel; construction of the building area; and installation of landscaping on the Project site. Construction of the proposed Project is anticipated to commence at the earliest in 2017 and be completed within approximately 18 months. The actual start date for construction is dependent on the identification of Tidelands funding, which is dependent on the price of oil, or other sources of yet to be identified funding.

Construction of the proposed Project would require a net export of approximately 1,500 cubic yards (cy) of material. Grading and building activities would involve the use of standard earthmoving equipment such as loaders, bulldozers, cranes, and other related equipment. All heavy-duty equipment and other construction equipment would be staged to the east of the Project site in the Beach Parking Lot, as shown in Figure 3.5, for the duration of the construction activities to prevent disruption to the surrounding land uses.

3.6 PROJECT GOALS AND OBJECTIVES

The primary goal of the proposed Project is to replace the former Belmont Pool facility with a state-of-the-art aquatic facility to continue to serve as a recreational and competitive venue for the community, City, region, and State. In addition, the design scope requires that facility be designed to LEED Gold equivalent. The specific objectives of the Project are to:

- Redevelop the City-owned site of the former Belmont Pool with similar aquatic recreational purposes, consistent with the original ballot measure;
- Replace the former Belmont Pool with a more modern facility that better meets the needs of the local community, region, and State's recreational and competitive swimmers, divers, aquatic

sports participants, and additional pool users due to the tremendous demand for these services in the local community, region, and State;

- Minimize the time period that the community is without a permanent recreation and competitive pool facility;
- Provide a facility that supports recreation, training, and all competitive events for up to 4,250 spectators (1,250 permanent interior seats, up to 3,000 temporary exterior seats);
- Increase programmable water space for recreational swimming to minimize scheduling conflicts with team practices and events;
- Provide a signature design in a new pool complex that is distinctive, yet appropriate for its seaside location;
- Accommodate swimming, diving, and water polo national/international events by reflecting current competitive standards, in accordance with FINA regulations;
- Operate a pool facility that would generate revenue to help offset the ongoing operations and maintenance costs;
- Implement the land use goals of Planned Development PD-2;
- Provide a facility that maximizes sustainability and energy efficiency through the use of selected high performance materials;
- Minimize view disruptions compared to the former Belmont Pool facility;
- Maximize views to the ocean from inside the facility;
- Locate the pool in an area that serves the existing users;
- Design the passive open space with drought tolerant and/or native landscaping and include areas suitable for general community use; and
- Maintain or increase the amount of open space compared to the former Belmont Pool facility.

3.7 DISCRETIONARY PERMITS, APPROVALS, OR ACTIONS REQUIRED

In accordance with Sections 15050 and 15367 of the *State California Environmental Quality Act* (*CEQA*) *Guidelines*, the City is the designated Lead Agency for the proposed Project and has principal authority and jurisdiction for CEQA actions. Responsible Agencies are those agencies that have jurisdiction or authority over one or more aspects associated with the development of a proposed project and/or mitigation. Trustee Agencies are State agencies that have jurisdiction by law over natural resources affected by a proposed project.

Project implementation would require Certification of the EIR, a Site Plan Review, a Conditional Use Permit (Food and Beverage Concession), a Standards Variance (Height), and a Coastal Development Permit. See Table 3.B for a list of discretionary and permit approvals required for Project implementation.

Table 3.B: Discretionary Permits and Approvals

Approval	Approval Body/Agency
Certification of the Environmental Impact Report (EIR)	City of Long Beach Planning Commission
Site Plan Review Approval	City of Long Beach Planning Commission
Conditional Use Permit (Food and Beverage Concession) Approval	City of Long Beach Planning Commission
Standards Variance (Height) Approval	City of Long Beach Planning Commission
Issue Coastal Development Permit (CDP)	City of Long Beach Planning Commission and California Coastal Commission
401 Permit – Water Quality Certification National Pollutant Discharge Elimination System (NPDES) Permit	Regional Water Quality Control Board

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4.0 EXISTING ENVIRONMENTAL SETTING, ENVIRONMENTAL ANALYSIS, IMPACTS, AND MITIGATION MEASURES

The following chapter contains 13 sections; each section addresses one environmental topic outlined in Appendix G of the Guidelines for the California Environmental Quality Act (*State CEQA Guidelines*) (California Code of Regulations [CCR] Title 14, Chapter 3, Sections 1500–15397).

For each environmental impact issue analyzed, the Environmental Impact Report (EIR) includes a detailed explanation of the existing conditions, impact significance criteria that will be applied to determine whether the proposed Project's impacts are significant or less than significant, analysis of the environmental impacts, and a determination of whether the proposed Project would have a significant impact if implemented. A "significant impact" or "significant effect" means "a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project" (14 CCR 15382). Each environmental topic section in Chapter 4.0 also includes a discussion of the cumulative effects of the project when considered in combination with other projects, causing related impacts, as required by Section 15130 of the *State CEQA Guidelines*.

Each of the 13 sections is organized into nine subsections, as follows:

- **Methodology** describes the approach and methods employed to complete the environmental analysis for the issue under investigation.
- **Existing Environmental Setting** describes the physical conditions that exist at the present time that may influence or affect the issue under investigation. This section focuses on physical site characteristics that are relevant to the environmental topic being analyzed.
- **Regulatory Setting** lists and discusses the laws, ordinances, regulations, and policies that relate to the specific environmental topic and how they apply to the proposed Project.
- **Impact Significance Criteria** provides the criteria that are the basis of conclusions of significance, which are primarily the criteria in Appendix G of the *State CEQA Guidelines* and the City of Long Beach's (City) Initial Study and Initial Study Checklist forms. This section also includes a discussion of the CEQA baseline for each environmental topic.
- **Project Impacts** describes the potential environmental changes to the existing physical conditions that may occur if the proposed Project is implemented. Evidence is presented to show the cause and effect relationship between the proposed Project and potential changes in the environment. The exact magnitude, duration, extent, frequency, and range or other parameters of a potential impact are ascertained, to the extent feasible, to determine whether impacts may be significant. In accordance with CEQA, potential Project impacts, if any, are classified in the following way for each of the environmental topics discussed in this EIR.
    - **Potentially Significant Impact.** Potentially significant impacts are those that cannot be fully mitigated or avoided. If the Project is approved, decision-makers are required to adopt a statement of overriding considerations pursuant to *State CEQA Guidelines* Section 15093,

explaining why the Project benefits outweigh the unavoidable adverse environmental effects caused by these significant environmental impacts.

- ○ **Less than Significant Impact with Mitigation Incorporated.** Significant environmental impacts that can be feasibly mitigated or avoided. If the Project is approved, decision-makers are required to make findings pursuant to *State CEQA Guidelines* Section 15091 that adverse significant impacts have been mitigated to the maximum extent feasible by implementation of mitigation measures.
- ○ **Less than Significant Impact.** Environmental impacts that are adverse but not significant. No mitigation is required for less than significant impacts.

- **Cumulative Impacts** describes potential environmental changes to the existing physical conditions that may occur as a result of Project implementation together with all other reasonably foreseeable, planned, and approved future projects producing related impacts. The *State CEQA Guidelines* (Section 15355) defines cumulative impacts as "two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts." Cumulative impacts may result from individually minor but collectively significant projects taking place over a period of time. Projects that have progressed to the state that CEQA review has been initiated are treated as foreseeable probable future projects. For each of the environmental topics considered in this Draft EIR, the geographic scope of the cumulative analysis is defined. For example, the geographic scope of the cumulative analysis for potential cumulative Biological Resources is the immediate Project site and the Greater Belmont Shores area, while the geographic scope of potential cumulative Water Quality and Hydrology impacts includes all projected development in the San Gabriel River Watershed.
- **Level of Significance Prior to Mitigation** summarizes the potentially significant impacts of the Project, if any, prior to mitigation.
- **Mitigation Measures** are project-specific measures that would be required of the Project to avoid, minimize, rectify, reduce, eliminate, or compensate for a potentially significant adverse impact.
- **Level of Significance after Mitigation** describes the significance of potential impacts after implementation of mitigation measures. Potential significant unavoidable impacts are clearly stated in this section.

Table 4.A: Cumulative Project List

Name	Description	Location
Headlands Leeway Sailing Center Pier Replacement	The City proposes to demolish and rebuild the existing Leeway Sailing Pier, Dock, and Gondola Shed Structure in its general same location and footprint. The proposed rebuild is required to replace deteriorated infrastructure. The existing gondola shed structure will be replaced in its general same location on the pier and will provide the same uses. A new 80 ft accessible gangway will connect the pier to a new 2,094 sf timber floating dock to improve American with Disabilities Act access.	Leeway Sailing Center 5437 E Ocean Blvd Long Beach, CA 90803

4.1 AESTHETICS

This section provides a discussion of the existing visual and aesthetic resources on the Project site and in the surrounding area, as well as an analysis of potential impacts from implementation of the Belmont Pool Revitalization Project (proposed Project). The term "Project area" is used to refer to the Project site (including construction staging areas) and the immediately adjacent land uses. In February 2015, the former Belmont Pool was demolished due to substandard seismic and structural conditions deemed to be an imminent threat to public safety. In accordance with the California Environmental Quality Act (CEQA) Section 15125(a), the physical environmental conditions in the vicinity of the project, as it exists at the time the Notice of Preparation (NOP) was published, will normally constitute the baseline physical conditions by which a lead agency determines whether an impact is significant. Because the NOP for the proposed Project was issued on April 9, 2014, before the demolition of the Belmont Pool structure, the analysis of potential aesthetics impacts includes the former Belmont Pool as a part of the baseline aesthetic condition.

Scoping Process

The City of Long Beach (City) distributed the first NOP for this Draft Environmental Impact Report (EIR) from April 18 to May 17, 2013. The City received three comment letters in response to the original NOP. No comment letter associated with Aesthetics was received in response to the original NOP circulated for the proposed Project. Due to revisions in the Project Description, the City re-issued and circulated the NOP for the Draft EIR between April 9, 2014, and May 8, 2014. The City received five comment letters in response to the re-issued NOP during the public review period. No Aesthetics-related issues were raised in those comment letters.

4.1.1 Methodology

The concepts and terminology that are used in this analysis are described below.

- **Aesthetic Resource:** An aesthetic resource is any element, or group of elements, that embodies a sense of beauty. A city's aesthetic resources include its natural setting, the architectural quality of its buildings, the vitality of its landscaping, the spatial relationships they create, and the views afforded by each. The degree to which these resources are present in a community is clearly subject to personal and cultural interpretation. However, it is possible to qualify certain resources as having aesthetic characteristics and establish general guidelines for assessing the aesthetic impacts of new development.
- **Glare:** A continuous or periodic intense light that may cause eye discomfort or be blinding to humans.
- **Light Source:** A device that produces illumination, including incandescent bulbs, fluorescent and neon tubes, halogen and other vapor lamps, and reflecting surfaces or refractors incorporated into a lighting fixture. Any translucent enclosure of a light source is considered to be part of the light source.
- **Scenic Resource:** An element that contributes to the area's scenic value and includes landform, vegetation, water, or adjacent scenery and may include a cultural modification to the natural environment.

- **Scenic Vista:** A scenic vista is the view of an area that is visually or aesthetically pleasing from a certain vantage point. It is usually viewed from some distance away. Aesthetic components of a scenic vista include (1) scenic quality, (2) sensitivity level, and (3) view access. A scenic vista can be impacted in two ways. A development project can have visual impacts by either directly diminishing the scenic quality of the vista or by blocking the view corridors or "vista" of the scenic resource. Important factors in determining whether a proposed project will block views include its height, mass, and location relative to surrounding land uses and travel corridors.
- **Vantage Point:** A particular point of observation.
- **Viewer Sensitivity:** Viewer sensitivity is defined by visibility of resources in the landscape; proximity of viewers to the visual resources; elevation of viewers relative to the visual resource; frequency and duration of views; number of views; and types and expectations of individuals and viewer groups.
- **Viewshed:** The surface area that is visible from a given vantage point or series of vantage points. It is also the area from which that vantage point or series of vantage points may be seen. The viewshed aids in identifying the views that could be affected by the proposed action.
- **Visual Character and Quality:** The visual aesthetic character or quality of a streetscape, building, group of buildings, or other human-made or natural feature that create an overall impression of an area within an urban context. As examples, a scenic vista along the boundary of a community, a pleasing streetscape with trees, and well-kept residences and yards are scenic resources that create a pleasing impression of an area. In general, concepts of visual character and quality can be organized around four basic elements: (1) site utilization, (2) buildings and structures, (3) landscaping, and (4) signage.

This section assesses the aesthetic compatibility of the proposed Project with the surrounding area and potential impacts to any public views that may exist in the Project vicinity. The assessment of aesthetic impacts is subjective by nature. This analysis attempts to identify and objectively examine factors that contribute to the perception of aesthetic impacts. Potential aesthetic impacts of the proposed Project can be evaluated by considering such factors as the scale, mass, proportion, orientation, landscaping, setbacks, and construction materials associated with the design of the proposed Project. The City has not adopted defined standards or methodologies for the assessment of aesthetic impacts. Edge conditions and viewshed alterations are considered in the context of these factors to the extent such information is known. The aesthetic compatibility of the proposed Project with the surrounding area and potential impacts to sensitive viewers are examined.

Sensitive viewers are generally those associated with designated vantage points and public recreational uses. Views evaluated from private property are not considered to be protected views under the General Plan polices or Zoning Ordinance. Neither State nor local law protects private views from private lands and the rights of one landowner cannot prevail over the rights of another landowner, except in accordance with uniformly applied standards and policies as expressed in the City's General Plan and Zoning Ordinance.

Potential impacts of the proposed Project on area viewsheds are analyzed by judging Project impacts to three viewing distance zones, as explained below.

- **Foreground Views.** These views include elements that are seen at a close distance and that dominate the entire view. These vantage points are generally 500 ft or less from the Project site, depending on the scale of the Project, surrounding topography, and other prominent physical features in the Project vicinity.
- **Middleground Views.** These views include elements that are seen at a moderate distance and that partially dominate the view. These vantage points are generally located between 500 ft and 1 mile from the Project site.
- **Background Views.** These views include elements that are seen at a long distance and typically comprise horizon-line views that are part of the overall visual composition of the area. These vantage points are generally farther than 1 mile from the Project site.

Light and Glare. The analysis of light and glare identifies the location of light-sensitive land uses and describes the existing ambient conditions on the Project site and in the Project site vicinity. The analysis describes the proposed Project's light and glare sources and the extent to which Project lighting, including any potential illuminated signage, would spill off the Project site onto adjacent light-sensitive areas. The analysis also describes the affected street frontages, the direction in which the light would be focused, and the extent to which the proposed Project would illuminate sensitive land uses. The analysis also considers the potential for sunlight to reflect off of building surfaces (glare) and the extent to which such glare would interfere with the operation of motor vehicles, aviation, or other activities. Glare can also be produced during evening and night-time hours by artificial light sources, such as illuminated signage and vehicle headlights. Glare-sensitive uses generally include residences and transportation corridors (i.e., roadways).

4.1.2 Existing Environmental Setting

Regional Visual Character. The proposed Project site is located in the City of Long Beach, between the Los Angeles River and the San Gabriel River. The site lies within the southwestern area of the Los Angeles Basin, which consists of a low alluvial floodplain. The floodplain is punctuated by a line of elongated low hills, folds, and faults that delineate the northwest-trending Newport-Inglewood Structural Zone. Floodplain deposits from the Los Angeles River and the San Gabriel River have contributed to the formation of the coastal plain on which the site is located.

Existing Visual Character of Surrounding Areas. The areas surrounding the Project site are developed urban areas including residential, commercial, and recreational land uses. Distinct visual components in the surrounding areas are discussed below.

Beach. The City beach borders the southern edge of the Project site. The beach spans the area between the edge of the former Belmont Pool site to the edge of the high tide line (approximately 100 yards). It should be noted that a temporary, shallow backfilled sand area ("sand blanket") was placed where the previous building was located, at the request of the California Coastal Commission. This backfilled sand area is temporary and is the location where the proposed Belmont Pool facility will be constructed. No vegetation exists on the beach with the exception of a several palm trees. A multimodal pedestrian and bike trail traverses the beach generally east-west and can be accessed from both the west and east parking lots. Beach volleyball courts are available for recreational users. A dog-accessible beach (Rosie's Dog Beach) is located southeast of the Project area. The visual character of the beach is dominated by expansive views of the ocean to the south that stretch from the foreground to the horizon, the meandering multimodal beach path, lifeguard towers regularly interspersed along the beach to the east and west, views of the Belmont Veteran's Memorial Pier to the west, surface parking and the Belmont pool complex to the north, and a City maintenance yard to the east. Distant views from the beach include the waters of the Pacific Ocean, manmade islands approximately 0.75 to 1.25 miles from the shoreline, the marine-related commercial development of the Port of Long Beach, and other general urban development to the northeast and northwest. General urban development directly to the north of the beach (at Belmont Plaza) was obscured by the former Belmont Pool.

Belmont Veteran's Memorial Pier. The Pier is located west of the Project site. The pier is a public City resource for recreational visitors. Dominant uses include fishing and sightseeing. The visual character of the Pier is dominated by expansive views of the ocean. Distant views from the pier include the Project site, beach areas, the City maintenance yard, parking lots, marine-related commercial development associated with the far distant Port of Long Beach, and residential and commercial urban development.

Residential and Commercial. Residential uses are located to the north and northeast of the Project site across Ocean Boulevard and consist of mostly two and three story medium density multi-family structures that vary in architectural styles and colors. Views from this residential portion of this neighborhood consist mostly of the street scene along Ocean Boulevard which includes mature landscaping such as palm and canopy trees, street light poles, and overhead utilities. An approximately six ft concrete wall lines the western side of Ocean Boulevard, impairing much of the public view of the Pacific Ocean from this area.

Immediately west of the Project site are the Surf Terrace Apartments and the Belmont Shore Condominiums which are 3- and 4-story medium-density residential buildings. These structures are solid buildings that do not contain much architectural variability that allow for views of the shoreline or Ocean from the surrounding area. The size and mass of these residential buildings make them one of the most dominant visual features of the urban setting of the Project area.

Commercial uses are located immediately north and northwest of the Project site across Termino Avenue and Ocean Boulevard. They consist of mostly one-story structures that are unique and eclectic in architectural styles with a variety of facade shapes, building colors, and signage. Views from the commercial uses are limited to the street scene of Ocean Boulevard and the accompanying landscaping and infrastructure.

Outdoor Temporary Pool. In order to provide aquatic services during the closure of the former Belmont pool, the City installed a temporary pool east of the Project site in the western portion of the Beach Parking Lot (refer to Figure 3.2, in Chapter 3.0, Project Description). The temporary pool opened on December 19, 2013, and is expected to remain open until the proposed Project begins operations. An 8 ft tall perimeter fence containing a photographic mural depicting people swimming surrounds the temporary pool. Behind the fence, the pool is raised approximately 4 ft above ground, making the lifeguard towers, sun shades, and visitors walking on the pool deck visible from outside the pool. Four 10 ft light poles are located at the corners of the temporary pool to allow nighttime aquatic activities. Views from the temporary pool include the surrounding parking lot, the Project site residential and commercial uses, as well as the beach and Pacific Ocean.

Light and Glare. Existing nighttime lighting conditions vary substantially throughout the City of Long Beach. Nighttime lighting varies from moderately high levels in areas of commercial development to areas of low level or a complete absence of night lighting. The difference observed result from both variation in levels of development and the light dampening effects of topographical changes in terrain. The majority of light and glare near the Project site comes from illuminated outdoor commercial signage, residential lighting, traffic signals, passing vehicles and streetlights in the immediate area.

Existing Visual Character of the Project Site. The former Belmont Pool was existing at the time the NOP was published and, therefore, is included as a part of the baseline existing conditions. The Project site is relatively flat with existing grades ranging from 0.5 to 4.0 ft above mean sea level (amsl). The site is fully developed and includes a passive park on the northern half and the (former) Belmont Pool on the southern portion.

Pool Complex. The Belmont Pool consisted of an Olympic-size indoor pool, a community/ private event building, springboard and platform diving well, weight room, and men's and women's locker rooms/restroom facilities; La Palapa restaurant located in the same building as the existing pool; and an adjacent outdoor swimming pool separated from the larger indoor facility by a multimodal beach path (boardwalk).

The indoor Belmont Pool building measured 224 by 148 ft and was constructed in 1967 in a distinctive architectural style with a shear-wall frame, cast in place reinforced concrete columns, and prestressed concrete girders. It had a 23 ft high glass curtain wall below a 25 ft high precast concrete shear-wall. The two-story pool was flanked by a one-story locker room on the east and a two-story community building that was rented for private events (such as weddings and conferences) on the west side. The facades of the complex were built with a series of vertical concrete piers that support flat roofs with projecting eaves and pebble aggregate panels in between them. The effect was a contrasting smooth and rough texture that suggested classical arches below the roof line. In 1969, the building won an award from the Portland Cement Association for its versatile use of concrete in "structural, architectural, and economic solutions" (Long Beach Heritage 2013).

The existing outdoor pools are currently open to the public and are situated on the east side of the pool complex. The Outdoor Lap Pool is a 6-lane, 25-yard heated pool with a water temperature of 80 degrees. The pool is 3.5 ft deep throughout. There is also a wading pool for toddlers and young children. Plexiglas walls are constructed around three sides of the facility with views of the ocean to the south.

Existing lighting on the Project site includes two street lights along East Olympic Plaza and 18 lamppost lights dispersed throughout the site to illuminate walkways. Additionally, light poles illuminate the outdoor pools. Seven lamppost lights adjacent to the former Belmont Pool building were removed as a part of the emergency demolition of that structure.

The visual character of the Project site is dominated by views of the beach and Pacific Ocean, surface parking, a City maintenance yard, and businesses. The Belmont Veteran's Memorial Pier is visible to the west of the pool complex, as well as distant views of the Port of Long Beach and manmade islands several hundred yards from the shoreline. Views of residential and other general urban development to the north are also visible from the Project site.

Passive Park. The passive park is a recreational area located on the northern side of the Project site and consists of grassy lawns, mature ornamental trees, a multi-modal pedestrian and bicycle trail, street lamps, and bicycle racks. The visual character of the park was dominated by views of the former Belmont Pool, parking lots (Beach Parking Lot and Pier Parking Lot), East Olympic Plaza and street parking, and adjacent commercial establishments. Distant views from the park include limited views of the Pacific Ocean to the west, and general urban development to the northeast and northwest.

Vantage Point Descriptions. The following discussion describes several key views of the Project site from adjacent public roads and sidewalks. Photographs were taken to analyze the various views that existed during the baseline setting and that would potentially be affected by the proposed Project. A photograph location key map (see Figure 4.1.1, Key View Locations Map) indicates the vantage point from which each key view photograph was taken and the representative view from that location.

Figures 4.1.2 and 4.1.3, Key Views 1 and 2, and Key Views 3 and 4, respectively, contain four key view photographs, as referenced in the following discussion, and are provided following the description of each vantage point.

- **Key View 1: View from Southbound Termino Ave (Figure 4.1.2):** Key View 1 shows a view of the proposed Project site looking south at the intersection of Termino Avenue and Midway Street at the corner of the Jack in the Box parking lot. This vantage point was selected because it represents the view of the Project site for both vehicular and pedestrian visitors to the Pier and beach. This vantage point was also selected because it is the secondary access point to the proposed Project site.

  As shown, the foreground consists of mature landscaping and the Belmont Shore Children's Center. The middleground contains the former Belmont Pool located on the Project site as well as the entrance to the Pier Parking lot with associated landscaping. The background is a small and mostly unnoticeable portion of this view but contains the Pacific Ocean and horizon in the distant background.

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FIGURE 4.1.1

LEGEND

- Project Site
- Key View Location

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SOURCE: Google Earth

Belmont Pool Revitalization Project

Key View Locations Map

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Key View 1: View of the Project site facing south at the intersection of Termino Avenue and Midway Street.

Key View 2: View of the Project site facing southwest from the intersection of Ocean Boulevard and Bennett Avenue.

LSA

FIGURE 4.1.2

Belmont Pool Revitalization Project

Key Views 1 & 2

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Key View 3: View of the Project site traveling west on Ocean Boulevard at the intersection with Prospect Avenue.

Key View 4: View of the Project site from the midway point on the Pier facing northeast.

LSA

FIGURE 4.1.3

Belmont Pool Revitalization Project

Key Views 3 & 4

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- **Key View 2: View from Westbound Ocean Boulevard at Bennett Avenue (Figure 4.1.2):** Key View 2 shows a view of the Project site facing southwest from the intersection of Ocean Boulevard and Bennett Avenue. This vantage point was selected because it depicts the most direct and accessible view of the Project site from the surrounding area. Additionally, it depicts the point along Ocean Boulevard where there a break in the concrete wall and mature landscaping occurs, allowing westbound vehicular travelers a clear view of the Project site. This vantage point was also selected because it is the primary access point to the Project site.

  The foreground views are of the intersection and associated street lights of Ocean Boulevard and Bennett Avenue. The middleground, and most prominent feature of this view, is of the passive park landscaping and eastern part of the former Belmont Pool building. The background is mostly blocked by the onsite structures and landscaping with the exception of a small portion of the sky visible to the left of the Belmont Pool complex.

- **Key View 3: View from Westbound Ocean Boulevard at Prospect Avenue (Figure 4.1.3):** Key View 3 shows a view of the Project site traveling west on Ocean Boulevard at the intersection with Prospect Avenue, approximately 450 ft from the eastern boundary of the Project site. This vantage point was selected because it represents the most typical view of the Project site for drivers traveling west along Ocean Boulevard and includes the mature landscaping and concrete wall located adjacent to Ocean Boulevard.

  Directly in front of this view are Ocean Boulevard, the median landscaping and associated lights and signage. The middleground includes the concrete wall and mature landscaping adjacent to Ocean Boulevard only portions of the temporary pool and Belmont Pool in the background view are visible since they are mostly blocked by the concrete wall and street landscaping.

- **Key View 4: View from Belmont Memorial Veteran's Pier (Figure 4.1.3):** Key View 4 shows a view of the Project site facing northeast from the midway point on the Pier. This vantage point was selected because it represents the view of the Project site for visitors of the Pier and best depicts the coastline side of the Project site. The Belmont Pool structure is the most visible from this area as there are very few trees or other landscaping to block views of from the complex. This vantage point was also selected because it represents the viewpoint of ocean-related visitors to the area as well as any boating viewers.

  The foreground view includes the Pacific Ocean with middleground views consisting of the beach and southerly side of the former Belmont Pool structure. Other structures in the middleground include the Surf Terrace Apartments to the left and temporary pool to the right of the Belmont Pool. Background views include the skyline of the inland topography of Long Beach.

4.1.3 Regulatory Setting

Federal Policies and Regulations. No federal policies or regulations pertaining to aesthetics are applicable to the proposed Project.

State Policies and Regulations.

California Scenic Highways Program. California's Scenic Highway Program was designed to preserve and protect scenic highway corridors. Jurisdictions nominating a scenic highway for official designation have in place or adopt ordinances to preserve the scenic quality of the corridor, including policies to preserve scenic resources through land use regulations, site planning, control of outdoor advertising, grading, and measures to direct structural design and appearance (California Streets and Highways Code 260 et seq.). There are no Officially Designated or Eligible State Scenic Highways as designated by the California Department of Transportation (Caltrans),[1] in the vicinity of the proposed Project.

California Coastal Act. The policies included in the California Coastal Act ([Coastal Act] Sections 30200 et al.), Article 3, are intended to protect certain water-oriented activities, recreational boating uses, marine-related recreational facilities, and development of the ocean front land. The activities covered in Article 3 also include dredging and movement of sediments and nutrients from the ocean floor. An applicable Coastal Act visual/aesthetic policy is listed below.

Section 30251:

The scenic and visual qualities of coastal areas shall be considered and protected as a resource of public importance. Permitted development shall be sited and designed to protect views to and along the ocean and scenic coast areas, to minimize the alteration of natural landforms, to be visually compatible with the character of surrounding areas, and where feasible, to restore and enhance visual quality in visually degraded areas.

Section 30253:

New development shall: "(e) Where appropriate, protect special communities and neighborhoods that, because of their unique characteristics, are popular visitor destination points for recreational uses." The California Coastal Commission has defined special communities as "areas that add to the visual attractiveness of the coast."

Local Regulations and Policies

City of Long Beach General Plan. The City of Long Beach General Plan includes a total of 11 elements, including Open Space, Housing, Air Quality, Transportation, Land Use, Seismic Safety, Local Coastal Program, Noise, Public Safety, Scenic Routes, and Conservation. The Long Beach General Plan includes the Land Use Element that addresses issues related to urban design and the overall aesthetic quality of the City. Specifically, the Land Use Element includes an Urban Design Analysis that outlines several features and policy directions for the urban character of the City, including the importance of building heights and masses, and also emphasizes visual compatibility, good design, and landscaping. The Land Use Element focuses on preservation of

1 California Department of Transportation (Caltrans). California Department of Transportation, California Scenic Highway Mapping System. Website: http://www.dot.ca.gov/hq/LandArch/scenic_highways/ (accessed March 9, 2015).

certain features such as the sandy beach frontages and bluffs and also includes provisions for "positive design steps" to improve appearances along many of the streets in Long Beach.

Scenic Highway Element. The Scenic Routes Element was adopted in 1975 in order to protect the valuable viewsheds throughout the City. The Scenic Routes Element identifies the portion of Ocean Boulevard that is adjacent to the Project site as being included in the "Recreational Scenic Route." This route was created to "interconnect a kaleidoscope of recreational activities that are of the local and regional significance and portray an image of the City that is most desirable." According to the Scenic Routes Element the Project site is adjacent to the "Shoreline" segment of the route, which offers some of the region's best beaches. However, the route has not been officially designated as a State Scenic Route or Scenic Highway.

No goals or policies were established specifically for the Recreational Scenic Route. However, listed below are a list of goals and policies from the Scenic Routes Element that are generally related to the proposed Project:

- **GOAL:** Preserve and enhance natural and man-made aesthetic resources within and visible from scenic corridors.
  - **Policy 1:** Develop land use regulations and apply standards to control and enhance the quality of new and existing development within the scenic corridors of designated routes.
  - **Policy 2:** Remove or screen visual pollution from designated scenic route corridors.
  - **Policy 3:** Require the development and use of aesthetic design considerations in any necessary modification of roadways and appurtenances for the enhancement of all designated scenic routes.
- **GOAL:** Strengthen the City's image, and thereby, the well-being of its citizens.
  - **Policy 1:** Increase the visibility of aesthetic features, natural and man-made, to develop a better awareness of the observer's location within the City and a better understanding of the City's function and meaning.
  - **Policy 2:** Develop standards of design articulation and continuity in sequential form and graphic representation that will unify and define the scenic route system.
  - **Policy 3:** Promote the awareness and use of the amenities of scenic routes for all segments of the population.
- **GOAL:** Link and enhance recreational, cultural, and educational opportunities through a network of scenic corridors.
  - **Policy 1:** Establish and maintain urban scenic routes to provide access to interesting and aesthetic natural and man-made features, historical and cultural sites, industrial and educational sites, and urban open space areas.
  - **Policy 2:** Cooperate in the establishment of an inter-urban, inter-county scenic route system.

- **Policy 3:** Maximize within the scenic corridors the compatible multi-purpose objectives of open space planning, such as recreation, conservation, public health and safety, and preservation of scenic-aesthetic amenity.

City of Long Beach Planning Documents. The City's Open Space and Recreation Element of the General Plan and the Long Beach Department of Parks, Recreation, and Marine Strategic Plan contain objectives and policies related to aesthetics and visual character. The applicable objectives and policies are listed below.

Open Space and Recreation Element–Policy 1.2: Protect and improve the community's natural resources, amenities, and scenic values, including nature centers, beaches, bluffs, wetlands, and water bodies.

Open Space and Recreation Element–Policy 4.1: Create additional recreation open space and pursue all appropriate available funding to enhance recreation opportunities.

Marine Strategic Plan–Goal 4: Ensure beaches, waterways, and marine amenities are accessible and provide a positive experience and image.

Long Beach Municipal Code. Title 21, Zoning, of the Long Beach Municipal Code (LBMC) includes property development standards, as well as design guidelines, for development projects within the City. Additionally, design guidelines and policies from the Belmont Pier Planned Development District (PD-2) and Municipal Code Chapter 21.35 – Park (P) Districts would be applicable to the Project site. Among the aspects of development regulated by the LBMC are types of allowable land uses, setback and height requirements, landscaping, walls, fencing, signage, access, parking requirements, storage areas, and trash enclosures. The LBMC also provides performance standards for various land use types to measure development projects' consistency with such regulations.

Belmont Pier Planned Development District (PD-2). The intent of this Planned Development is to encourage a joint public and private effort to revitalize the underutilized area containing the significant public resources of the Belmont Pier and the Olympic Plaza Pool. The Planned Development District has been utilized in this effort because of its ability to combine flexibility of regulation while specifying detailed development requirements within a framework of maximum public review and involvement.

Chapter 21.35 – Park (P) Districts. The P District is established to set aside and preserve publicly owned natural and open areas for active and passive public use for recreational, cultural, and community service activities. Parks are established to promote the mental and physical health of the community and provide physical and psychological relief from the intense urban development of the City. Such areas are characterized by landscaped open space, beaches, or inland bodies of water.

4.1.4 Thresholds of Significance

According to Appendix G of the *State of California Environmental Quality Act (CEQA) Guidelines*, the proposed Project may be considered to have a significant effect related to aesthetics if the Project would:

Threshold 4.1.1: **Have a substantial adverse effect on a scenic vista;**

Threshold 4.1.2: **Cause substantial damage to scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway;**

Threshold 4.1.3: **Substantially degrade the existing visual character or quality of the site and its surroundings; or**

Threshold 4.1.4: **Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area.**

All of these thresholds were discussed in the Initial Study prepared for the proposed Project (Appendix A) and were recommended to be evaluated further within this Draft EIR, with the exception of Threshold 4.1.2, which evaluates scenic resources within a State Scenic Highway. There are no State Scenic Highways located within the City of Long Beach. Although Ocean Boulevard is a proposed Local Scenic Route, it has not been officially designated as a Scenic Route or Scenic Highway. Therefore, as determined in the Initial Study, there would be no impact associated with this threshold, and it will not be discussed further in this Draft EIR.

CEQA Baseline. At the time the NOP was published (April 2014), the Project site contained both the Belmont Pool facilities and the outdoor temporary pool (opened in December 2013 to provide swimming facilities while the permanent facility was under construction). Although the site contained the former Belmont Pool building at the time of the NOP, the facility was subsequently demolished in February 2015 to alleviate an imminent public safety threat due to the seismically unsafe condition of the building.

The inclusion of the former building in the assessment of aesthetic impacts is appropriate because the site has been dedicated as the Belmont Pool Plaza since 1962 when the use of Tidelands funds for the construction of the “Belmont Plaza Beach Center” (now Belmont Plaza) project was approved by the voters after the Long Beach City Council placed the item in the municipal election. Furthermore, the former pool was in use for approximately 45 years and has long been a part of the visual character of the Project area as a recognizable local and regional aquatic facility. Substantial evidence supports the determination that the former Belmont Pool building as the baseline for aesthetics impacts is appropriate because it is based on recent historical use and its presence on the project site.

4.1.5 Project Impacts

Threshold 4.1.1: Would the project have a substantial adverse effect on a scenic vista?

Less than Significant Impact. This subsection addresses public views of scenic vistas within or near the Project site and how they would be affected by the proposed Project. There are no locally designated scenic vistas on or surrounding the Project site but expansive ocean views from public right of ways can generally be considered to have aesthetic value.

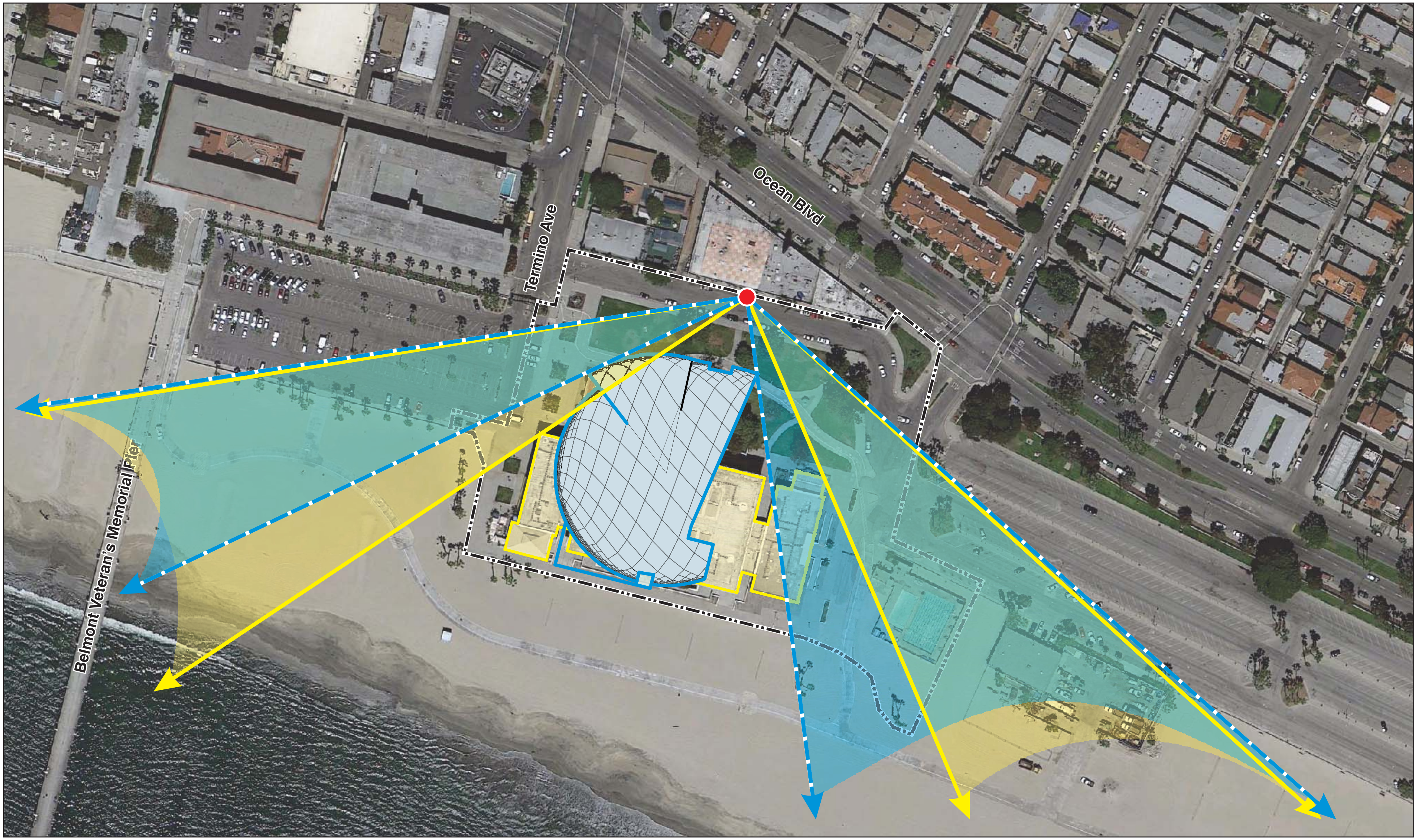
The former Belmont Pool complex was a rectangular building that was aligned lengthwise from east to west along the southern boundary of the Project site, adjacent to the beach. As shown in Figures 4.1.2 and 4.1.3, the design of the 60 ft block building maximized scale and mass and obstructed the majority of the coastal views on and directly surrounding the site.

As shown in Figure 4.1.4, Pre- and Post-Project Building Orientation, the proposed pool complex would be located generally on the building footprint of the former Belmont Pool complex. However, the Bubble component of the proposed development would be the only part of the complex with notable architectural features. The outdoor pool area would be a flat pool deck area surrounded by transparent 8 to 15 ft Plexiglas wall that would not block views. The proposed restaurant would have minor contributions to the overall scale and mass of the proposed Project as it would be located at the southeastern corner of the site and consist of a 1,500-square foot (sf) one story structure with an architectural feature made from the same ETFE material which would arch over the small structure (like an awning) in a sloping manner (see Figures 3.7a and 3.7b in Chapter 3.0, Project Description).

Figure 4.1.4 depicts a viewing area comparison between the former Belmont Pool and the proposed Bubble. The former Belmont pool obstructed views of the coastline from viewers on and surrounding the Project site due to the location and mass of the building on the project site. Buildings associated with the proposed Project – specifically the Bubble structure – would be situated on the western portion of the site and be aligned in a south to north direction. As shown in Figure 4.1.4, the proposed placement and alignment of the Bubble would allow for increased views of the coastline that were previously blocked by the former Belmont pool. Additionally, as shown in the building elevations (Figures 3.7a and 3.7b), the curved elliptical shape of the Bubble reduces the structural scale and mass, when compared to a traditional rectangular building, by eliminating the corners of the building, allowing for an increase in viewable area. Therefore, the change in the building placement on the site, in combination with the reduced structural mass from the Bubble's elliptical design, would not result in a substantial adverse effect on scenic vistas and a less than significant impact would occur. No mitigation is required.

Threshold 4.1.3: Would the project substantially degrade the existing visual character or quality of the site and its surroundings?

Less than Significant Impact with Mitigation. This subsection addresses how public views of the Project site and its surroundings would be affected by the proposed Project. Changes in the visual character of the site and the surrounding area would occur with implementation of the proposed Project during both the construction and operational phases.



LSA

LEGEND

- Project Site
- Viewshed with Existing Structure
- Viewshed with Proposed Structure

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SOURCE: Google Earth

FIGURE 4.1.4

Belmont Pool Revitalization Project

Pre- and Post-Project Building Orientation

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Construction. Construction of the proposed Project would involve on-site grading and construction activities that would be visible to travelers along Ocean Boulevard and other adjacent roadways. Construction activities for the proposed Project would be short-term and temporary fencing would be placed along the perimeter of the site to screen construction activities from the street level. The construction staging area would be located in the southwest portion of the Beach Parking Lot, where it will not interfere with the operation of the temporary pool, the beach maintenance facility, or vehicle movements through the parking lot. It is recognized that construction fencing could serve as a potential target for graffiti if not appropriately monitored. Mitigation Measure 4.1.1 would require that temporary barriers and walkways are maintained in a visually attractive manner throughout the construction period. Mitigation requiring the maintenance of the Project site fencing would ensure that impacts associated with unwanted debris and graffiti would be less than significant.

Operations. As described above, the visual character immediately surrounding the Project site is representative of a fully built out urban area containing a mix of commercial and residential structures of varying sizes and architectural styles combined with distinct recreational uses such as the Belmont Pool, beach area, volleyball courts, Rosie's Dog Beach, kite surfing, and the Pier.

The passive park and the main pool complex are the two main components that would make up the aesthetic character of the proposed Project. Conceptual elevations of the proposed structure are presented in Figures 3.7a and 3.7b.

Proposed Pool Complex. The proposed Project includes the replacement of the former Belmont Pool complex with a new pool complex at the same location. The structural components of the proposed pool complex would consist of an indoor pool structure (the Bubble), the outdoor pool area, and the restaurant/gathering area. The Bubble structure would be the most prominent structure of the complex with a maximum height of 71 ft above the adjacent grade with a contemporary and unique elliptical design resembling a bubble. The structure would be comprised of a web of structural steel, infilled with ethylene tetrafluoroethylene (ETFE) plastic, creating a continuous compound curved shell over the indoor pools. The ETFE roof system has been designed to allow diffuse sunlight to illuminate a major portion of the building's interior. At night, the structure can be illuminated in any color with interior lights glowing through the air-filled plastic pillows which make up the arched roof. Rather than be completely round, the Bubble is designed to have a facade on the eastern side, separating the indoor pools from the outdoor pool area. The outdoor pool area includes two pools surrounded by a Plexiglas barrier ranging in height from 8 to 15 ft. The transparent barrier would maintain views of the surrounding areas.

The Bubble and outdoor pool areas make up the majority of the structural area and would be situated along the southern boundary of the Project site. The restaurant and gathering area is located at the southeastern corner of the Project site and is made up a large open area adjacent to the beach. This area is where visitors would be dropped off and picked up as they arrive and depart the pool complex. The only structural component of this area is the one-story 1,500-square-foot (sf) outdoor cafe just to the south of the drop-off area. Although separated from the Bubble, the outdoor cafe also contains an architectural feature made from the same ETFE material which would arch over the small structure (like an awning) in a sloping manner and provide an architectural connection to the other areas of the Project. Therefore, the pool complex would not degrade the visual character of the site or the surrounding area. Potential impacts would be less than significant and no mitigation would be required.

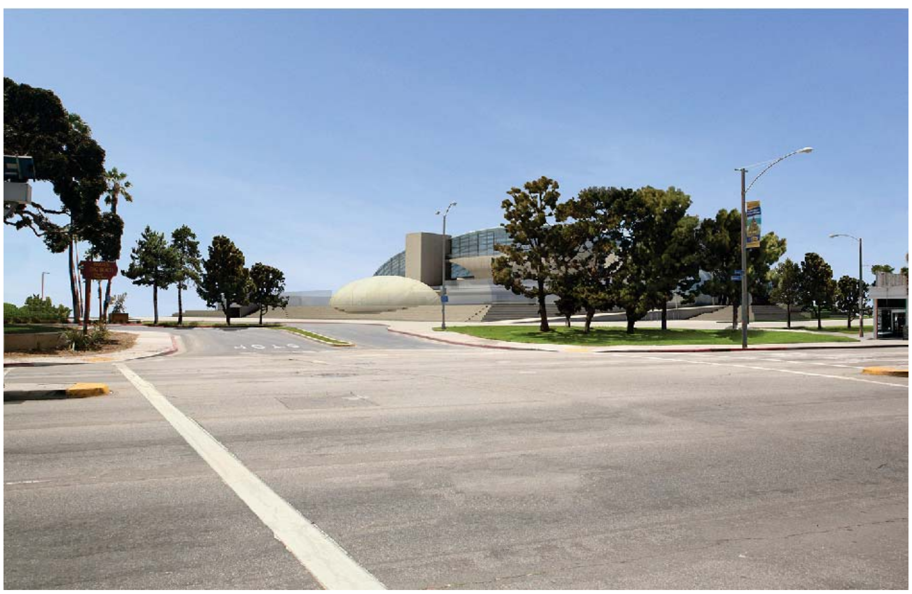
Architecture and Scale. When compared to the former Belmont Pool, the proposed Project would represent a substantial change in the architectural styles of the structures. The former Belmont Pool was built in a traditional style that emphases height and scale achieved through towering columns that extended from the ground to the roof. As previously discussed, the placement, alignment, and mass of the proposed Project is substantially different than that of the former Belmont Pool.

As illustrated in Figures 4.1.5 and 4.1.6, Post-Project Key Views, the Bubble structure is visible in all four key views. However, as compared to the former Belmont Pool structure, the curved elliptical shape of the Bubble reduces the structural scale and mass. In addition, the ETFE roof system allows the sunlight to be diffused, illuminating the building's interior. The transparency of the Bubble structure results visually reduces the mass of the building.

Although the styles in architecture are dramatically different, both structures are designed to serve the purpose of being a regional attraction for recreational and competitive aquatics. Both structures are designed to be taller and larger that the buildings surrounding the site in order to accomplish the goal of attracting visitors. Although the proposed Project would result in a change in architectural style compared to the former Belmont pool complex, the large scale nature of the Belmont Pool complex would remain. Also, the proposed Project would replace the former Belmont Pool complex with another pool complex of the same use and would not change the visual character of the Project site as a regional attraction. Therefore, the architecture and scale of the proposed Project would not degrade the visual character of the site and surrounding area and less than significant visual character impacts would result from the implementation of the proposed Project. No mitigation is required.

Building Height. The proposed Project would include the replacement of the Belmont Pool complex with a larger and contemporary pool complex. The former Belmont Pool structure reached a height of 60 ft for the entire length of the 230 ft long building, which was well above the permitted 30 ft limit of the Park District design guidelines. As illustrated in Figure 4.1.7, North Elevation Comparison, the proposed Bubble structure would also be above the 30 ft height limit but reach a maximum of 71 ft above the adjacent grade, requiring the approval of a variance to allow for the increased building height. Although the peak of the Bubble structure would be approximately 11 ft higher than the former Belmont Pool, the proposed structure would be elliptical, not rectangular, and only the peak of the structure would exceed the height of the original structure. From the highest point, the roof would taper downward toward the sides of the Bubble, as shown in the building elevations (Figures 3.7a and 3.7b) and only a small portion of the proposed Project would exceed the height limitation. In comparison, the original rectangular pool complex had an entire roofline of the pool building at 60 ft. Therefore, the visual character of the site and surrounding area would not be degraded and less than significant visual character

Key View 1: View of the Project site facing south at the intersection of Termino Avenue and Midway Street.



Key View 2: View of the Project site facing southwest from the intersection of Ocean Boulevard and Bennett Avenue.

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FIGURE 4.1.5

Belmont Pool Revitalization Project

Post-Project Key Views 1 & 2

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Key View 3: View of the Project site traveling west on Ocean Boulevard at the intersection with Prospect Avenue.

Key View 4: View of the Project site from the midway point on the Pier facing northeast.

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FIGURE 4.1.6

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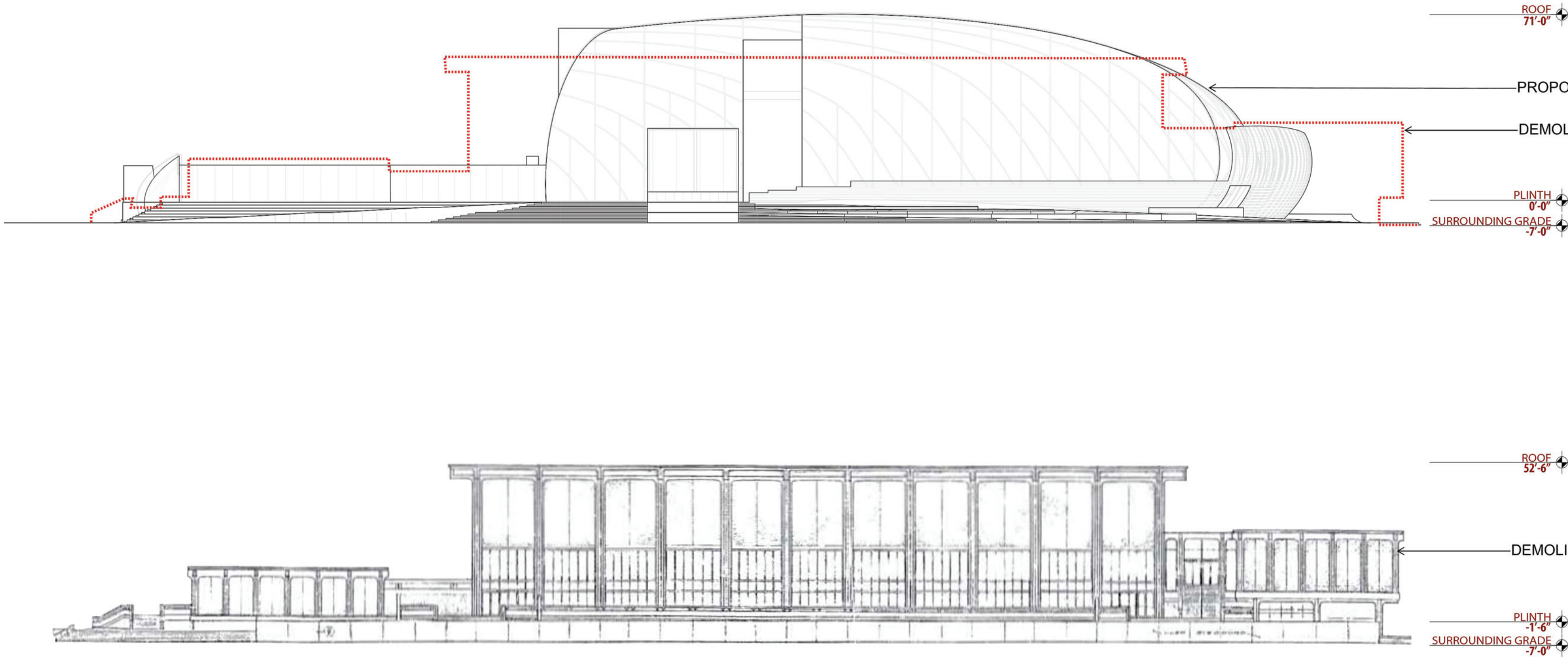

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FIGURE 4.1.7

Belmont Pool Revitalization Project

North Elevation Comparison

SOURCE: Hastings+Chivetta

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impacts would result from the implementation of the proposed Project, and no mitigation is required.

Signage. Several categories and sizes of signs would be incorporated into the design of the proposed Project. The monument signs would be used to identify the building and would be located where vehicles approach and enter the site, as well as on the building itself. Monument signs would be located over the main entry on both the north and south sides. Directory signs would include smaller signs located at or near points of entry and pathway intersections, and would direct visitors to the various functional areas of the Project site. Room and place signs would be fixed on the building to identify specific facility functions and direct visitors to their intended destination. All signs would be designed and installed in compliance with the City's Municipal Code. As such, the proposed Project would not result in a significantly adverse impact related to on-site signage, and no mitigation is required.

Passive Park. As illustrated in Figure 4.1.8, Open Space Comparison, the existing site includes 118,790 sf of open space area and 45,160 sf of green space on the northern half of the Project site. The park contains large lawn areas and mature ornamental trees. Ornamental tree species that are currently found in the Project study area include eucalyptus, ficus, oak, ornamental, and paperbark. As shown in key views presented in Figures 4.1.2 and 4.1.3, much of the existing landscaping obstructs views of the former Belmont pool and coastal views from Ocean Boulevard.

The proposed 127,085 sf of open space and a 55,745 sf passive park would be situated along the western and northern portions of the Project site as depicted in Figure 3.9, Conceptual Landscape Plan (see Chapter 3.0, Project Description). Landscaping would consist of a mixture of native and non-native drought-tolerant species to harmonize with the building design. Although the alignment of the passive park would be modified, the proposed Project would result in an increase of 8,295 sf of open space and 10,585 sf of passive park space, and would be intended for general park uses, similar to the uses at the existing passive park. It should be noted that in consideration of the drought conditions and State mandates, the design team will continue develop the passive park areas in close coordination with the City through the schematic, design development and construction documents design phases. Therefore, aesthetic impacts related to the removal of existing on-site landscaping or the installation of proposed landscaping would be less than significant, and no mitigation is required.

Conclusion. Overall, the visual character of the site would be altered because the design of the proposed structure would be dramatically different than the former Belmont Pool complex. However, the proposed Project design appears to have comparable mass, scale, and height and would also be aligned to provide for increased coastal views. Additionally, the proposed Project would replace one large recreational pool complex with another recreational pool complex and although the design would be different, the visual character of the Project site would not be substantially degraded with the implementation of the proposed Project. Project impacts would be less than significant impacts, and no mitigation is required.

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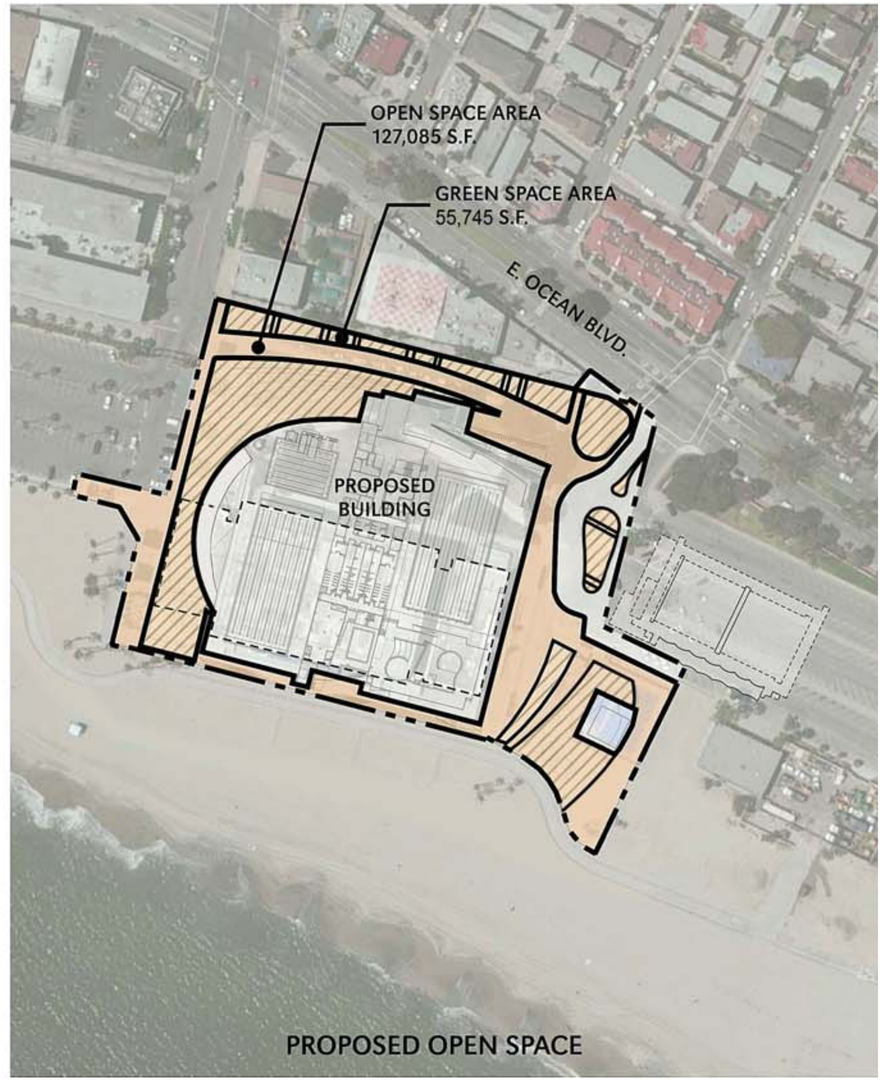

LSA

FIGURE 4.1.8

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Belmont Pool Revitalization Project

Open Space Comparison

SOURCE: Hastings+Chivetta

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City Designated Scenic Route. While Ocean Boulevard adjacent to the Project site is not a designated State Highway, the Scenic Routes Element of the City's General Plan has identified the portion of Ocean Boulevard adjacent to the Project site as a designated scenic route associated with the Recreational Scenic Route.[1] While implementation of the proposed Project would modify the views to and from the Project site by replacing the former Belmont Pool with a new pool complex, the proposed Project would not substantially alter the existing character of the surrounding area. Motorists along Ocean Boulevard would experience increased views of the coastline following implementation of the proposed Project. Therefore, potential impacts of the proposed Project on the Recreational Scenic Route would be less than significant, and no mitigation is required**.**

Threshold 4.1.4: Would the project create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area?

Less than Significant Impact with Mitigation Incorporated.

Construction. Lighting required during the construction period could generate light spillover in the vicinity of the proposed Project site. However, construction activities would occur only during daylight hours, and any construction-related illumination would be used for safety and security purposes only (in compliance with LBMC light intensity requirements) and would occur only for the duration required for the temporary construction process. With adherence to existing LBMC regulations, light resulting from construction activities would not substantially impact sensitive uses, substantially alter the character of off-site areas surrounding the construction area, or interfere with the performance of an off-site activity. Therefore, construction of the proposed Project would not create a new source of substantial light that would adversely affect day or nighttime views in the area, and light impacts associated with construction would be less than significant.

Operation. Light-sensitive uses surrounding the Project site include the Surf Terrace and Belmont Shore condominiums to the west and the multi-family residences to the north and northeast across Ocean Boulevard.

Nighttime lighting present in the vicinity of the proposed Project site consists of street lights and vehicle headlights on nearby roadways; building facade and interior lighting; lighting for the temporary pool; and pole-mounted lighting in the parking areas adjacent to the Project site. The proposed Project site itself contains 2 streetlights along East Olympic Plaza, 18 pole-mounted lights along the pathways in the passive park, and lighting for the outdoor pool. Previously, the former Belmont Pool building facade contained structural and signage lighting, as well as 7 additional lamppost lights on the west and south that were removed as a part of the emergency demolition of that structure.

The proposed Project would include the installation of new lighting for the pool, which will replace the existing lighting for the outdoor pools, park, and associated street lights. The replacement lighting would be installed to facilitate outdoor competitive aquatic events and

[1] City of Long Beach. Planning Department. Long Beach General Plan Program, Scenic Routes. Prepared May 9, 1975.

recreational swimming that may be held in the evening or at night. Additionally, nighttime lights are necessary for the safety and security of the visitors and employees on site and along the park pathways, but outdoor light fixtures would be shielded so that lighting is focused downward to restrict any light spillover. Therefore, implementation of the proposed Project may introduce new sources of light and glare, such as increased intensity of outdoor pool lighting. However, compliance with the existing City Municipal Code would reduce lighting impacts from the outdoor pool to less than significant by shielding glare and directing lighting on site. No mitigation is required.

The compound curved shell of the Bubble component of the proposed Project would be covered with an ETFE roof system, which has been designed to allow diffuse sunlight to illuminate a major portion of the building's interior. At night, the structure can be illuminated in any color with interior lights glowing through the air-filled plastic pillows that make up the arched roof thereby creating an additional source of light to the area. However, the illumination of the Bubble would be from the interior of the building and would not include direct light shining outward from the Project site. The covering used for the Bubble would be translucent, which will diffuse light emitted from the facility giving the overall appearance of the Bubble at night to be of a glowing half-globe as illustrated by Figure 4.1.9, Nighttime View Simulation, instead of a glaring dome with direct light shining out in all directions. Additionally, the lighting of the Bubble structure would be limited to 10:00 p.m., the operational hours of the facility, and would not be lit throughout the night. Therefore, the increase in ambient lighting would not interfere with activities or nighttime views in the area. No mitigation measures would be required.

Glare.

Construction. Daytime glare can result from natural sunlight reflecting from a shiny surface that would interfere with the performance of an off-site activity, such as the operation of a motor vehicle. Construction activities are not anticipated to result in flat, shiny surfaces that would reflect sunlight or cause other natural glare. Minor glare from sunlight on construction equipment and vehicle windshields is not anticipated to impact visibility in the area because the construction site would be fenced and shielded from pedestrian views and passenger vehicle views. In addition, construction vehicles would not be operating at night and thus would not create nighttime sources of glare. Therefore, impacts due to glare generation and interference with the performance of an off-site activity or adverse effects on views would be less than significant during construction.

Operation. Daytime glare can result from natural sunlight reflecting from a shiny surface that would interfere with the performance of an off-site activity, such as the operation of a motor vehicle. Reflective surfaces can be associated with window glass and polished surfaces. The ETFE used for the Bubble shell is made from a low reflective plastic. Nighttime glare sources from the proposed Project could include lighting from illuminated signage and vehicle headlights.

Vehicles traveling on Ocean would not be in a direct line of sight to receive reflected sunlight due to the presence of the proposed landscaping on the Project site. Reflective sunlight would not reach the commercial uses to the north because of the landscaping along the perimeter of the site

L S A

FIGURE 4.1.9

Belmont Pool Revitalization Project

Nighttime View Simulation

SOURCE: Hastings+Chivetta

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as well as the lack of reflective material. While the proposed Project's building accents may include metal or other highly polished surfaces around building entrances, such accents would be small relative to the size of the facade and would be partially blocked by landscaping buffers. Therefore, the reflection toward oncoming motorists from the building materials used in the proposed Project's buildings would be minimal.

The only nighttime glare-sensitive uses would be vehicles traveling on surrounding streets. Nighttime glare-producing components of the proposed Project would include signage, exterior building lighting, parking lot lighting, and lighting from vehicles visiting the Project site. The interior lighting of the Bubble would not be considered a glare producing light as the structure would be illuminated from the inside which would produce a glow and not a direct light.

The Project signage would be illuminated by light-emitting diode lights in conformance with the existing City Municipal Code, and would be required to obtain Site Plan Review and approval. Additionally, similar to daytime glare, nighttime glare would be reduced due to the obstruction from the proposed landscaping in the interior portions of the Project site. The nighttime glare produced by the signage, exterior lighting, and vehicular headlights would be similar to the existing nighttime glare produced by the surrounding residential and commercial uses and would not result in enough glare to be considered substantial or affect nighttime views.

Therefore, impacts due to glare generation and interference with the performance of an off-site activity or adverse effects on views would be less than significant during operation of the proposed Project, and no mitigation is required.

4.1.6 Cumulative Impacts

Cumulative impacts refer to the combined effect of Project impacts with the impacts of other recent and reasonably foreseeable future projects. The cumulative study area for aesthetic impacts is limited to the immediately adjacent area within view of the Project site. As discussed above, the proposed Project is located in an urban area with a number of existing sources of light and glare. Because the proposed Project would replace the former Belmont Pool with a modernized pool complex, light and glare as a result of proposed Project would be consistent with the baseline conditions in the area and would not impact views in the area. The potential aesthetic impacts to scenic vistas, scenic resources, and existing visual character were evaluated and found to be less than significant. Therefore, the contribution of the proposed Project to potential cumulative visual/aesthetic impacts in the study area is considered less than significant.

4.1.7 Level of Significant Prior to Mitigation

Construction of the proposed Project would result in the possibility of unwanted debris and/or graffiti on construction site fencing and temporary pedestrian pathways. Implementation of Mitigation Measure 4.1.1 would be required to maintain the scenic quality of the Project site during project construction. All other potential construction impacts would be less than significant. Operation of the proposed Project would result in less than significant impacts related to aesthetics, light, and glare, and would not contribute to cumulatively significant aesthetic impacts.

4.1.8 Mitigation Measures

The following mitigation measures are proposed to minimize temporary visual impacts due to construction of the proposed Project.

Mitigation Measure 4.1.1: **Maintenance of Construction Barriers.** Prior to issuance of any construction permits, the City of Long Beach (City) Development Services Director, or designee, shall verify that construction plans include the following note: During construction, the Construction Contractor shall ensure, through appropriate postings and daily visual inspections, that no unauthorized materials are posted on any temporary construction barriers or temporary pedestrian walkways, and that any such temporary barriers and walkways are maintained in a visually attractive manner. In the event that unauthorized materials or markings are discovered on any temporary construction barrier or temporary pedestrian walkway, the Construction Contractor shall remove such items within 48 hours.

4.1.9 Significant Unavoidable Adverse Impacts

As previously stated, potentially significant impacts to the scenic quality of the Project site could occur during Project construction as a result of possible postings and unauthorized materials on the temporary construction barriers and temporary pedestrian walkways. With implementation of Mitigation Measure 4.1.1, all identified potentially significant impacts associated with unauthorized materials or markings on construction fencings and/or walkways would be mitigated to a less than significant level. All other potential impacts related to Aesthetics would be less than significant.

4.2 AIR QUALITY

This section discusses the potential short- and long-term air quality impacts of the Belmont Pool Revitalization Project (proposed Project). Specifically, this section addresses short-term impacts during construction, including fugitive dust and equipment emissions, and long-term emissions associated with vehicular travel and stationary equipment. The analysis presented in this section is based on calculations resulting from air quality modeling performed for the proposed Project. The air quality modeling results are presented in Appendix B.

Scoping Process

The City of Long Beach (City) distributed the first Notice of Preparation (NOP) for the Draft Environmental Impact Report (EIR) from April 18 to May 17, 2013. The City received three comment letters in response to the original NOP. One comment letter addressing Air Quality was received from the South Coast Air Quality Management District (SCAQMD) during the first public review period. Due to revisions in the Project Description, the City re-issued the NOP for the Draft EIR between April 9, 2014, and May 8, 2014. The City received five comment letters in response to the re-issued NOP during the public review period. The SCAQMD commented again during the second public review period with a letter that contained the same topics and comments. Both letters from the SCAQMD recommended that air quality impacts be analyzed using the *California Environmental Quality Act (CEQA) Air Quality Handbook* (April 1993) as guidance for the preparation of the air quality analysis and development of mitigation measures. It also stated that the EIR should analyze air quality impacts associated with all project phases and air pollutant sources, quantify emissions of particulate matter less than 2.5 microns in diameter ($PM_{2.5}$), calculate localized air quality impacts and compare to the localized significance thresholds (LSTs), and conduct a mobile health risk assessment (HRA).

4.2.1 Methodology

Evaluation of air quality impacts associated with a proposed commercial retail project included the following:

- Determination of the short-term construction air quality impacts
- Determination of the long-term air quality impacts resulting from emissions from vehicular traffic and stationary sources on off-site and on-site air quality-sensitive uses
- Determination of mitigation measures required to reduce short- and long-term air quality impacts from all sources

The SCAQMD's current guidelines, included in its *CEQA Air Quality Handbook* (April 1993), were adhered to in the assessment of potential short- and long-term air quality impacts of the proposed Project. However, the air quality models identified in the *CEQA Air Quality Handbook* are outdated; therefore, the current model, California Emissions Estimator Model (CalEEMod) Version 2013.2.2, was used to quantify the Project-related mobile and stationary source emissions. Intersection vehicle turn volumes were used in the California Department of Transportation (Caltrans) CALINE4 model to evaluate carbon monoxide (CO) impacts.

4.2.2 Existing Environmental Setting

The Project site is located in the City of Long Beach, which is part of the South Coast Air Basin (Basin) and is under the jurisdiction of SCAQMD.

Climate/Meteorology. Air quality in the planning area is affected not only by various emission sources (mobile, industry, etc.) but also by atmospheric conditions such as wind speed, wind direction, temperature, and rainfall, etc. The combination of topography, low mixing height, abundant sunshine, and emissions from the second largest urban area in the United States gives the Basin the worst air pollution problem in the nation.

Climate in the Basin is determined by its terrain and geographical location. The Basin is a coastal plain with connecting broad valleys and low hills. The Pacific Ocean forms the southwestern border, and high mountains surround the rest of the Basin, which lies in the semipermanent high-pressure zone of the eastern Pacific; the resulting climate is mild and tempered by cool ocean breezes. This climatological pattern is rarely interrupted; however, periods of extremely hot weather, winter storms, or Santa Ana wind conditions do occur.

The annual average temperature varies little throughout the Basin, ranging from the low to middle 60s, measured in degrees Fahrenheit (°F). With a more pronounced oceanic influence, coastal areas show less variability in annual minimum and maximum temperatures than inland areas. The climatological station closest to the site is the Long Beach Daugherty Field Station. The monthly average maximum temperature recorded at this station from 1949 to January 2015 ranged from 67.0°F in December to 83.9°F in August, with an annual average maximum of 74.2°F. The monthly average minimum temperature recorded at this station ranged from 45.3°F in December to 64.9°F in August, with an annual average minimum of 54.8°F. January is typically the coldest month, and August is typically the warmest month in this area of the Basin.

Most rainfall in the Basin occurs between November and April. Summer rainfall is minimal and is generally limited to scattered thundershowers in coastal regions and slightly heavier showers in the eastern portion of the Basin and along the coastal side of the mountains. The Long Beach Daugherty Field Station monitored precipitation from 1949 to January 2015, during which average monthly rainfall varied from 2.90 inches in February to 0.42 inch or less between May and October, with an annual total of 12.01 inches. Patterns in monthly and yearly rainfall totals are unpredictable due to fluctuations in the weather.

Although the Basin has a semiarid climate, air near the surface is generally moist because of the presence of a shallow marine layer. With very low average wind speeds, there is a limited capacity to disperse air contaminants horizontally. The dominant daily wind pattern is an onshore 8- to 12-mile–per-hour (mph) daytime breeze and an offshore 3 to 5 mph nighttime breeze. The typical wind flow pattern fluctuates only with occasional winter storms or strong northeasterly (Santa Ana) winds from the mountains and deserts northeast of the Basin. Summer wind flow patterns represent worst-case conditions because this is the period of higher temperatures and more sunlight, which results in ozone (O_3) formation.

During spring and early summer, pollution produced during any one day is typically blown out of the Basin through mountain passes or lifted by warm, vertical currents adjacent to mountain slopes. Air contaminants can be transported 60 miles or more from the Basin by ocean air during the afternoons. From early fall to winter, the transport is less pronounced because of slower average wind speed and the appearance of drainage winds earlier in the day. During stagnant wind conditions, offshore drainage winds may begin by late afternoon. Pollutants remaining in the Basin are trapped and begin to accumulate during the night and the following morning. A low morning wind speed in pollutant source areas is an important indicator of air stagnation and the potential for buildup of primary air contaminants.

Temperature normally decreases with altitude, and a reversal of this atmospheric state, where temperature increases with altitude, is called an inversion. The height from the Earth to the inversion base is known as the mixing height. Persistent low inversions and cool coastal air tend to create morning fog and low stratus clouds. Cloudy days are less likely in the eastern portions of the Basin and are about 25 percent more likely along the coast. The vertical dispersion of air pollutants in the Basin is limited by temperature inversions in the atmosphere close to the Earth's surface.

Inversions are generally lower in the nighttime when the ground is cool than during daylight hours when the sun warms the ground and, in turn, the surface air layer. As this heating process continues, the temperature of the surface air layer approaches the temperature of the inversion base, causing heating along its lower edge. If enough warming takes place, the inversion layer becomes weak and opens up to allow the surface air layers to mix upward. This can be seen in the middle to late afternoon on a hot summer day when the smog appears to clear up suddenly. Winter inversions typically break earlier in the day, preventing excessive contaminant buildup.

The combination of stagnant wind conditions and low inversions produces the greatest pollutant concentrations. On days of no inversion or high wind speeds, ambient air pollutant concentrations are lowest. During periods of low inversions and low wind speeds, air pollutants generated in urbanized areas are transported predominantly onshore into Riverside and San Bernardino Counties. In the winter, the greatest pollution problem is accumulation of CO and nitrogen oxides (NO_X) due to extremely low inversions and air stagnation during the night and early morning hours. In the summer, the longer daylight hours and the brighter sunshine combine to cause a reaction between hydrocarbons and NO_X to form photochemical smog.

Air Pollution Constituents and Attainment Status. The Air Resources Board (ARB) coordinates and oversees both State and federal air pollution control programs in California. The ARB oversees activities of local air quality management agencies and maintains air quality monitoring stations throughout the State in conjunction with the Environmental Protection Agency (EPA) and local air districts. The ARB has divided the State into 15 air basins based on meteorological and topographical factors of air pollution. Data collected at these stations are used by the ARB and the EPA to classify air basins as "attainment", "nonattainment", "nonattainment-transitional", or "unclassified", based on air quality data for the most recent three calendar years compared with the Ambient Air Quality Standards (AAQS). "Nonattainment" areas are imposed with additional restrictions as required by the EPA. The air quality data are also used to monitor progress in attaining air quality standards.

Ozone. O_3 (smog) is formed by photochemical reactions between oxides of nitrogen and reactive organic gases rather than being directly emitted. Ozone is a pungent, colorless gas typical of Southern California smog. Elevated ozone concentrations result in reduced lung function, particularly during vigorous physical activity. This health problem is particularly acute in sensitive receptors such as the sick, the elderly, and young children. Ozone levels peak during summer and early fall. The entire Basin is designated as a "nonattainment" area for the State 1-hour and 8-hour ozone standards. The EPA has officially designated the status for most of the Basin regarding the 8-hour ozone standard as "extreme nonattainment," which means the Basin has until 2024 to attain the federal 8-hour O_3 standard.

Carbon Monoxide. CO is formed by the incomplete combustion of fossil fuels, almost entirely from automobiles. It is a colorless odorless gas that can cause dizziness, fatigue, and impairment to central nervous system functions. The entire Basin is in "attainment" for the State standards for CO. The Basin is designated as an "attainment/maintenance" area under the federal CO standards.

Nitrogen Oxides. Nitrogen dioxide (NO_2), a reddish-brown gas, and nitric oxide (NO), a colorless odorless gas, are formed from fuel combustion under high temperature or pressure. These compounds are referred to as nitrogen oxides, or NO_X. NO_X is a primary component of the photochemical smog reaction. It also contributes to other pollution problems, including a high concentration of fine particulate matter, poor visibility, and acid deposition (i.e., acid rain). NO_2 decreases lung function and may reduce resistance to infection. The entire Basin is designated as "nonattainment" for the State NO_2 standard and as an "attainment/ maintenance" area under the federal NO_2 standard.

Sulfur Dioxide. Sulfur dioxide (SO_2) is a colorless irritating gas formed primarily from incomplete combustion of fuels containing sulfur. Industrial facilities also contribute to gaseous SO_2 levels. SO_2 irritates the respiratory tract, can injure lung tissue when combined with fine particulate matter, and reduces visibility and the level of sunlight. The entire Basin is in "attainment" with both federal and State SO_2 standards.

Lead. Lead is found in old paints and coatings, plumbing, and a variety of other materials. Once in the blood stream, lead can cause damage to the brain, nervous system, and other body systems. Children are highly susceptible to the effects of lead. The Los Angeles County (County) portion of the Basin was redesignated as "nonattainment" for the State and federal standards for lead in 2010.

Particulate Matter. Particulate matter is the term used for a mixture of solid particles and liquid droplets found in the air. Coarse particles (particulate matter less than 10 microns in diameter [PM_{10}]), derive from a variety of sources, including windblown dust and grinding operations. Fuel combustion and resultant exhaust from power plants and diesel buses and trucks are primarily responsible for fine particle ($PM_{2.5}$) levels. Fine particles can also be formed in the atmosphere through chemical reactions. PM_{10} can accumulate in the respiratory system and aggravate health problems such as asthma. The EPA's scientific review concluded that $PM_{2.5}$, which penetrates deeply into the lungs, is more likely than PM_{10} to contribute to the health effects listed in a number of recently published community epidemiological studies at concentrations that extend well below those allowed by the current PM_{10} standards. These health effects include increased hospital admissions, emergency room visits (primarily among the elderly and individuals with cardiopulmonary disease), and premature death; increased respiratory symptoms and disease (children and individuals with cardiopulmonary disease such as asthma); decreased lung function (particularly in children and individuals with asthma); and alterations in lung tissue and structure and in respiratory tract defense mechanisms. The Basin is designated a "nonattainment" area for the federal and State $PM_{2.5}$ standards and a "nonattainment" area for the State PM_{10} standard. The Basin was redesignated as "attainment/maintenance" for the federal PM_{10} standard in 2013.

Reactive Organic Compounds. Reactive organic compounds (ROCs; also known as reactive organic gases (ROGs) and volatile organic compounds [VOCs]) are formed from combustion of fuels and evaporation of organic solvents. ROCs are not defined criteria pollutants but are a prime component of the photochemical smog reaction. Consequently, ROCs accumulate in the atmosphere more quickly during the winter when sunlight is limited and photochemical reactions are slower. As they are not a criteria pollutant, there is no state or federal attainment status for ROGs.

Sulfates. Sulfates occur in combination with metal and/or hydrogen ions. In California, emissions of sulfur compounds occur primarily from the combustion of petroleum-derived fuels (e.g., gasoline and diesel fuel) that contain sulfur. This sulfur is oxidized to SO_2 during the combustion process and subsequently converted to sulfate compounds in the atmosphere. The conversion of SO_2 to sulfates takes place comparatively rapidly and completely in urban areas of California due to regional meteorological features. The entire Basin is in "attainment" for the State standard for sulfates.

Hydrogen Sulfide. Hydrogen sulfide (H_2S) is a colorless gas with the odor of rotten eggs. It is formed during bacterial decomposition of sulfur-containing organic substances. Also, it can be present in sewer gas and some natural gas and can be emitted as the result of geothermal energy exploitation. In 1984, an ARB committee concluded that the ambient standard for H_2S is adequate to protect public health and to significantly reduce odor annoyance. The entire Basin is "unclassified" for the State standard for H_2S.

Table 4.2.A lists the attainment status for criteria pollutants in the Basin.

Table 4.2.A: Attainment Status of Criteria Pollutants in the South Coast Air Basin

Pollutant	State	Federal
1-hour Ozone	Nonattainment	N/A
8-hour Ozone	Nonattainment	Extreme Nonattainment
PM_{10}	Nonattainment	Attainment/Maintenance
$PM_{2.5}$	Nonattainment	Nonattainment
CO	Attainment	Attainment/Maintenance
NO_2	Nonattainment	Attainment/Maintenance
SO_2	Attainment	Attainment
Lead	Nonattainment (Los Angeles County only)	Nonattainment (Los Angeles County only)
All others	Attainment/Unclassified	Attainment/Unclassified

Source: California Air Resources Board (2016) (Website: http://www.arb.ca.gov/desig/desig.htm).
CO = carbon monoxide
N/A = not available
NO_2 = nitrogen dioxide
$PM_{2.5}$ = particulate matter less than 2.5 microns in diameter
PM_{10} = particulate matter less than 10 microns in diameter
SO_2 = sulfur dioxide

Visibility-Reducing Particles. Visibility-reducing particles consist of suspended particulate matter, which is a complex mixture of tiny particles that consists of dry solid fragments, solid cores with liquid coatings, and small droplets of liquid. These particles vary greatly in shape, size, and chemical composition, and can be made up of many different materials such as metals, soot, soil, dust, and salt. The statewide standard is intended to limit the frequency and severity of visibility impairment due to regional haze. The entire Basin is "unclassified" for the State standard for visibility-reducing particles.

Health Effects. Table 4.2.B lists the health effects of the criteria pollutants and their potential sources. Because the State and federal concentration standards were set at levels that protect public health with an adequate margin of safety, these health effects will not occur unless the standards are exceeded by a large margin or for a prolonged period of time.

Regional Air Quality. Both the State of California and the federal government have established health-based AAQS for the criteria air pollutants described previously. As previously discussed, areas that meet AAQSs are classified as "attainment" areas, while areas that do not meet these standards are classified as "nonattainment" areas.

Local Air Quality. The SCAQMD, together with the ARB, maintains ambient air quality monitoring stations in the Basin. The air quality monitoring station closest to the project site is the Long Beach East Pacific Coast Highway Station at 2425 Webster Street. This station is approximately 3 miles to the northwest of the Project site, and its air quality trends are representative of the ambient air quality in the project area. The pollutants monitored at this station are CO, O_3, PM_{10}, NO_2, and SO_2. The closest station that monitors $PM_{2.5}$ is the North Long Beach Station, located approximately 5 miles to the north-northwest of the Project site. The ambient air quality data monitored at these two stations within the past 3 years is listed in Table 4.2.C.

Table 4.2.B: Health Effects Summary of Some of the Major Criteria Air Pollutants

Pollutant	Health Effects	Examples of Sources
Particulate Matter (PM_{10}: less than or equal to 10 microns)	• Increased respiratory disease • Lung damage • Premature death	• Cars and trucks, especially diesels • Fireplaces, wood stoves • Windblown dust from roadways, agriculture, and construction
Ozone (O_3)	• Breathing difficulties • Lung damage	Formed by chemical reactions of air pollutants in the presence of sunlight; common sources are motor vehicles, industries, and consumer products
Carbon Monoxide (CO)	• Chest pain in heart patients • Headaches, nausea • Reduced mental alertness • Death at very high levels	Any source that burns fuel such as cars, trucks, construction and farming equipment, and residential heaters and stoves
Nitrogen Dioxide (NO_2)	Lung damage	See carbon monoxide sources
Toxic Air Contaminants	• Cancer • Chronic eye, lung, or skin irritation • Neurological and reproductive disorders	• Cars and trucks, especially diesels • Industrial sources such as chrome platers • Neighborhood businesses such as dry cleaners and service stations • Building materials and products

Source: California Air Resources Board (2005).

Table 4.2.C: Ambient Air Quality Monitored at the Long Beach Stations

Pollutant	Standard			2012	2013	2014
Carbon Monoxide (CO) (2012 from North Long Beach, 2013 & 2014 from 2425 Webster Street)						
Maximum 1-hour concentration (ppm)				4.2	4.1	3.7
Number of days exceeded:	State:	> 20 ppm		0	0	0
	Federal:	> 35 ppm		0	0	0
Maximum 8-hour concentration (ppm)				2.57	2.6	2.6
Number of days exceeded:	State:	≥ 9.0 ppm		0	0	0
	Federal:	≥ 9 ppm		0	0	0
Ozone (O_3) (2425 Webster Street)						
Maximum 1-hour concentration (ppm)				0.080	0.090	0.087
Number of days exceeded:	State:	> 0.09 ppm		0	0	0
Maximum 8-hour concentration (ppm)				0.067	0.070	0.072
Number of days exceeded:	State:	> 0.07 ppm		0	0	1
	Federal:	> 0.075 ppm		0	0	0
Coarse Particulates (PM_{10}) (2012 & 2013 from North Long Beach, 2014 from 2425 Webster Street)						
Maximum 24-hour concentration (µg/m^3)				45	37	84
Number of days exceeded:	State:	> 50 µg/m^3		0	0	3
	Federal:	> 150 µg/m^3		0	0	0
Annual arithmetic average concentration (µg/m^3)				23.2	N/A	29.5
Exceeded for the year:	State:	> 20 µg/m^3		Yes	N/A	Yes
Fine Particulates ($PM_{2.5}$) (North Long Beach)						
Maximum 24-hour concentration (µg/m^3)				49.8	47.2	51.5
Number of days exceeded:	Federal:	> 35 µg/m^3		4	2	2
Annual arithmetic average concentration (µg/m^3)				10.6	10.9	11.0
Exceeded for the year:	State:	> 12 µg/m^3		No	No	No
	Federal:	> 15 µg/m^3		No	No	No
Nitrogen Dioxide (NO_2) (2425 Webster Street)						
Maximum 1-hour concentration (ppm)				0.077	0.082	0.136
Number of days exceeded:	State:	> 0.18 ppm		0	0	0
	Federal:	> 0.10 ppm		0	0	2
Annual arithmetic average concentration (ppm)				0.020	0.036	0.036
Exceeded for the year:	State:	> 0.030 ppm		No	Yes	Yes
	Federal:	> 0.053 ppm		No	No	No
Sulfur Dioxide (SO_2) (2425 Webster Street)						
Maximum 24-hour concentration (ppm)				0.003	0.001	0.003
Number of days exceeded:	State:	> 0.04 ppm		0	0	0
Maximum 1-hour concentration (ppm)				0.004	0.003	0.015
Number of days exceeded:	State:	> 0.25 ppm		No	No	No
	Federal:	> 0.075 ppm		No	No	No

Sources: United States Environmental Protection Agency. Website: http://www.epa.gov/airdata/ad_maps.html; and California Air Resources Board. Website: www.arb.ca.gov/adam/welcome.html.
µg/m^3 = micrograms per cubic meter
ARB = California Air Resources Board
EPA = United States Environmental Protection Agency
N/A = not available
ppm = parts per million

The ambient air quality data in Table 4.2.C show that SO_2 and CO levels are below the relevant State and federal standards. The State 8-hour O_3 standards were exceeded once in 2014. The State 24-hour PM_{10} standard was exceeded three times in 2014, but has not exceeded the federal 24-hour standard. The federal 24-hour $PM_{2.5}$ standard was exceeded from 2 to 4 times per year during the last 3 years. The federal 1-hour NO_2 standard was exceeded twice in 2014.

4.2.3 Regulatory Setting

Federal Regulations and Standards. Pursuant to the federal Clean Air Act (CAA) of 1970, the EPA established national ambient air quality standards (NAAQS). The NAAQS were established for six major pollutants termed "criteria" pollutants. Criteria pollutants are defined as those pollutants for which the federal and State governments have established AAQS, or criteria, for outdoor concentrations in order to protect public health. The NAAQS are shown in Table 4.2.D.

Data collected at permanent monitoring stations are used by the EPA to classify regions as "attainment" or "nonattainment," depending on whether the regions met the requirements stated in the primary NAAQS. "Nonattainment" areas are imposed with additional restrictions as required by the EPA.

The EPA has designated the Southern California Association of Governments (SCAG) as the Metropolitan Planning Organization (MPO) responsible for ensuring compliance with the requirements of the CAA for the Basin.

The EPA established new national air quality standards for ground-level ozone and fine particulate matter in 1997. On May 14, 1999, the Court of Appeals for the District of Columbia Circuit issued a decision ruling that the CAA, as applied in setting the new public health standards for ozone and particulate matter, was unconstitutional as an improper delegation of legislative authority to the EPA. On February 27, 2001, the United States Supreme Court upheld the way the government sets air quality standards under the CAA. The Court unanimously rejected industry arguments that the EPA must consider financial costs as well as health benefits in writing standards. The justices also rejected arguments that the EPA took too much lawmaking power from Congress when it set tougher standards for ozone and soot in 1997. Nevertheless, the court dismissed the EPA's policy for implementing new ozone rules, saying that the agency ignored a section of the law that restricts its authority to enforce such rules.

In April 2003, the EPA was cleared by the White House Office of Management and Budget (OMB) to implement the 8-hour ground-level ozone standard. The EPA issued the proposed rule implementing the 8-hour ozone standard in April 2003. The EPA completed final 8-hour "nonattainment" status on April 15, 2004. The EPA revoked the 1-hour ozone standard on June 15, 2005, and lowered the 8-hour O_3 standard from 0.08 parts per million (ppm) to 0.075 ppm on April 1, 2008.

The EPA issued the final $PM_{2.5}$ implementation rule in fall 2004. The EPA lowered the 24-hour $PM_{2.5}$ standard from 65 to 35 micrograms per cubic meter ($\mu g/m^3$) and revoked the annual PM_{10} standard on December 17, 2006. The EPA issued final designations for the 2006 24-hour $PM_{2.5}$ standard on December 12, 2008.

Table 4.2.D: Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards[1]		Federal Standards[2]		
		Concentration[3]	Method[4]	Primary[3,5]	Secondary[3,6]	Method[7]
Ozone (O_3)	1-Hour	0.09 ppm (180 $\mu g/m^3$)	Ultraviolet Photometry	--	Same as Primary Standard	Ultraviolet Photometry
	8-Hour	0.070 ppm (137 $\mu g/m^3$)		0.070 ppm (137 $\mu g/m^3$)		
Respirable Particulate Matter (PM_{10})[8]	24-Hour	50 $\mu g/m^3$	Gravimetric or Beta Attenuation	150 $\mu g/m^3$	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 $\mu g/m^3$		--		
Fine Particulate Matter ($PM_{2.5}$)[8]	24-Hour	No Separate State Standard		35 $\mu g/m^3$	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 $\mu g/m^3$	Gravimetric or Beta Attenuation	12.0 $\mu g/m^3$	15.0 $\mu g/m^3$	
Carbon Monoxide (CO)	8-Hour	9.0 ppm (10 mg/m^3)	Non-Dispersive Infrared Photometry (NDIR)	9 ppm (10 mg/m^3)	None	Non-Dispersive Infrared Photometry (NDIR)
	1-Hour	20 ppm (23 mg/m^3)		35 ppm (40 mg/m^3)		
	8-Hour (Lake Tahoe)	6 ppm (7 mg/m^3)		—	—	—
Nitrogen Dioxide (NO_2)[9]	Annual Arithmetic Mean	0.030 ppm (57 $\mu g/m^3$)	Gas Phase Chemiluminescence	0.053 ppm (100 $\mu g/m^3$)	Same as Primary Standard	Gas Phase Chemiluminescence
	1-Hour	0.18 ppm (339 $\mu g/m^3$)		100 ppb (188 $\mu g/m^3$)	—	
Sulfur Dioxide (SO_2)[10]	Annual Arithmetic Mean	—	Ultraviolet Fluorescence	0.030 ppm (for certain areas)[10]	—	Ultraviolet Fluorescence; Spectrophotometry (Pararosaniline Method)
	24-Hour	0.04 ppm (105 $\mu g/m^3$)		0.14 ppm (for certain areas)[10]	—	
	3-Hour	—		—	0.5 ppm (1300 $\mu g/m^3$)	
	1-Hour	0.25 ppm (655 $\mu g/m^3$)		75 ppb (196 $\mu g/m^3$)	—	
Lead[11,12]	30-Day Average	1.5 $\mu g/m^3$	Atomic Absorption	—	—	High-Volume Sampler and Atomic Absorption
	Calendar Quarter	—		1.5 $\mu g/m^3$ (for certain areas)[12]	Same as Primary Standard	
	Rolling 3-Month Average[11]	—		0.15 $\mu g/m^3$		
Visibility-Reducing Particles[13]	8-Hour	See footnote 13	Beta Attenuation and Transmittance through Filter Tape	No Federal Standards		
Sulfates	24-Hour	25 $\mu g/m^3$	Ion Chromatography			
Hydrogen Sulfide	1-Hour	0.03 ppm (42 $\mu g/m^3$)	Ultraviolet Fluorescence			
Vinyl Chloride[11]	24-Hour	0.01 ppm (26 $\mu g/m^3$)	Gas Chromatography			

Source: California Air Resources Board (October 1, 2015).

Footnotes:

1 California standards for ozone; carbon monoxide (except Lake Tahoe); sulfur dioxide (1- and 24-hour); nitrogen dioxide; suspended particulate matter - PM_{10}, $PM_{2.5}$ and visibility reducing particles, are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

2 National standards (other than ozone, particulate matter, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once per year. The ozone standard is attained when the fourth-highest 8-hour concentration in a year, averaged over 3 years, is equal to or less than the standard. For PM_{10}, the 24-hour

standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 μg/m^3 is equal to or less than one. For $PM_{2.5}$, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over 3 years, are equal to or less than the standard. Contact the EPA for further clarification and current federal policies.

3 Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

4 Any equivalent procedure which can be shown to the satisfaction of ARB to give equivalent results at or near the level of the air quality standard may be used.

5 National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.

6 National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

7 Reference method as described by the EPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the EPA.

8 On December 14, 2012, the national annual $PM_{2.5}$ primary standard was lowered from 15 μg/m^3 to 12 μg/m^3. The existing national 24-hour $PM_{2.5}$ standards (primary and secondary) were retained at 35 μg/m^3, as was the annual secondary standard of 15. The existing 24-hour PM_{10} standards (primary and secondary) of 150 μg/m^3 also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.

9 To attain the 1-hour standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum 1-hour average at each monitor within an area must not exceed 100 ppb. Note that the national 1-hour standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national 1-hour standard to the California standards, the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.

10 On June 2, 2010, the new 1-hour SO_2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO_2 national standards (24-hour and annual) remain in effect until 1 year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.
Note that the 1-hour national standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard, the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.

11 The ARB has identified lead and vinyl chloride as "toxic air contaminants" with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

12 The national standard for lead was revised on October 15, 2008, to a rolling 3-month average. The 1978 lead standard (1.5 μg/m^3 as a quarterly average) remains in effect until 1 year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standards are approved.

13 In 1989, the ARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basins, respectively.

°C = degrees Celsius
ARB = California Air Resources Board
EPA = United States Environmental Protection Agency
μg/m^3 = micrograms per cubic meter
mg/m^3 = milligrams per cubic meter
ppm = parts per million
ppb = parts per billion

State Regulations and Standards. In 1967, the California Legislature passed the Mulford-Carrell Act, which combined two Department of Health bureaus: the Bureau of Air Sanitation and the Motor Vehicle Pollution Control Board, in order to establish ARB. Since its formation, ARB has worked with the public, the business sector, and local governments to find solutions to California's air pollution problems.

The ARB identified particulate emissions from diesel-fueled engines (diesel particulate matter [DPM]) as toxic air contaminants (TACs) in August 1998. Following the identification process, ARB was required by law to determine whether there is a need for further control. In September 2000, the ARB adopted the Diesel Risk Reduction Plan (Diesel RRP), which recommends many control measures to reduce the risks associated with DPM and to achieve the goal of 85 percent DPM reduction by 2020.

California Green Building Code. California Green Buildings Standards Code (Cal Green Code) (California Code of Regulations [CCR], Title 24, Part 11) was adopted by the California Building Standards Commission in 2010 and became effective in January 2011. The Code applies to all new constructed residential, nonresidential, commercial, mixed-use, and State-owned facilities, as well as schools and hospitals. Cal Green Code is comprised of Mandatory Residential and Nonresidential Measures and more stringent Voluntary Measures (TIERs I and II).

Mandatory Measures are required to be implemented on all new construction projects and consist of a wide array of green measures concerning project site design, water use reduction, improvement of indoor air quality, and conservation of materials and resources. The Cal Green Code refers to Title 24, Part 6, compliance with respect to energy efficiency; however, it encourages 15 percent energy use reduction over that required in Part 6. Voluntary Measures are optional, more stringent measures that may be used by jurisdictions that strive to enhance their commitment towards green and sustainable design and achievement of Assembly Bill (AB) 32 goals. Under TIERs I and II, all new construction projects are required to reduce energy consumption by 15 percent and 30 percent, respectively, below the baseline required under the California Energy Commission (CEC), as well as implement more stringent green measures than those required by mandatory code.

Local Regulations and Policies.

There are a number of local regulations and policies related to air quality, as described below.

Regional Air Quality Planning Framework. The 1976 Lewis Air Quality Management Act established the SCAQMD and other air districts throughout the State. The federal CAA Amendments of 1977 required that each state adopt an implementation plan outlining pollution control measures to attain the federal standards in nonattainment areas of the state.

The ARB is responsible for incorporating air quality management plans for local air basins into a State Implementation Plan (SIP) for EPA approval. Significant authority for air quality control within the local air basins has been given to local air districts that regulate stationary source emissions and develop local nonattainment plans.

Regional Air Quality Management Plan. The SCAQMD and the SCAG are responsible for formulating and implementing the Air Quality Management Plan (AQMP) for the Basin. Every 3 years, the SCAQMD prepares a new AQMP, updating the previous plan and having a 20-year horizon. The SCAQMD adopted the 2012 AQMP in December 2012. The ARB approved it on January 23, 2013, and forwarded it to the EPA for review and approval. The 2012 AQMP incorporates the latest scientific and technological information and planning assumptions, including the 2012 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) and updated emission inventory methodologies for various source categories. The 2012 AQMP included the new and changing federal requirements, the implementation of new technology measures, and continued development of economically sound, flexible compliance approaches.

City of Long Beach General Plan. The Air Quality Element (1996) of the City's General Plan includes goals and polices related to air quality. The following goals and policies are applicable to the proposed Project:

Goal 6: Minimize particulate emissions from the construction and operation of roads and buildings, from mobile sources, and from the transportation, handling and storage materials.

Policy 6.1: *Control Dust.* Further reduce particulate emissions from roads, parking lots, construction sites, unpaved alleys, and port operations and related uses.

Goal 7: Reduce emissions through reduced energy consumption.

Policy 7.1: *Energy Conservation.* Reduce energy consumption through conservation improvements and requirements.

4.2.4 Impact Significance Criteria

The thresholds for impacts related to air quality used in this analysis are consistent with Appendix G of the *State CEQA Guidelines*. The proposed Project may be deemed to have a significant impact with respect to air quality if it would:

Threshold 4.2.1: **Conflict with or obstruct implementation of the applicable air quality plan;**

Threshold 4.2.2: **Violate any air quality standard or contribute substantially to an existing or projected air quality violation;**

Threshold 4.2.3: **Result in a cumulative considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for O_3 precursors);**

Threshold 4.2.4: **Expose sensitive receptors to substantial pollutant concentrations; or**

Threshold 4.2.5: **Create objectionable odors affecting a substantial number of people.**

The Initial Study (IS)/NOP prepared for the proposed Project identified potential significant adverse impacts related to a potential conflict with air quality plans, violation of air quality standards, cumulatively considerable increase of criteria pollutants, and exposure of sensitive receptors to substantial air quality pollutant concentrations. Although the proposed Project would result in temporary odors associated with construction equipment (i.e., diesel-powered equipment and asphalt paving), these impacts would be temporary and would not result in long-term odor impacts. The proposed Project may also result in the generation of odors related to food service. These odors are not anticipated to be objectionable and would not result in permanent impacts related to odors on adjacent sensitive users. Therefore, impacts related to Project-generated odors (Threshold 4.2.5) will not be discussed further in this EIR. Refer to Appendix A, IS/NOP, for additional discussion.

California Environmental Quality Act (CEQA) Baseline. At the time the NOP was issued, the Project site contained both the Belmont Pool facilities and the outdoor temporary pool (opened in December 2013 to provide swimming facilities while the permanent facility was under construction). Although the site contained the former Belmont Pool building at the time of the NOP, the facility was subsequently demolished in February 2015 to alleviate an imminent public safety threat due to the seismically unsafe condition of the building.

The inclusion of the former pool building in the assessment of air quality impacts is appropriate because the former facility was present on the site for approximately 45 years and represents the historic uses of the site and the historic air quality conditions of the site. The substantial evidence of recent historical use supports the determination that utilizing the Belmont Pool building as the baseline for air quality impacts is appropriate.

SCAQMD Criteria. In addition to the federal and State AAQS, there are daily and quarterly emissions thresholds for construction and operation of a proposed project in the Basin. The Basin is administered by the SCAQMD, and guidelines and emissions thresholds established by the SCAQMD in its *CEQA Air Quality Handbook* (1993) are used in the air quality analysis (Appendix B). The emission thresholds were established based on the “attainment” status of the air basin in regard to air quality standards for specific criteria pollutants. Because the concentration standards were set at a level that protects public health with an adequate margin of safety (EPA), these emission thresholds are regarded as conservative and would overstate an individual project’s contribution to health risks.

Thresholds for Construction Emissions. The following CEQA significance thresholds for construction emissions have been established for the Basin:

- 75 pounds per day (lbs/day) of ROCs
- 100 lbs/day of NO_X
- 550 lbs/day of CO
- 150 lbs/day of PM_{10}
- 55 lbs/day of $PM_{2.5}$
- 150 lbs/day of sulfur oxides (SO_X)

Projects in the Basin with construction-related emissions that exceed any of the emission thresholds are considered to be significant short-term adverse air quality impacts under the SCAQMD guidelines and under CEQA.

Thresholds for Operational Emissions. The daily operational emissions significance thresholds established for the Basin by the SCAQMD are as follows.

Emission Thresholds for Pollutants with Regional Effects. Projects with operation-related emissions that exceed any of the emission thresholds listed below are considered significant under SCAQMD guidelines.

- 55 lbs/day of ROCs
- 55 lbs/day of NO_X
- 550 lbs/day of CO
- 150 lbs/day of PM10
- 55 lbs/day of $PM_{2.5}$
- 150 lbs/day of SO_X

Local Microscale Concentration Standards. The significance of localized project impacts under CEQA depends on whether ambient CO levels in the vicinity of the project are above or below State and federal CO standards. If ambient levels are below the standards, a project is considered to have a significant impact if project emissions result in an exceedance of one or more of these standards. If ambient levels already exceed a State or federal standard, project emissions are considered significant if they increase 1-hour CO concentrations by 1.0 ppm or more or 8-hour CO concentrations by 0.45 ppm or more. The following are applicable local emission concentration standards for CO:

- California State 1-hour CO standard of 20.0 ppm
- California State 8-hour CO standard of 9.0 ppm

Localized Significance Thresholds. For this Project, the appropriate Source Receptor Area (SRA) for Localized Significance Thresholds (LST) is South Coastal Los Angeles County, according to the SRA/City Table on the SCAQMD LST website.[1] The Project site is approximately 5 acres. The sensitive land uses within the vicinity of the proposed Project include the existing Belmont Shores Children's Center (Preschool/Child Care) facility located within 25 feet (ft) from the northern Project construction boundary, residences across East Ocean Boulevard to the northeast located approximately 100 ft from the northern Project construction boundary, and residences across Termino Avenue to the northwest located approximately 80 ft from the western Project construction boundary. According to the LST guidelines, the shortest distance that can be used is 25 meters (m) (82 ft). Therefore, the following thresholds apply for this Project.

Construction thresholds for a 5-acre site:

- 123 lbs/day of NO_X at 25 m
- 1,530 lbs/day of CO at 25 m
- 14 lbs/day of PM_{10} at 25 m
- 8 lbs/day of $PM_{2.5}$ at 25 m

Operational thresholds for a 5-acre site:

- 123 lbs/day of NO_X at 25 m
- 1,530 lbs/day of CO at 25 m
- 4 lbs/day of PM_{10} at 25 m
- 2 lbs/day of $PM_{2.5}$ at 25 m

4.2.5 Project Impacts

Air pollutant emissions associated with the proposed Project would occur over the short term from construction activities such as fugitive dust from site preparation and grading, and emissions from equipment exhaust. There would be long-term regional emissions associated with Project-related vehicular trips and stationary source emissions such as natural gas used for heating.

Threshold 4.2.1: Would the project conflict with or obstruct implementation of the applicable air quality plan?

Less than Significant Impact. An AQMP describes air pollution control strategies to be taken by a city, county, or region classified as a "nonattainment" area. The main purpose of an AQMP is to bring the area into compliance with federal and State air quality standards. CEQA requires that certain proposed projects be analyzed for consistency with the AQMP. For a project to be

[1] South Coast Air Quality Management District. Website: www.aqmd.gov/ceqa/handbook/LST/LST.html.

consistent with the AQMP adopted by the SCAQMD, the pollutants emitted from the project should not exceed the SCAQMD daily threshold or cause a significant impact on air quality, or the project must already have been included in the AQMP projection. However, if feasible mitigation measures are implemented and shown to reduce the impact level from significant to less than significant, a project may be deemed consistent with the AQMP. The AQMP uses the assumptions and projections of local planning agencies to determine control strategies for regional compliance status. Since the AQMP is based on local General Plans, projects that are deemed consistent with the General Plan are found to be consistent with the AQMP. As described below, the proposed Project would not result in significant operational air quality impacts, contribute to an ozone exceedance at a nearby monitoring station, or cause the area to be inconsistent with the regional AQMP. Furthermore, because the proposed Project does not require a General Plan Amendment and is consistent with the site's current General Plan land use designation, emissions associated with the proposed Project are not anticipated to exceed the General Plan projections or contribute to air quality deterioration beyond SCAQMD projects. Therefore, the proposed Project would be consistent with the General Plan and the Final 2012 AQMP, and no mitigation is required.

General Plan Air Quality Element Policy Analysis. The City's General Plan Air Quality Element (1996) includes goals and policies related to air quality that apply to the proposed Project. As specified in Standard Conditions 4.2.1 and 4.2.2., the proposed Project would be required to adhere to a variety of measures aimed at controlling dust during Project construction, consistent with General Plan Air Quality Element Policy 6.1, which states that it is a policy of the City to "further reduce particulate emissions from roads, parking lots, construction sites, unpaved alleys, and port operations and related uses."

The stationary source emissions from the proposed land uses would come primarily from consumption of natural gas and electricity. As described in Chapter 3.0, Project Description, the proposed Project would implement a variety of Conservation and Sustainability features aimed at reducing energy consumption. Additionally, the proposed Project would be built to meet Leadership in Energy and Environmental Design (LEED) Gold (or higher) certification standards. Several proposed design features would be implemented to assist in reaching the LEED certification through reducing water and energy consumption. Examples of some of the proposed pool features include the use of energy-efficient pumping equipment, the low-water filtration system, the direct fire heating system, the light-emitting diode pool lighting, pool blankets, and the thermal solar heating system. Incorporation of these features would minimize pollution and reduce source emissions consistent with General Plan Air Quality Element Policy 7.1. Furthermore, the proposed Project would be compliant with all Mandatory Measures outlined in the Cal Green Code aimed at the improvement of air quality. Therefore, because the proposed Project would be consistent with the City's General Plan Air Quality Element, the Cal Green Code, and the Final 2012 AQMP, the proposed Project would have a less than significant impact related to conflict with applicable goals and policies established in the City's General Plan Air Quality Element, and no mitigation would be required.

Threshold 4.2.2: Would the project violate any air quality standard or contribute substantially to an existing or projected air quality violation?

Less than Significant Impact.

Construction. Construction activities produce combustion emissions from various sources such as utility engines, on-site heavy-duty construction vehicles, equipment hauling materials to and from the site, and motor vehicles transporting the construction crew. Exhaust emissions from construction activities envisioned on site would vary daily as construction activity levels change. The use of construction equipment on the site would result in localized exhaust emissions.

Equipment Exhaust and Related Construction Activities. The most recent version of the CalEEMod model (Version 2013.2.2) was used to calculate the construction emissions, as shown in Table 4.2.E. These emissions are the combination of the on- and off-site emissions. Compliance with SCAQMD Rules, including Rule 403, has been included in the calculations of construction emissions. The emissions rates shown in Table 4.2.E are from the CalEEMod output tables listed as "Mitigated Construction," even though the only measures that have been applied to the analysis are the required construction emissions control measures (see Standard Conditions 4.2.1 and 4.2.2). As shown in Table 4.2.E, with incorporation of these SCAQMD Rules and emission control measures, construction emissions would not exceed any of the SCAQMD's thresholds.

Table 4.2.E: Short-Term Regional Construction Emissions

	Total Regional Pollutant Emissions (lbs/day)							
Construction Phase	**ROC**	**NO_X**	**CO**	**SO_X**	**Fugitive PM_{10}**	**Exhaust PM_{10}**	**Fugitive $PM_{2.5}$**	**Exhaust $PM_{2.5}$**
Demolition	4.3	45	37	0.050	1.2	2.2	0.23	2.0
Site Preparation	4.9	52	40	0.042	7.2	2.8	3.9	2.5
Grading	3.7	39	28	0.039	2.9	2.1	1.4	1.9
Building Construction	3.5	28	23	0.039	0.72	1.8	0.19	1.7
Architectural Coating	37	2.1	2.4	0.0045	0.12	0.15	0.033	0.15
Paving	1.9	17	15	0.024	0.17	0.94	0.045	0.86
Peak Daily Emissions	**41**	**52**	**40**	**0.05**	**10**		**6.4**	
SCAQMD Thresholds	**75**	**100**	**550**	**150**	**150**		**55**	
Significant Emissions?	**No**	**No**	**No**	**No**	**No**		**No**	

Source: LSA Associates, Inc. (March 2016).
CO = carbon monoxide
CO_2e = carbon dioxide equivalent
lbs/day = pounds per day
NO_X = nitrogen oxides
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
PM_{10} = particulate matter less than 10 microns in size
ROC = reactive organic compounds
SCAQMD = South Coast Air Quality Management District
SO_X = sulfur oxides

Fugitive Dust. Fugitive dust emissions are generally associated with land clearing, exposure, and cut-and-fill operations. Dust generated daily during construction would vary substantially, depending on the level of activity, the specific operations, and weather conditions. Nearby sensitive receptors and on-site workers may be exposed to blowing dust, depending upon prevailing wind conditions. Fugitive dust would also be generated as construction equipment or trucks travel on unpaved areas of the construction site. The PM_{10} and $PM_{2.5}$ emissions are included in construction emissions listed in Table 4.2.E. As shown, the emissions would not exceed the SCAQMD's thresholds. Although no mitigation is required for these constituents, the proposed Project would comply with SCAQMD Standard Condition 4.2.2 and Rule 403 to control fugitive dust.

Operation. Long-term air pollutant emission impacts are those associated with stationary sources and mobile sources involving any project-related changes. The proposed Project would increase the size of the on-site pools. The stationary source emissions would come from many sources, including the use of consumer products, landscape equipment, general energy, and solid waste. Based on trip generation factors (LSA Associates, Inc. [LSA], March 2016), long-term operational emissions associated with the existing land uses and the proposed Project, calculated with the CalEEMod model, are shown in Table 4.2.F. Area sources include architectural coatings, consumer products, and landscaping. Energy sources include natural gas consumption for heating. Table 4.2.F shows that the increase of all criteria pollutants would not exceed the corresponding SCAQMD daily emission thresholds for any criteria pollutants. Therefore, Project-related long-term air quality impacts would be less than significant, and no mitigation is required.

Table 4.2.F: Long-Term Regional Operational Emissions

Source	Pollutant Emissions (lbs/day)					
	ROC	**NO_X**	**CO**	**SO_X**	**PM_{10}**	**$PM_{2.5}$**
Existing Land Use						
Area Sources	6.4	0.00007	0.0072	0	0.00003	0.00003
Energy Sources	0.029	0.27	0.22	0.0016	0.02	0.02
Mobile Sources	3.4	7.8	32	0.063	4.3	1.2
Total	9.8	8.1	32	0.065	4.3	1.2
Proposed Development						
Area Sources	3.3	0.00013	0.014	0	0.00005	0.00005
Energy Sources	0.070	0.63	0.53	0.0038	0.048	0.048
Mobile Sources	7.1	17	67	0.18	12	3.4
Total	**10**	**18**	**68**	**0.18**	**12**	**3.4**
Net Increase	0.2	9.9	36	0.12	7.7	2.2
SCAQMD Thresholds	**55**	**55**	**550**	**150**	**150**	**55**
Significant?	**No**	**No**	**No**	**No**	**No**	**No**

Source: LSA Associates, Inc. (March 2016).
CO = carbon monoxide
lbs/day = pounds per day
NO_x = nitrogen oxides
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
PM_{10} = particulate matter less than 10 microns in size
ROCs = reactive organic compounds
SCAQMD = South Coast Air Quality Management District
SO_x = sulfur oxides

Threshold 4.2.3: Would the project result in a cumulative considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for O_3 precursors)?

Less than Significant Impact. As discussed above, projected construction, operational, and LST emissions of criteria pollutants as a result of the proposed Project are expected to be below the emissions thresholds established for the region. Cumulative emissions are part of the emission inventory included in the AQMP for the Project area. Therefore, there would be no cumulatively considerable net increase of the criteria pollutants that are in "nonattainment" status in the Basin, and Project impacts would have a less than significant impact; no mitigation is required.

Threshold 4.2.4: Would the project expose sensitive receptors to substantial pollutant concentrations?

Less than Significant Impact.

Localized Construction Emissions. Construction activities associated with the proposed Project would result in air quality impacts from various sources, such as soil disturbance and equipment exhaust. Based on equipment-specific grading rates provided by the SCAQMD, the proposed Project could result in the maximum disturbance of the entire Project site on any 1 day during the grading phase. The following analysis was performed in accordance with the *SCAQMD Final Localized Significance Threshold* (LST) *Methodology* (June 2003). The sensitive land uses within the vicinity of the proposed Project include the existing Belmont Shores Children's Center (Preschool/Child Care) facility located within 25 feet of the northern boundary of the Project site, residences approximately 80 ft to the west, and residences across East Ocean Boulevard approximately 100 ft to the northeast of the Project site.

The closest sensitive receptors to the various construction phases are located within the shortest distance allowed in the LST Guidelines (25 m [82 ft]) and, therefore, LST values for 25 m were used. Table 4.2.G shows the construction-related emissions of NO_X, CO, PM_{10}, and $PM_{2.5}$ compared to the LSTs for South Coastal Los Angeles County at distances of 25 m.

Table 4.2.G: Summary of Construction Emissions, Localized Significance

Construction Activity	Emission Rates (lbs/day)			
	NO_X	**CO**	**PM_{10}**	**$PM_{2.5}$**
Construction Equipment	52	39	9.8	6.4
Localized Significance Threshold (at 25 m)	**123**	**1,530**	**14**	**8.0**
Exceed Significance?	**No**	**No**	**No**	**No**

Source: LSA Associates, Inc. (March 2016).
CO = carbon monoxide
NO_X = nitrogen oxides
lbs/day = pounds per day
PM_{10} = particulate matter less than 10 microns in diameter
m = meters
$PM_{2.5}$ = particulate matte less than 2.5 microns in diameter

Fugitive dust emissions would occur during construction of the proposed Project as a result of demolition, grading, and the exposure of soils to the air and wind. The SCAQMD has established a fugitive dust emissions threshold of 14 lbs/day. To reduce fugitive dust emissions, the Project would be required to comply with SCAQMD Standard Conditions and Rule 403, as specified in Standard Conditions 4.2.1 and 4.2.2. As shown in Table 4.2.G, fugitive dust emissions would be 9.8 lbs/day for PM_{10} and 6.4 lbs/day for $PM_{2.5}$. These emissions would be below the SCAQMD's thresholds of 14 lbs/day for $PM_{2.5}$ and 8.0 lbs/day for $PM_{2.5}$. Therefore, with implementation of Standard Conditions 4.2.1 and 4.2.2, no significant impacts to sensitive receptors related to fugitive dust during Project construction would occur.

As previously stated, CalEEMOD (Version 2013.2.2) was also used to calculate construction emissions for CO and NO_X. As shown in Table 4.2.G, CO and NO_X emissions during construction would not exceed SCAQMD thresholds. Therefore, the Project construction would result in less than significant air quality impacts related to CO and NO_X emissions, and no mitigation is required.

Localized Operational Emissions. As previously stated, long-term operational criteria pollutant emission impacts are those associated with stationary and mobile sources. Table 4.2.H shows the calculated emissions for the proposed operational activities compared with the appropriate localized significance thresholds. The emissions shown include all stationary sources and 5 percent of the mobile sources, which is an estimate of the amount of Project-related vehicle traffic that would occur on site.

Table 4.2.H: Summary of Operational Localized Significance

	Emission Rates (lbs/day)			
	NO_X	CO	PM_{10}	$PM_{2.5}$
Proposed Project	0.85	3.4	0.60	0.17
Localized Significance Threshold	**123**	**1,530**	**4.0**	**2.0**
Exceed Significance?	**No**	**No**	**No**	**No**

Source: LSA Associates, Inc. (March 2016).
CO = carbon monoxide
lbs/day = pounds per day
NO_X = nitrogen oxides
PM_{10} = particulate matter less than 10 microns in diameter
$PM_{2.5}$ = particulate matte less than 2.5 microns in diameter

Table 4.2.H shows that the maximum emissions from Project operation would not cause or contribute to an exceedance of the most stringent applicable federal or State AAQS. Therefore, operation of the proposed Project would not result in a significant impact on local air quality related to CO, NO_X, or other criteria pollutants, and would not expose sensitive receptors to substantial pollutant concentrations. No mitigation would be required.

Long-Term Microscale (CO Hot-Spot) Analysis. The primary mobile source pollutant of local concern is CO, which is a direct function of vehicle idling time and, thus, traffic flow conditions. CO transport is extremely limited; it disperses rapidly with distance from the source under normal meteorological conditions. However, under certain extreme meteorological conditions, CO concentrations proximate to a congested roadway or intersection may reach unhealthful levels affecting local sensitive receptors (residents, school children, the elderly, and hospital patients, etc.). Typically, high CO concentrations are associated with roadways or intersections operating at unacceptable levels of service (LOS) or with extremely high traffic volumes. In areas with high ambient background CO concentrations, modeling is recommended to determine a project's effect on local CO levels.

As shown in Table 4.2.C, the proposed Project is located within an area with low background CO concentrations. In addition, a traffic evaluation (LSA, March 2016) determined that the intersections within the Project area would operate at an LOS of A, B, or C, all within the City's limit of satisfactory operations. Because the intersections evaluated for the proposed Project would not be congested, and because the Project area has low background CO levels, the likelihood for CO concentrations to reach unhealthful levels is low. Therefore, the proposed Project would not have a significant impact on local air quality for CO, and no mitigation measures would be required.

4.2.6 Cumulative Impacts

The cumulative study area for air quality analysis is the Basin, and air quality conformance is overseen by the SCAQMD. Each project in the Basin is required to comply with SCAQMD rules and regulations. The proposed Project would not result in significant operational air quality impacts, contribute to an O_3 exceedance at a nearby monitoring station, cause the area to be in noncompliance with the AQMP, or result in a significant health risk for any of the analyzed pollutants. As described further in Section 4.12, Transportation and Traffic, there would not be a significant cumulative traffic impact, and so there would not be a cumulative traffic emissions impact. Therefore, the proposed Project air quality emissions, when considered in combination with the cumulative projects within the Project vicinity would be incremental and would not result in cumulatively considerable impacts.

4.2.7 Level of Significance Prior to Mitigation

The following air quality impacts are less than significant and do not require mitigation: (1) consistency with air quality plans, (2) operational emissions, (3) criteria pollutants, and (4) exposure of sensitive receptors to substantial pollutant concentrations. However, to further reduce fugitive dust emissions, the proposed Project would be required to comply with SCAQMD Rule 402 and 403, as specified in Standard Conditions 4.2.1 and 4.2.2.

4.2.8 Standard Conditions

Applicable dust suppression techniques from SCAQMD's *CEQA Air Quality Handbook* and Rule 403 measures are summarized below. Implementation of these dust suppression techniques would reduce fugitive dust generation. Compliance with these rules would reduce impacts from fugitive dust on nearby sensitive receptors.

Standard Condition 4.2.1: **Construction Emissions.** The proposed Project is required to comply with regional rules that assist in reducing short-term air pollutant emissions. The South Coast Air Quality Management District (SCAQMD) Rule 403 requires that fugitive dust be controlled with best available control measures so that the presence of such dust does not remain visible in the atmosphere beyond the property line of the emission source. In addition, SCAQMD Rule 402 requires implementation of dust suppression techniques to prevent fugitive dust from creating a nuisance off site. Applicable dust suppression techniques from Rules 403 and 402 are summarized below. Implementation of these dust suppression techniques can reduce the fugitive dust generation (and thus the particulate matter less than 10 microns in diameter [PM_{10}] component).

Standard Condition 4.2.2: **Applicable Rules 403 and 402 Measures.** The Project construction contractor shall develop and implement dust-control methods that shall achieve this control level in a SCAQMD Rule 403 dust control plan, designate personnel to monitor the dust control program, and order increased watering, as necessary, to ensure a 55 percent control level. Those duties shall include holiday and weekend periods when work may not be in progress. Additional control measures to reduce fugitive dust shall include, but are not limited to, the following:

- Apply water twice daily, or nontoxic soil stabilizers according to manufacturers' specifications, to all unpaved parking or staging areas or unpaved road surfaces or as needed to areas where soil is disturbed.
- Use low-sulfur fuel for stationary construction equipment. This is required by SCAQMD Rules 431.1 and 431.2.
- During earthmoving or excavation operations, fugitive dust emissions shall be controlled by regular watering or other dust-preventive measures using the following procedures:
  - All material excavated shall be sufficiently watered to prevent excessive amounts of dust. Watering, with complete coverage, shall occur at least twice daily, preferably in the late morning and after work is done for the day.
  - All earthmoving or excavation activities shall cease during periods of high winds (i.e., winds greater than 20 miles per hour [mph] averaged over 1 hour).
  - All material transported off site shall be either sufficiently watered or securely covered to prevent excessive amounts of dust.

- The area disturbed by earthmoving or excavation operations shall be minimized at all times.
  - After earthmoving or excavation operations, fugitive dust emissions shall be controlled using the following measures:
    - Portions of the construction area to remain inactive longer than a period of 3 months shall be revegetated and watered until cover is grown.
    - All active portions of the construction site shall be watered to prevent excessive amounts of dust.
  - At all times, fugitive dust emissions shall be controlled using the following procedures:
    - On-site vehicle speed shall be limited to 15 mph.
    - Road improvements shall be paved as soon as feasible, watered periodically, or chemically stabilized.
  - At all times during the construction phase, ozone precursor emissions from mobile equipment shall be controlled using the following procedures:
    - Equipment engines shall be maintained in good condition and in proper tune according to manufacturers' specifications.
    - On-site mobile equipment shall not be left idling for a period longer than 60 seconds.
  - Outdoor storage piles of construction materials shall be kept covered, watered, or otherwise chemically stabilized with a chemical wetting agent to minimize fugitive dust emissions and wind erosion.

4.2.9 Level of Significance after Mitigation

There are no significant air quality impacts; therefore, no mitigation measures are required. However, implementation of Standard Conditions 4.2.1 and 4.2.2 would minimize the proposed Project's fugitive dust impacts to air quality. With adherence to these Standard Conditions, there would be no significant and unavoidable impacts of the proposed Project related to Air Quality.

4.3 BIOLOGICAL RESOURCES

This section describes the existing biological resources on and in the vicinity of the site for the proposed Belmont Pool Revitalization (proposed Project), the potential impacts of the proposed Project on those resources, and measures to avoid, minimize, and/or mitigate those impacts. The information and analyses provided in this section are summarized from the following technical documents:

- Belmont Plaza Project Biological Survey Memorandum (LSA Associates, Inc. [LSA], May 2013)
- Preconstruction Nesting Bird and Bat Roost Surveys Prior to Belmont Pool Demolition Memorandum (LSA, August 2014)
- Follow-up Preconstruction Nesting Bird Survey for the Belmont Veterans Memorial Pier Parking Lot Project, City of Long Beach, California (LSA, April 2015)

These documents are provided jointly as Appendix C.

Scoping Process

The City of Long Beach (City) distributed the first Notice of Preparation (NOP) for this Draft Environmental Impact Report (EIR) from April 18 to May 17, 2013. The City received three comment letters in response to the original NOP. No comment letter associated with Biological Resources was received in response to the original NOP circulated for the proposed Project. Due to revisions in the Project Description, the City re-issued and circulated the NOP for the EIR between April 9, 2014, and May 8, 2014. The City received five comment letters in response to the re-issued NOP during the public review period. No Biological Resources-related issues were raised in those comment letters.

4.3.1 Methodology

Literature Review. A literature review was conducted to determine potential occurrence of special-status plant and animal species on or in the immediate vicinity of the Project site. Database records for the *Long Beach, San Pedro, Torrance, Inglewood, South Gate, Whittier, Los Alamitos,* and *Seal Beach, California,* United States Geological Survey (USGS) 7.5-minute quadrangles were reviewed on April 11, 2013, and June 12, 2014, using the California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDB) *Rarefind 4* and *Rarefind 5* (CDFW, CNDDB 2014-Biogeographic Data Branch) and the California Native Plant Society (CNPS) *Electronic Inventory of Rare and Endangered Vascular Plants of California* (CNPS v8-02, June 12, 2014). Sensitive species known by LSA biologists to occur in the general area were also considered.

Biological Survey. A general biological survey of the Project site was conducted by LSA biologist Erin Martinelli on April 12, 2013. The survey consisted of walking the entire site and recording the landscape conditions and the floral and faunal species observed on the site. In addition, a preconstruction nesting bird and bat roost survey was conducted by LSA biologists Erin Martinelli and Jill Carpenter on August 18, 2014. The survey was conducted to identify any active bird nesting or roosting locations, or any bat roosts, within the Project area that could be impacted by demolition of the former Belmont Pool.

4.3.2 Existing Environmental Setting

The Project site is relatively flat, and there are no substantial hillsides or unstable slopes immediately adjacent to the site boundary. There is no native habitat on the Project site, and vegetation consists of a few mature ornamental trees, a manicured lawn, and frequently maintained ornamental landscaping. The CNPS list of rare and endangered vascular plants generated during the literature review was evaluated. Due to a complete lack of suitable habitat for special-status native plant species at the Project site, the potential for their occurrence at the site is not considered further in this analysis.

The entire Project site is a previously developed property in a heavily urbanized coastal area. The land uses surrounding the Project site consist of mixed uses, which include single-family and multifamily residential with some retail/restaurant uses, and also includes the pier, public beaches, and associated parking. Therefore, the Project site and the surrounding areas are not subject to any Habitat Conservation Plan (HCP) or Natural Community Conservation Plan (NCCP). The Project site is located within the Coastal Zone. There is no native habitat present on site or adjacent for any special-status species. No critical habitat has been identified in the Project study area.

A number of bird species typically associated with urban park areas consisting of ornamental landscaping were observed within the Project site. Species diversity was found to be relatively low, likely due to the isolation from adjoining, terrestrial natural areas for many years. Because of the isolation of this site amidst urban development, the Project site does not function as a wildlife movement corridor. However, park areas with ornamental trees can provide foraging and nesting habitat for wildlife, particularly wildlife adapted to urban environments. Those species present on site are either able to fly in, are able to navigate on the ground through long stretches of residential development, or have been able to sustain a small population in spite of the isolation.

Species Observed. Species observed at the proposed Project site during the May 3, 2013, general biological survey include black-crowned night-heron (*Nycticorax nycticorax*), western gull (*Larus occidentalis*), rock pigeon (*Columba livia*),[1] mourning dove (*Zenaida macroura*), Anna's hummingbird (*Calypte anna*), Allen's hummingbird (*Selasphorus sasin*), red-crowned parrot (*Amazona viridigenalis*),[1] black phoebe (*Sayornis nigricans*), American crow (*Corvus brachyrhynchos*), bushtit (*Psaltriparus minimus*), European starling (*Sturnus vulgaris*),[1] orange-crowned warbler (*Oreothlypis celata*),[1] yellow-rumped warbler (*Setophaga coronata*), chipping sparrow (*Spizella passerina*), house finch (*Haemorhous mexicanus*), and house sparrow (*Passer domesticus*).[1] None of these species is federally or State-listed as Threatened or Endangered.

During the August 18, 2014, preconstruction nesting bird and bat roost surveys, species observed include black-crowned night-heron, western gull, rock pigeon,[1] mourning dove, Allen's hummingbird, red-crowned parrot,[1] and American crow.

[1] Species not native to the survey area, *Belmont Plaza Project Biological Survey Memorandum* (LSA, May 2013).

The special-interest animal species with the potential to occur on the Project site are described in Table 4.3.A. Two special-status bird species—Allen's hummingbird and Cooper's hawk (*Accipiter cooperii*)—either were observed on the Project site or have a moderate probability of occurring on the Project site based on the results of the records search.

- **Cooper's Hawk:** Although not observed during the site visit, Cooper's hawks are well adjusted to urban habitats in the Los Angeles Basin. This species has a moderate potential of nesting in the Project area and is likely to occur outside the nesting season. The status of this species is California Special Animal.
- **Allen's Hummingbird:** Allen's hummingbirds were observed foraging during the LSA biologist site visit. This species has a status as a United States Fish and Wildlife Service (USFWS) Bird of Conservation Concern and as a California Special Animal.

Wetlands and Waters. The Project site is located above the elevation of tidal influence from the Pacific Ocean. As part of background research collection for a different, unrelated project, LSA obtained the mean high tide level and mean tidal elevation data from the National Oceanic and Atmospheric Administration (NOAA) for the region. The average tide and average high tide data show that the Project is out of the tidal range.[1] No other wetlands and nonwetland waters of the United States are present.

4.3.3 Regulatory Setting

The following State and federal laws and regulations related to biological resources and the agencies responsible for implementing those laws and regulations are applicable to the proposed Project.

Federal Regulations and Policies.

United States Army Corps of Engineers.

Section 404 of the Clean Water Act. The United States Army Corps of Engineers (Corps) regulates discharges of dredged or fill material into waters of the United States (U.S.). The term "waters of the U.S." is defined at 33 Code of Federal Regulations (CFR) Part 328 and includes (*1*) *All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce…*, (*2*) *all interstate waters and wetlands*, (*3*) *all other waters such as intrastate lakes, rivers, streams* (*including intermittent streams*), *mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce*, (*4*) *all impoundments of waters mentioned above*, (*5*) *all tributaries to waters mentioned above*, (*6*) *the territorial seas, and* (*7*) *all wetlands adjacent to waters mentioned above.*

[1] National Oceanic and Atmospheric Administration (NOAA). 2004. Tides and Currents Datums-Station Selection. Long Beach, Terminal Island, California. Website: http://tidesandcurrents.noaa.gov/datums.html?id=9410680 (accessed January 20, 2015).

Table 4.3.A: Special-Status Animal Species Potentially Occurring or Known to Occur in the Biological Study Area

Common Name	Scientific Name	Status: Federal/State	General Habitat Description	Potential for Occurrence at the Project Site	Rationale
INVERTEBRATES					
Western tidal-flat tiger beetle	*Cicindela gabbii*	--/CSA	Inhabits estuaries and mudflats along the coast of southern California. Generally found on dark-colored mud in the lower zone; occasionally found on dry saline flats of estuaries.	Absent	Suitable habitat does not exist on the Project site.
Sandy beach tiger beetle	*Cicindela hirticollis gravida*	--/CSA	Inhabits areas adjacent to non-brackish water along the coast of California from San Francisco bay to northern Mexico. Clean, dry, light-colored sand in the upper zone. Subterranean larvae prefer moist sand not affected by wave action.	Absent	Suitable habitat does not exist on the Project site.
Western beach tiger beetle	*Cicindela latesignata latesignata*	--/CSA	Mudflats and beaches in coastal southern California.	Absent	Suitable habitat does not exist on the Project site.
Senile tiger beetle	*Cicindela senilis frosti*	--/CSA	Inhabits marine shoreline, from central California coast south to salt marshes of San Diego, also found at Lake Elsinore. Inhabits dark-colored mud in the lower zone and dried salt pans in the upper zone.	Absent	Suitable habitat does not exist on the Project site.
Monarch butterfly	*Danaus plexippus*	--/CSA (overwintering concentration)	Winter roost sites extend along the coast from northern Mendocino County to Baja California. Roosts located in wind-protected tree groves (eucalyptus, pine, and cypress) with nectar and water sources nearby.	Low potential for roosting concentration	Suitable winter roost trees are not present on the Project site, and roosting has not been reported in the area.
Palos Verdes blue butterfly	*Glaucopsyche lygdamus palosverdesensis*	FE/CSA	Requires suitable larval host plants for oviposition and larval development. Host plants occur within disturbed patches in CSS communities throughout the Palos Verdes Peninsula.	Absent	Suitable habitat does not exist on the Project site.
Wandering (=saltmarsh) skipper	*Panoquina errans*	--/CSA	Southern California coastal salt marshes. Requires moist saltgrass for larval development.	Absent	Suitable habitat does not exist on the Project site.

Table 4.3.A: Special-Status Animal Species Potentially Occurring or Known to Occur in the Biological Study Area

Common Name	Scientific Name	Status: Federal/State	General Habitat Description	Potential for Occurrence at the Project Site	Rationale
Riverside fairy shrimp	*Streptocephalus wootoni*	FE/CSA	Warm-water vernal pools (i.e., large, deep pools that retain water into the warm season) with low-to-moderate dissolved solids, in annual grassland areas interspersed through chaparral or CSS vegetation. Suitable habitat includes some artificially created or enhanced pools, such as some stock ponds, that have vernal pool-like hydrology and vegetation. Known from areas within about 50 mi of the coast from Ventura County south to San Diego County and Baja California.	Absent	Suitable habitat does not exist on the Project site.
Dorothy's El Segundo dune weevil	*Trigonoscuta dorothea dorothea*	--/CSA	Endemic to coastal sand dunes in Los Angeles County.	Absent	Suitable habitat does not exist on the Project site.
Mimic tryonia (=California brackish water snail)	*Tryonia imitator*	--/CSA	Inhabits coastal lagoons, estuaries, and salt marshes, from Sonoma County south to San Diego County.	Absent	Suitable habitat does not exist on the Project site.
FISH					
Mohave tui chub	*Siphateles bicolor mohavensis*	FE/SE	Endemic to the Mojave River basin, adapted to alkaline, mineralized waters. Needs deep pools, ponds, or slough-like areas. Needs vegetation for spawning. Known from San Bernardino County.	Absent	Suitable habitat does not exist on the Project site.
AMPHIBIANS					
Western spadefoot	*Spea hammondii*	--/CSC	Grasslands and occasionally hardwood woodlands; largely terrestrial but requires rain pools or other ponded water persisting at least 3 weeks for breeding; burrows in loose soils during dry season. Occurs in the Central Valley and adjacent foothills, the non-desert areas of southern California, and Baja California.	Absent	Suitable habitat does not exist on the Project site.

Table 4.3.A: Special-Status Animal Species Potentially Occurring or Known to Occur in the Biological Study Area

Common Name	Scientific Name	Status: Federal/State	General Habitat Description	Potential for Occurrence at the Project Site	Rationale
REPTILES					
Silvery legless lizard	*Anniella pulchra pulchra*	--/CSC	Fossorial. Inhabits loose soil and humus from central California to northern Baja California.	Absent	Suitable habitat does not exist on the Project site.
Coastal western whiptail	*Aspidoscelis tigris stejnegeri*	--/CSA	Wide variety of habitats, including CSS, sparse grassland, riparian woodland, and coastal and inland valleys and foothills, from Ventura County to Baja California.	Absent	Suitable habitat does not exist on the Project site.
Green turtle	*Chelonia mydas*	FT/--	Generally found in relatively shallow waters (except when migrating) inside reefs, bays, and inlets. Attracted to lagoons and shoals with an abundance of marine grass and algae. Open beaches with a sloping platform and minimal disturbance are required for nesting. In the eastern North Pacific, species has been sighted from Baja California to southern Alaska, but most commonly occur from San Diego south.	Absent	Suitable habitat does not exist on the Project site. Not known to utilize or nest on beach area adjacent to the Project site.
Western pond turtle	*Emys marmorata*	--/CSC	Inhabits permanent or nearly permanent water below 1,830 m (6,000 ft) from central California, west of the Sierra-Cascade crest south to northwestern Baja California. Requires basking sites such as partially submerged logs, rocks, or open mud banks.	Absent	Suitable habitat does not exist on the Project site.
Coast horned lizard	*Phrynosoma blainvillii*	--/CSC	Primarily in sandy soil in open areas, especially washes and floodplains, in many plant communities. Requires open areas for sunning, bushes for cover, patches of loose soil for burial, and an abundant supply of ants or other insects. Occurs west of the deserts from northern Baja California north to Shasta County below 8,000 ft elevation.	Absent	Suitable habitat does not exist on the Project site.

Table 4.3.A: Special-Status Animal Species Potentially Occurring or Known to Occur in the Biological Study Area

Common Name	Scientific Name	Status: Federal/State	General Habitat Description	Potential for Occurrence at the Project Site	Rationale
BIRDS					
Cooper's hawk	*Accipiter cooperii*	--/CSA (nesting)	Primarily forests and woodlands throughout North America. Nests in trees.	Moderate	This species is now a rather common and widespread breeder in urban areas throughout the Los Angeles Basin. Foraging and potential nesting habitat is present on the Project site.
Tricolored blackbird	*Agelaius tricolor*	BCC/CSC (breeding)	Open country in western Oregon, California, and northwestern Baja California. Breeds near fresh water, preferably in emergent wetland with tall, dense cattails or tules, but also in thickets of willow, blackberry, wild rose, and tall herbs. Forages in grassland and cropland habitats. Seeks cover for roosting in emergent wetland vegetation, especially cattails and tules, and also in trees and shrubs.	Absent	Suitable habitat does not exist on the Project site.
Burrowing owl	*Athene cunicularioa*	BCC/CSC (burrow sites)	Open country in much of North and South America.	Absent	Suitable habitat does not exist on the Project site.
Ferruginous hawk	*Buteo regalis*	BCC/CSA (wintering)	Forages in open fields, grasslands and agricultural areas, sagebrush flats, desert scrub, fringes of pinion-juniper habitats, and other open country in western North America. Requires large, open tracts of grasslands, sparse shrub, or desert habitats.	Low	Suitable habitat does not exist on the Project site.
Western snowy plover	*Charadrius alexandrinus nivosus*	FT/CSC (coastal population)	Sandy coastal beaches, lakes, alkaline playas. Scattered locations along coastal California and Channel Islands, inland at Salton Sea, and at various alkaline lakes.	Low	Suitable habitat does not exist on the Project site. Sandy beach habitat occurs adjacent to the Project site, but occurrence of this species is unlikely due to heavy recreational use of the beach.

Table 4.3.A: Special-Status Animal Species Potentially Occurring or Known to Occur in the Biological Study Area

Common Name	Scientific Name	Status: Federal/State	General Habitat Description	Potential for Occurrence at the Project Site	Rationale
Western yellow-billed cuckoo	*Coccyzus americanus occidentalis*	FPT/SE	Breeds and nests in extensive stands of dense cottonwood/willow riparian forest along broad, lower flood bottoms of larger river systems at scattered locales in western North America; winters in South America.	Absent	Suitable habitat does not exist on the Project site.
Southwestern willow flycatcher	*Empidonax traillii extimus*	FE/SE	Rare and local breeder in extensive riparian areas of dense willows or (rarely) tamarisk, usually with standing water, in the southwestern U.S. and (formerly?) northwestern Mexico. Winters in Central and South America.	Absent	Suitable habitat does not exist on the Project site.
Merlin	*Falco columbarius*	--/CSA	Open fields; breeds in the Holarctic Region and winters south to the tropics. Uncommon fall migrant and winter visitor to southwestern California.	Low	This species has increased greatly as a wintering species in the Los Angeles Basin and regularly forages along the Los Angeles River.
American peregrine falcon	*Falco peregrinus anatum*	FDE, BCC/ SDE, CFP	Widespread but scarce and local throughout North America. Nests on buildings and bridges in the Los Angeles Basin.	Low	Nests in the Port of Los Angeles and may forage in the Project area.
Loggerhead shrike	*Lanius ludovicianus*	BCC/CSC (nesting)	Found in open country in much of North America but declining in many areas, including southwestern California.	Low	Suitable habitat does not exist on the Project site. Nested along the lower Los Angeles River in Long Beach and Cudahy as recently as 2002 and 2004, but now probably extirpated as a nesting species. Has also greatly declined as a wintering species in the area.
Belding's savannah sparrow	*Passerculus sandwichensis beldingi*	--/SE	Resident in salt marshes, with rare exception (e.g., Islas Todos Santos, Baja California), of Pacific Coast from Santa Barbara County to Baja California.	Absent	Suitable habitat does not exist on the Project site.

Table 4.3.A: Special-Status Animal Species Potentially Occurring or Known to Occur in the Biological Study Area

Common Name	Scientific Name	Status: Federal/State	General Habitat Description	Potential for Occurrence at the Project Site	Rationale
California brown pelican	*Pelecanus occidentalis californicus*	--/CFP (Nesting colony & communal roosts)	Colonial nester on coastal islands just outside the surf line. Nests on coastal islands of small to moderate size, which afford immunity from attack by ground-dwelling predators.	Low	Suitable nesting habitat does not exist on the Project site. Individuals may feed, fly over, and rest along the adjacent near-shore waters or beach areas.
Coastal California gnatcatcher	*Polioptila californica californica*	FT/CSC	Inhabits CSS in low-lying foothills and valleys in cismontane southwestern California and Baja California.	Absent	Suitable habitat does not exist on the Project site.
Light-footed clapper rail	*Rallus longirostris levipes*	FE/SE	Found in salt marshes traversed by tidal sloughs, where cordgrass and pickleweed are the dominant vegetation. Requires dense growth of either pickleweed or cordgrass for nesting or escape cover; feeds on mollusks and crustaceans.	Absent	Suitable habitat does not exist on the Project site.
Bank swallow	*Riperia riparia*	--/ST (nesting)	Nesting habitat is vertical banks of fine textured soils, most commonly along streams and rivers. In Southern California, fairly common spring and fall transient in interior; very uncommon spring transient and rare fall transient along coast. Casual in winter.	Absent	Suitable habitat does not exist on the Project site.
Black skimmer	*Rynchops niger*	BCC/CSC	Casual inland; nests and breeds in coastal beach, sandbar, shell bank, island, and salt marsh and locally on gravel rooftops. Associates with terns, gulls, plovers.	Low	May occur on adjacent sandy beach area, but suitable habitat does not exist on the Project site.
Allen's hummingbird	*Selasphorus sasin*	BCC/CSA (nesting)	Chaparral, open oak woodland riparian woodland, and residential areas on the breeding grounds from southwestern Oregon to southwestern California; primarily montane woodland on the wintering grounds in central Mexico.	Present	Fairly common resident in the Project area and observed during site visit. It is an abundant, adaptable, and increasing species throughout urban southern California and is expected anywhere there is a mix of exotic flowering trees and shrubs.

Table 4.3.A: Special-Status Animal Species Potentially Occurring or Known to Occur in the Biological Study Area

Common Name	Scientific Name	Status: Federal/State	General Habitat Description	Potential for Occurrence at the Project Site	Rationale
California least tern	*Sterna antillarum browni*	FE/SE	Nests along the coast from San Francisco Bay south to northern Baja California. Forages in shallow water. Colonial breeder on bare or sparsely vegetated, flat substrates: sand beaches, alkali flats, landfills, or paved areas.	Low	Suitable habitat for nesting does not exist on the Project site.
MAMMALS					
Pallid bat	*Antrozous pallidus*	--/CSC	Varied habitats in western North America, including grasslands, shrublands, woodlands, deserts, and forest. Primarily day roosts in bridges, hollows, or crevices of trees, or buildings. Occasionally roosts in mines, caves, and cliff/rock crevices. Night roosts may be more open sites, such as porches, open buildings, and bridges.	Low	Known to roost in crevices of buildings. Foraging habitat is present along the Los Angeles and San Gabriel Rivers. Recorded throughout the Los Angeles area, including Long Beach.
Western mastiff bat	*Eumops perotis californicus*	--/CSC	Ranged historically throughout much of the southwestern U.S. and northwestern Mexico. In California, most records are from rocky areas at low elevations. Occurs in many open, semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, grasslands, and chaparral; roosts in crevices in vertical cliff faces, high buildings, trees, and tunnels throughout southwestern California. May roost in tall bridges.	Low	May roost in crevices of buildings. There are numerous historic roosting areas in the Los Angeles Basin. In addition, foraging habitat is present along the Los Angeles and San Gabriel Rivers, and this species is known to forage over large distances from roost sites.
Silver-haired bat	*Lasionycteris noctivagans*	--/CSA	Primarily associated with north temperate zone conifer and mixed conifer/hardwood forests across southern Canada and most of the U.S. May be found in winter and during seasonal migration in lower, xeric habitats. Roosts mainly in hollows or crevices of trees, but may also roost in rock crevices, mines, or caves. May forage a considerable distance from roosting area.	Low	Rarely uses buildings for roosting but may roost in trees in the Project area and forage along the Los Angeles or San Gabriel Rivers. Recorded from Bellflower and Long Beach.

Table 4.3.A: Special-Status Animal Species Potentially Occurring or Known to Occur in the Biological Study Area

Common Name	Scientific Name	Status: Federal/State	General Habitat Description	Potential for Occurrence at the Project Site	Rationale
Western red bat	*Lasiurus blossevillii*	--/CSC	Ranges from southwestern Canada through the western U.S. and Middle America to South America. Forages over a wide range of habitats but often associated with intact riparian habitat, particularly with willows, cottonwoods, and sycamores. Typically solitary, roosting in the foliage of trees or shrubs. Day roosts are commonly in habitats near streams or open fields, in orchards, and sometimes in urban areas.	Low	May roost in large-leaved trees along segments of the lower Los Angeles and San Gabriel Rivers and adjacent residential areas. Foraging habitat is present along the Los Angeles and San Gabriel Rivers.
Hoary bat	*Lasiurus cinereus*	--/CSA	Widespread in North America and Hawaii. Forages over a wide range of habitats but prefers open habitats with access to water and trees for roosting. Typically solitary, roosting in the foliage of shrubs or coniferous and deciduous trees. Roosts are usually near the edge of a clearing.	Low	May roost in trees along segments of the lower Los Angeles and San Gabriel Rivers or in adjacent residential areas. Foraging habitat is present along the rivers. Recorded throughout the Los Angeles area.
Western yellow bat	*Lasiurus xanthinus*	--/CSC	Varied habitats from the southwestern U.S. to southern Mexico; often associated with palms and desert riparian habitats. In southern California, occurs in palm oases and in residential areas with untrimmed palm trees. Roosts primarily in trees, especially the dead fronds of palm trees, although it has also been documented to roost under the leaves of deciduous trees such as cottonwoods.	Low	May roost in palms along segments of the lower Los Angeles and San Gabriel Rivers and adjacent residential areas. Foraging habitat is present along the Los Angeles and San Gabriel Rivers. Recorded from Garden Grove.
South coast marsh vole	*Microtus californicus stephensi*	--/CSC	Tidal marshes in Los Angeles, Orange, and southern Ventura Counties.	Absent	Suitable habitat does not exist on the Project site.
Western small-footed myotis	*Myotis ciliolabrum*	--/CSA	Found across much of North America, primarily in relatively arid wooded and brushy uplands near water. Individuals are known to roost singly or in small groups in cliff and rock crevices, buildings, concrete overpasses, caves, and mines.	Low	Known to occasionally roost in building crevices. Foraging habitat is present along the Los Angeles and San Gabriel Rivers.

Table 4.3.A: Special-Status Animal Species Potentially Occurring or Known to Occur in the Biological Study Area

Common Name	Scientific Name	Status: Federal/State	General Habitat Description	Potential for Occurrence at the Project Site	Rationale
Long-eared myotis	*Myotis evotis*	--/CSA	Found throughout much of North America in semiarid shrublands, chaparral, and agricultural areas but usually associated with coniferous forests. Roosts under exfoliating tree bark and in hollow trees, caves, mines, and crevices in cliffs/ rocks. Sometimes roosts in buildings and bridges.	Low	Known to occasionally roost in buildings. Foraging habitat is present along the Los Angeles and San Gabriel Rivers.
Yuma myotis	*Myotis yumanensis*	--/CSA	Occurs in a variety of habitats in western North America, including riparian habitats, arid scrublands and deserts, and forests. Optimal habitats are open forests and woodlands with sources of water over which to feed. Roosts in buildings, mines, caves, or crevices and under bridges. May occasionally roost in swallow nests.	Low	Known to frequently roost in buildings. Observed roosting and foraging along the lower Los Angeles River from SR-91 to Willow Street. Foraging habitat is present along the Los Angeles and San Gabriel Rivers.
San Diego desert woodrat	*Neotoma lepida intermedia*	--CSC	Found in desert scrub and CSS habitat, especially in association with cactus patches. Builds stick nests around cacti, or on rocky crevices. Occurs along the Pacific slope from San Luis Obispo County to northwest Baja California.	Absent	Suitable habitat does not exist on the Project site.
Pocketed free-tailed bat	*Nyctinomops femorosaccus*	--/CSC	Varied habitats, but usually associated with high cliffs or rocky areas. Spotty distribution, ranging from southern California and southwestern Arizona through central Mexico. Roosts primarily in cliffs/rock crevices; may use buildings for roosting. Rarely roosts in bridges.	Low	Although roosting is unlikely in the Project area, may roost in buildings. Foraging habitat is present along the Los Angeles and San Gabriel Rivers, and this species is known to forage over large distances from roost sites. Recorded from Harbor City and Inglewood.

Table 4.3.A: Special-Status Animal Species Potentially Occurring or Known to Occur in the Biological Study Area

Common Name	Scientific Name	Status: Federal/State	General Habitat Description	Potential for Occurrence at the Project Site	Rationale
Big free-tailed bat	*Nyctinomops macrotis*	--/CSC	Mainly inhabits rugged, rocky habitats in arid southwestern North America. Feeds principally on large moths. Roosts primarily in cliffs/rock crevices and rarely in buildings, caves, and tree cavities. Not known to use bridges for roosting.	Low	Although roosting is unlikely in the Project area, foraging habitat is present along the Los Angeles and San Gabriel Rivers, and this species is known to forage over large distances from roost sites. Recorded from Long Beach and Los Angeles.
Pacific pocket mouse	*Perognathus longimemembris pacificus*	FE/CSC	Historically occupied open habitats on sandy soils along the coast from Los Angeles to the Mexican border. Now known from only four sites in Orange and San Diego Counties.	Absent	Suitable habitat does not exist on the Project site.
Southern California saltmarsh shrew	*Sorex ornatus salicornicus*	--/CSC	Coastal marshes with dense vegetation and woody debris for cover. Known only from Los Angeles, Ventura, and Orange Counties.	Absent	Suitable habitat does not exist on the Project site.
American badger	*Taxidea taxus*	--/CSC	Primary habitat requirements seem to be sufficient food and friable soils in relatively open uncultivated ground in grasslands, woodlands, and desert. Widely distributed in North America.	Absent	Suitable habitat does not exist on the Project site.

Source: *Biological Assessment Report* (April 2013).
Status: Federally-listed as Endangered (FE), Federally-listed as Threatened (FT), State-listed as Endangered (SE), State-listed as Threatened (ST), Federally Proposed Threatened (FPT), Federally Delisted as Endangered (FDE), United States Fish and Wildlife Service Birds of Conservation Concern (BCC), California Delisted as Endangered (SDE), California Fully Protected Species (CFP), California Species of Special Concern (CSC), and California Special Animal (CSA).

CSS = coastal sage scrub
ft = feet/foot
LSA = LSA Associates, Inc.
m = meters
mi = miles
SR-91 = State Route 91
U.S. = United States

Wetlands are defined at 33 CFR 328.3(b) as "those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support...a prevalence of vegetation typically adapted for life in saturated soil conditions."

Waters found to be isolated and not subject to Clean Water Act (CWA) regulation are often still regulated by the Regional Water Quality Control Board (RWQCB) under the State Porter-Cologne Water Quality Control Act (Porter-Cologne Act), as discussed below. No Section 404 Permit would be required for the proposed Project.

Regional Water Quality Control Board (RWQCB). Waters subject to the provisions of Section 404 of the CWA also require Water Quality Certification from the RWQCB pursuant to Section 401 of the CWA. Waters that do not fall under the jurisdiction of the RWQCB pursuant to Section 401 of the CWA may require authorization through application for waste discharge requirements (WDRs) or through waiver of WDRs, pursuant to the Porter-Cologne Act (California Water Code, Division 7). No Section 401 Permit would be required for the proposed Project. Stormwater discharge is subject to the requirements of National Pollutant Elimination Discharge System (NPDES) permitting.

State Regulations and Policies.

United States Fish and Wildlife Service. The Federal Endangered Species Act (FESA) of 1973 sets forth a two-tiered classification scheme based on the biological health of a species. Endangered species are those in danger of becoming extinct throughout all or a significant portion of their range. Threatened species are those likely to become endangered in the foreseeable future; Special Rules under Section 4(d) can be made to address threatened species. Ultimately, the FESA attempts to bring populations of listed species to healthy levels so that they no longer need special protection.

If a federal action exists and the Project may impact listed species or designated critical habitat, consultation with the United States Fish and Wildlife Service (USFWS) is required through Section 7 of the FESA. By law, Section 7 consultation is a cooperative effort involving affected parties engaged in analyzing the effects posed by proposed actions on listed species or critical habitats. The FESA prohibits the "take" of listed species by anyone unless authorized by the USFWS. Take is defined as "conduct which attempts or results in the killing, harming, or harassing of a listed species." Harm is defined as "significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavior patterns, including breeding, feeding, or sheltering." Harassment is defined as an "intentional or negligent act or omission which creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavioral patterns, including breeding, feeding, or sheltering." Therefore, in order to comply with the FESA, any proposed Project should be assessed prior to construction to determine whether that project will impact listed species or, in the case of a federal action on the Project, designated critical habitats. There are no designated Critical Habitats in the proposed Project site.

California Department of Fish and Wildlife. The CDFW, through Sections 1600–1603 of the California Fish and Game Code, is empowered to regulate all diversions, obstructions, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake that supports fish or wildlife. CDFW defines a "stream" (including creeks and rivers) as "a body of water that flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life. This includes watercourses having surface or subsurface flow that supports or has supported riparian vegetation." The CDFW regulates wetland areas only to the extent that those wetlands are part of a river, stream, or lake as defined by CDFW. While seasonal ponds are within the CDFW definition of wetlands, if they are not associated with a river, stream, or lake, they are not subject to CDFW jurisdiction under Section 1602 of the California Fish and Game Code. No streams or riparian habitat subject to the jurisdiction of the CDFW is located on the Project site, and no Streambed Alteration Agreement (SAA) is required for the proposed Project.

California Endangered Species Act (CESA). The California Endangered Species Act (CESA; California Fish and Game Code Sections 2050–2098) was signed into law in 1984. It was intended to parallel the federal law. The CESA prohibits the unauthorized "take" of species listed as threatened or endangered under its provisions. However, a significant difference exists in the CESA definition of "take," which is limited to actually or attempting to "hunt, pursue, capture, or kill." There are no State-listed Threatened or Endangered Species occupying the Project site, and none are expected to occur.

California Coastal Commission. The California Coastal Commission (Coastal Commission), through provisions of the California Coastal Act (Coastal Act), is empowered to issue a Coastal Development Permit (CDP) for many projects located within the Coastal Zone. In areas where a local entity has a certified Local Coastal Program (LCP), such as the City of Long Beach, the primary responsibility for issuing CDPs is transferred from the Coastal Commission to the local government for all nonshore/nonwater projects in the Coastal Zone. The local agency can issue a CDP only if it is consistent with the LCP. The Coastal Commission, however, has appeal authority for portions of LCPs and retains permanent coastal permit authority for areas without a certified LCP, as well as over certain public trust lands (areas on the water, immediate shoreline, tidelands, submerged lands, and coastal-oriented bodies of water). The proposed Project will require issuance of a CDP from the Coastal Commission because the proposed Project area includes tidal lands and a large portion of the site is within the Coastal Commissions' original jurisdiction.

The Coastal Commission regulates the diking, filling, and dredging of wetlands within the Coastal Zone. The Coastal Act Section 30121 defines wetlands as lands "within the coastal zone which may be covered periodically or permanently with shallow water and include saltwater marshes, freshwater marshes, open or closed brackish water marshes, swamps, mudflats, and fens." The facility improvements associated with the proposed Project are regulated and reviewed by the Coastal Commission.

Species Protection under Regulatory and Local Policies.

Nesting Birds. The federal Migratory Bird Treaty Act (MBTA) regulations and portions of the California Fish and Game Code prohibit the "take" of nearly all native bird species and their nests. While these laws and regulations were originally intended to control the intentional take of birds and/or their eggs and nests by collectors, falconers, etc., they can nevertheless be applied to unintentional take (e.g., destroying an active nest by cutting down a tree). It is sometimes possible to obtain a permit for relocating or removing a nest.

Local Tree Protection. The City of Long Beach Municipal Code (Ordinance C-7642) requires that a permit be obtained from the Director of Public Works prior to removal of trees from City-owned property. The City also requires that the trees be identified, mapped, and measured prior to removal. The City's Tree Maintenance Policy requires a 1:1 replacement ratio and payment of a fee that is equivalent to a City-approved 15-gallon tree.

Tree Trimming Policy. The City's Department of Parks, Recreation, and Marine has an adopted Tidelands Area Tree Trimming policy that provides guidelines and procedures for trimming trees within the Tidelands area. The guidelines contained in the policy restrict tree trimming within 300 feet of any tree containing an active nest or nesting activity during the period from January 15 to September 1.[1]

4.3.4 Impact Significance Criteria

The thresholds for impacts on biological resources used in this analysis are consistent with the Environmental Checklist in Appendix G of the *State CEQA Guidelines*. The proposed Project may be deemed to have a significant impact with respect to biological resources if it results in a:

Threshold 4.3.1: **Substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS;**

Threshold 4.3.2: **Substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the CDFW or USFWS;**

Threshold 4.3.3: **Substantial adverse effect on federally protected wetlands as defined by Section 404 of the CWA (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;**

1 City of Long Beach Department of Parks, Recreation, and Marine. Policies and Procedures Subject: Tree Trimming. May 8, 1987.

Threshold 4.3.4: Substantial interference with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;

Threshold 4.3.5: Conflict with any local policies or ordinances protecting biological resources, such as tree preservation policy or ordinance; or

Threshold 4.3.6: Conflict with the provisions of an adopted Habitat Conservation Plan (HCP), Natural Communities Conservation Plan (NCCP), or other approved local, regional, or state habitat conservation plan.

The Initial Study (IS; Appendix A) substantiates the determination that the proposed Project would result in less than significant impacts associated with Thresholds 4.3.2 (adverse effect on riparian or other sensitive natural community) and Threshold 4.3.3 (adverse effect on wetlands). Additionally, the IS determined the proposed Project would not result in impacts associated with Threshold 4.3.6 (conflict with adopted HCPs or NCCPs). No new information identifying a change in the level of impacts were discovered during the scoping process. As a result, these thresholds are not considered further in the analyses of the potential impacts of the proposed Project on biological resources.

CEQA Baseline. At the time the NOP was published (April 2014), the Project site contained both the Belmont Pool facilities and the outdoor temporary pool (opened in December 2013 to provide swimming facilities while the permanent facility was under construction). Although the site contained the former Belmont Pool building at the time of the NOP, the facility was demolished in February 2015 to alleviate an imminent public safety threat due to the seismically unsafe condition of the building.

The inclusion of the former building in the assessment of biological impacts is appropriate because the structure and surrounding trees were surveyed prior to the removal of the building in order to identify any nesting/roosting sites. In addition, no vegetation currently exists on the site of the former facility. A temporary backfilled blanket of sand was placed over the site of the demolished building and does not contain any significant biological resources in its current condition. Substantial evidence supports the determination that inclusion of the former pool facility as the baseline for biological impacts is appropriate because it is based on recent historical use.

4.3.5 Project Impacts

Threshold 4.3.1: Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS?

Less than Significant Impact. No sensitive natural community or special-status plant species were identified on the Project site, and no designated critical habitat is located in the Project Site. Although the on-site vegetation is nonnative, Allen’s hummingbirds were observed foraging on the Project site. However, bird species known to be utilizing the site, including Allen’s hummingbird, would be able to relocate to other hunting and foraging habitats once the Project is implemented. These species are adapted to hunting and foraging in an urban environment, and the loss of the foraging habitat on site would not be considered significant.

The loss of disturbed, nonnative habitat, and the associated reduction of locally common wildlife populations, is not considered significant impacts. The removal of on-site vegetation is not expected to have a significant adverse effect on candidate, sensitive, or special-status species, as defined by the CDFW or the USFWS. Therefore, any impacts to sensitive or special-status species would be less than significant, and no mitigation is required.

Threshold 4.3.4: Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

Less than Significant Impact with Mitigation Incorporated. The proposed Project site is not currently a highly functioning movement corridor for wildlife species and does not contain any significant high-value nursery habitat sites. The proposed Project site is developed and located in an urban area subject to frequent intense human activity under current conditions. Because of the isolation of this site amidst urban development, the proposed Project site does not function as a wildlife movement corridor.

However, because of the presence of several mature ornamental trees, implementation of the proposed Project may interfere with native resident or migratory bird species. The MBTA and Fish and Game Code 3503 protect most native bird species from destruction or harm. This protection extends to individuals as well as any part, nest, or eggs of any bird listed as migratory. Most native North American bird species are on the MBTA list, which applies to the Project site given the number and likelihood of nesting migratory birds in the trees located on the Project site.

A total of 30 trees would be removed or relocated. Twenty-four canopy trees would be removed, along with five palms. Four to five of the canopy trees are being considered for relocation, to accommodate the expansion of pool facilities. In addition, noise and activities during construction could cause the potential abandonment of nests by migratory birds. The *Biological Survey Memorandum* and *Preconstruction Nesting Bird and Bat Roost Surveys Memorandum* (Appendix C) prepared for the Project identified ten nesting/roosting sites in total (nine nesting/roosting locations were identified in the initial *Biological Survey Memorandum*, and one new nesting/roosting location was identified in the *Preconstruction Nesting Bird and Bat Roost Surveys Memorandum)*. The preconstruction nesting bird and bat roost surveys conducted on August 18, 2014, found no active bird nests but did identify evidence of recent roosting in two locations and one roosting black-crowned night heron.

Construction activities associated with the proposed Project may result in some temporary disruptions to the roosting activities of the bird species utilizing these locations. In addition, construction of the pool facilities and renovations to the passive park areas have the potential to cause a direct loss of nesting trees or the abandonment of nests in those trees. However, the bird species present in the Project area are currently coexisting with pool and park users and are accustomed to human intrusion and noise and are anticipated to be able to reestablish to the relocated trees and adapt to the additional trees installed as a part of the proposed Project. Therefore, long-term operation of the proposed Project is anticipated to have less than significant impacts on nesting and/or roosting birds.

During the preconstruction nesting bird and bat roost surveys conducted on August 18, 2014, no bats were observed emerging from the former Belmont Pool building complex at any time during the emergence survey; no bats were observed flying or foraging in the vicinity; and no bats were detected with acoustic equipment. Therefore, based upon the daytime building inspection and the nighttime emergence survey, there was no evidence that bats were roosting on or around the Project site. Therefore, no impacts to day-roosting bats or bat colonies on the Project site or in the vicinity of the Project site are expect to occur.

Mitigation Measure 4.3.1 (compliance with the MBTA) would restrict the removal of trees and vegetation during the nesting season and require surveys, as necessary, prior to construction to ensure that potential construction impacts to migratory birds are reduced to a less than significant level. Peak nesting months are typically March through June, although nesting can occur as early as mid-January and as late as September 1. Therefore, it is recommended that any necessary tree removal be completed during the autumn and winter months (i.e., September 2 through January 14). Implementation of Mitigation Measure 4.3.1 would be required to ensure that potential impacts to migratory birds are reduced to a less than significant level.

Threshold 4.3.5: Would the project conflict with any local policies or ordinances protecting biological resources, such as tree preservation policy or ordinance?

Less than Significant Impact with Mitigation Incorporated. The proposed Project would be constructed within an existing developed area that contains ornamental landscaping and nonnative vegetation. The proposed Project would comply with the Tidelands Area Tree Trimming policy by restricting tree trimming within 300 feet of any tree containing an active nest or nesting activity during the period from January 15 through September 1.

The construction of the pool facilities as currently planned would result in removal or relocation of 30 trees. Of these 30 trees, 24 canopy trees and 5 palms would be removed. A total of 4 to 5 canopy trees are being slated for relocation, to accommodate the expansion of pool facilities. In accordance with the City's Municipal Code, Chapter 14.28, a ministerial permit from the Director of Public Works would be required before the removal of any trees on City-owned property. A tree removal permit would be obtained prior to any grading or construction activities. The City's Tree Maintenance Policy requires a 1:1 replacement ratio and payment of a fee that is equivalent to a City-approved 15-gallon tree. Mitigation Measure 4.3.2 addresses this ordinance and outlines the requirement for the replacement of trees. Therefore, with implementation of Mitigation Measure 4.3.2, impacts related to the City's tree protection ordinance would be reduced to a less than significant level.

4.3.6 Cumulative Impacts

Less than Significant Impact with Mitigation Incorporated. The cumulative study area for biological resources would be the immediate Project site and the Greater Belmont Shore area. The proposed Project has a limited potential to result in a cumulative impact to nesting migratory bird species or biological resources. However, Mitigation Measures 4.3.1 and 4.3.2, requiring avoidance of construction during nesting season and replacement of removed trees at a 1:1 ratio, would reduce potential impacts to migratory bird species to a less than significant level. Therefore, overall adverse impacts to nesting migratory bird species would not be cumulatively significant.

As described earlier, the Project site does not contain any native habitat, and is in an area with substantial urban development and limited native habitat. Therefore, loss of potential habitat on the Project site would not be a substantial impact. As a result, when considered with the potential effects of other development in this part of the City of Long Beach on biological resources, the proposed Project would not contribute appreciably to cumulative adverse impacts on biological resources. Therefore, the contribution of the proposed Project to cumulative adverse impacts on biological resources would be less than significant.

4.3.7 Level of Significance before Mitigation

No special-status plant species were observed on site. Therefore, no impact related to a candidate, sensitive, or special-status plant species would occur as a result of implementation of the proposed Project. No significant impacts to these species are anticipated as a result of implementation of the proposed Project (Threshold 4.3.1).

The likelihood of nesting birds occurring on site during the breeding season is high considering the existing presence of birds and the existing trees located on the Project site that may provide habitat for nesting birds. Therefore, impacts would be potentially significant prior to implementation of mitigation (Threshold 4.3.4).

The proposed Project would remove or relocate 30 existing ornamental and nonnative trees that are under jurisdiction of the Tree Removal Ordinance. Therefore, impacts would be potentially significant prior to implementation of mitigation (Threshold 4.3.5).

4.3.8 Mitigation Measures

The following measure is required to ensure compliance with the MBTA.

Mitigation Measure 4.3.1: **Migratory Bird Treaty Act.** Tree and vegetation removal shall be restricted to outside the likely active nesting season (January 15 through September 1) for those bird species present or potentially occurring within the proposed Project area. That time period is inclusive of most other birds' nesting periods, thus maximizing avoidance of impacts to any nesting birds. If construction is proposed between January 15 and September 1, a qualified biologist familiar with local avian species and the requirements of the Migratory Bird Treaty Act (MBTA) and the California Fish and Game Code shall conduct a preconstruction survey for nesting birds no more than 3 days prior to construction. The survey shall include the entire area that will be disturbed. The results of the survey shall be recorded in a memorandum and submitted to the City of Long Beach (City) Parks, Recreation, and Marine Director within 48 hours. If the survey is positive, and the nesting species are subject to the MBTA or the California Fish and Game Code, the memorandum shall be submitted to the California Department of Fish and Wildlife (CDFW) to determine appropriate action. If nesting birds are present, a qualified biologist shall be retained to monitor the site during initial vegetation clearing and grading, as well as during other activities that would have the potential to disrupt nesting behavior. The monitor shall be empowered by the City to halt construction work in the vicinity of the nesting birds if the monitor believes the nest is at risk of failure or the birds are excessively disturbed.

The following measure is required to ensure compliance with the City's local ordinance regarding tree removal.

Mitigation Measure 4.3.2: **Local Tree Removal Ordinances.** Prior to the start of any demolition or construction activities, the City of Long Beach (City) Parks, Recreation, and Marine Director, or designee, shall obtain a tree removal permit from the City's Director of Public Works. A City-approved Construction Plan shall be submitted with the permit to remove tree(s). The City-approved Plan shall show that the existing City (parkway) tree has a direct impact on the design and function of the proposed Project. The City shall incur all removal costs, including site cleanup, make any necessary repair of hardscape damage, and replace the tree. The removed tree shall be replaced with an approved 15-gallon tree and payment of a fee that is equivalent to a City-approved 15-gallon tree.

4.3.9 Level of Significance after Mitigation

Potential impacts to Biological Resources from the proposed Project would be mitigated to levels that are less than significant with implementation of Mitigation Measures 4.3.1 and 4.3.2. Therefore, the proposed Project would not result in any significant unavoidable impacts related to Biological Resources.

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4.4 CULTURAL AND PALEONTOLOGICAL RESOURCES

This section describes the existing cultural and paleontological resources on the site for the proposed Belmont Pool Revitalization Project (proposed Project), the potential impact of the proposed Project on those resources, and measures to avoid, lessen, and/or mitigate those impacts. The information and analyses provided in this section are summarized from the following technical documents:

- *Cultural Resources Memorandum* (LSA Associates, Inc. [LSA], May 15, 2013)
- *Paleontological Assessment for the Belmont Pool Revitalization Project, 4000 East Olympic Plaza, City of Long Beach, California* (LSA, June 6, 2014)

These technical documents contain information regarding the historic setting and cultural setting of the region, including prehistory, ethnohistory, and historical overviews. Copies of these technical reports are provided in Appendix D in this Draft Environmental Impact Report (EIR).

Scoping Process

The City of Long Beach (City) distributed the first Notice of Preparation (NOP) for the Draft EIR from April 18 to May 17, 2013. The City received three comment letters in response to the original NOP. No comment letter associated with Cultural or Paleontological Resources was received in response to the original NOP circulated for the proposed Project. Due to the revisions in the Project Description, the City re-issued and circulated the NOP for the Draft EIR from April 9, 2014, to May 8, 2014. The City received five comment letters in response to the re-issued NOP during the public review period. One comment letter raised issues regarding Cultural Resources. The Native American Heritage Commission letter (NAHC, April 15, 2014) recommended several actions regarding the proposed Project. Those actions and how they were addressed are summarized in Table 4.4.A.

4.4.1 Methodology

Paleontological Resources. A paleontological literature search and locality review was conducted to obtain geological and paleontological locality information pertinent to the proposed Project and the area immediately surrounding the Project site. This included geologic maps, paleontological literature, and the geotechnical reports that were prepared for the Project. In addition, information from the Natural History Museum of Los Angeles County (LACM) was requested.

The objective of this archival research was to determine the geology of the Project site and whether there were any known paleontological localities within or immediately adjacent to the Project site. Even if there were no known localities nearby, the results could be used to determine whether there were any geologic formations in the Project area with the potential to contain paleontological resources based on localities from similar sediments.

Table 4.4.A: Summary of Recommendations from the Native American Heritage Commission

Recommendation	How Recommendation was Addressed
Contact the appropriate Information Center for a records search.	A records search was completed on April 4, 2013, at the South Central Coastal Information Center of the California Historical Resources Information System at California State University, Fullerton.
Prepare a professional report detailing the findings and recommendations of the records search and field survey.	Refer to the *Cultural Resources Memorandum* dated May 15, 2013.
Contact the list of Native American contacts provided with the NAHC letter.	Native American consultation is not warranted because the proposed Project is not subject to the requirements of Senate Bill 18, is not considered to be archaeologically sensitive.
Include mitigation for: 1. The identification and evaluation of accidentally discovered archeological resources; 2. Monitoring in areas of identified archeological sensitivity; 3. Provisions for the disposition of recovered artifacts; and 4. Provisions in the event of the discovery of human remains.	1. Due to the previous grading that has occurred on the Project site, the lack of evidence of prehistoric use of the site as noted during a site survey in April 2013, and the fact that no prehistoric sites have been recorded within 0.25 mile of the site, no mitigation is required. 2. Based on the results of the records review and literature search and evaluation conducted for the Project, the potential for on-site archeological resources is minimal and no monitoring is recommended for this Project. 3. See Response No. 2. 4. In the unlikely event that human remains are encountered during demolition of the existing structures and features and grading/excavation for the Project, the proper authorities would be notified, and standard procedures for the respectful handling of the human remains activities would be adhered to in compliance with State Health and Safety Code Section 7050.5 and PRC Section 5097.98.

NAHC = Native American Heritage Commission
PRC = Public Resources Code

Archeological Resources. A records search was completed on April 4, 2013, at the South Central Coastal Information Center (SCCIC) of the California Historical Resources Information System at California State University, Fullerton. The record search identified no recorded cultural resources on the Project site, or within 0.25 mile of the Project site. Two cultural resource surveys have been previously completed that include the Project site. In addition, Directory of Properties of the Historic Property Data (HPD) File for Los Angeles County and a copy of the historic *Long Beach, California* 7.5-minute quadrangle map (USGS 1925) and aerial photographs were reviewed. Two cultural resource surveys were also completed that include the Project area. Because the Project site is fully developed with structures, parking, landscaping, roadway, and other features, no on-site survey for archeological resources was conducted.

Historic Resources. Potential historic resources in the City are evaluated under one or more of three established sets of criteria of significance, corresponding to federal, State, and local designation programs. To be eligible for inclusion in the National Register of Historic Places (National Register), the California Register of Historical Resources (California Register), or for listing as a landmark or landmark district of the City, a property must satisfy one or more of the appropriate registration criteria. Due to its age, the former Belmont Pool was not considered a historic structure, and no further historic resource evaluation is warranted.

4.4.2 Existing Environmental Setting

Paleontological Resources. The Project area is located at the northern end of the Peninsular Range Geomorphic Province, a 900-mile northwest-southeast trending structural block that extends from the tip of Baja California to the Transverse Ranges and includes the Los Angeles (LA) Basin. Specifically, the Project is located within the LA Basin. The LA Basin is a broad, almost level alluvial plain with a gradient of 0.5 to 1 percent. It is bounded on the north and northeast by hills and mountains of the Northern Peninsular and Transverse Ranges and on the south and west by the Pacific Ocean. The LA Basin is divided into several areas. The Downey Plain, in which the Project site lies, is the largest section and is located in the central portion of the LA Basin.

According to the results of the locality search conducted through the LACM the surficial deposits within the Project are composed of active beach sands. These types of sediments typically do not contain significant vertebrate fossils at least in the uppermost layers; however, the LACM states that these deposits often overlie sediments that can contain paleontological resources. The closest locality to the Project that is within similar sediments and that may be encountered at depth within the Project is LACM 2031, near the intersection of Grand Avenue and East Livingston Drive (800 feet [ft] to the northwest), which produced a specimen of a Bison (*Bison* sp.) at a depth of approximately 25 ft. The next closest locality is LACM 7739, located between the parking lot of Bluff Park and the shoreline (1.1 mile to the west), which produced a rich suite of fossil marine vertebrates, including sharks, rays, and bony fish (see full list in Appendix D), as well as associated fossil invertebrates (including snails, clams, tusk shells, barnacles, crabs, and sea urchins) at a depth of approximately 25 ft below the surface. Just to the west of locality LACM 7739, located across from Bixby Park south of Ocean Boulevard at approximately 17th Place (1.3 miles to the west), LACM 1005 produced fossil specimens of mammoth (*Mammuthus columbi*) and ground sloth (*Nothrotheriops shastensis*) at approximately 60 ft below the surface. Finally, LACM 6896, located along Ocean Boulevard near its intersection with Magnolia Avenue (approximately 3 miles to the west), produced a whale humerus at a depth of less than 100 ft during pile-driving activities.

Artificial Fill has been mapped as occurring on the surface of the Project site. Artificial Fill is also noted as being present on the surface of the Project site in the geotechnical report and may extend 4 to 5 ft below the surface. The geotechnical report also states that beneath the Artificial Fill are deposits of alluvium and of beach and estuary-type sediments that extend to the deepest borings that reached 75 ft below the surface. Record searches also indicate that Late Pleistocene to Holocene Alluvium and Late Holocene deposits of beach and estuarine sediments are located nearby. Each unit is described in more detail below.

Artificial Fill. Artificial Fill consists of sediments that have been removed from one location and transported to another by humans. The transportation distance can range from a few feet to dozens of miles. Composition is dependent on the source. When Artificial Fill is compacted and dense, it is known as "engineered fill," but it can be unconsolidated and loosely compacted. Artificial Fill will sometimes contain modern debris such as asphalt, wood, bricks, concrete, metal, glass, plastic, and even plant material. Depending on the area, thickness can be less than 1 ft or several hundred feet. Within the subsurface of the Project, the geotechnical studies indicate that the thickness of the Artificial Fill ranges between 1.5 and 3.5 ft thick.

Very Young Beach Deposits. These deposits are unconsolidated and consist mostly of well-sorted fine- to coarse-grained sand and sand-sized fragments of fragmented shells within areas subjected to active wave action. These sediments were deposited during the late Holocene. These sediments are likely less than several 1,000 years old given the fact that sea levels have been relatively stable over the last 7,000 years and that prior to this time (18,000 to 7,000 years ago) sea levels had been mostly rising due to melting glaciers. The active beach was well off shore and approximately 400 ft below the current sea level 18,000 years ago. These sediments can be several feet to possibly tens of feet thick, and in the active beach zone, this thickness can vary with the seasonal movement of the sand both on- and off-shore. Within the Project site, the geotechnical studies indicate these sediments may range in thickness between 8 and 13 ft below the Artificial Fill.

Very Young Estuarine Deposits. These deposits are composed mostly of loose to moderately dense fine-grained sand, silt, and clay. These sediments were deposited in an estuary-type environment. Like the Very Young Beach Deposits, these sediments are likely less than several thousand years old for the same reason given above. Within the Project area, these sediments are 4 to 15 ft thick and both underlie and interfinger with the Very Young Beach Deposits.

Young Alluvial Floodplain Deposits. Young Alluvial Floodplain Deposits were deposited during the Holocene to the late Pleistocene. These sediments are less than 126,000 years old; however, it is likely that the upper approximately 15 ft of these deposits are from the Holocene and are less than 11,700 years old. These deposits are composed of mixtures of gravel, sand, silt, or mud that were deposited by flowing water in a stream or river.

Within the Project site, these Pleistocene sediments will likely not be encountered until a depth of at least 23 ft below the surface is reached. This minimum depth is based on minimums of 1 to 2 ft of Artificial Fill, 8 ft of Very Young Beach Deposits, 4 ft of Very Young Estuarine Deposits, and 10 ft of Holocene Alluvium.

4.4.3 Regulatory Setting

State Regulations and Policies.

CEQA Requirements. The California Environmental Quality Act (CEQA) defines a "historical resource" as a resource that meets one or more of the following criteria: (1) listed in, or determined eligible for listing in, the California Register; (2) listed in a local register of historical resources as defined in Public Resources Code (PRC) Section 5020.1(k); (3) identified as significant in a historical resource survey meeting the requirements of PRC Section 5024.1(g); or (4) determined to be a historical resource by a project's Lead Agency (PRC Section 21084.1 and *State CEQA Guidelines* Section 15064.5(a)). A historical resource consists of:

> "Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California…. Generally, a resource shall be considered by the lead agency to be 'historically significant' if the resource meets the criteria for listing on the California Register of Historical Resources" *State CEQA Guidelines* Section 15064.5(a)(3).

In accordance with *State CEQA Guidelines* Section 15064.5(b), a substantial adverse change in the significance of a historical resource may have a significant effect on the environment.

CEQA also requires that a determination be made as to whether a project would directly or indirectly destroy a unique paleontological resource or site or unique geological feature (*State CEQA Guidelines* Appendix G (v)(c)). If an impact is significant, CEQA requires feasible measures to minimize the impact (*State CEQA Guidelines* Section 15126.4 [a][1]). California PRC Section 5097.5 also applies to paleontological resources (see below).

Public Resources Code Section 5097.5. PRC Section 5097.5 provides for the protection of cultural and paleontological resources and prohibits the removal, destruction, injury, or defacement of archaeological and paleontological features on any lands under the jurisdiction of State or local authorities.

4.4.4 Impact Significance Criteria

The thresholds for impacts on cultural and paleontological resources used in this analysis are consistent with the Environmental Checklist in Appendix G of the *State CEQA Guidelines*. The proposed Project may be deemed to have a significant impact with respect to cultural or paleontological sources resources if it:

Threshold 4.4.1: **Causes a substantial adverse change in the significance of a historical resource as defined in Section 15064.5 in the State CEQA Guidelines*;***

Threshold 4.4.2: **Causes a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5 in the State CEQA Guidelines;**

Threshold 4.4.3: Directly or indirectly destroys a unique paleontological resource or site or unique geologic feature; or

Threshold 4.4.4: Disturbs any human remains, including those interred outside of formal cemeteries.

The Initial Study (IS)/NOP prepared for the proposed Project identified potential impacts related to the possibility for the proposed Project to directly or indirectly destroy a unique paleontological resource or site or unique geologic feature. In addition, this Draft EIR addresses whether development of the proposed Project would directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

The IS/NOP additionally recognized that potential historic resources in the City are evaluated under one or more of three established sets of criteria of significance, corresponding to federal, State, and local designation programs. To be eligible for inclusion in the National Register or the California Register or for listing as a landmark or landmark district of the City, a property must satisfy one or more of the appropriate registration criteria. In addition, the property must retain sufficient integrity to convey the reasons for its significance. The IS/NOP stated that the City determined that, due to the age of the former Belmont Pool structures and facilities at the time of the NOP (approximately 45 years old), the complex was not considered a historic structure, and no further historic resource evaluation was required.

In addition, the former indoor pool was closed to the public on January 13, 2013, as a result of substandard seismic and structural conditions, and was demolished in February 2015, as it was determined to be an imminent threat to public safety. The demolition of the structure was conducted under an emergency permit. As a result, the Project will not cause a substantial change in the significance of a historical resource as defined in Section 15064.5. Therefore, this topic will not be analyzed further in this EIR.

As a part of the IS/NOP, an archaeological and historical records review and literature search was conducted on April 4, 2013, through the SCCIC of the California Historical Resources Information System at California State University, Fullerton. The results of the records search indicate that there are no sites within 0.25 mile of the Project area. Two cultural resource surveys have been previously completed that include the entire Project area. Because the Project site at the time of the NOP was fully developed with structures, parking, landscaping, roadway, and other features, no on-site survey for archeological resources was necessary. Based on the results of the records review and literature search and evaluation conducted for the Project, the potential for on-site archeological resources is minimal and it was determined that archaeological resources will not be analyzed further in this EIR.

Additionally, the IS/NOP stated that based on the results of records searches performed for the site, there are no known human remains interred on the Project site. In the unlikely event that human remains are encountered during demolition of the existing structures and features and grading/ excavation for the Project, the proper authorities would be notified, and standard procedures for the respectful handling of the human remains activities would be adhered to in compliance with State Health and Safety Code Section 7050.5 and PRC Section 5097.98. As a result, the Project would not disturb human remains, and this topic will not be analyzed further in this EIR.

CEQA Baseline. At the time the NOP was published (April 2014), the Project site contained both the Belmont Pool facilities and the outdoor temporary pool (opened in December 2013 to provide swimming facilities while the permanent facility was under construction). Although the site contained the former Belmont Pool building at the time of the NOP, the facility was subsequently demolished in February 2015 to alleviate an imminent public safety threat due to the seismically unsafe condition of the building. Therefore, the former Belmont Pool building is not included as a part of the baseline existing conditions.

Assessing cultural resource impacts without the former pool building is appropriate because prior to demolition, the City had determined that, due to the age of the former Belmont Pool structures and facilities at the time of the NOP (approximately 45 years old), the complex was not considered a historic structure, and no further historic resource evaluation was required. The building has subsequently been removed due to its public safety threat, and the adjacent hardscaping (sidewalks and walkways) has also been removed. Based on the archaeological and historical records review and literature search, no known archaeological resources are located on the site or within 0.25 mile of the Project area. Therefore, substantial evidence supports the determination that a baseline condition without the former structure is appropriate because it is based on assessments, records review, and a literature search that found no record of known historic or cultural resources on the site.

4.4.5 Project Impacts

Threshold 4.4.3: Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Less than Significant Impact with Mitigation Incorporated. All vertebrate fossils that can be related to a stratigraphic context are significant and are considered significant nonrenewable paleontological resources. Invertebrate and plant fossils, as well as other environmental indicators associated with vertebrate fossils, are considered significant. Certain invertebrate and plant fossils that are regionally rare or uncommon, or help to define stratigraphy, age, environmental conditions, or taxonomic relationships, are considered significant.

A formation or rock unit has paleontological sensitivity, or the potential for significant paleontological resources, if it previously has produced, or has lithologies conducive to, the preservation of vertebrate fossils and associated or regionally uncommon invertebrate and plant fossils. All sedimentary rocks, certain extrusive volcanic rocks, and mildly metamorphosed rocks are considered to have potential for paleontological resources.

As discussed above, the results of the locality search and field survey conducted during preparation of this report indicate that Artificial Fill, Very Young Beach Deposits, Very Young Estuarine Deposits, and Young Alluvial Floodplain Deposits have the potential for being encountered within the Project site. Below is a summary of each of the sediments' potential for paleontological significance.

Artificial Fill. Artificial Fill can contain fossils, but these fossils have been removed from their original location and are thus out of context. They are not considered to be important for scientific study and, therefore, are not significant.

Very Young Beach Deposits. Although Very Young Beach Deposits can contain remains of animals such as shells, shell fragments, and occasional bones, based on their young age, not enough time has passed for the remains to become fossilized; in addition, the remains are contemporaneous with modern species and are usually not considered to be significant.

Very Young Estuarine Deposits. Very Young Estuarine Deposits can contain remains of animals such as shells, shell fragments, and occasional bones. However, based on their young age, not enough time has passed for the remains to become fossilized. In addition, the remains are contemporaneous with modern species and are usually not considered to be significant.

Young Alluvial Floodplain Deposits. The upper 10 ft of thickness of these sediments is likely from the Holocene and is less than 11,700 years old. Once a depth of 10 to 15 ft of thickness for these sediments is reached (potentially as shallow as 23 ft below the ground surface), it is possible that alluvial sediments from the Pleistocene will be encountered, and these older sediments can and do contain fossils. Mammoths are the indicator fossil for the Pleistocene Epoch, which is divided into the older Irvingtonian North American Land Mammal Age (NALMA), which spans the period between 2.58 million and 240,000 years ago, and the Rancholabrean NALMA, which spans the last 240,000 years of the Pleistocene. Within the Project area, these sediments will be from the Rancholabrean NALMA. The indicator fossil for the Rancholabrean NALMA is *Bison* sp. Other fossils that may be present include camels, antelopes, saber-toothed cats, dire-wolves, bears, deer, sloths, rodents, birds, reptiles, and fish. There is potential for these types of fossils whenever Pleistocene alluvial sediments are exposed. Pleistocene fossils are scientifically significant, as they add to an understanding of the climatic and habitat conditions as well as the diversity of life during Pleistocene times in Southern California. Therefore, there is a potential for significant fossil remains to be encountered during grading activities at depths of 23 ft or greater. Mitigation Measure 4.4.1 requires a qualified paleontologist to be retained to monitor grading activities. Any collected specimens would be prepared, identified, cataloged, and donated to an accredited repository. Implementation of Mitigation Measure 4.4.1 would ensure that impacts to paleontological resources are reduced to below a less than significant level.

4.4.6 Cumulative Impacts

Less than Significant Impact with Mitigation Incorporated. As defined in the *State CEQA Guidelines*, cumulative impacts are the incremental effects of an individual project when viewed in connection with the effects of past, current, and probable future projects within the cumulative impact area for cultural and paleontological resources. The cumulative study area for cultural and paleontological resources is the geographical area of the City of Long Beach, which is the geographical area covered by the City's General Plan, including all goals and policies therein. Future development in the City could include excavation and grading that could potentially impact archaeological and paleontological resources and human remains. The cumulative effect of the proposed Project would be the continued loss of these resources. The proposed Project, in conjunction with other development in the City, has the potential to cumulatively impact archaeological and paleontological resources; however, it should be noted that each development proposal received by the City undergoes environmental review pursuant to CEQA. If there is a potential for significant impacts to archaeological or paleontological resources, an investigation would be required to determine the nature and extent of the resources and to identify appropriate mitigation measures. If subsurface cultural resources are assessed and/or protected as they are discovered, impacts to these resources would be less than significant. In addition, applicable City ordinances and General Plan policies would be implemented as appropriate to reduce the effects of additional development within the City.

Mitigation Measure 4.4.1 would be implemented during construction of the proposed Project to reduce potential Project impacts by ensuring avoidance, evaluation, and, as applicable, scientific recovery and study of any resources encountered. Therefore, with implementation of Mitigation Measures 4.4.1, the contribution of the proposed Project to the cumulative loss of known and unknown cultural resources throughout the City would be reduced to below a level of significance.

4.4.7 Level of Significance Prior to Mitigation

The proposed Project would not have a significant impact on known paleontological resources on the proposed Project. However, the Project has the potential to result in a substantial adverse impact to the significance of unknown (buried) paleontological resources within the Project site prior to mitigation, if there is excavation that extends deeper than 23 ft below the surface, or if there are any unanticipated discoveries at shallower depths.

4.4.8 Mitigation Measure

Mitigation Measure 4.4.1 **Paleontological Resources Impact Mitigation Program**. Prior to commencement of any grading or excavation activity on site, the City of Long Beach (City) Development Services Director, or designee, shall verify that a paleontologist has been retained on an on-call basis for all excavation from the surface to depths of 23 feet (ft) below the surface. Once a depth of 23 ft is reached, the paleontologist shall visit the site and determine if there is a potential for the sediments at this depth to contain paleontological resources.

A paleontologist shall not be required on site if excavation is only occurring in depths of less than 23 ft, unless there are discoveries at shallower depths that warrant the presence of a paleontological monitor. In the event that there are any unanticipated discoveries, the on-call paleontologist shall be called to the site to assess the find for significance, and if necessary, prepare a Paleontological Resources Impact Mitigation Program (PRIMP) as outlined below.

If excavation will extend deeper than 23 ft, exclusive of pile-driving and vibro-replacement soil stabilization techniques, the paleontologist shall prepare a PRIMP for the proposed Project. The PRIMP should be consistent with the guidelines of the Society of Vertebrate Paleontologists (SVP, 1995 and 2010) and shall include but not be limited to the following:

- Attendance at the pre-grade conference or weekly tailgate meeting if the PRIMP is initiated after the commencement of grading, in order to explain the mitigation measures associated with the Project.
- During construction excavation, a qualified vertebrate paleontological monitor shall initially be present on a full-time basis whenever excavation shall occur within the sediments that have a high paleontological sensitivity rating. Based on the significance of any recovered specimens, the qualified paleontologist may set up conditions that shall allow for monitoring to be scaled back to part-time as the Project progresses. However, if significant fossils begin to be recovered after monitoring has been scaled back, conditions shall also be specified that would allow increased monitoring as necessary. The monitor shall be equipped to salvage fossils and/or matrix samples as they are unearthed in order to avoid construction delays. The monitor shall be empowered to temporarily halt or divert equipment in the area of the find in order to allow removal of abundant or large specimens.
- The underlying sediments may contain abundant fossil remains that can only be recovered by a screening and picking matrix; therefore, these sediments shall occasionally be spot-screened through 1/8 to 1/20-inch mesh screens to determine whether microfossils exist. If microfossils are encountered, additional sediment samples (up to 6,000 pounds) shall be collected and processed through 1/20-inch mesh screens to recover additional fossils. Processing of large bulk samples is best accomplished at a designated location within the Project that shall be accessible throughout the Project duration but shall also be away from any proposed cut or fill areas. Processing is usually completed concurrently with construction, with the intent to have all processing completed before, or just after, Project completion. A small corner of a staging or equipment parking area is an ideal location. If water is not available, the location should be accessible for a water truck to occasionally fill containers with water.
- Preparation of recovered specimens to a point of identification and permanent preservation. This includes the washing and picking of mass samples to recover small invertebrate and vertebrate fossils and the removal of surplus sediment from around larger specimens to reduce the volume of storage for the repository and the storage cost.
- Identification and curation of specimens into a museum repository with permanent retrievable storage, such as the Natural History Museum of Los Angeles County (LACM).

- Preparation of a report of findings with an appended itemized inventory of specimens. When submitted to the City Development Services Director, or designee, the report and inventory would signify completion of the program to mitigate impacts to paleontological resources.

4.4.9 Level of Significance after Mitigation

Potential impacts to paleontological resources from the proposed Project would be mitigated to levels that are less than significant with implementation of Mitigation Measure 4.4.1. Therefore, with mitigation, the proposed Project would not result in any significant unavoidable impacts related to Cultural or Paleontological Resources.

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4.5 GEOLOGY AND SOILS

This section describes the existing geologic and soils conditions on and in the vicinity of the site for the proposed Belmont Pool Revitalization Project (proposed Project), the potential impacts of and on the proposed Project related to geology and soils, and measures to avoid, lessen, and/or mitigate these impacts. This section also addresses the potential for damage to occur to the Project site due to the local geology underlying the proposed Project site, as well as slope stability, ground settlement, soil conditions, and regional seismic conditions. The information and analyses provided in this section are summarized from the following reports:

- *Report of Preliminary Geotechnical Investigation for the Proposed Belmont Plaza Olympic Pool Revitalization Project (Preliminary Geotechnical Investigation),* prepared by MACTEC (April 14, 2009);
- *Geotechnical Investigation for the Temporary Myrtha Pool and Associated Improvements, Belmont Plaza Revitalization,* prepared by GMU Geotechnical, Inc. (April 3, 2013);
- *Preliminary Geotechnical Report for the Belmont Plaza Pool Rebuild-Revitalization Project* (*Preliminary Geotechnical Report),* prepared by AESCO (April 24, 2014)*;* and
- *Soil Corrosivity Evaluation for the Belmont Plaza Pool Facility Rebuild/Revitalization Project,* prepared by HDR Schiff (April 23, 2014).

These reports are collectively referred to as the *Geotechnical Evaluations* and are included in Appendix E of this Draft Environmental Impact Report (EIR).

Scoping Process

The City of Long Beach (City) distributed the first Notice of Preparation (NOP) for the Draft EIR from April 18 to May 17, 2013. The City received three comment letters in response to the original NOP. No comments related to geology and soils were received in response to the original NOP circulated for the proposed Project. Due to revisions in the Project Description, the City re-issued the NOP for the Draft EIR from April 9, 2014, to May 8, 2014. The City received five comment letters in response to the re-issued NOP during the public review period. No Geology and Soils issues were raised in those comment letters.

4.5.1 Methodology

The purpose of the *Preliminary Geotechnical Investigation* (2009) and the Preliminary *Geotechnical Report* (2014) was to evaluate the potential for structural damage due to the local geology underlying the proposed Project area, as well as slope instability, ground settlement, unstable soil conditions, and regional seismic conditions. Geologic/geotechnical conditions affecting the site are summarized from compiled information and analyses, including referenced documents/publications and the site-specific *Geotechnical Evaluations* (MACTEC 2009, GMU Geotechnical Inc. 2013, and AESCO 2014), included in Appendix E of this EIR.

4.5.2 Existing Environmental Setting

Regional Geology. The Project site lies within the southwestern block of the Los Angeles Basin in the coastal plain of the Peninsular Ranges Geomorphic Province. The Geomorphic Province encompasses an area that extends approximately 125 miles from the Transverse Ranges and the Los Angeles Basin south to the Mexican border and the tip of Baja California. The Peninsular Ranges vary in width from approximately 30 to 100 miles and are generally characterized by northwest-trending mountain ranges separated by subparallel fault zones. Structurally, the Project site is between the active fault traces of the Newport-Inglewood Fault Zone 1.5 miles to the north, and the Palos Verdes Fault, 7 miles to the southwest (see Figure 4.5.1).

Subsurface Conditions. According to the *Geotechnical Evaluations* prepared for the proposed Project, the site is located within an area that has been significantly altered by previous construction activities, and as a result, is underlain by 3 feet (ft) of undifferentiated Artificial Fill material generally comprised of silty sands that has been placed over native young alluvium and estuarine deposits. These alluvial sediments consist of sands, silty sands, sandy silt, and sandy clays. During the subsurface explorations, groundwater was encountered in the borings at depths ranging between 5 and 9 ft below existing grade during testing for the *Preliminary Geotechnical Investigation* conducted in 2009 and at depths between 6 and 9 ft below ground surface (bgs) during testing for the *Preliminary Geotechnical Report* conducted in 2014. Additionally, according to the *Preliminary Geotechnical Report*, historical high groundwater is anticipated to occur at a depth of less than 10 ft.

During the geotechnical Cone Penetration Tests (CPTs) conducted for the *Preliminary Geotechnical Investigation* and other subsurface explorations, it was determined that the site is underlain by approximately 8 to 13 ft of poorly graded sand and silty sand, a 4 to 15 ft thick layer of intermixed clay and silty clay, and then poorly graded sand and silty sand to 50 ft. The poorly graded sands and silty sands are loose-to-medium dense with rootlets in the upper 12 to 18 inches, becoming medium-dense to dense below, while the underlying clays and silty clays are firm.

The *Preliminary Geotechnical Report* (2014) bored to depths ranging from 35 ft to 80 ft bgs, and concluded that below the 3 ft of silty sand fill material, medium dense to very dense sand, very soft to very stiff sandy silt, very soft to very stiff sandy clay and silty clay, medium dense to very dense sand/silty sand, and medium dense to dense silty sand exist below the Project site.

Faulting and Seismic Shaking. There is a high potential for strong seismic shaking to occur in the Project area during the design life of the Project because the Project site is located in highly seismic southern California within the influence of several active or potentially active fault systems. An “active” fault is defined by the State of California as being a “…sufficiently active and well defined fault…” that has exhibited surface displacement within Holocene time (about the last 11,000 years). A “potentially active” fault is defined as showing evidence of surface displacement during the Quaternary time (about the last 1.6 million years). These terms are used, however, by the State primarily for use in evaluating the potential for surface rupture along faults and are not intended to describe possible seismic activity associated with displacement along a fault. These definitions are not applicable to blind thrust faults that have only limited, if any, surface exposures. The active and

LEGEND

- Project Site
- af - Artificial fill
- Qb - Beach deposits
- Qms - Unconsolidated shelf sediment
- Qoa - Old alluvial flood plain deposits, undivided
- Qop - Old paralic deposits, undivided, a=sand, s=silt, c=clay
- Qp - Pleistocene sedimentary deposits, undivided
- Qpe - Paralic estuarine deposits
- Qyf - Young aluvial fan and valley deposits, undivided a=sand, s=silt, c=clay
- Qya - Young alluvial flood plain deposits, unit 1
- Qype - Young paralic estuarine deposits

U
D
Contact - accuracy of location ranges from well located to inferred. All offshore contacts are considered approximately located.

Fault - solid where well located; dashed where approximately located or inferred; dotted where concealed; queried where *continuation or existence is uncertain. Where age was* determined in offshore area, age symbol is shown astride fault and relative offset is shown by U, upthrown side; D, downthrown side (relative or apparent). Age of faults are indicated as follows:

cuts strata of Holocene age

Anticlinal fold - solid where well located; dashed where approximately located or inferred; dotted where concealed. Plunge direction indicated by arrowhead on fold axis.

Synclinal fold - solid where well located; dashed where approximately located or inferred; dotted where concealed. Plunge direction indicated by arrowhead on fold axis.

Strike and dip of stratified rocks. Number indicates dip angle in degrees when known.

25 Inclined beds

80 Overturned beds

Horizontal beds

Strike and dip of metamorphic and igneous foliation.

Vertical foliation

Arrows on landslides indicate direction of movement. Hachured where headscarp is mappable.

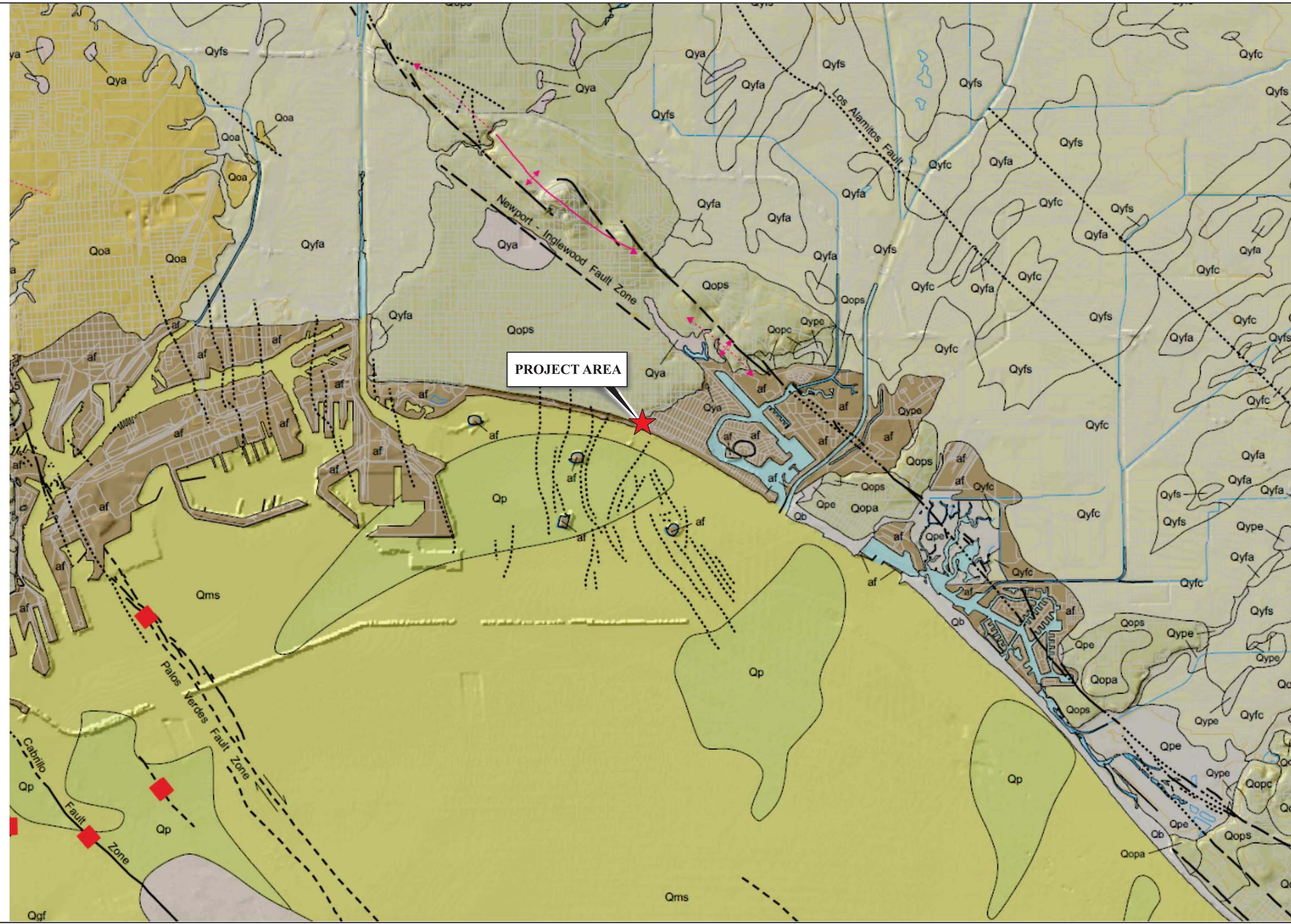

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FIGURE 4.5.1

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SOURCE: Geologic Map of the Long Beach 30' x 60' Quadrangle, California Regional Geologic Map Series Map No. 5 Sheet 1 of 2

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Belmont Pool Revitalization Project

Regional Geology and Fault Map

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potentially active faults are capable of producing potentially damaging seismic shaking at the Project site. It is anticipated that the Project site will periodically experience ground acceleration as the result of earthquakes. Active faults without surface expression (blind faults) and other potentially active seismic sources, which are capable of generating earthquakes, are not known to be locally present under the region. The closest mapped active faults to the Project site are the Newport-Inglewood Fault and the Palos Verdes Fault Zones, which are approximately 1.5 miles and 7 miles from the site, respectively.

Ground or seismic shaking is typically considered to have the greatest potential for damage associated with earthquakes for the Project site. Seismic shaking is characterized by the physical movement of the land surface during and subsequent to an earthquake. Seismic shaking has the potential to cause destruction and damage to buildings and property, including damage resulting from damaged or destroyed gas or electrical utility lines; disruption of surface drainage; blockage of surface seepage and groundwater flow; changes in groundwater flow; dislocation of street alignments; displacement of drainage channels and drains; and possible loss of life. In addition, ground shaking can induce several kinds of secondary seismic effects, including liquefaction, differential settlement, and landslides.

The intensity of seismic shaking during an earthquake depends largely on the geologic foundation conditions of the materials composing the upper several hundred feet of the Earth’s surface. The greatest amplitudes and longest durations of ground shaking occur on thick, water-saturated, unconsolidated alluvial sediments, which may lead to liquefaction (further described below). Ground shaking can also cause ground failure or deformation due to lurching and liquefaction.

Surface fault rupture refers to the displacement of the ground surface along a fault, which can occur during strong earthquakes. The potential for seismic hazards at the Project site is a consequence of ground shaking caused by events on nearby active faults. The primary seismic hazard for the proposed Project site is ground shaking due to the proximity of major active faults. According to the *Geotechnical Evaluations* prepared for the Project site, the proposed Project area is not located within an Alquist-Priolo Earthquake Fault Zone, so the possibility for surface fault rupture is low. However, based on the current understanding of the geologic framework of the area, ground shaking resulting from an earthquake occurring along regional faults is the seismic hazard with the highest probability of affecting the Project site. A fault is described as the area where two tectonic or continental plates meet.

Potential seismic hazards at the subject site include ground shaking, seismically induced liquefaction, and various manifestations of liquefaction-related hazards, including lateral spreading. A brief description of these hazards and the potential for their occurrences on site are discussed below.

Ground Motion. The *Geotechnical Evaluations* included an assessment of ground shaking hazards, including a review of a probabilistic seismic hazard assessment that consisted of statewide estimates of peak horizontal ground accelerations conducted for California. In addition, a site-specific probabilistic seismic hazard analysis was performed to evaluate anticipated peak ground acceleration (PGA), which is a measure of earthquake acceleration on the ground and an important input parameter for earthquake engineering. A PGA of 0.34 g can be expected at the site, with a 10 percent chance of exceeding that rate in 50 years. The “predominant earthquake” that would contribute most to the ground-shaking hazard at 10 percent probability of exceedance in 50 years is a magnitude 7.1 event on the nearby portion of the Newport-Inglewood Fault Zone.

Liquefaction and Lateral Spreading. Lateral spreading typically occurs as a form of horizontal displacement of relatively flat-lying alluvial material toward an open or “free” face such as an open body of water, channel, or excavation. In soils, this movement is generally due to failure along a weak plane and may often be associated with liquefaction. Liquefaction is caused by sudden, temporary increases in pore water pressure due to seismic densification or other displacement of submerged granular soils. Intervals of loose sand may, therefore, be subject to liquefaction if these materials are or were to become submerged and also exposed to strong seismic ground shaking. Seismic ground shaking of relatively loose granular soils that are saturated or submerged can cause the soils to liquefy and temporarily behave as a dense fluid. This loss of support can produce local ground failure such as settlement or lateral spreading that may damage overlying improvements. The *Geotechnical Evaluations* prepared for the Project indicate that the site is within a State of California-designated Liquefaction Hazard Zone, and the City’s General Plan Seismic Safety Element indicates that the entire Project site is within an area determined to have significant liquefaction potential. The liquefaction analysis indicated the underlying soils below the groundwater level may be subject to liquefaction during a design seismic event.

Subsidence. The phenomenon of soil liquefaction may result in hazards, including liquefaction-induced settlement. The amount of soil settlement during a strong seismic event depends on the thickness of the liquefiable layers and the density and/or consistency of the soils. Results from the *Geotechnical Evaluations* conducted in 2009 and 2013 determined that the area surrounding and including the Project site is subject to post-earthquake dynamic ground settlements ranging from approximately 0.75 to 2.75 inches that are estimated to occur in relatively saturated soil.

4.5.3 Regulatory Setting

Federal Policies and Regulations.

National Pollution Discharge Elimination System. A Storm Water Pollution Prevention Plan (SWPPP) prepared in compliance with a National Pollutant Discharge Elimination System (NPDES) Phase I Permit describes erosion and sediment controls, runoff water quality monitoring, means of waste disposal, implementation of approved local plans, control of postconstruction sediment and erosion control measures and maintenance responsibilities, and nonstorm water management controls. Dischargers are also required to inspect construction sites before and after storms to identify storm water discharge from construction activity and to identify and implement controls where necessary.

State Policies and Regulations.

Alquist-Priolo Earthquake Fault Zoning Act (1972). Regulations that are applicable to geologic, seismic, and soil hazards include the Alquist-Priolo Earthquake Fault Zoning Act of

1972 and updates (Public Resources Code, Section 2621 et seq.), State-published Seismic Hazards maps, and provisions of the applicable edition of the California Building Code (CBC). The Project site is not located within an Alquist-Priolo Earthquake Fault Zone; therefore, procedures and regulations recommended by the California Geological Survey (CGS) for investigations conducted in such zones do not specifically apply.

Seismic Hazard Mapping Act (1990). The Seismic Hazard Mapping Act (SHMA) was adopted by the State in 1990 for the purpose of protecting public safety from the effects of (nonsurface fault rupture) earthquake hazards. The CGS prepares and provides local governments with seismic hazard zones maps that identify areas susceptible to amplified shaking, liquefaction, earthquake-induced landslides, and other ground failures. The seismic hazards zones are referred to as “zones of required investigation” because site-specific geological investigations are required for construction projects located within these areas. Before a project can be permitted, a geologic investigation, evaluation, and written report must be prepared by a licensed geologist to demonstrate that proposed buildings will not be constructed across active faults. If an active fault is found, a structure for human occupancy must be set back from the fault (generally 50 ft). In addition, sellers (and their agents) of real property within a mapped Seismic Hazard Zone must disclose that the property lies within such a zone at the time of sale.

California Building Code (2013). California Code of Regulations (CCR), Title 24, Part 2, the CBC, provides minimum standards for building design in the State. Local codes are permitted to be more restrictive than Title 24, but not less restrictive. The procedures and limitations for the design of structures are based on site characteristics, occupancy type, configuration, structural system height, and seismic zoning. Seismic ratings from the CBC divide the United States into four geographical zones. Most of central and coastal California, including the proposed Project site, is located in Seismic Category D. Construction activities are subject to occupational safety standards for excavation, shoring, and trenching as specified in California Occupational Safety and Health Administration (Cal/OSHA) regulations (CCR, Title 8).

California Health and Safety Code. Sections 17922 and 17951–17958.7 of the California Health and Safety Code require cities and counties to adopt and enforce the current edition of the CBC, including a grading section. The City enforces these provisions as part of the Long Beach Municipal Code (LBMC Chapter 18.40). Sections of Volume 2 of the CBC specifically apply to select geologic hazards. Chapter 16 of the 2010 CBC addresses requirements for seismic safety. Chapter 18 regulates excavation, foundations, and retaining walls. Chapter 33 contains specific requirements pertaining to site demolition, excavation, and construction.

Local Policies and Regulations.

City of Long Beach Municipal Code. Building and construction in the City of Long Beach are subject to the regulations of the City of Long Beach Municipal Code. Municipal Code 18.40, Building Codes, adopts and incorporates by reference the CBC. This Municipal Code chapter includes amendments and modifications to the CBC that are specific to the City of Long Beach.

City of Long Beach General Plan. The City of Long Beach adopted the Seismic Safety Element of the General Plan in October 1988. The purpose of this Element is to provide a comprehensive analysis of seismic factors in order to reduce the loss of life, injuries, damage to property, and social and economic impacts resulting from future earthquakes. The Seismic Safety Element contains goals and recommendations that provide guidance for development in seismically active areas. Specifically, the Element contains goals such as: (1) reducing public exposure to seismic risks; (2) providing an urban environment which is as safe as possible from seismic risk; and (3) providing the maximum feasible level of seismic safety protection services.

4.5.4 Impact Significance Criteria

The thresholds for impacts related to geology and soils used in this analysis are consistent with Appendix G of the *State California Environmental Quality Act* (CEQA) *Guidelines*. The proposed Project may be deemed to have a significant impact with respect to geology and soils if it would:

Threshold 4.5.1: **Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death, involving:**

- **i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault; refer to Division of Mines and Geology Special Publication 42;**
- **ii) Strong seismic ground shaking;**
- **iii) Seismic-related ground failure, including liquefaction; or**
- **iv) Landslides;**

Threshold 4.5.2: **Result in substantial soil erosion or the loss of topsoil;**

Threshold 4.5.3: **Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on-site or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse;**

Threshold 4.5.4: **Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (UBC 1994), creating substantial risks to life or property; or**

Threshold 4.5.5: **Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater.**

The Initial Study (IS) provided in Appendix A substantiates the determination that the proposed Project would not result in impacts associated with landslides because the site is relatively flat, and there are no substantial hillsides or unstable slopes immediately adjacent to the site boundary Thresholds 4.5.1 (iv). No impacts were associated with Threshold 4.5.5 because septic tanks and/or alternative waste water disposal systems are not proposed for this Project. As a result, these thresholds are not considered any further in the analyses of the potential impacts of the proposed Project related to geology and soils.

CEQA Baseline. At the time the NOP was published (April 2014), the Project site contained both the Belmont Pool facilities and the outdoor temporary pool (opened in December 2013 to provide swimming facilities while the permanent facility was under construction). Although the site contained the former Belmont Pool building at the time of the NOP, the facility was subsequently demolished in February 2015 to alleviate an imminent public safety threat due to the seismically unsafe condition of the building.

Assessing geology and soils impacts without the former building is appropriate because the structure was removed due to a probability of collapse from a seismic event. The demolition of the structure was conducted under an emergency permit (Statutory Exemption SE14-01). No other structures have been placed on the site of the former building, and there are no remaining structural concerns related to geological conditions at the site. Substantial evidence supports the determination that a baseline condition without that structure is appropriate because seismic and geological concerns associated with the former structure have been remedied through its removal.

4.5.5 Project Impacts

Threshold 4.5.1: Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death, involving:

i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault; refer to Division of Mines and Geology Special Publication 42?

Less than Significant Impact. According to the *Geotechnical Evaluations* prepared for the proposed Project, there are no known active fault or fault traces crossing the site. As stated above, the Project site is not located within a currently designated Alquist-Priolo Earthquake Fault Zone, nor is it currently identified by the regulatory community as being located within zones of either primary or secondary co-seismic surface deformation (e.g., pressure ridges, escarpments, or fissures). Therefore, the site is not expected to experience primary surface fault rupture or related ground deformation, and no mitigation is required.

Threshold 4.5.1: Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death, involving:

ii) Strong seismic ground shaking?

Less than Significant Impact with Mitigation Incorporated. The closest mapped active faults to the Project site are the Newport-Inglewood and Palos Verdes Fault Zones. Since the site is located approximately 1.5 miles northeast of the Newport-Inglewood Structural Zone, significant ground shaking or secondary seismic ground deformation effects could occur at the site should a major seismic event occur along the Newport-Inglewood Structural Zone. A peak ground acceleration of 0.34 g can be expected at the site, with a 10 percent chance of exceeding that rate in 50 years. The “predominant earthquake” that would contribute most to the ground-shaking hazard at 10 percent probability of exceedance in 50 years is a magnitude 7.1 event on the nearby portion of the Newport-Inglewood Fault Zone. This strong ground-motion potential could result in significant seismic ground shaking. On February 17, 2014, the City conducted a structural assessment of the former Belmont Pool facility that evaluated the performance of the building under two different earthquake scenarios. The report acknowledged the determination that the pool building probability of collapse was higher than acceptable standards, and either repair or demolition was recommended. Therefore, the City demolished the former pool building under an emergency permit (Statutory Exemption SE14-01) under a separate project. This proposed Project is intended to provide both the City and the public with a new seismically sound structure.

As with most areas in Southern California, damage to proposed Belmont Pool facilities and infrastructure could be expected as a result of significant ground shaking during a strong seismic event in the region. However, the proposed structures would be designed and built in conformance with the most current adopted CBC, including seismic safety standards. Mitigation Measure 4.5.1 requires the City to comply with the recommendations of the Geotechnical Evaluations and the most current CBC, which stipulates appropriate seismic design provisions that shall be implemented with Project design and construction. With implementation of Mitigation Measure 4.5.1 potential Project impacts related to seismic ground shaking would be reduced to a less than significant level.

Threshold 4.5.1: Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death, involving:

iii) Seismic-related ground failure, including liquefaction?

Less than Significant Impact with Mitigation Incorporated. See response to Threshold 4.5.3 (Lateral Spreading and Liquefaction), below.

Threshold 4.5.2: Would the project result in substantial soil erosion or the loss of topsoil?

Less than Significant Impact with Mitigation Incorporated. During the construction activities of the proposed Project, there is a potential for disruption of the soils on the entire Project site. Construction of the proposed Project includes excavation of soils to install the proposed pools, trenching for utilities, and finish grading and site preparation for the proposed structures and hardscaping. These activities could potentially result in erosion and loss of topsoil.

All excavation, trenching, and compaction activities would be performed under the observation of a qualified engineer. The Project would be required to adhere to all applicable construction standards with regard to erosion control. Erosion control measures typically identify how all construction materials, wastes, or demolition debris, etc., shall be properly covered, stored, and secured to prevent transport into local drainages or coastal waters by wind, rain, tracking, tidal erosion, or dispersion.

In addition, the Project would be subject to the SWPPP requirements for erosion and sedimentation control during construction (refer to Section 4.8, Hydrology and Water Quality). Best management practices (BMPs), including biofiltration, capture and retention, and infiltration techniques, would be undertaken to control runoff and erosion from any earthmoving activities such as excavation and compaction. The objective of erosion control BMPs is to control runoff and erosion so that sediments do not impact water quality. Standard Condition 4.2.2 (Applicable Rules 403 and 402 Measures) and Mitigation Measure 4.8.1 (Construction General Permit) would be implemented to reduce potential significant impacts related to soil erosion to levels considered less than significant by reducing the amount of fugitive dust and the transport of soil. With implementation of these mitigation measures, soil erosion potential related to construction activities would be reduced to less than significant levels.

Threshold 4.5.3: Would the project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on-site or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?

Landslides and Unstable Slopes.

Less than Significant Impact with Mitigation Incorporated. Landslides and other forms of mass wasting, including mud flows, debris flows, and soil slips occur as soil moves downslope under the influence of gravity. Landslides are frequently triggered by intense rainfall or seismic shaking. Because the site is located in a relatively flat area, landslides or other forms of natural slope instability do not represent a significant hazard to the Project. In addition, as stated above, the site is not within a State-designated hazard zone for Earthquake-Induced Landsliding. Therefore, potential impacts related to landslides would be less than significant, and no mitigation is required.

Although no indications of landslide activity or gross slope instability were observed at the Project site, grading activities during construction would produce temporary construction slopes in some areas. Unstable cut-and-fill slopes could create significant short-term and long-term hazards, and vertical or steeply sided trench excavations should not be attempted without proper shoring or bracings. All trench excavations should be braced and shored in accordance with good construction practice and all applicable safety ordinances and codes, as discussed in the *Preliminary Geotechnical Investigation*. Mitigation Measure 4.5.1 requires that planned grading and shoring conform with the recommendations of the *Preliminary Geotechnical Investigation*, which contains specific recommendations for addressing potential slope instability during construction. With implementation of these recommendations in accordance with Mitigation Measure 4.5.1, potential impacts related to slope instability during construction would be reduced to a less than significant level.

Lateral Spreading and Liquefaction.

Less than Significant Impact with Mitigation Incorporated. Damage from earthquakes may result from liquefaction, which occurs when loose, unconsolidated, water-laden soils are subject to shaking, causing the soils to lose cohesion, and the soil behaves as a fluid for a short period of time. Liquefaction is known generally to occur at depths shallower than 50 ft bgs.

As stated above, the Project site is located within a Liquefaction Hazard Zone as designated by CGS. The *Preliminary Geotechnical Report* (2014) concluded that the proposed Project would experience a high liquefaction or lateral spreading potential due to its location, historical high groundwater levels, and the presence of soil conditions common to liquefaction areas. As a result, the Project site and the development proposed for the Project site would be subject to impacts related to liquefaction of the on-site soils as a result of seismic shaking, and mitigation is required.

Mitigation Measure 4.5.1 requires the City to comply with the recommendations of the *Geotechnical Evaluations,* as well as the requirements of the City's Municipal Code (Title 18) and the CBC applicable at the time of grading. Mitigation Measure 4.5.1 also requires the City to review and approve a final geotechnical report prior to commencement of grading. Design measures that may be used to address liquefaction include, but are not limited to, ground modification (such as chemical or pressure grouting, dynamic compaction, geogrid-stabilized building pads, or dewatering) alternate foundation types (such as mats, caissons, or driven piles), or establishment of appropriate setbacks. Appropriate recommendations would be developed by the soils engineer and/or geotechnical consultant during preparation of the final geotechnical report. Compliance with applicable building codes and the incorporation of the design recommendations in the final geotechnical report into final design plans would reduce potential impacts related to liquefaction to a less than significant level. With implementation of Mitigation Measure 4.5.1, potential Project impacts related to liquefaction would be reduced to a less than significant level.

Assuming the soils between the site and the Pacific Ocean are similar to those beneath the site, the *Geotechnical Evaluations* determined that several feet of lateral spreading towards the Pacific Ocean could occur in the event of earthquake ground motions. The movement of the soils due to lateral spreading would not be expected to be uniform. Therefore, differential lateral spreading should be expected in the building area with the potential of seismically induced lateral spreading of approximately 9 to 80 inches to occur during an earthquake event. However, the *Geotechnical Evaluations* concluded that the proposed Project is feasible with implementation of the final engineering design recommendations and compliance with the most current CBC. Therefore, Mitigation Measure 4.5.1, requiring compliance with the recommendations contained in the *Geotechnical Evaluations* and the final geotechnical report would ensure that potential impacts related to lateral spreading are reduced to less than significant levels.

Subsidence.

Less than Significant Impact. Subsidence, the sinking of the land surface due to oil, gas, and water production, causes loss of pore pressure as the weight of the overburden compacts the underlying sediments. Subsidence began to occur in the City of Long Beach, which is over the Wilmington Oil Field, in the 1940s with the pumping of groundwater at the Terminal Island Naval Shipyard. By 1958, the affected area was 20 square miles and extended beyond the Harbor District. Total subsidence reached 29 ft in the center of the Subsidence Bowl. Water injection was begun in 1958 to repressurize the oil field and the area has been stabilized (MACTEC 2009) and, therefore, is not expected to result in subsidence on the Project site. As a result, subsidence-related impacts are considered to be less than significant, and no mitigation is required.

Corrosive Soils.

Less than Significant Impact with Mitigation Incorporated. Corrosive soils contain constituents or physical characteristics that attack concrete (water-soluble sulfates) and/or ferrous metals (chlorides, ammonia, nitrates, low pH levels, and low electrical resistivity). Corrosive soils could potentially create a significant hazard to the Project by weakening the structural integrity of the concrete and metal used to construct the building and potentially lead to structural instability. Structural damage and foundation instability caused by corrosive soils are potentially significant impacts.

Laboratory testing indicates that on-site soils contain a negligible concentration of sulfates and severe concentrations of chlorides. Thus, the on-site soils should be considered severely corrosive to ferrous metals. Mitigation Measure 4.5.2 requires protection of ferrous metals and copper against corrosion. Corrosion protection may include, but is not limited to, sacrificial metal, the use of protective coatings, and/or cathodic protection. With implementation of Mitigation Measure 4.5.2, potential impacts related to corrosive soils would be reduced to a less than significant level.

Threshold 4.5.4: Would the project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code, creating substantial risks to life or property?

Less than Significant Impact. Expansive soils are characterized by their ability to undergo substantial volume changes (shrink or swell) due to variations in moisture content as a result of precipitation, landscape irrigation, utility leakage, roof drainage, perched groundwater, drought, or other factors. Liquefaction may result in unacceptable settlement or heave of structures or concrete slabs supported on grade. The on-site granular soil depths of at least 8 ft are non-expansive while the underlying clay can be classified as having a moderate expansion potential based on the assessment of the soil classifications provided in the CPT logs and results of expansion index testing contained in the *Geotechnical Evaluations*. A non-expansive potential should, therefore, be assumed for planning purposes of the proposed structures. Impacts related to expansive soils would be less than significant, and no mitigation is required.

4.5.6 Cumulative Impacts

The cumulative study area for Geology and Soils is the Project site and the immediately adjacent properties that physically abut the Project site. The study area is essentially the area that could be affected by proposed Project activities and the areas affected by other projects for which activities could directly or indirectly affect the geology and soils of the proposed Project site. The Project site is in a fully built out area in which new development is infrequent. Any new development projects would also be required to meet similar engineering standards to reduce their own potential geologic impacts to a less than significant level. In addition, there are no other known activities or projects with activities that would affect the geology and soils at the Project site (e.g., projects requiring significant structural blasting or drilling, high vibration activities, or deep excavation).

As discussed above, there are no geotechnical conditions on site that would prohibit construction, and no activities associated with the Project that would contribute to any cumulative geological effects such as risk of ground failure, slope failure, or settlement problems in the Project vicinity. Implementation of Mitigation Measure 4.5.1 ensures that the proposed Project complies with recommendations in the *Geotechnical Evaluations* and Mitigation Measure 4.5.2 requires protection of ferrous metals and copper against corrosion; adherence to this measure would ensure that the Project would have a less than significant impact on Geology and Soils. Therefore, with implementation of the proposed mitigation, the Project's geological impacts are considered less than cumulatively considerable.

4.5.7 Level of Significance Prior to Mitigation

The potential for surface fault rupture, subsidence, landslides, and subsidence is less than significant, and no mitigation is required. The potential impacts related to seismic ground shaking, soil erosion and loss of top soil, unstable slopes, lateral spreading, liquefaction, corrosive soil, and expansive soil would be potentially significant prior to mitigation.

4.5.8 Mitigation Measures

The *Geotechnical Evaluations* provide a number of recommendations for the final design and construction of the proposed Project, to address the potential geotechnical and soils concerns on the Project site and their potential effects on the development proposed on the Project site. Implementation of the following mitigation measure will ensure that potential geological and soil impacts resulting from Project implementation would be reduced to less than significant levels.

Mitigation Measure 4.5.1: **Conformance with the Project Geotechnical Studies.** All grading operations and construction shall be conducted in conformance with the recommendations included in the *Report of Preliminary Geotechnical Investigation for the Proposed Belmont Plaza Olympic Pool Revitalization Project,* prepared by MACTEC (April 14, 2009); the *Geotechnical Investigation for the Temporary Myrtha Pool and Associated Improvements, Belmont Plaza Revitalization,* prepared by GMU Geotechnical, Inc. (April 3, 2013); the *Preliminary Geotechnical Report for the Belmont Plaza Pool Rebuild-Revitalization* prepared by AESCO (April 24, 2014); and *Soil Corrosivity Evaluation for the Belmont Plaza Pool Facility Rebuild/Revitalization Project*, prepared by HDR Schiff (April 23, 2014), which together are referred to as the *Geotechnical Evaluations*. Design, grading, and construction shall be performed in accordance with the requirements of the City of Long Beach (City) Municipal Code (Title 18) and the California Building Code (CBC) applicable at the time of grading, appropriate local grading regulations, and the requirements of the Project geotechnical consultant as summarized in a final written report, subject to review and approval by the Development Services Director, or designee, prior to commencement of grading activities.

Specific requirements in the Final Geotechnical Report shall address:

1. Seismic design considerations and requirements for structures and nonstructural components permanently attached to structures
2. Foundations including ground improvements (deep soil mixing and stone columns) and shallow foundation design

3. Earthwork, including site preparation for structural areas (building pad) and sidewalks, pavements, and other flatwork areas; fill material; temporary excavations; and trench backfill
4. Liquefaction
5. Site drainage
6. Slabs-on-grade and pavements
7. Retaining walls

Additional site testing and final design evaluation shall be conducted by the Project geotechnical consultant to refine and enhance these requirements, if necessary. The City shall require the Project geotechnical consultant to assess whether the requirements in that report need to be modified or refined to address any changes in the Project features that occur prior to the start of grading. If the Project geotechnical consultant identifies modifications or refinements to the requirements, the City shall require appropriate changes to the final Project design and specifications.

Grading plan review shall also be conducted by the City's Development Services Director, or designee, prior to the start of grading to verify that the requirements developed during the geotechnical design evaluation have been appropriately incorporated into the Project plans. Design, grading, and construction shall be conducted in accordance with the specifications of the Project geotechnical consultant as summarized in a final report based on the CBC applicable at the time of grading and building and the City Building Code. On-site inspection during grading shall be conducted by the Project geotechnical consultant and the City Building Official to ensure compliance with geotechnical specifications as incorporated into Project plans.

Mitigation Measure 4.5.2: **Corrosive Soils.** Prior to issuance of any building permits, the City of Long Beach (City) Development Services Director, or designee, shall verify that structural design conforms to the requirements of the geotechnical study with regard to the protection of ferrous metals and copper that will come into contact with on-site soil. In addition, on-site inspections shall be conducted during construction by the Project geotechnical consultant and/or City Building Official to ensure compliance with geotechnical specifications as incorporated into Project plans.

The measures specified in the geotechnical study for steel pipes, iron pipes, copper tubing, plastic and vitrified clay pipe, other pipes, concrete, post tensioning slabs, concrete piles, and steel piles shall be incorporated into the structural design and Project plans where ferrous metals (e.g., iron or steel) and/or copper may come into contact with on-site soils.

4.5.9 Level of Significance after Mitigation

The potential impacts to the Project site and the development related to geotechnical and soil impacts would be reduced to below a level of significance based on implementation of Mitigation Measures 4.5.1 and 4.5.2, and Mitigation Measures 4.2.2, and 4.8.1, from the Air Quality section and the Hydrology and Water Quality section, respectively.

4.6 GLOBAL CLIMATE CHANGE

This section evaluates potential greenhouse gas (GHG) emissions impacts on global climate change associated with the proposed Belmont Pool Revitalization Project (proposed Project) and identifies mitigation measures recommended for potentially significant impacts. The following analysis is based on the GHG calculations conducted for the proposed Project that are provided in Appendix B.

Scoping Process

The City of Long Beach (City) distributed the first Notice of Preparation (NOP) for the Draft Environmental Impact Report (EIR) from April 18 to May 17, 2013. The City received three comment letters in response to the original NOP. No comments related to Greenhouse Gas emissions or Global Climate Change were received in response to the original NOP circulated for the proposed Project. Due to revisions in the Project Description, the City re-issued the NOP for the Draft EIR between April 9, 2014, and May 8, 2014. The City received five comment letters in response to the re-issued NOP during the public review period. No Greenhouse Gas emissions or Global Climate Change issues were raised in those comment letters.

4.6.1 Methodology

The recommended approach for GHG analysis included in the State of California Governor's Office of Planning and Research (OPR) June 2008 Technical Advisory is to: (1) identify and quantify GHG emissions, (2) assess the significance of the impact on climate change, and (3) if significant, identify alternatives and/or mitigation measures to reduce the impact to below a level of significance.[1] The June 2008 Technical Advisory provides some additional direction regarding planning documents as follows:

> *"CEQA can be a more effective tool for GHG emissions analysis and mitigation if it is supported and supplemented by sound development policies and practices that will reduce GHG emissions on a broad planning scale and that can provide the basis for a programmatic approach to project-specific CEQA analysis and mitigation…. For local government lead agencies, adoption of general plan policies and certification of general plan EIRs that analyze broad jurisdiction-wide impacts of GHG emissions can be part of an effective strategy for addressing cumulative impacts and for streamlining later project-specific CEQA reviews" (June 2008 Technical Advisory, pages 7-8).*

Preliminary guidance from OPR[2] and recent letters from the Attorney General[3] critical of California Environmental Quality Act (CEQA) documents that have taken different approaches

1 State of California Governor's Office of Planning and Research (OPR). *Technical Advisory, CEQA and Climate Change: Addressing Climate Change through California Environmental Quality Act Review.* June 19, 2008.

2 Ibid.

3 California Department of Justice. Website: http://oag.ca.gov/environment/ceqa/letters (accessed March 2016).

indicate that Lead Agencies should calculate, or estimate, emissions from vehicular traffic, energy consumption, water conveyance and treatment, waste generation, and construction activities.

The South Coast Air Quality Management District (SCAQMD) has also issued recommendations regarding the methodology to be used to analyze greenhouse gas impacts in environmental documents prepared pursuant to the California Environmental Quality Act (CEQA). In October 2008, SCAQMD released a *Draft Guidance Document – Interim CEQA Greenhouse Gas (GHG) Significance Threshold* that suggested a tiered approach to project analysis. Figure 4.6.1 illustrates the tiered approach based on both the SCAQMD and the California Air Resources Board (ARB) suggested screening thresholds, used for this analysis.

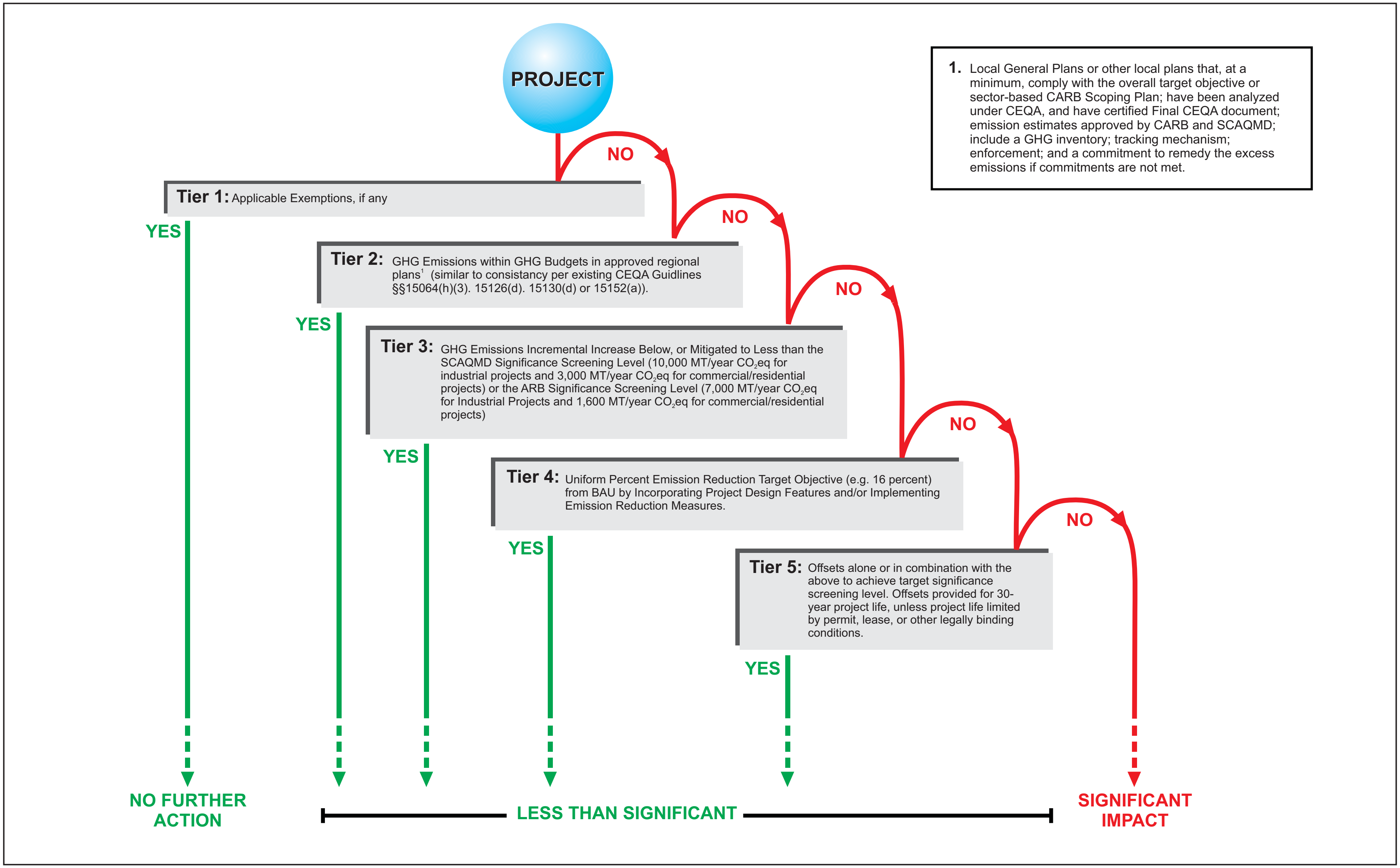
According to the tiered approach, if a project is exempt from CEQA, Tier 1 would be the most appropriate tier, and the project effects related to GHG emissions/global climate change (GCC) would be less than significant and the analysis would be complete. If the project is not exempt and there is a local GHG reduction plan in place, then Tier 2 would be the most appropriate tier. If the project is consistent with that plan, then the project effects related to GHG emissions/GCC would be less than significant and the analysis would be complete. If the project is not consistent with the plan, then the project would have a significant impact related to GHG emissions/GCC and the analysis would be complete. If there is no local GHG reduction plan, Tier 3 is used to screen smaller projects. Both the SCAQMD and the ARB screening thresholds categorize projects into two categories, “industrial” and “commercial/residential.” If the project emissions are less than the applicable numerical threshold (refer to Figure 4.6.1), then the project effects related to GHG emissions/GCC would be less than significant, and the analysis would be complete. If the project exceeds the numerical threshold, then the project should be analyzed using Tier 4.

If the project emissions would meet the applicable Tier 4 performance goal, then the project would have less than significant impacts related to GHG emissions/GCC, and the analysis would be complete. If the project exceeds the Tier 4 threshold, then the project would have a significant impact related to GHG emissions/GCC and the analysis would be complete.

Tier 5 is not a threshold, but rather specifies that a project include all feasible on- and off-site measures to reduce GHG emissions, as well as financially support independent projects that have a net reduction in GHG emissions.

4.6.2 Existing Environmental Setting

Global climate change is the observed increase in the average temperature of the Earth’s atmosphere and oceans along with other significant changes in climate (such as precipitation or wind) that last for an extended time period. The term “global climate change” is often used interchangeably with the term “global warming,” but “global climate change” is preferred to “global warming” because it helps convey that there are other changes in addition to rising temperatures. “Global climate change” refers to any change in measures of weather (such as temperature, precipitation, or wind) lasting for an extended period (decades or longer).



LSA

FIGURE 4.6.1

Belmont Pool Revitalization Project

Tiered Decision Approach to GHG Methodology and Significance Thresholds

SOURCE: Adapted from SCAQMD's Draft Guidance Document - Interim CEQA Greenhouse Gas (GHG) Significance Threshold, October 2008.

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GCC may result from natural factors (e.g., changes in the sun's intensity), natural processes within the climate system (e.g., changes in ocean circulation), or human activities (e.g., the burning of fossil fuels, land clearing, or agriculture). The primary observed effect of GCC has been a rise in the average global tropospheric[1] temperature of 0.36 degree Fahrenheit (°F) per decade, determined from meteorological measurements worldwide between 1990 and 2005. Climate change modeling shows that further warming could occur, which would induce additional changes in the global climate system during the current century. Changes to the global climate system, ecosystems, and the environment of California could include higher sea levels, drier or wetter weather, changes in ocean salinity, and changes in wind patterns or more energetic aspects of extreme weather, including droughts, heavy precipitation, heat waves, extreme cold, and increased intensity of tropical cyclones. Specific effects in California might include a decline in the Sierra Nevada snowpack, erosion of California's coastline, and seawater intrusion in the Sacramento Delta.

Global surface temperatures have risen by 1.33°F ±0.32°F over the last 100 years (1906–2005). The rate of warming over the last 50 years is almost double that over the last 100 years.[2] The latest projections, based on state-of-the art climate models, indicate that temperatures in California are expected to rise 3–10.5°F by the end of the century.[3] The prevailing scientific opinion on GCC is that "most of the warming observed over the last 60 years is attributable to human activities."[4] Increased amounts of carbon dioxide (CO_2) and other GHGs are the primary causes of the human-induced component of warming. The observed warming effect associated with the presence of GHGs in the atmosphere (from either natural or human sources) is often referred to as the greenhouse effect.[5]

GHGs are present in the atmosphere naturally, are released by natural sources, or are formed from secondary reactions taking place in the atmosphere. The gases that are widely seen as the principal contributors to human-induced GCC include:[6]

- CO_2
- Methane (CH_4)
- Nitrous oxide (N_2O)

1 The troposphere is the zone of the atmosphere characterized by water vapor, weather, winds, and decreasing temperature with increasing altitude.

2 Intergovernmental Panel on Climate Change (IPCC), 2013. *Climate Change 2013: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the IPCC.*

3 California Climate Change Center, 2006. *Our Changing Climate. Assessing the Risks to California.* July.

4 IPCC, *Climate Change 2013: The Physical Science Basis*. Website: http://www.ipcc.ch (accessed March 2016).

5 The temperature on Earth is regulated by a system commonly known as the "greenhouse effect." Just as the glass in a greenhouse allows heat from sunlight in and reduces the amount of heat that escapes, greenhouse gases (GHG) like carbon dioxide, methane, and nitrous oxide in the atmosphere keep the Earth at a relatively even temperature. Without the greenhouse effect, the Earth would be a frozen globe; therefore, although an excess of greenhouse gas results in global warming, the *naturally occurring* greenhouse effect is necessary to keep our planet at a comfortable temperature.

6 The GHGs listed are consistent with the definition in Assembly Bill 32 (Government Code 38505), as discussed later in this section.

- Hydrofluorocarbons (HFCs)
- Perfluorocarbons **(**PFCs)
- Sulfur Hexafluoride (SF_6)

Over the last 200 years, human activities have caused substantial quantities of GHGs to be released into the atmosphere. These extra emissions are increasing GHG concentrations in the atmosphere and enhancing the natural greenhouse effect, which some scientists believe can cause global warming. While GHGs produced by human activities include naturally occurring GHGs such as CO_2, CH_4, and N_2O, some gases, such as HFCs, PFCs, and SF_6, are completely new to the atmosphere. Certain other gases, such as water vapor, are short-lived in the atmosphere as compared to the GHGs that remain in the atmosphere for significant periods of time, contributing to GCC in the long term. Water vapor is generally excluded from the list of GHGs because it is short-lived in the atmosphere and its atmospheric concentrations are largely determined by natural processes, such as oceanic evaporation. For the purposes of this GCC evaluation, the term “GHGs” will refer collectively to the six gases identified in the bulleted list provided above.

These gases vary considerably in terms of global warming potential (GWP), which is a concept developed to compare the ability of each GHG to trap heat in the atmosphere relative to another gas. The GWP is based on several factors, including the relative effectiveness of a gas to absorb infrared radiation and the length of time that the gas remains in the atmosphere (“atmospheric lifetime”). The GWP of each gas is measured relative to CO_2, the most abundant GHG. The definition of GWP for a particular GHG is the ratio of heat trapped by one unit mass of the GHG to the ratio of heat trapped by one unit mass of CO_2 over a specified time period. GHG emissions are typically measured in terms of metric tons (MT)[1] of “CO_2 equivalents” (CO_2e). Table 4.6.A shows the GWP for each type of GHG. For example, SF_6 is 23,900 times more potent at contributing to global warming than CO_2.

Table 4.6.A: Global Warming Potential of Greenhouse Gases

Gas	Atmospheric Lifetime (Years)	Global Warming Potential (100-year Time Horizon)
Carbon Dioxide (CO_2)	~100	1
Methane (CH_4)	12	28
Nitrous Oxide (N_2O)	121	265
HFC-23	264	11,700
HFC-134a	14.6	1,300
HFC-152a	1.5	140
PFC: Tetrafluoromethane (CF_4)	50,000	6,500
PFC: Hexafluoromethane (C_2F_6)	10,000	9,200
Sulfur Hexafluoride (SF_6)	3,200	23,900

Source: Environmental Protection Agency (2016).
HFC = hydrofluorocarbons
PFC = perfluorocarbons

[1] A metric ton is equivalent to approximately 1.1 tons.

The following discussion summarizes the characteristics of the six primary GHGs.

Carbon Dioxide. In the atmosphere, carbon generally exists in its oxidized form as CO_2. Natural sources of CO_2 include the respiration (breathing) of humans, animals, and plants; volcanic outgassing; decomposition of organic matter; and evaporation from the oceans. Human-caused sources of CO_2 include the combustion of fossil fuels and wood, waste incineration, mineral production, and deforestation. The Earth maintains a natural carbon balance, and when concentrations of CO_2 are upset, the system gradually returns to its natural state through natural processes. Natural changes to the carbon cycle work slowly, especially compared to the rapid rate at which humans are adding CO_2 to the atmosphere. Natural removal processes, such as photosynthesis by land- and ocean-dwelling plant species, cannot keep pace with this extra input of human-made CO_2; consequently, the gas is building up in the atmosphere. The concentration of CO_2 in the atmosphere has risen approximately 30 percent since the late 1800s.[1]

The transportation sector remained the largest source of GHG emissions in 2013, representing 37 percent of the State's GHG emission inventory. The largest emissions category within the transportation sector is on-road, which consists of passenger vehicles (cars, motorcycles, and light-duty trucks) and heavy-duty trucks and buses. Emissions from on-road sources constitute over 92 percent of the transportation sector total. Industry and electricity generation were California's second- and third-largest categories of GHG emissions, respectively.

Methane. CH_4 is produced when organic matter decomposes in environments lacking sufficient oxygen. Natural sources include wetlands, termites, and oceans. Anthropogenic sources include rice cultivation, livestock, landfills and waste treatment, biomass burning, and fossil fuel combustion (burning of coal, oil, and natural gas, etc.). Decomposition occurring in landfills accounts for the majority of human-generated CH_4 emissions in California, followed by enteric fermentation (emissions from the digestive processes of livestock).[2] Agricultural processes such as manure management and rice cultivation are also significant sources of human-made CH_4 in California. CH_4 accounted for approximately 8 percent of gross climate change emissions (CO_2e) in California in 2012.[3] It is estimated that over 60 percent of global methane emissions are related to human-related activities.[4] As with CO_2, the major removal process of atmospheric CH_4—a chemical breakdown in the atmosphere—cannot keep pace with source emissions, and CH_4 concentrations in the atmosphere are increasing.

1 California Environmental Protection Agency (CalEPA). 2006. *Climate Action Team Report to Governor Schwarzenegger and the Legislature.* March.
2 California Air Resources Board (ARB), GHG Inventory Data – 2000 to 2013. Website: http://www.arb.ca.gov/cc/inventory/data/data.htm (accessed March 2016).
3 Ibid.
4 IPCC, 2007. Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the IPCC.

Nitrous Oxide. N_2O is produced naturally by a wide variety of biological sources, particularly microbial action in soils and water. Tropical soils and oceans account for the majority of natural source emissions. N_2O is a product of the reaction that occurs between nitrogen and oxygen during fuel combustion. Both mobile and stationary combustion emit N_2O, and the quantity emitted varies according to the type of fuel, technology, and pollution control device used, as well as maintenance and operating practices. Agricultural soil management and fossil fuel combustion are the primary sources of human-generated N_2O emissions in California.

Hydrofluorocarbons, Perfluorocarbons, and Sulfur Hexafluoride. HFCs are primarily used as substitutes for ozone (O_3) depleting substances regulated under the Montreal Protocol.[1] PFCs and SF_6 are emitted from various industrial processes, including aluminum smelting, semiconductor manufacturing, electric power transmission and distribution, and magnesium casting. There is no aluminum or magnesium production in California; however, the rapid growth in the semiconductor industry, which is active in California, leads to greater use of PFCs. However, there are no known project-related emissions of these three GHGs; therefore, these substances are not discussed further in this analysis.

Effects of Global Climate Change. Effects from GCC may arise from temperature increases, climate-sensitive diseases, extreme weather events, and air quality. There may be direct temperature effects through increases in average temperature leading to more extreme heat waves and less extreme cold spells. Those living in warmer climates are likely to experience more stress and heat-related problems. Heat-related problems include heat rash and heat stroke. In addition, climate-sensitive diseases may increase, such as those spread by mosquitoes and other disease-carrying insects. Such diseases include malaria, dengue fever, yellow fever, and encephalitis. Extreme events such as flooding and hurricanes can displace people and agriculture. Global warming may also contribute to air quality problems from increased frequency of smog and particulate air pollution.

Additionally, according to the 2006 California Climate Action Team (CAT) Report,[2] the following climate change effects, which are based on trends established by the United Nations Intergovernmental Panel on Climate Change (IPCC), can be expected in California over the course of the next century:

- The loss of sea ice and mountain snow pack, resulting in higher sea levels and higher sea surface evaporation rates with a corresponding increase in tropospheric water vapor due to the atmosphere's ability to hold more water vapor at higher temperatures.[3]

1 The Montreal Protocol is an international treaty that was approved on January 1, 1989, and was designated to protect the ozone layer by phasing out the production of several groups of halogenated hydrocarbons believed to be responsible for ozone depletion.
2 CalEPA. 2006. *Climate Action Team Report to Governor Schwarzenegger and the Legislature*, March.
3 Ibid.

- Rise in global average sea level, primarily due to thermal expansion and melting of glaciers and ice caps in the Greenland and Antarctic ice sheets.[1]
- Changes in weather that include widespread changes in precipitation, ocean salinity, and wind patterns, and more energetic aspects of extreme weather, including droughts, heavy precipitation, heat waves, extreme cold, and the intensity of tropical cyclones.[2]
- Decline of the Sierra snowpack, which accounts for approximately half of the surface water storage in California by 70 percent to as much as 90 percent over the next 100 years.[3]
- Increase in the number of days conducive to O_3 formation by 25–85 percent (depending on the future temperature scenario) in high O_3 areas of Los Angeles and the San Joaquin Valley by the end of the 21st century.[4]
- High potential for erosion of California's coastlines and seawater intrusion into the Delta and levee systems due to the rise in sea level.[5]

A summary of these potential effects are identified in Table 4.6.B, Potential Impacts of Global Warming and Expected Consequences for California. Rising ocean levels, more intense coastal storms, and warmer water temperatures may increasingly threaten the Los Angeles coastal region. As previously described, global surface temperatures have increased by .33°F ±0.32°F over the last 100 years (1906–2005), with temperatures anticipated to rise in California by 3 to 10.5°F by the end of the century. Under this higher warming scenario, it is anticipated that ocean levels will rise 17 to 66 inches in Los Angeles by 2100.[6]

Rising sea levels may affect the natural environment in the coming decades by eroding beaches, converting wetlands to open water, exacerbating coastal flooding, and increasing the salinity of estuaries and freshwater aquifers. Coastal headlands and beaches are expected to erode at a faster pace in response to future sea level rise. The California Coastal Commission estimates that 450,000 acres of wetlands exist along the California coast,[7] but additional work is needed to evaluate the extent to which these wetlands would be degraded over time, or to what extent new wetland habitat would be created if those lands are protected from further development.

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1 CalEPA. 2006. *Climate Action Team Report to Governor Schwarzenegger and the Legislature*. March.

2 IPCC, *Climate Change 2007: The Physical Science Basis, Summary for Policymakers*, February 2007.

3 Ibid.

4 Ibid.

5 Ibid.

6 CCC Sea Level Rise Policy Guidance, Appendix A: Sea Level Rise Science and Projections for Future Change, adopted August 12, 2015.

7 CCC Procedural Guidance for the Review of Wetland Projects in California's Coastal Zone. Website: http://www.coastal.ca.gov/wetrev/wetch4.html (accessed February 2015).

Table 4.6.B: Potential Impacts of Global Warming and Expected Consequences for California

Potential Water Resource Impacts	Anticipated Consequences Statewide
Reduction of the State's average annual snowpack	• Specifically, the decline of the Sierra snowpack, would lead to a loss in half of the surface water storage in California by 70 to 90% over the next 100 years • Potential loss of 5 million acre-feet or more of average annual water storage in the State's snowpack • Increased challenges for reservoir management and balancing the competing concerns of flood protection and water supply • Higher surface evaporation rates with a corresponding increase in tropospheric water vapor
Rise in average sea level	• Potential economic impacts related to coastal tourism, commercial fisheries, coastal agriculture, and ports • Increased risk of flooding, coastal erosion along the State's coastline, seawater intrusion into the Delta and levee systems
Changes in weather	• Changes in precipitation, ocean salinity, wind patterns • Increased likelihood for extreme weather events, including droughts, heavy precipitation, heat waves, extreme cold, and the intensity of tropical cyclones
Changes in the timing, intensity, location, amount, and variability of precipitation	• Potential increased storm intensity and increased potential for flooding • Possible increased potential for droughts • Long-term changes in vegetation and increased incidence of wildfires • Changes in the intensity and timing of runoff • Possible increased incidence of flooding and increased sedimentation • Sea level rise and inundation of coastal marshes and estuaries • Increased salinity intrusion into the Sacramento-San Joaquin River Delta (Delta) • Increased potential for Delta levee failure • Increased potential for salinity intrusion into coastal aquifers (groundwater) • Increased potential for flooding near the mouths of rivers due to backwater effects
Increased water temperatures	• Increased environmental water demand for temperature control • Possible increased problems with foreign invasive species in aquatic ecosystems • Potential adverse changes in water quality, including the reduction of dissolved oxygen levels • Possible critical effects on listed and endangered aquatic species

Table 4.6.B: Potential Impacts of Global Warming and Expected Consequences for California

Potential Water Resource Impacts	Anticipated Consequences Statewide
Changes in urban and agricultural water demand	• Changes in demand patterns and evapotranspiration
Increase in the number of days conducive to O3 formation	• Increased temperatures • Potential health effects, including adverse impacts to respiratory systems

Source: Environmental Water Account Draft Supplemental EIS/EIR to the Environmental Water Account Final EIS/EIR, October 2007, US Department of the Interior, Bureau of Reclamation Mid-Pacific Region, Sacramento, California.
EIR = Environmental Impact Report
EIS = Environmental Impact Statement
O_3 = ozone

Cumulatively, the effects of sea level rise may be combined with other potential long-term factors such as changes in sediment input and nutrient runoff. The cumulative impacts of physical and biological change due to sea level rise on the quality and quantity of coastal habitats are not well understood.[1]

Sea level along the US west coast is affected by a number of factors, including climate patterns such as El Niño, effects from the melting of modern and ancient ice sheets, and geologic processes such as plate tectonics. Regional projections for California, Oregon, and Washington show a sharp distinction at Cape Mendocino in northern California. South of that point, sea-level rise is expected to be very close to global projections. Projections are lower north of Cape Mendocino because the land is being pushed upward as the ocean plate moves under the continental plate along the Cascadia Subduction Zone.

According to the National Research Council's (NRC) June 2012 report on *Sea Level Rise for the Coasts of California, Oregon, and Washington*, sea level rise will cause many harmful economic, ecological, physical and social impacts but incorporating sea level rise impacts into agency decisions can help mitigate some of these potential impacts. A *Wave Uprush Study* (Moffatt & Nichols, October 2014) was prepared for the site, which among other things, analyzed the proposed Project's vulnerability to rising sea levels. According to the *Wave Uprush Study*, the following ranges of sea level rise were utilized in analyzing potential impacts related to sea level rise. Accordingly, Table 4.6.C presents the sea level rise projections based on the NRC report on sea level rise.

1 Climate Change Science Program (CCSP) 4.1 January 15, 2009, 1 of 784 Final Report, United States CCSP, Synthesis and Assessment Product 4.1. Coastal Sensitivity to Seal Level Rise: A Focus on the Mid-Atlantic Region. Lead Agency: US Environmental Protection Agency, Other Key Participating Agencies: US Geological Survey, National Oceanic and Atmospheric Administration. Contributing Agencies: Department of Transportation.

Table 4.6.C: Sea-Level Rise Projections at the Project Site

Time Period	Sea Level Rise
2014	0 ft
2060	0.5 to 2.6 ft
2100	1.4 to 5.5 ft

Source: Moffat & Nichol, *Wave Uprush Study* (October 2014).
cm = centimeters
ft = foot/feet

Rising sea levels may also affect the built environment, including coastal development such as buildings, roads, and infrastructure. The project site is a relatively flat, low-lying, developed coastal site that may be directly affected by the change in sea level resulting from GCC. The elevation of the project site is essentially at sea level (0.5 to 4.0 ft above mean sea level [amsl]), and therefore, the rising of the ocean levels could result in on-site flood conditions.

Emissions Sources and Inventories. An emissions inventory that identifies and quantifies the primary human-generated sources and sinks of GHGs is a well-recognized and useful tool for addressing GCC. This section summarizes the latest information on global, national, California, and local GHG emission inventories. However, because GHGs persist for a long time in the atmosphere (see Table 4.6.A), accumulate over time, and are generally well-mixed, their impact on the atmosphere and climate cannot be tied to a specific point of emission.

Global Emissions. Worldwide emissions of greenhouse gases in 2012 totaled 29 billion MT of CO_2e per year.[1] Global estimates are based on country inventories developed as part of the programs of the United Nations Framework Convention on Climate Change (UNFCCC).

United States Emissions. In 2014, the United States emitted approximately 6.9 billion MT of CO_2e, down from 7.4 billion MT in 2009. Of the six major sectors nationwide—the electric power industry, transportation, industry, agriculture, commercial, and residential—the electric power industry and transportation sectors combined accounted for approximately 70 percent of the GHG emissions; the majority of the electric power industry and all of the transportation emissions were generated from direct fossil fuel combustion. In 2014, the total United States GHG emissions were approximately 9 percent less than 2005 levels.[2]

1 United Nations. *Greenhouse Gas Emissions*. Website: http://unstats.un.org/unsd/environment/air_greenhouse_emissions.htm (accessed March 2016).

2 United States Environmental Protection Agency (EPA). *Draft Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990–2014*. Website: http://www.epa.gov/climatechange/ghgemissions/usinventoryreport.html (accessed March 2016).

State of California Emissions. According to ARB emission inventory estimates, the State emitted approximately 459 million metric tons (MMT) of CO_2e emissions in 2013. This is a decrease of 1.5 MMT of CO_2e from 2012 and a 7 percent decrease since 2004.[1]

The ARB estimates that transportation was the source of approximately 37 percent of the State's GHG emissions in 2013, followed by electricity generation (both in-State and out-of-State) at 20 percent and industrial sources at 20 percent. The remaining sources of GHG emissions were residential and commercial activities at 9 percent, agriculture at 8 percent, high-GWP gases at 4 percent, and recycling and waste at 2 percent.[2]

The ARB is responsible for developing the State GHG Emission Inventory. This inventory estimates the amount of GHGs emitted to and removed from the atmosphere by human activities within the State and supports the AB 32 Climate Change Program. The ARB's current GHG emission inventory covers the years 2000–2013 and is based on fuel use, equipment activity, industrial processes, and other relevant data (e.g., housing, landfill activity, agricultural lands).[3]

The ARB staff has projected statewide unregulated GHG emissions for 2020, which represent the emissions that would be expected to occur in the absence of any GHG reduction actions, at 509 MMT of CO_2e. GHG emissions from the transportation and electricity sectors as a whole are expected to increase, but remain at approximately 30 percent and 32 percent of total CO_2e emissions, respectively.

Regional Emissions. Existing GHG emissions for the Southern California Association of Governments (SCAG) region were calculated for construction sources, mobile sources, natural gas consumption, and electricity generation. GHG emissions for 2010 were estimated to be approximately 224.6 MMT of CO_2e. Transportation and energy (i.e., electricity use and natural gas consumption) accounted for approximately 47 and 52 percent of emissions, respectively. Construction activity accounted for approximately 1 percent of the GHG emissions.

4.6.3 Regulatory Setting

Federal Policies and Regulations. The United States has historically had a voluntary approach to reducing GHG emissions. However, on December 7, 2009, the EPA issued an "endangerment finding" under the CAA, concluding that GHGs threaten the public health and welfare of current and future generations and that motor vehicles contribute to greenhouse gas pollution.[4] These findings provided the basis for adopting new national regulations to mandate GHG emission

[1] ARB. 2015. California Greenhouse Gas Emission Inventory – 2015 Edition. Website: http://www.arb.ca.gov/cc/inventory/data/data.htm.

[2] Ibid.

[3] ARB. 2015. California Greenhouse Gas Inventory Data - 2015 Edition. Website: http://www.arb.ca.gov/cc/inventory/data/data.htm (accessed March 2016).

[4] EPA. 2009. *Endangerment and Cause or Contribute Findings for Greenhouse Gases under Section 202(a) of the Clean Air Act.* August 9. Website: http://www.epa.gov/climatechange/endangerment (accessed April 2015).

reductions under the federal CAA. The EPA's endangerment finding paved the way for federal regulation of GHGs.

On April 1, 2010, the EPA and the Department of Transportation's National Highway Traffic Safety Administration (NHTSA) announced a final joint rule to establish a national program consisting of new standards for model year 2012–2016 light-duty vehicles that would reduce GHG emissions and improve fuel economy. The EPA and NHTSA issued a Supplemental Notice of Intent[1] announcing plans to propose stringent, coordinated federal GHG and fuel economy standards for model year 2017–2025 light-duty vehicles. The agencies proposed standards projected to achieve 163 grams of CO_2 per mile in model year 2025, on an average industry fleet-wide basis, which is equivalent to 54.5 miles per gallon if this level were achieved solely through fuel efficiency. California has announced its support of this national program.[2] The final rule was adopted in October 2012, and NHTSA intends to set standards for model years 2022–2025 in a future rulemaking.[3] The GHG benefit of federal vehicle standards is not directly quantified in this report because the more stringent California vehicle standards discussed later in this section are quantified in the report.

In addition to the regulations applicable to cars and light-duty trucks, on August 9, 2011, the EPA and the NHTSA announced fuel economy and GHG standards for medium- and heavy-duty trucks, which apply to vehicles from model years 2014–2018 (EPA 2011).[4] The EPA and the NHTSA have adopted standards for CO_2 emissions and fuel consumption, respectively, tailored to each of three main vehicle categories: combination tractors, heavy-duty pickup trucks and vans, and vocational vehicles. According to the EPA, this program will reduce GHG emissions and fuel consumption for affected vehicles by 9 percent to 23 percent. This EIR conservatively did not incorporate the GHG benefit of this federal standard.

State Policies, Regulations, and Standards.

2010 Climate Action Team Report – California Climate Action Milestones. In 1988, Assembly Bill (AB) 4420 directed the California Energy Commission (CEC) to report on "how global warming trends may affect California's energy supply and demand, economy, environment, agriculture, and water supplies" and offer "recommendations for avoiding, reducing and addressing the impacts." This marked the first statutory direction to a California State agency to address climate change.

1 United States Government Publishing Office (GPO). 2011. Federal Register, Vol. 76, No. 153, Proposed Rules, 2017–2025 Model Year Light-Duty Vehicle GHG Emissions and CAFE Standards: Supplemental Notice of Intent. August 9. Website: http://gpo.gov/fdsys/pkg/FR-2011-08-09/pdf/2011-19905.pdf.

2 EPA. 2011a. Commitment Letter to National Program, July 28, 2011. Website: http://www.epa.gov/otaq/climate/letters/carb-commitment-ltr.pdf (accessed September 2015).

3 National Highway Traffic Safety Administration (NHTSA). 2012. Corporate Average Fuel Economy Standards, Passenger Cars and Light Trucks, Model Years 2017-2025, Final Environmental Impact Statement, July 2012. Website: http://www.nhtsa.gov/staticfiles/rulemaking/pdf/cafe/FINAL_EIS.pdf (accessed September 2015).

4 EPA. 2011b. Office of Transportation and Air Quality, EPA and NHTSA Adopt First-Ever Program to Reduce Greenhouse Gas Emissions and Improve Fuel Efficiency of Medium-and Heavy-Duty Vehicles. August. Website: http://www.epa.gov/otaq/climate/documents/420f11031.pdf.

The California Climate Action Registry was created to encourage voluntary reporting and early reductions of GHG emissions with the adoption of Senate Bill (SB) 1771 in 2000. The CEC was directed to assist by developing metrics and identifying and qualifying third-party organizations to provide technical assistance and advice to GHG emission reporters. The next year, SB 527 amended SB 1771 to emphasize third-party verification.

SB 1711 also contained several additional requirements for the CEC, including updating the State's Greenhouse Gas Emissions Inventory from an existing 1998 report and continuing to update it every 5 years; acquiring, developing and distributing information on global climate change to agencies and businesses; establishing a State interagency task force to ensure policy coordination; and establishing a climate change advisory committee to make recommendations on the most equitable and efficient ways to implement climate change requirements. In 2006, AB 1803 transferred preparation of the inventory from the CEC to the ARB. The ARB updates the inventory annually.

AB 1493, authored by Assembly Member Fran Pavley in 2002, directed the ARB to adopt regulations to achieve the maximum feasible and cost-effective reduction of GHG emissions from motor vehicles. The so-called "Pavley" regulations, or Clean Car regulations, were approved by the ARB in 2004. The ARB submitted a request to the EPA to implement the regulations in December 2005. After several years of requests to the federal government and accompanying litigation, this waiver request was granted on June 30, 2009. The ARB has since combined the control of smog-causing pollutants and GHG emissions to develop a single coordinated package of standards known as Low Emission Vehicles III. It is expected that these regulations will reduce GHG emissions from California passenger vehicles by approximately 22 percent in 2012 and approximately 30 percent in 2016, all while improving fuel efficiency and reducing motorists' costs. AB 1493 also directed the California Climate Action Registry to adopt protocols for reporting reductions in GHG emissions from mobile sources prior to the operative date of the regulations.

SB 812 added forest management practices to the California Climate Action Registry members' reportable emissions actions. It also directed the Registry to adopt forestry procedures and protocols to monitor, estimate, calculate, report, and certify carbon stores and CO_2 emissions that resulted from the conservation and conservation-based management of forests in California.

The California Renewable Portfolio Standard (RPS) Program, which requires electric utilities and other entities under the jurisdiction of the California Public Utilities Commission to meet 20 percent of its retail sales with renewable power by 2017, was established by SB 1078 in 2002. The RPS was accelerated to 20 percent by 2010 by SB 107 in 2006. The program was subsequently expanded by the renewable electricity standard approved by the ARB in September 2010, requiring all utilities to meet a 33 percent target by 2020. The renewable electricity standard is projected to reduce GHG emissions from the electricity sector by at least 12 MMT of CO_2e in 2020.

In December 2004, Governor Arnold Schwarzenegger signed Executive Order (EO) S-20-04, which set a goal of reducing energy use in State-owned buildings by 20 percent by 2015 (from a 2003 baseline) and encouraged cities, counties, schools, and the private sector to take all cost-effective measures to reduce building electricity use. This action built upon the State's strong history of energy efficiency efforts that have saved Californians and California businesses energy and money for decades. They are a cornerstone of GHG reduction efforts.

EO S-3-05 (June 2005) established GHG targets for the State, such as returning to year 2000 emission levels by 2010; to 1990 levels by 2020; and to 80 percent below 1990 levels by 2050. It directed the Secretary of the California Environmental Protection Agency (CalEPA) to coordinate efforts to meet the targets with the heads of other State agencies. This group became the Climate Action Team (CAT).

California's Million Solar Roofs plan was boosted by the passage of SB 1 in 2006. The plan is estimated to result in 3,000 megawatts of new electricity-generating capacity and avoidance of 2.1 MMT of CO_2e emissions. The main components of the bill included expanding the program to more customers, requiring the State's municipal utilities to create their own solar rebate programs, and making solar panels a standard option on new homes.

The California Global Warming Solutions Act of 2006, best known by its bill number AB 32, created a first-in-the-country comprehensive program to achieve real, quantifiable, and cost-effective reductions in GHGs. The law set an economy-wide cap on California GHG emissions at 1990 levels by 2020. It directed the ARB to prepare, approve, and implement a Scoping Plan for achieving the maximum technologically feasible and cost-effective reductions in GHG emissions. EO S-20-06, signed in October 2006, directed the Secretary for Environmental Protection to establish a Market Advisory Committee of national and international experts. The committee made recommendations to the ARB on the design of a market-based program for GHG emissions reduction. The ARB adopted the first Scoping Plan, describing a portfolio of measures to achieve the target, in December 2008. All of the major regulatory measures necessary for meeting the 2020 emissions target were adopted by December 2010.

The Governors of California, Arizona, New Mexico, Oregon, and Washington entered into a Memorandum of Understanding in February 2007, establishing the Western Climate Initiative. The Governors agreed to set a regional goal for emissions reductions consistent with state-by-state goals; develop a design for a regional market-based, multisector mechanism to achieve the goal; and participate in a multistate GHG registry. The initiative has since grown to include Montana, Utah, and the Canadian provinces of British Columbia, Manitoba, Ontario, and Québec.

California is implementing the world's first Low Carbon Fuel Standard for transportation fuels, pursuant to both EO S-01-07 (signed January 2007) and AB 32. The standard requires a reduction of at least 10 percent in the carbon intensity of California's transportation fuels by 2020. This reduction is expected to reduce GHG emissions in 2020 by 17.6 MMT of CO_2e. Also in 2007, AB 118 created the Alternative and Renewable Fuel and Vehicle Technology Program. The CEC and the ARB administer the program. This act provides funding for alternative fuel and vehicle technology research, development, and deployment in order to attain the State's climate change goals, achieve the State's petroleum reduction objectives and clean air and GHG emission reduction standards, develop public-private partnerships, and ensure a secure and reliable fuel supply.

In addition to vehicle emissions regulations and the Low Carbon Fuel Standard, the third effort reducing GHG emissions from transportation is the reduction in the demand for personal vehicle travel (i.e., vehicle miles traveled, or VMT). This measure was addressed in September 2008 through the Sustainable Communities and Climate Protection Act of 2008, or SB 375. The enactment of SB 375 initiated an important new regional land use planning process to mitigate GHG emissions by integrating and aligning planning for housing, land use, and transportation for California's 18 Metropolitan Planning Organizations (MPOs). The bill directed the ARB to set regional GHG emissions reduction targets for most areas of the State. It also contained important elements related to federally mandated Regional Transportation Plans (RTPs) and the alignment of State transportation and housing planning processes.

Also codified in 2008, SB 97 required the Governor's Office of Planning and Research (OPR) to develop GHG emissions criteria for use in determining project impacts under CEQA. These criteria were developed in 2009 and went into effect in 2010.

EO S-13-08 launched a major initiative for improving the State's adaptation to climate impacts from sea level rise, increased temperatures, shifting precipitation, and extreme weather events. It ordered a California Sea Level Rise Assessment Report to be requested from the National Academy of Sciences. It also ordered the development of a Climate Adaptation Strategy. The strategy, published in December 2009, assesses the State's vulnerability to climate change impacts and outlines possible solutions that can be implemented within and across State agencies to promote resiliency. The strategy focused on seven areas: public health, biodiversity and habitat, ocean and coastal resources, water management, agriculture, forestry, and transportation and energy infrastructure.

On October 28, 2010, ARB released its proposed cap-and-trade regulations, which would cover sources of approximately 85 percent of California's GHG emissions.[1] ARB's Board ordered ARB's Executive Director to prepare a final regulatory package for cap-and-trade on December 16, 2010.[2] On January 1, 2011, the ARB adopted GHG emissions limits and reduction measures by regulation. On January 1, 2015, cap-and-trade compliance obligations were phased in for suppliers of natural gas, reformulated gasoline blendstock for oxygenate blending, distillate fuel oils, and liquefied petroleum gas, requiring emissions that meet or exceed specified emissions thresholds.

On October 1, 2013, ARB released an update to the Scoping Plan for discussion purposes. On February 10, 2014, ARB released its proposed First Update to the Climate Change Scoping Plan ("Updated Scoping Plan").[3] Finally, on May 22, 2014, ARB approved the Updated Scoping Plan. It describes California's progress towards AB 32 goals, stating that "California is on track to meet the near-term 2020 greenhouse gas limit and is well positioned to maintain and continue reductions beyond 2020 as required by AB 32." Specifically, "if California realizes the expected benefits of existing policy goals (such as 12,000 megawatts [MW] of renewable distributed

[1] ARB. 2010a. Proposed Regulation to Implement the California Cap-and-Trade Program, December 16, 2010. Website: http://www.arb.ca.gov/regact/2010/capandtrade10/capandtrade10.htm (accessed September 2015).

[2] ARB. 2010b. California Cap-and-Trade Program, Resolution 10-42, December 16, 2010. Website: http://www.arb.ca.gov/regact/2010/capandtrade10/res1042.pdf (accessed September 2015).

[3] ARB. 2014b. First Update to the Climate Change Scoping Plan: Building on the Framework. Pursuant to AB 32, the California Global Warming Solutions Act of 2006. May. Website: http://www.arb.ca.gov/cc/scopingplan/2013_update/first_update_climate_change_scoping_plan.pdf.

generation by 2020, net zero energy homes after 2020, existing building retrofits under AB 758, and others), it could reduce emissions by 2030 to levels squarely in line with those needed in the developed world and to stay on track to reduce emissions to 80 percent below 1990 levels by 2050."[1]

In addition, the Updated Scoping Plan further reduced the GHG emissions reduction target. It recalculated 1990 GHG emissions levels using the Intergovernmental Panel on Climate Change (IPCC) Fourth Assessment Report (AR4).[2] Using the AR4 GWP, the 427 MMT of CO_2e 1990 emissions levels and 2020 GHG emissions limits would be slightly higher, at 431 MMT of CO_2e.[3] Based on the revised estimates of expected 2020 emissions identified in the 2011 supplement to the Functional Environmental Document and updated 1990 emissions levels identified in the Updated Scoping Plan, achieving the 1990 emission level would require a reduction of 78 MMT of CO_2e, which equates to a reduction of approximately 15.3 percent to achieve in 2020 emissions levels in the business-as-usual condition.[4] Thus, the Updated Scoping Plan essentially establishes a 15.3 percent reduction from the business-as-usual threshold of significance for measuring potential GHG impacts.

On April 29, 2015, Governor Edmund G. Brown, Jr. issued an executive order to establish a California GHG reduction target of 40 percent below 1990 levels by 2030. The Governor's executive order aligns California's GHG reduction targets with those of leading international governments ahead of the 2015 United Nations Climate Change Conference in Paris. The executive order sets a new interim statewide GHG emission reduction target to reduce GHG emissions to 40 percent below 1990 levels by 2030 in order to ensure California meets its target of reducing GHG emissions to 80 percent below 1990 levels by 2050 and directs the ARB to update the Climate Change Scoping Plan to express the 2030 target in terms of MMT of CO_2e. The executive order also requires the State's climate adaptation plan to be updated every 3 years and for the State to continue its climate change research program, among other provisions. As with EO S-3-05, this executive order is not legally enforceable against local governments and the private sector. Legislation that would update AB 32 to make post 2020 targets and requirements a mandate is currently in process in the State Legislature.

The initiatives, EOs, and statutes outlined above represent the major milestones in California's efforts to address climate change through coordinated action on climate research, GHG mitigation, and climate change adaptation. Numerous additional related efforts have been undertaken by State agencies and departments to address specific questions and programmatic needs. The CAT coordinates these efforts and others that compose the State's climate program. The rest of the report describes these efforts.

1 ARB. 2014. First Update to the Climate Change Scoping Plan: Building on the Framework. Pursuant to AB 32, the California Global Warming Solutions Act of 2006. May. Website: http://www.arb.ca.gov/cc/scopingplan/2013_update/first_update_climate_change_scoping_plan.pdf (accessed March 2015).

2 The GWP of CH_4 was updated to 25 (from previously 21) and that of N_2O was updated to 298 (from previously 310).

3 Op. Cit. ARB. 2014.

4 ARB. 2011. Final Supplement to the AB 32 Scoping Plan Functional Equivalent Document, released August 19, 2011. Website: http://www.arb.ca.gov/cc/scopingplan/document/final_supplement_to_sp_fed.pdf (accessed September 2015).

Local Policies and Regulations.

City of Long Beach Air Quality Element. In December of 1996, the City adopted the Air Quality Element (1996) as part of the City's General Plan. This element includes goals and polices related and intended to promote clean air within the City. The following goals and policies are applicable to the proposed Project:

Goal 7.0: Reduce emissions through reduced energy consumption.

Policy 7.1: Reduce energy consumption through conservation improvements and requirements.

Action 7.1.4: Encourage the incorporation of energy conservation features in the design of all new construction.

Action 7.1.7: Support efforts to reduce GHGs emissions that diminish the stratospheric ozone layer.

City of Long Beach Sustainable City Action Plan. The City adopted the Long Beach Sustainable City Action Plan on February 2, 2019. This plan serves as a guide for planners and decision-makers in the City to implement measurable goals and actions established for the purpose of creating a more sustainable City. The following sustainability goals and actions relevant to the proposed Project are:

Goal 5: Reduce community electricity use by 15 percent by 2020.

Action: Encourage the use of energy efficient products including efficient lighting, energy monitoring systems, cool and green roofs, insulation and efficient HVAC systems.

Goal 6: Reduce community natural gas use by 10 percent by 2020.

Action: Require that private development projects incorporate Green Building Requirements for Private Development and encourage development projects to exceed Title 24 standards.

4.6.4 Impact Significance Criteria

The following thresholds of significance criteria are based on Appendix G of the *State CEQA Guidelines*. Based on these thresholds, implementation of the proposed Project would have a significant adverse impact related to global climate change if it would:

Threshold 4.6.1: **Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment; or**

Threshold 4.6.2: **Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.**

The *State CEQA Guidelines* leave the determination of significance to the reasonable discretion of the lead agency and encourage lead agencies to develop and publish thresholds of significance for use in determining the significance of environmental effects in CEQA documents. As discussed above, neither SCAQMD nor the City of Long Beach has yet established specific quantitative significance thresholds for GHG emissions for residential or commerical projects. Therefore, consistent with the SCAQMD's tiered approach described in Section 4.6.1, above, the proposed Project will be analyzed using the Tier 3 screening thresholds, as follows:

- 10,000 MT of CO_2e per year for industrial projects
- 3,000 MT of CO_2e per year for commercial/residential projects

Until more guidance is provided from federal or State agencies, the City defers to the recommended screening significance criteria level for commercial/residential projects to be 3,000 MT of CO_2e per year. However, given the frequency of changes in regulations over GHG emissions, this standard should be recognized as interim and will likely change over time as further guidance is provided by federal or State regulatory agencies.

CEQA Baseline. At the time the NOP was issued, the Project site contained both the Belmont Pool facilities and the outdoor temporary pool (opened in December 2013 to provide swimming facilities while the permanent facility was under construction). Although the site contained the former Belmont Pool building at the time of the NOP, the facility was subsequently demolished in February 2015 to alleviate an imminent public safety threat due to the seismically unsafe condition of the building.

The inclusion of the former pool building in the assessment of global climate change impacts is appropriate because the former facility was present on the site for approximately 45 years and represents the historic uses of the site, and the historic GHG conditions of the site. The substantial evidence of recent historical use supports the determination that utilization of the Belmont Pool building as the baseline for global climate change impacts is appropriate.

4.6.5 Project Impacts

Construction and operation of the proposed Project would generate GHG emissions, with most energy consumption (and associated generation of GHG emissions) occurring during the proposed Project's operation (as opposed to its construction). Typically, more than 80 percent of the total energy consumption takes place during the use of buildings, and less than 20 percent is consumed during construction.[1]

GHG emissions generated by the proposed Project would predominantly consist of CO_2. In comparison to criteria air pollutants such as O_3 and particulate matter less than 10 microns in diameter (PM_{10}), CO_2 emissions persist in the atmosphere for a substantially longer period of time.

[1] United Nations Environment Programme (UNEP). 2007. *Buildings and Climate Change: Status, Challenges and Opportunities*, Paris, France.

Construction. During construction of the proposed Project, GHGs would be emitted through the operation of construction equipment and from worker and vendor vehicles, each of which typically use fossil-based fuels to operate. The combustion of fossil-based fuels creates GHGs such as CO_2, CH_4, and N_2O. Furthermore, CH_4 is emitted during the fueling of heavy equipment. Construction activities produce combustion emissions from various sources such as site grading, utility engines, on-site heavy-duty construction vehicles, equipment hauling materials to and from the site, asphalt paving, and motor vehicles transporting the construction crew. Exhaust emissions from on-site construction activities would vary daily as construction activity levels change.

Per SCAQMD guidance, due to the long-term nature of the GHGs in the atmosphere, instead of determining significance of construction emissions alone, the total construction emissions are amortized over 30 years (an estimate of the life of the project) and included in the operations analysis provided in the next section, Operation.

Operation. Long-term operation of the proposed Project would generate GHG emissions from area and mobile sources and indirect emissions from stationary sources associated with energy consumption. As discussed in Chapter 3.0, Project Description, the proposed Project would be built to meet Leadership in Energy and Environmental Design (LEED) Gold certification standards. Although not all proposed design features have been selected, the City has committed to implement the following pool components to assist in reaching the LEED certification by reducing water and energy consumption:

- **Aquatic-Specific Variable Frequency Drives on Pumps.** The aquatic-specific pumps are in constant communication with the filtration system and chemical controller to provide the optimum electrical frequency to the pump, constantly maintaining the pump at its premium efficiency and reducing energy consumption by as much as 30 percent.
- **Filtration.** Regenerative Media System: A single tank utilizing a Regenerative Media Filter System (RMF) can accommodate the same filter area as five or six traditional high-rate sand filters, creating a significant reduction in required mechanical room space. A typical RMF system may reduce a pool's water consumption by up to 97 percent.
- **High Efficiency Direct Fire Heating**. Improvements in burner design as they relate to the integrated heat exchanger have resulted in results that achieve 95 to 97 percent heater efficiency over conventional burner designs.
- **Underwater Pool Lights**. Utilizing light-emitting diode (LED) pool light would save energy costs and extend the life of a light bulb by 10 times.
- **Pool Blankets**. Using pool blankets reduces water evaporation, chemical use, and energy use. Pool blankets may reduce operating costs from water, heat, and chemical losses by as much as 50 percent if used every evening for 8–10 hour periods and may result in annual water savings of approximately 809,000 gallons for the proposed Project.

The proposed Project would increase the size of the on-site pools and the potential number of swim events that could occur concurrently. Mobile-source emissions of GHGs would include Project-generated vehicle trips associated with on-site facilities and visitors/deliveries to the Project site. Area-source emissions would be associated with activities such as landscaping and maintenance of proposed land uses, natural gas for heating, and other sources. Increases in stationary source emissions would also occur at off-site utility providers as a result of demand for electricity, natural gas, and water by the proposed uses. As shown in Table 4.6.D, the proposed Project would produce an estimated 1,600 MT of CO_2e per year above the existing condition. This does not include any credits for the LEED-certification project features that would reduce energy use and, therefore, reduce GHG emissions from the project.

Table 4.6.D: Long-Term Regional GHG Emissions

Source	Total Regional Pollutant Emissions (MT/yr)					
	Bio-CO_2	**NBio-CO_2**	**Total-CO_2**	**CH_4**	**N_2O**	**CO_2e**
Construction Emissions Amortized over 30 years	0	23	23	0.0044	0	23
Operational Emissions						
Area	0	0.0033	0.0033	0.00001	0	0.0035
Energy	0	380	380	0.014	0.0047	380
Mobile	0	2,100	2,100	0.079	0	2,100
Waste	150	0	150	8.8	0	330
Water	2.5	44	46	0.26	0.0065	54
Total Project Emissions	150	2,500	2,700	9.2	0.011	2,900
Existing Site Emissions	75	1,200	1,200	4.6	0.0052	1,300
Net Project Emissions	75	1,300	1,500	4.6	0.0058	1,600

Source: LSA Associates, Inc. (March 2016).
Bio-CO_2 = biologically generated CO_2
CH_4 = methane
CO_2 = carbon dioxide
CO_2e = carbon dioxide equivalent
GHG = greenhouse gas
MT/yr = metric tons per year
N_2O = nitrous oxide
NBio-CO_2 = non-biologically generated CO_2

In comparing the proposed Project to the tiered draft interim GHG significance criteria, it is not exempt as described in Tier 1. As previously stated, the City has a Sustainable Action Plan aimed at reducing GHG emissions in the City. Although the Project would be consistent with applicable goals and policies in this plan, the City's goal of reducing GHG emissions by 15 percent (or 10 tons of CO_2 per capita) by 2020 would not be applicable to the proposed Project as it specifically targets the City's general facilities and operations. Therefore, this plan is not an applicable GHG reduction plan, per Tier 2. The Tier 3 screening significance criteria level utilizes two categorizes for proposed projects, "industrial" and "commercial/residential."

Due to the restaurant component, variable attendance, and intermittent events at the proposed Project, the "commercial/residential" category was used for this analysis. The Tier 3 screening significance criteria level for commercial/residential projects is 3,000 MT of CO_2e per year. As shown in Table 4.6.D, the proposed Project would produce approximately 1,600 MT of CO_2e per year above the existing condition and would not exceed this criterion. Even with the existing site emissions, the proposed Project would produce approximately 2,900 MT of CO_2e per year, which would not exceed this criterion. Therefore, operational emissions would be below the screening threshold of 3,000 MT of CO_2e per year for commercial/residential projects, and Project operations would be considered to have a less than significant impact related to GHG emissions. No mitigation is required.

Conflict with an Applicable GHG Reduction Plan, Policy, or Regulation. The GHG emissions reduction goals in AB 32 are scoped to manage total statewide GHG emissions of approximately 496.95 MMT of CO_2e per year. The proposed Project is estimated to produce approximately 1,600 MT of CO_2e per year over existing conditions, representing approximately 0.002 MMT of CO_2e per year of the State's reduction goals. Therefore, the proposed Project is not considered to result in GHG emission levels that would substantially conflict with implementation of the GHG reduction goals under AB 32, EO S-03-05, or other State regulations.

Therefore, the proposed Project would have a less than significant impact related to potential conflicts with regulations outlined in the California Green Buildings Standard Code and GHG emissions reduction goals in AB 32. No mitigation is required.

4.6.6 Cumulative Impacts

As defined in Section 15130 of the *State CEQA Guidelines*, cumulative impacts are the incremental effects of an individual project when viewed in connection with the effects of past, current, and probable future projects within the cumulative impact area for land use.

Although the proposed Project is expected to emit GHGs, the emission of GHGs by any single project into the atmosphere is not itself necessarily an adverse environmental effect. Rather, it is the increased accumulation of GHGs from more than one project and many sources in the atmosphere that may result in GCC. The resultant consequences of that climate change, including sea level rise, could cause adverse environmental effects. A project's GHG emissions typically would be very small in comparison to State or global GHG emissions and, consequently, they would, in isolation, have no significant direct impact on climate change. Due to the complex physical, chemical, and atmospheric mechanisms involved in GCC, it is speculative to identify the specific impact, if any, to GCC from one project's incremental increase in global GHG emissions. As such, a project's GHG emissions and the resulting significance of potential impacts are more properly assessed on a cumulative basis. The project-specific analysis conducted above is essentially already a cumulative analysis, because it takes into consideration statewide GHG reduction targets and demonstrates that the proposed Project would be consistent with those targets.

The State has mandated a goal of reducing statewide emissions to 1990 levels by 2020, even though statewide population and commerce is predicted to continue to expand. In order to achieve this goal, the ARB is in the process of establishing and implementing regulations to reduce statewide GHG emissions. However, currently there are no applicable significance thresholds, specific reduction targets, and no approved policy or guidance to assist in determining significance at the cumulative level. Additionally, there is currently no generally accepted methodology to determine whether GHG emissions associated with a specific project represent new emissions or existing, displaced emissions.

The California Attorney General's Office has taken an active role in addressing climate change via the *State CEQA Guidelines*, including, but not limited to, submitting comment letters on draft CEQA documents; filing CEQA lawsuits; and entering into related settlement agreements. Additionally, the Attorney General's Office has created and routinely updates a Fact Sheet listing project design features to reduce GHG emissions. The Attorney General's Office created this Fact

Sheet primarily for the benefit of local agencies processing CEQA documents, acknowledging that "local agencies will help to move the State away from "business-as-usual" and toward a low-carbon future."[1] The Fact Sheet explains that the listed "measures can be included as design features of a project," but emphasizes that they "should not be considered in isolation, but as part of a larger set of measures that, working together, will reduce GHG emissions and the effects of global warming."

The proposed Project emphasizes energy efficiency and water conservation and would be consistent with AB 32's goals for 2020, the proposed Project would not generate GHG emissions that exceed any applicable threshold of significance, and would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs. As a result, the proposed Project's climate change impacts with regard to GHG emissions would not be considered cumulatively considerable because they would not contribute to GHG emissions that exceed AB 32's statewide goals.

According to the *Wave Uprush Study* for the proposed Project, wave run-up for the high 2060 and 2100 sea level rise scenarios (2.6 ft and 5.5 ft increase in sea level, respectively), would reach up to 8.2 ft and 10.4 ft (or greater) at the Project site. However, because the main pool deck would be elevated 17 ft amsl, the pool deck would be set 8.8 ft and 6.6 ft above the projected high water level in 2060 and 2100, respectively. The lower level of the building (pool equipment and storage) and associated parking areas would be below the projected water line under both scenarios; however, these areas would not be open for public use, and therefore, would not subject visitors to the Project site to significant cumulative impacts related to sea level rise. Furthermore, additional GHG reduction strategies implemented at the State, national, and international levels could reduce sea-level rise. Therefore, the proposed Project would not be adversely impacted by sea level rise due to climate change.

The *Wave Uprush Study* analyzed potential impacts at the Project site from sea level rise and a 100-year storm for a range of scenarios resulting from the potential changes to the Long Beach Breakwater. The first alternative (BW1) assumed no changes to the existing breakwater and is the basis for the following discussion. According to the *Wave Uprush Study* for the proposed Project, wave run-up for the high 2060 and 2100 sea level rise scenarios (a 2.6 ft and 5.5 ft increase in sea level, respectively), would result in a run up elevation up to 8.2 ft and 10.4 ft (or greater) at the Project site. Without preventative measures, the upper 2100 sea level rise estimate would not only inundate much of the pool facility, but much of the Long Beach Peninsula and Belmont Shore as well. This 2100 condition is not a result of the Project but rather the result of the projected worst-case sea level rise and erosion conditions. It should be noted that the modeled scenario does not account for shore protection measures such as beach nourishment, storm berm construction, winter sand dikes, or other shore protection structures that would be implemented over the long period of time that erosion and sea level rise were occurring. These measures are not required by, or a responsibility of the proposed Project, as the Project does not exacerbate these conditions. Furthermore, because the main pool deck would be elevated 17 ft amsl, the pool deck would be set 8.8 ft and 6.6 ft above the projected high water levels in 2060 and 2100, respectively. The lower level of the building (pool equipment and storage) and associated parking areas would be

[1] State of California Attorney General's Office Fact Sheet. 2008. *The California Environmental Quality Act Addressing Global Warming Impacts at the Local Agency Level*. December.

below the projected water line under both scenarios; however, these areas would not be open for public use, and therefore, would not subject visitors to the Project site to significant cumulative impacts related to sea level rise. Furthermore, additional GHG reduction strategies implemented at the State, national, and international levels could reduce sea-level rise between now and the year 2100. Therefore, the proposed Project would not be adversely impacted by sea level rise due to climate change, and no mitigation is required.

4.6.7 Level of Significance Prior to Mitigation

The proposed Project would emit GHGs during Project construction; however, these impacts would not substantially contribute to the overall GHG in the environment due to the relatively short construction periods and the relative contribution to the Project's overall lifetime emissions.

By implementing conservation and sustainability features, the proposed Project would result in GHG emissions lower than the accepted significance criterion level. Therefore, GHG emissions and the Project's contribution to global climate change are considered to be less than significant, and no mitigation would be required.

4.6.8 Mitigation Measures

No mitigation is required.

4.6.9 Level of Significance after Mitigation

The proposed Project would not result in potential significant impacts related to GHGs, and no mitigation is required. There are no significant unavoidable adverse impacts of the proposed Project related to Greenhouse Gas emissions and Global Climate Change.

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4.7 HAZARDS AND HAZARDOUS MATERIALS

This section addresses potential hazards and hazardous material impacts at the proposed Belmont Pool Revitalization Project (proposed Project) site and in the surrounding area that may result from implementation of the proposed Project. The information contained in this section is based on the *Phase I Hazardous Materials Assessment* (HMA) prepared by Ninyo & Moore for the Belmont Plaza Pool at 4000 East Olympic Plaza, in Long Beach, Los Angeles County, California (June 2013). Updates to the Phase I HMA were provided in the Update to Hazardous Materials Assessment Prepared for Belmont Pool Revitalization Project (February 2015). These reports are included in Appendix F of this Draft Environmental Impact Report (EIR).

Scoping Process

The City of Long Beach (City) distributed a Notice of Preparation (NOP) for the Draft EIR from April 18 to May 17, 2013. The City received three comment letters in response to the original NOP. No comment letters associated with Hazards or Hazardous Materials were received in response to the original NOP circulated for the proposed Project. Due to revisions in the Project description, the City reissued the NOP for the Draft EIR between April 9, 2014 and May 8, 2014. The City received five comment letters in response to the re-issued NOP during the public review period. No Hazards or Hazardous Materials-related issues were raised in those comment letters.

4.7.1 Methodology

As described above, the information contained in this section is based on the HMA for the Project site prepared by Ninyo & Moore in June 2013. The objective of the HMA was to evaluate existing, potential, or suspect conditions that may pose an environmental liability associated with construction and operation of the proposed Project.

A site reconnaissance was conducted to visually identify areas of possible contamination, improperly stored hazardous materials, possible sources of polychlorinated biphenyls (PCBs), and possible risk of contamination from activities at the site and adjacent properties. In addition, available maps, photographs, reports, and regulatory agency databases and files were reviewed for the Project site and properties located within a 0.25 mile radius of the Project site. The review of the databases included, but were not limited to, identification of locations of known hazardous waste sites; landfills; leaking underground storage tanks (LUSTs); permitted facilities that utilize underground storage tanks (USTs); and facilities that use, store, or dispose of hazardous materials.

Background research included personal interviews of on-site staff and contact with local public agencies to obtain files or records regarding the Project site. The public agencies contacted included the Long Beach Health Department (LBHD)/Environmental Division, the Long Beach Fire Department (LBFD), the Long Beach Department of Health and Human Services (Certified Unified Program Agency [CUPA]), the Long Beach Department of Development Services (LBDDS), the Los Angeles Regional Water Quality Control Board (RWQCB – Region 4), and the South Coast Air Quality Management District (SCAQMD).

The former Belmont Pool was closed to the public on January 13, 2013, as a result of substandard seismic and structural conditions, and was demolished in February 2015, because it was determined to be an imminent threat to public safety. However, at the time of the original issuance of the NOP, the existing structures were present on the Project site and, therefore, the HMA included a discussion of potential structural environmental and health threats associated with the existing structure. Although not included as a part of this Project, the demolition of the existing structure was required to comply with all applicable health and safety regulations.

4.7.2 Existing Environmental Setting

Project Site.

Historical Use. Based on review of historical information, the site consisted of commercial properties from 1928 until 1956. By 1968, the site appeared to be redeveloped with the Belmont Pool structure and outdoor pool area; the site remained relatively unchanged from 1968 through February 2015, when the structure demolition was completed.

Site Surveys. A site surveillance survey was conducted on May 29, 2012, to visually inspect and assess the potential for on-site Recognized Environmental Concerns (RECs) at the former Belmont Pool facility. The demolition of the former Belmont Pool facility is not a part of the analysis contained in this Draft EIR. However, it should be noted that the site reconnaissance did not identify or observe any RECs associated with any of the following: significant evidence of releases or spills; electrical transformers or PCBs; evidence of staining or release near storage containers; or chlorofluorocarbons (CFCs) or mercury-containing equipment. The HMA did identify the potential for asbestos-containing materials (ACMs) and lead to be present in some building products on site. For informational purposes, a brief discussion of these RECs is included below. As previously stated, the probability of collapse for the existing building on site is higher than acceptable standards and, therefore, the building was scheduled for demolition under an emergency permit (Statutory Exemption SE14-01). Any RECs associated with the building were addressed in conjunction with removal of the structure and in accordance with all health and safety regulations.

The following summarizes the results of the site surveys.

Aboveground Chemical or Waste Storage. Two areas where hazardous waste was stored were observed within the Project site. Two 150-gallon aboveground storage tanks (ASTs), one containing hydrochloric acid and the other, sodium hypochlorite, were observed within a storage shed located at the northwest corner of the outdoor pool area. A 100-gallon AST containing hydrochloric acid and a 200-gallon AST with secondary containment containing sodium hypochlorite were observed within the eastern portion of the indoor Olympic pool area. Significant evidence of releases or spills were not observed at these areas; therefore, these chemical storage areas did not appear to constitute an REC in connection with the Project site.

Electrical Transformers/Polychlorinated Biphenyls. Electrical transformers, which can be a source of PCBs, were not observed during our site reconnaissance. Therefore, no recognized REC was identified at the Project site.

PCBs were commonly incorporated into light ballasts manufactured prior to 1978. All light ballasts manufactured since 1978 are prohibited from containing PCBs and should be marked by the manufacturer with a statement saying “No PCBs.” All light ballasts without the PCB statement are assumed to contain PCBs. PCBs associated with the light ballasts are not considered to be an REC in connection with the Project site.

Evidence of Releases or Potential Releases. Minor staining around the 150-gallon AST containing hydrochloric acid was observed. The floor near the AST was in good condition. Other evidence of chemical releases on the Project site (i.e., odors, stressed vegetation, stains, leaks, pools of liquids, or spills) was not observed during the site reconnaissance. Based on the observations, the minor staining around the 150-gallon AST did not constitute an REC in connection with the Project site.

Chlorofluorocarbons and Mercury. Chlorofluorocarbon (CFC)-containing equipment can pose a health threat due to inhalation as well as to the depletion of the Earth’s ozone layer. Mechanic equipment related to the building operations (refrigerators, air conditioning units, walk-in coolers, etc.) that are older than 1994 have the potential to contain R12 gas (Freon). The approximate year of the renovation of the former Belmont Pool facility and subsequent replacement of the building’s operational equipment was shown to be 1996. Additionally, equipment containing mercury (thermostats or other temperature-controlled devices) were not observed during the site survey. Therefore, on-site equipment containing substances that pose a threat to human health were not considered to be an REC.

Existing Oil Wells. The presence of subsurface methane gas is common within former oil production areas and other locations where organic material is present in the soil. Methane is generated by the biodegradation of organic matter in the absence of oxygen. Methane is not toxic, however, it is combustible and potentially explosive at concentrations above 50,000 part per million (ppm) in the presence of oxygen.

There are no existing oil wells within the Project site. However, the Project site is located within the Wilmington oil field. A plugged and abandoned oil well, “Core Hole” 6, is located approximately 2,000 feet (ft) southwest, and a plugged and abandoned dry hole, “Core Hole” 8, is located approximately 2,500 ft southeast of the Project site. “Water Source Well” B-1 is located in Island White, approximately 5,000 ft southwest of the Project site. Due to the high level of oil availability and production at the Wilmington Oil Field, the presence of subsurface methane gas is a possibility. However, based on the distance to known oil wells in the vicinity of the Project site, the potential presence of methane at the Project site is low. The low potential for encountering methane during excavation for the pool would be managed through compliance with a Contingency Plan that addresses the potential to encounter unknown hazards or hazardous substances during construction activities.

Asbestos-Containing Materials. The use of asbestos in many building products was banned by the United States Environmental Protection Agency (EPA) by the late 1970s. In 1989, the EPA issued a ruling prohibiting the manufacture, importation, processing, and distribution of most ACMs. This rule, known as the Ban and Phase-Out Rule, would have effectively banned the use of nearly 95 percent of all asbestos products used in the United States. However, the United States 5th Circuit Court of Appeals vacated and remanded most of the Ban and Phase-Out Rule in October 1991. Due to this court decision, many asbestos-containing product categories not previously banned (prior to 1989) may still be in use today. Among these common material types found in buildings are floor tile and roofing materials. ACMs represent a concern when they are subject to damage that results in the release of fibers. Friable ACMs, which can be crumbled by hand pressure and are, therefore, susceptible to damage, are of particular concern. Nonfriable ACMs are a potential concern if they are damaged by maintenance work, demolition, or other activities.

A visual assessment of the existing structures was conducted during the site survey for ACMs. Based on the construction date of the existing buildings (prior to 1980), ACMs may be present in subsurface building materials at the site. As stated above, the existing structures were demolished due to seismic safety concerns; the ACMs within the building footprint were remediated in association with the demolition. However, there are currently several subsurface structures present on the Project site that may contain ACMs.

Lead-Based Paint. Lead has been used in commercial, residential, road, and ceramic paint; in electric batteries and other devices; as a gasoline additive; for weighting; in gunshot; and for other purposes. It is recognized as toxic to human health and the environment and is widely regulated in the United States. Buildings constructed prior to 1978 are presumed to contain lead-based paint (LBP) unless proven otherwise, although buildings constructed after 1978 may also contain LBP. Lead is regulated as a “criteria” pollutant under the federal Clean Air Act (CAA), which has led to its elimination from automotive fuels. Lead is also regulated as a toxic pollutant under the federal Clean Water Act (CWA) and the state Porter-Cologne Water Quality Control Act (Porter-Cologne Act) as well as under the federal and California Safe Drinking Water Acts.

Based on the construction date of the existing buildings (prior to 1980), LBPs may be present in building materials at the site. As stated above, the existing structures were demolished due to seismic safety concerns; the LBPs were remediated in association with the demolition. Currently however, the two outdoor pools present on the Project site have tile liners that may contain lead.

Surrounding Properties.

Historical Use. Historical aerial photographs, fire insurance rate maps, and oil and gas maps were reviewed as part of the Phase I HMA for the Project site. In 1928, the surrounding properties consisted of vacant properties north and east of the site and residential properties west of the site. Between 1938 and 1956, commercial properties were developed north of the site; vacant property remained north and east of the site, and residential properties remained west of the site. Between 1968 and 2012, the majority of the adjacent properties remained similar in use to 1956, except a parking lot and an observed maintenance building were constructed east of the site; and a parking lot was constructed west of the site. Between 1968 and 2012, the site had been developed with the existing structures.

Schools. The California Environmental Quality Act (CEQA) analyzes the potential impacts to schools that are within 0.25 mile of the Project site. One private school, Belmont Shore Children's Center (30 S. Termino Avenue, Long Beach, California 90803) has been identified within 0.25 mile of the Project site. Belmont Shore Children's Center serves local communities, including Belmont Shore, Belmont Heights, Naples, California State University of Long Beach (CSULB), Long Beach, Downtown Long Beach, and Seal Beach. The private school provides preschool, child care, day care, and early childhood education for children ages 2 to 6 years old.

Records Searches and Interviews. A thorough investigation was conducted to establish a baseline of background information by reviewing available maps, photographs, reports, and regulatory agency databases and files within 0.25 mile radius of the Project site.

Regulatory database information was produced by Environmental Data Resources, Inc. (EDR) for the Phase I HMA and is provided in Appendix F. The database report is dated June 6, 2013. The database information was conducted for the Project site as part of the Phase 1 HMA. In addition to the American Society for Testing and Materials (ASTM)-required listings, Ninyo & Moore also reviewed other federal, State, local, and proprietary database provided by EDR. Results of the database searches did not include the Project site. However, the State Leaking Underground Storage Tank List (within a 0.25 mile) resulted in two open listings, as shown in Table 4.7.A.

Table 4.7.A: Listed Facilities Within 0.25 Mile of the Project Site

Facility Name and Location	Estimated Distance/Direction/Gradient	Database Listings
ARCO No. 1063 3955 Ocean Boulevard E	0.15 mile/north-northeast/up-gradient	LUST
Unocal No. 5939 76 Termino Avenue	0.16 mile/north/up-gradient	LUST

LUST = Leaking Underground Storage Tank

ARCO No. 1063. ARCO No. 1063 is located approximately 0.15 mile north-northeast of the Project site and is in a hydrogeologic up-gradient position relative to the Project site. This facility is listed in the LUST database and the current regulatory status is open. ARCO No. 1063 is currently an active service station with three 12,000-gallon USTs, two dispenser islands, and an AM/PM Food Mart. The potential contaminant of concern was reported to be gasoline, and the potential media affected was reported to be the aquifer used for drinking water supply. A review of the RWQCB's Geotracker website on February 16, 2015 indicated that the ARCO station is in the process of preparing a closure plan. In addition, based on the latest groundwater sampling on November 25, 2014, no petroleum impact was detected in the monitoring well closest to the Project site.

In July 2014, groundwater sampling was conducted for the demolition activities of the former Belmont Pool facility. Results of the groundwater testing revealed concentrations that exceeded the National Pollutant Discharge Elimination System (NPDES) screening levels for some metals (beryllium, copper mercury, nickel, lead, antimony, and zinc) and for some dissolved metals (cadmium, copper, mercury, nickel, lead, and antimony). However, no detectable constituents of gasoline were reported by the laboratory.

UNOCAL No. 5939. UNOCAL No. 5939 is located approximately 0.15 mile north of the Project site and is in a hydrogeologic up-gradient position relative to the Project site. This facility is listed in the LUST database and the current regulatory status is open. This station has an open environmental case associated with it, also overseen by the Los Angeles RWQCB. The facility is currently an active service station with two 10,000-gallon gasoline USTs, one 500-gallon used-oil UST, and three dispenser islands with associated product piping. The potential contaminant of concern was reported to be gasoline, and the potential media affected was reported to be the aquifer used for drinking water supply. The review of the Geotracker website on February 16, 2015 determined that the LUST at the UNOCAL station has a case closed status.

4.7.3 Regulatory Setting

Hazardous waste is the used or leftover portion of any hazardous chemicals or materials. Any used or leftover product that is labeled with the words danger, warning, toxic, caution, poison, flammable, corrosive, or reactive is considered a hazardous waste. Universal waste, also considered to be hazardous, includes consumer batteries, light bulbs, light tubes, and mercury-containing items. Regulations govern the collection and management of these widely generated wastes, thus facilitating environmentally sound collection and proper recycling or treatment. These regulations ease the regulatory burden on retail stores and others that wish to collect hazardous wastes and encourage the development of municipal and commercial programs to reduce the quantity of these wastes going to municipal solid waste landfills or combustors. In addition, the regulations also ensure that the wastes subject to this system will go to appropriate treatment or recycling facilities pursuant to the full hazardous waste regulatory controls. Implementation of these regulations and the management of hazardous materials are regulated independently of the CEQA process through programs administered by various agencies at the federal, State, and local levels.

As described below, every hazardous waste generator is required to have an emergency contingency plan (business plan) designed to minimize hazards to human health and the environment from fires, explosions, or an unplanned release of hazardous waste to air, soil, or surface water. The plan is carried out immediately whenever a fire, explosion, or unplanned chemical release occurs.

Federal and State Policies and Regulations.

Hazardous Materials. The federal Toxic Substances Control Act (TSCA) of 1976 regulates chemical substances, which are substances and mixtures that might pose unreasonable risks of injury to human health or the environment. TSCA authorizes the EPA to require manufacturers to test their chemical products to determine their “toxic effects” and provide this information to the EPA for agency review before commercial manufacture is permitted.

Businesses that utilize hazardous materials are subject to Emergency Planning and Community Right-to-Know (Proposition 65) requirements as set forth in Title III of the Superfund Amendments and Reauthorization Act (SARA) and the California Waters Bill. These regulations require worker notification of hazardous substances in the workplace.

The State Waters Bill (Assembly Bill [AB] 2185 et al.), set forth in the California Health and Safety Code Sections 25500–25545, requires businesses that utilize hazardous materials above certain thresholds to prepare on-site "business plans" for possible emergencies involving those materials and to provide copies of the plans to local emergency response agencies. The business plans must include an Inventory List and an Emergency Action Plan. Minimum thresholds are as follows:

- Liquids: 55 gallons
- Solids: 500 pounds
- Compressed gases: 200 cubic feet (measured at standard temperature and pressure)
- Radioactive: Quantities that exceed Nuclear Regulatory Commission thresholds, requiring the preparation of emergency plans (10 Code of Federal Regulations [CFR] Parts 30, 40, and 70)

Exemptions from these thresholds include the following:

- Hazardous materials stored as consumer packages for direct distribution to the general public
- Up to 1,000 cubic feet of oxygen, nitrous oxide, and/or nitrogen stored by physicians, dentists, podiatrists, veterinarians, and pharmacists
- Up to 55 gallons of any lubricating oil and up to 275 gallons of all lubricating oil stored by one business

Hazardous Waste. Federal and California laws provide for "cradle-to-grave" regulation of hazardous wastes (i.e., the regulations govern a hazardous waste from its point of generation to its point of disposal at an approved landfill or incinerating facility). The federal hazardous waste law is known as the Resource Conservation and Recovery Act (RCRA; 40 CFR 240 et seq.). California has merged its RCRA authority into ongoing implementation of the State Hazardous Waste Control Law (HWCL), which was initially adopted in 1972 (22 California Code of Regulations [CCR] Section 66260.1 et seq.).

The EPA has primary responsibility for implementing the RCRA, and the California Department of Toxic Substances Control (DTSC) is the State's Lead Agency in implementing HWCL and RCRA provisions. California allows county and city health departments and other local agencies to implement certain HWCL provisions regulating hazardous waste generators under terms of Memorandums of Understanding (MOUs) with the DTSC.

All RCRA-regulated and California-regulated hazardous waste must be recorded on hazardous waste manifests, with copies sent to the DTSC. The manifest is a way of tracking hazardous waste from its inception to its disposal. The Project site is subject to these requirements for disposal and transport of hazardous waste. Within its jurisdictional area, the CUPA receives copies of hazardous waste manifests for tracking purposes.

Occupational Safety and Health. The federal Occupational Safety and Health Act of 1970 (OSH Act) (40 CFR 1902–1990) is the principal national law providing for worker safety and the right to know. The broad policy goal of the act is "to assure so far as possible every working man and woman in the Nation a safe and healthful working environment." It is implemented by the United States Occupational Safety and Health Administration (OSHA), whose responsibilities include developing and promulgating occupational safety and health standards and ensuring that these standards are administered and enforced nationwide.

The federal OSH Act allows states to administer OSHA requirements after submitting a state plan. The California Occupational Safety and Health Administration (Cal/OSHA) administers OSHA standards applicable to private employers within the State, along with additional authority provided by the California Occupational Safety and Health Act of 1973 (State OSH Act) (8 CCR Sections 330–8618). Complaints regarding health and safety issues at the Project site would be investigated by Cal/OSHA.

Asbestos-Containing Materials. ACM products presently banned are corrugated paper, rollboard, commercial and specialty paper, flooring felt, and new uses of asbestos. Revisions to regulations issued by OSHA (June 30, 1995) require that all thermal system insulation, surfacing materials, and resilient flooring materials installed prior to 1981 be considered "presumed" asbestos-containing materials (PACMs) and treated accordingly. To rebut the designation as PACMs, OSHA requires that these materials be surveyed, sampled, and assessed in accordance with 40 CFR 763 (Asbestos Hazard Emergency Response Act [AHERA]).

All asbestos should be removed from structures and disposed of in accordance with local, state, and federal regulations prior to renovation or demolition activities that would affect structures containing asbestos. Release of asbestos into the environment is a violation of several laws, including the OSH Act, the RCRA, the CAA, and the CWA.

Lead. Lead has been used in commercial, residential, roadway, and ceramic paint products; in electric batteries and other devices; as a gasoline additive; for weighting, in gunshot; and for other purposes. It is recognized as toxic to human health and the environment and is widely regulated in the United States. Buildings constructed prior to 1978 are presumed to contain LBP unless proven otherwise, although buildings constructed after 1978 may also contain LBP. Lead is regulated as a "criteria" pollutant under the CAA, which has led to its elimination from automotive fuels. Aerially deposited lead (ADL) from past use of leaded fuels is a concern in unpaved areas adjacent to highly traveled roadways. Lead is also regulated as a toxic pollutant under the CWA and the Porter-Cologne Act, as well as under the federal and California Safe Drinking Water Acts.

All LBP above regulatory thresholds should be removed from structures and disposed of in accordance with local, State, and federal regulations prior to renovation or demolition activities that would affect structures that contain LBP or soils adjacent to structures that contain LBP. Release of LBP into the environment is a violation of several laws, including the OSH Act, the RCRA, the CAA, and the CWA.

Local Policies and Regulations.

There are no specific goals or policies related to hazardous materials in the City's General Plan. The Public Safety Element lists general protection and remedial action goals for general safety hazards and for emergencies. Transport of hazardous materials is deferred to California Department of Transportation (Caltrans) requirements and is specified along designated truck routes. The Public Safety Element indicates that planning efforts should include a buffer for all uses from truck routes to reduce potential impacts from dangerous materials by way of setbacks or natural barriers.

The Long Beach CUPA is designed to consolidate and administer hazardous material permits, inspections, and enforcement activities, throughout the City's jurisdiction. The goal of this program is to create a more cohesive and efficient system whereas applications and required forms are standardized and consolidated in conjunction with inspection, and annual fees for each program are merged into a single fee system creating a more consistent and efficient Program. CUPA was first created in 1993 under Senate Bill 1082, which administratively consolidated six hazardous materials and waste programs under one agency. The LBFD and the LBHD share oversight of the Long Beach/Signal Hill CUPA. These Program elements are:

- Uniform Fire Code Plans and Inventory Requirements
- Hazardous Materials Release Response Plans and Inventory Program ("Community-Right-To-Know")
- Aboveground Storage Tank (AST) Spill Prevention Control and Countermeasure Plan (SPCC)
- Underground Storage Tank (UST) Program
- Hazardous Waste Generator and On-site Hazardous Waste Treatment Programs (Tiered Permitting)
- California Accidental Release Prevention Program (CalARP)

The following chapters are included in Title 8, Health and Safety, of the City of Long Beach Municipal Code with regard to hazardous materials:

> Chapter 8.85 – *Underground and Aboveground Storage Tanks*. Designates the CUPA with authority to prevent injury or damage to businesses or property due to air pollution.
>
> Chapter 8.86 – *Hazardous Materials Release Response Plans and Inventory*. Designates the Long Beach/Signal Hill CUPA as the local authority for underground and aboveground storage tank compliance.

> Chapter 8.87 – *Hazardous Waste Control*. Designates the Long Beach/Signal Hill CUPA as the local authority to enforce Chapter 6.5 of Division 20 of the California Health and Safety Code.
>
> Chapter 8.88 – *Hazardous Materials Clean-Up*. Requires site characterization, site remediation, and initial and final reports for contaminated sites in accordance with state and local laws and regulations.

The City Department of Health and Human Services must prepare a Health and Safety Plan for all workers in accordance with federal, State, and local regulations for use during construction, subject to review and approval by the City of Long Beach Development Services Director. Federal Regulations include the following:

- Occupational Safety and Health, Title 29 CFR, Regulations for General Industry (Part 1910) and Construction (Part 1926)
- EPA, Title 40 CFR, National Emissions Standard for Hazardous Air Pollutants (NESHAPS), (Part 61, Subpart A)
- United States Department of Transportation (USDOT) Regulations, Title 49 CFR
- California State and local regulations that include the following:
  - Title 8 CCR, Cal/OSHA Regulations, Chapter 4, Division of Industrial Relations, General Industry Safety Orders and Construction Safety Orders
  - Title 22 CCR, Social Security, Division 2, Department of Social Services – Department of Health Services, and Division 4, Environmental Health
  - SCAQMD, Rules and Regulations

The Health and Safety Plan must include a summary of all potential risks to construction workers, monitoring program, maximum exposure limits for all site chemicals, and emergency procedures. A Site Health and Safety Officer must be identified in the plan. The plan must specify methods of contact, phone number, office location, and responsibilities of the Site Health and Safety Officer. The Health and Safety Plan is required to be amended as needed if different site conditions are encountered by the Site Health and Safety Officer.

An on-site monitor will be provided to ensure compliance with mitigation related to dust control as addressed in Section 4.2, Air Quality (Mitigation Measures 4.2-1 and 4.2.2). SCAQMD Rule 403 requires that fugitive dust be controlled with best available control measures so that the presence of such dust does not remain visible in the atmosphere beyond the property line of the emission source. In addition, SCAQMD Rule 402 requires implementation of dust suppression techniques to prevent fugitive dust from creating a nuisance off site. Compliance with SCAQMD Rules 402 and 403 is required in order to ensure that air conditions are safe and acceptable for on-site workers, as well as residents and workers of properties adjacent to the site. The City or the assigned contractor/developer is required by these existing regulations to stop, redirect, or otherwise change during any grading work or other subsurface trenching, drilling, and/or subsurface disturbance in order to avoid the spread of fugitive dust.

4.7.4 Impact Significance Criteria

Thresholds for evaluating impacts related to hazards and hazardous materials are based on Appendix G of the *State CEQA Guidelines*. Impacts resulting from hazards or hazardous conditions in the Project area are considered to be significant if implementation of the proposed Project would:

Threshold 4.7.1: **Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;**

Threshold 4.7.2: **Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment;**

Threshold 4.7.3: **Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school;**

Threshold 4.7.4: **Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment;**

Threshold 4.7.5: **For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area;**

Threshold 4.7.6: **For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area;**

Threshold 4.7.7: **Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan; or**

Threshold 4.7.8: **Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residents are intermixed with wildlands.**

During the scoping process, it was determined that no safety hazard associated with private airstrips would occur upon implementation of the proposed Project because the proposed Project is not located within 2 miles of a public airport, within the vicinity of a private airstrip, or within an airport land use plan (Thresholds 4.7.5 and 4.4.6). Also, the Project would not result in changes in the circulation system that would adversely affect the ability of the LBFD to implement an emergency response plan or emergency evacuation plan in this part of the City (Threshold 4.7.7). In addition, since the Project site is not located in a completely urbanized area and does not include brush- and grass-covered areas typically found in areas susceptible to wildfires, no impacts would result related to wildland fires (Threshold 4.7.8). Therefore, these issues are not discussed further in this Draft EIR. Refer to Appendix A, Initial Study (IS)/NOP, for additional discussion.

CEQA Baseline. At the time the NOP was issued, the Project site contained both the Belmont Pool facilities and the outdoor temporary pool (opened in December 2013 to provide swimming facilities while the permanent facility was under construction). Although the site contained the former Belmont Pool building at the time of the NOP, the facility was subsequently demolished in February 2015 to alleviate an imminent public safety threat due to the seismically unsafe condition of the building.

The inclusion of the former building in the assessment of hazardous materials impacts is appropriate because several subsurface structures that may contain hazardous building materials are currently present on the Project site. These structures were not removed at the time the pool building was demolished. Therefore, substantial evidence supports the determination that inclusion of the pool facility as part of the baseline existing conditions is appropriate because the subsurface building structures remain on the site.

4.7.5 Project Impacts

Threshold 4.7.1: **Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?**

or

Threshold 4.7.2: **Would the project create a significant hazard to the public or the environment through the reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?**

Less than Significant Impact with Mitigation Incorporated.

Construction. Construction activities would involve the use of potentially hazardous materials, including vehicle fuels, oils, and transmission fluids. All potentially hazardous materials would be contained, stored, and used in accordance with manufacturers' instructions and handled in compliance with existing federal, State, and local regulations to ensure that the amounts of these materials present during construction would be limited and would not pose a significant adverse hazard to workers or the environment. Furthermore, the construction contractor would be required to implement standard best management practices regarding hazardous materials storage, handling, and disposal during construction in compliance with the State Construction General Permit to protect water quality (refer to Mitigation Measure 4.8.1 in Section 4.8, Hydrology and Water Quality). Any associated risk would be reduced to a level that is less than significant through compliance with these standards and regulations; thus, the limited use and storage of hazardous materials during construction of the proposed Project would not pose a significant hazard to the public or the environment. Accordingly, potential impacts associated with the routine transport, use, or disposal of potentially hazardous materials during construction of the proposed Project would be less than significant.

As discussed in Section 4.7.2, the Project site is located within the Wilmington oil field, and plugged and abandoned oil wells or dry holes are located in the site vicinity. Based on the distance to known oil wells in the vicinity of the Project site, the potential presence of methane at the Project site is low. The low potential for encountering methane during excavation for the pool would be managed through compliance with a Contingency Plan that addresses the potential to encounter unknown hazards or hazardous substances during construction activities that would be approved by City of Long Beach (City) Fire Department (LBFD). This Contingency Plan requirement is included as Mitigation Measure 4.7.1; therefore, with implementation of Mitigation Measure 4.7.1, impacts related to the potential to encounter methane during construction would be less than significant.

As previously stated, a site reconnaissance survey of the site revealed that ACMs may be present in subsurface building materials at the site. While the majority of the buildings on the site were previously demolished under an emergency permit (Statutory Exemption SE14-01), several subsurface buildings, which may contain ACMs, are currently present on the site. As such, mitigation is required to reduce potentially significant health hazards associated with potential ACMs on the Project site. Mitigation Measure 4.7.2 requires the preparation of predemolition surveys to identify the presence of ACMs in the existing on-site structures and outlines precautions to ensure the materials are properly removed. Therefore, with implementation of Mitigation 4.7.2, potential hazardous impacts associated with ACMs would be reduced to a less than significant level.

In addition to the potential to encounter ACMs in subsurface buildings present on the site, the site reconnaissance survey indicated that the tile liners of the two outdoor pools currently present on the site might contain lead. Because the Project includes the demolition of these existing pools, the proposed Project would be required to implement Mitigation Measure 4.7.2, which requires the preparation of predemolition surveys and appropriate procedures to be followed in the unlikely event that unknown hazardous materials are encountered in order to reduce potentially significant health hazards associated with potential lead on the Project site. Therefore, with implementation of Mitigation Measure 4.7.2, potential hazardous impacts associated with lead would be reduced to a less than significant level.

Two gas stations (ARCO No. 163 and UNOCAL No. 5939) listed on the LUST database included in the Phase I HMA. These facilities are located approximately 0.15 mile northeast and north of the Project site and in a hydrogeologic up-gradient position relative to the site. As of February 16, 2015, the RWQCB Geotracker website reported that the UNOCAL LUST has a case closed status and the ARCO station is preparing a closure plan. Groundwater sampling conducted at the ARCO site in November 2014 did not detect a petroleum impact in the monitoring well closest to the Project site and groundwater sampling conducted at the Project site in July 2014 did not report detectable constituents of gasoline.

Based on groundwater sampling discussed above, there is a potential to encounter dissolved metals levels in groundwater in excess of the allowable limits for discharge to the storm drain system. This will be addressed through compliance with the applicable NPDES permit or the Los Angeles RWQCB's Groundwater Discharge Permit, which would require testing and treatment (as necessary) of groundwater encountered during groundwater dewatering prior to release to the storm drain system. If dewatered groundwater cannot meet the discharge limitations specified in the Groundwater Discharge Permit, groundwater would be disposed of in the sewer system and would have to meet Los Angeles County Sanitation District (LACSD) discharge limits prior to release to the storm drain system.

However, the potential that groundwater impacted by petroleum hydrocarbons beneath the site is low. The low potential for encountering petroleum hydrocarbons in groundwater during excavation for the pool would be managed through compliance with a Contingency Plan that addresses the potential to encounter unknown hazards or hazardous substances during construction activities that would be approved by City of Long Beach (City) Fire Department (LBFD). This Contingency Plan requirement is included as Mitigation Measure 4.7.1; therefore, with implementation of Mitigation Measure 4.7.1, impacts related to the potential to encounter petroleum hydrocarbons in groundwater during construction would be less than significant.

Operation. Operation of the proposed Project would not include uses with the potential to generate large quantities of hazardous and/or toxic materials, and would, therefore, have less than significant impacts related to the potential to cause fires or result in serious accidents from hazardous materials and substances. Pool and building maintenance associated with the proposed Project may include the use of chemicals that can be hazardous if not properly used, stored, or disposed. However, the use, storage, and handling of these pool maintenance hazardous materials is regulated by the EPA, the California Building Code, the County of Los Angeles Department of Environmental Health, the LBFD and Cal/OSHA. The operational impact of the proposed Project on the environment through the release of hazardous materials would not be significant with mandatory compliance with applicable rules and regulations concerning hazardous chemicals. Compliance with applicable regulations would ensure that potential hazardous material impacts associated with the operation of the proposed Project would be less than significant. Therefore, no mitigation is required.

Threshold 4.7.3: Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

Less than Significant Impact with Mitigation Incorporated. One private school, Belmont Shore Children’s Center, has been identified within 0.25 mile from the Project site, and is located 300 feet to the north. There are no proposed schools within 0.25 mile of the Project site.

Construction. As discussed above, construction activities would involve the use of potentially hazardous materials, including vehicle fuels, oils, and transmission fluids. All potentially hazardous materials would be contained, stored, and used in accordance with manufacturers’ instructions and handled in compliance with existing federal, State, and local regulations to ensure that the amounts of these materials present during construction would be limited and would not pose a significant adverse hazard to workers or the environment. Furthermore, the construction contractor would be required to implement standard best management practices regarding hazardous materials storage, handling, and disposal during construction in compliance with the State Construction General Permit to protect water quality (refer to Mitigation Measure 4.8.1 of Section 4.8, Hydrology and Water Quality). The proposed Project would also be required to implement Mitigation 4.7.2, which requires preparation of predemolition surveys to reduce potentially significant impacts associated with the presence of ACMs or lead on the site. Any associated risk would be adequately reduced to a level that is less than significant through compliance with these mitigation measures and applicable standards and regulations; thus, the limited use and storage of hazardous materials during construction of the proposed Project would not pose a significant hazard to the public or the environment, including the Belmont Shore Children's Center.

Operation. As previously stated, operation of the proposed Project would not include uses with the potential to generate large quantities of hazardous and/or toxic materials and, therefore, the potential to cause fires or result in serious accidents from hazardous materials and substances during operations is less than significant. Pool and building maintenance associated with the proposed Project may include the use of chemicals that can be hazardous if not properly used, stored, or disposed. However, the use, storage, and handling of these pool maintenance hazardous materials is regulated by the EPA, the California Building Code, the County of Los Angeles Department of Environmental Health, the CLBFD and Cal/OSHA. Proper routine use of these hazardous products would not result in a significant hazard to the school, residents, or workers in the vicinity of proposed Project. The proposed Project would not produce any significant amounts of hazardous emissions; any hazardous materials on site would be handled in accordance with all applicable regulations, including containment, reporting, and remediation requirements, in the event of a spill or accidental release. Therefore, operation of the proposed Project would not result in a significant impact associated with hazardous emissions or the handling of hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school, and no mitigation is required.

Threshold 4.7.4: Would the project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

Less than Significant Impact. The HMA prepared for the Project (Appendix F) determined that the Project site is not included on any hazardous materials sites pursuant to Government Code Section 65962.5, including the Cortese List, and would not create a significant hazard to the public or the environment. No mitigation is required.

4.7.6 Cumulative Impacts

As defined in Section 15130 of the *State CEQA Guidelines*, cumulative impacts are the incremental effects of an individual project when viewed in connection with the effects of past, current, and probable future projects within the cumulative impact area for hazards and hazardous materials. The assessment of potential cumulative impacts associated with hazards and hazardous materials relates to the potential for impacts to occur off site. The study area for hazardous materials consists of: (1) the area that could be affected by proposed Project activities, such as the release of hazardous materials, and (2) the areas affected by other projects whose activities could directly or indirectly affect the presence or fate of hazardous materials on the Project site. Typically, only projects adjacent to or abutting the Project site are considered because of the limited potential impact area associated with the release of hazardous materials into the environment. There are no known Projects adjacent to or in the vicinity of the Project site that could be affected by on-site handling of hazardous materials or that could result in significant hazards or hazardous materials impacts on site.

The contribution of hazardous materials use and hazardous waste disposal with implementation of the Project is minimal, and combined hazardous materials effects from past, present, and reasonably foreseeable projects within the City would not be significant. As previously stated, the proposed Project would involve the use of potentially hazardous materials related to pool and building maintenance (e.g., solvents, cleaning agents, paints, pesticides, and diesel and petroleum fuels), but these products would be used in small amounts and any spills that do occur would be cleaned up when they occur. Proper and routine use of these products would not result in a significant hazard to residents or workers in the vicinity of the proposed Project.

Impacts associated with removal of unknown hazardous materials during construction and use of hazardous materials on site would be controlled through application of the procedures set forth in Mitigation Measures 4.7.1 and 4.7.2. There are no known projects adjacent to or in the vicinity of the Project site that could be affected by on-site handling of hazardous materials or that could result in significant hazards or hazardous materials impacts on site. Accordingly, the proposed Project's contribution to hazardous materials cumulative impacts would be less than significant with implementation of mitigation.

4.7.7 Level of Significance Prior to Mitigation

Operation of the proposed Project would not result in a significant impact associated with hazardous emissions or the handling of hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school, and the proposed Project site is not located a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5. Potential impacts related to the routine transport, use, or disposal of hazardous materials are less than significant. Prior to the implementation of mitigation measures, the Project could result in a potentially significant impact related to the potential to encounter and the need to dispose of hazardous materials (i.e., ACMs, CFCs, lead, and other contaminated materials/substances) during construction activities.

4.7.8 Mitigation Measures

Mitigation Measure 4.7.1: **Contingency Plan.** Prior to issuance of any excavation or grading permits or activities, the City of Long Beach (City) Fire Department (LBFD), or designee, shall review and approve a contingency plan that addresses the potential to encounter on-site unknown hazards or hazardous substances during construction activities. The plan shall require that if construction workers encounter underground tanks, gases, odors, uncontained spills, or other unidentified substances, the contractor shall stop work, cordon off the affected area, and notify the LBFD. The LBFD responder shall determine the next steps regarding possible site evacuation, sampling, and disposal of the substance consistent with local, State, and federal regulations.

Mitigation Measure 4.7.2: **Predemolition Surveys.** Prior to commencement of demolition and/or construction activities, the City LBFD, or designee, shall verify that predemolition surveys for asbestos-containing materials (ACMs) and lead (including sampling and analysis of all suspected building materials) shall be performed. All inspections, surveys, and analyses shall be performed by appropriately licensed and qualified individuals in accordance with applicable regulations (i.e., American Society for Testing and Materials E 1527-05, and 40 Code of Federal Regulations [CFR], Subchapter R, Toxic Substances Control Act [TSCA], Part 716). If the predemolition surveys do not find ACMs or lead-based pipes (LBPs), the inspectors shall provide documentation of the inspection and its results to the City LBFD, or designee, to confirm that no further abatement actions are required.

If the predemolition surveys find evidence of ACMs or lead, all such materials shall be removed, handled, and properly disposed of by appropriately licensed contractors according to all applicable regulations during demolition of structures (40 CFR, Subchapter R, TSCA, Parts 745, 761, and 763). Air monitoring shall be completed by appropriately licensed and qualified individuals in accordance with applicable regulations both to ensure adherence to applicable regulations (e.g., South Coast Air Quality Management District [SCAQMD]) and to provide safety to workers. The City shall provide documentation (e.g., all required waste manifests, sampling, and air monitoring analytical results) to the LBFD showing that abatement of any ACMs or lead identified in these structures has been completed in full compliance with all applicable regulations and approved by the appropriate regulatory agencies (40 CFR, Subchapter R, TSCA, Parts 716, 745, 761, 763, and 795 and California Code of Regulations Title 8, Article 2.6). An Operating and Maintenance Plan shall be prepared for any ACM or lead to remain in place and shall be reviewed and approved by the LBFD.

4.7.9 Level of Significance after Mitigation

Mitigation Measures 4.7.1 and 4.7.2 will reduce potential impacts related to the potential to encounter and the need to dispose of hazardous materials during construction activities to a less than significant level. All other potential Project impacts related to Hazards and Hazardous Materials have been determined to be less than significant.

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4.8 HYDROLOGY AND WATER QUALITY

This section describes the environmental and regulatory setting of the proposed Belmont Pool Revitalization Project (proposed Project) site and vicinity with respect to surface and groundwater hydrology and quality. This analysis addresses potential impacts to hydrology and water quality resulting from implementation of the proposed Project and is based on information provided by various public agencies, including the Federal Emergency Management Agency (FEMA), Department of Water Resources (DWR), Los Angeles Regional Water Quality Control Board (RWQCB), the County of Los Angeles (County), and the City of Long Beach (City).

Scoping Process

The City of Long Beach distributed the first Notice of Preparation (NOP) for the Draft Environmental Impact Report (EIR) from April 18 to May 17, 2013. The City received three comment letters in response to the original NOP. The Los Angeles County Flood Control District (LACFCD) submitted two comments: (1) to disclose in the EIR and obtain a permit from LACFCD for any connections to LACFCD drains/facilities; and (2) to include a Hydrology Study/Water Quality Plan as part of the EIR. Due to the revisions in the Project Description, the City re-issued and circulated the NOP for the EIR between April 9, 2014, and May 8, 2014. The City received five comment letters in response to the re-issued NOP during the public review period. No comment letters were received regarding Hydrology and Water Quality.

4.8.1 Existing Setting

Regional Hydrology and Watershed. The Project site is located in the San Gabriel River watershed. The watershed drains 640 square miles (sq mi) from Los Angeles, Orange, and San Bernardino Counties and is bounded by the San Gabriel Mountains to the north, a large portion of San Bernardino and Orange Counties to the east, the Los Angeles River watershed to the west, and the Pacific Ocean to the south. The San Gabriel River's headwaters originate in the San Gabriel Mountains, while the lower part of the river flows through a concrete-lined channel before becoming a soft-bottom channel near its termination at the Pacific Ocean. The Project site is located within the Los Cerritos Channel and Alamitos Bay Water Management Area (WMA) of the San Gabriel River watershed (see Figure 4.8.1). The WMA is located between the Los Angeles and San Gabriel Rivers and drains to the same general area as the San Gabriel River into the Pacific Ocean. The Los Cerritos Channel and Alamitos Bay represent the main water bodies of the WMA.[1]

For planning purposes, the Los Angeles RWQCB uses a watershed classification system that divides surface waters into hydrologic units, areas, and subareas. As designated by the Los Angeles RWQCB, the Project site is located within the Los Angeles-San Gabriel Hydrologic Unit (HU), covering most of Los Angeles County, and drains a 1,608 sq mi area. The Los Angeles-San Gabriel HU is divided

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[1] County of Los Angeles, Department of Public Works, San Gabriel River Watershed. Website: http://dpw.lacounty.gov/wmd/watershed/sg/ (accessed June 6, 2014); State Water Resources Control Board. Website: http://www.waterboards.ca.gov/losangeles/water_issues/programs/regional_program/Water_Quality_and_Watersheds/los_cerritos_channel/summary.shtml (accessed June 6, 2014).

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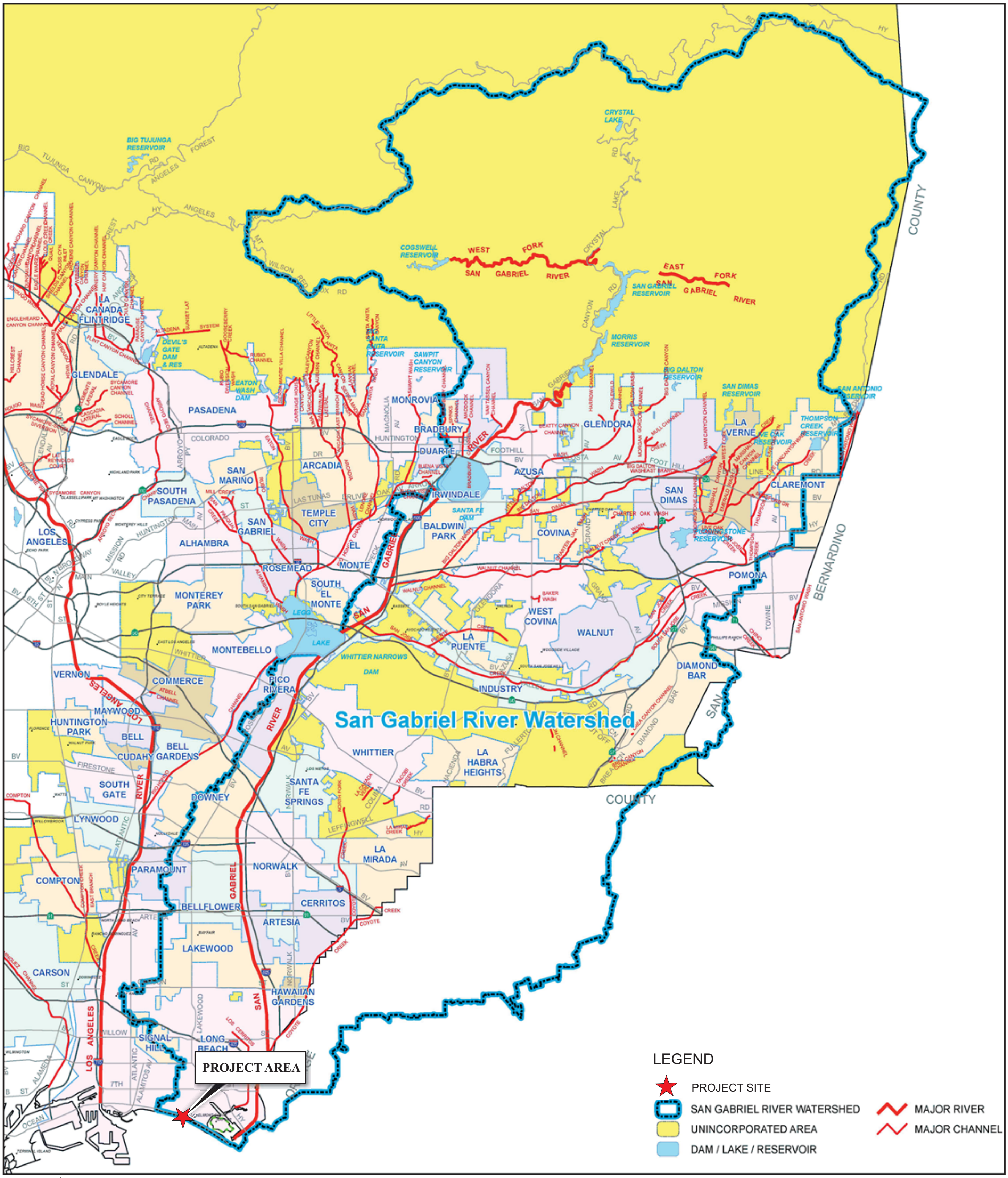

FIGURE 4.8.1

SOURCE: Los Angeles County Department of Public Works

Belmont Pool Revitalization Project

San Gabriel River Watershed Map

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into Hydrologic Areas (HAs), which are then divided into Hydrologic Subareas (HSAs). The Project site is located in the Lower San Gabriel HA and in the Alamitos Bay HSA.[1]

The Los Angeles River and the San Gabriel River are the major drainage systems in the City of Long Beach. The San Gabriel River is located approximately 2 miles (mi) to the southeast of the Project site and the Los Angeles River is located approximately 3.5 mi to the west. There are no surface water bodies located on the Project site but the Pacific Ocean is adjacent to the Project site along the southern boundary.

Project Site Drainage Pattern. Most of the surface runoff from the Project site is generated on the site, with almost no surface flow entering the site from other areas. There are several storm drain lines (see Figure 4.8.2: Existing Site Storm Drain System) running through and surrounding the Project site that collect and transfer the surface flow from the Project site. The northern half of the site is a grassy open space area that allows for rainfall to filter into the ground. The remaining storm water runoff generated by the site flows over asphalt pavement and concrete gutters to curb opening inlets located at various points surrounding the property boundary. These inlets then convey the flow into the beach and untreated to the west at a storm drain outlet that empties onto the beach, immediately to the north of the Belmont Pier. The existing site contains approximately 2.1 acres (ac) of impervious surfaces with the pervious areas accounting for approximately 3.7 ac.

Surface Water Quality. Surface water quality in the San Gabriel River Watershed has been affected in a way that is consistent with the high level of surrounding urban development. Non-point-source pollution from urban impervious surfaces such as parking lots, roadways, sidewalks, and rooftops is a major contributor to impairment of streams and water bodies. Impervious surfaces direct runoff into water systems of grease, oil, antifreeze, and other vehicle emissions; heavy metals from brake dust; pathogens; and food waste, litter, and other debris. Landscaped areas contribute pesticides, fertilizers, animal droppings, and other landscape waste into the storm water system. Meteorology may affect surface water quality through the quantity and intensity of storm events, which determine to what extent pollutants are washed away by runoff. Geology and soils may affect surface water quality in that they determine infiltration and runoff velocity. The more infiltration of runoff into the soil, and the slower the runoff velocity, the less ability the runoff has to carry sediments and pollutants. These pollutants can have damaging effects on both human health and aquatic ecosystems.

Ocean Water Quality. Long Beach has approximately 7 mi of public beach and is visited by over 50,000 people during the summer months. In urban areas during dry weather, runoff can occur as a result of landscape irrigation, the draining of swimming pools, car washing, and various commercial activities. Along the coast of California, where summers are dry, dry-weather runoff is the most common cause of advisories issued due to elevated bacteria levels.[2] In order to protect the safety of the public, weekly water samples are collected and tested routinely to monitor bacterial levels.

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1 Los Angeles Regional Water Quality Control Board (RWQCB), Water Quality Control Plan-Los Angeles Region, 1995, updated 2011.

2 California State Water Resources Control Board (SWRCB), "California Beach Water Quality Background Information." Website: www.swrcb.ca.gov/water_issues/programs/beaches/beach_water_quality/background.shtml (June 6, 2014).

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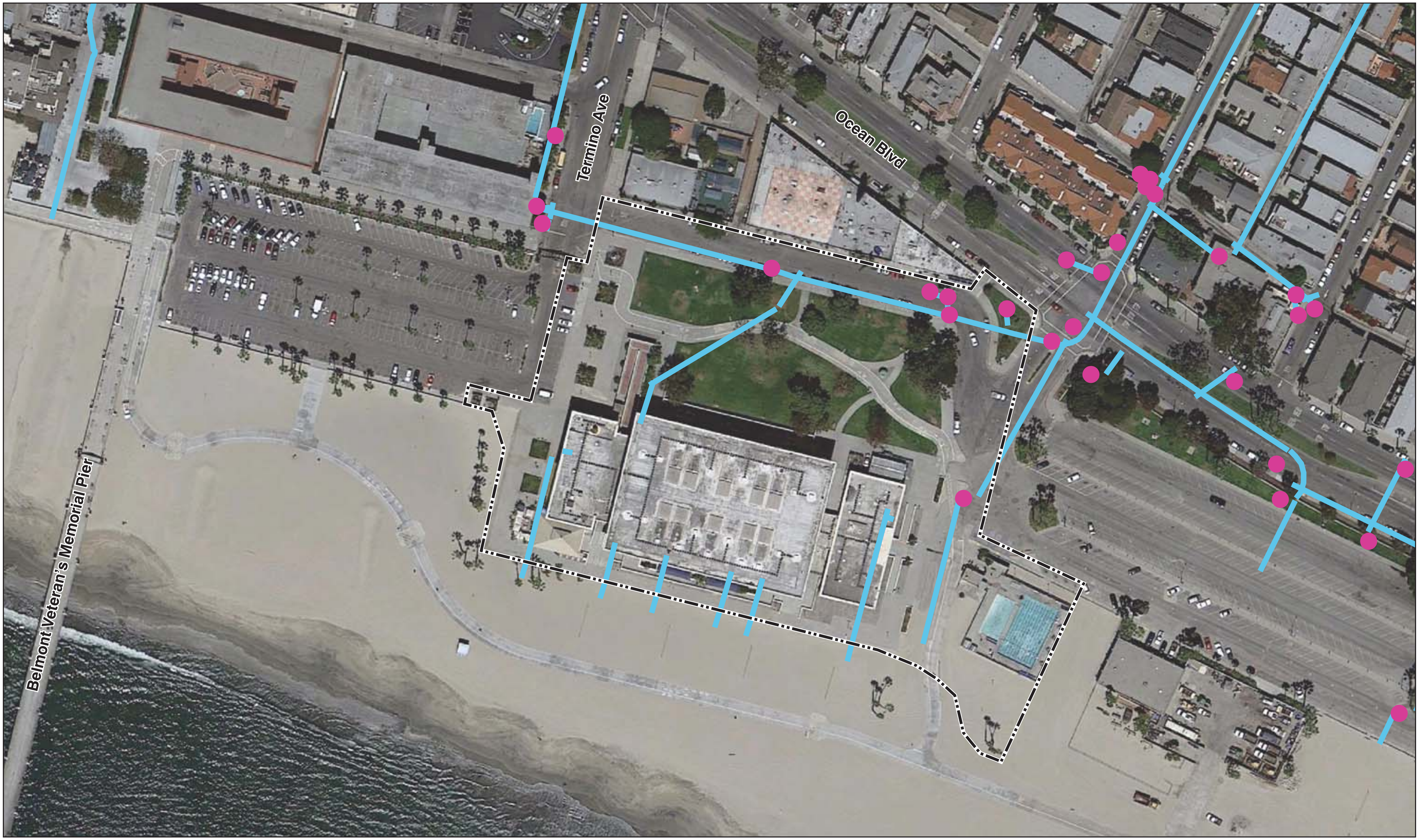

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FIGURE 4.8.2

LEGEND

- Project Site
- Existing Storm Drain Pipelines
- Storm Drain Device

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SOURCE: DigitalGlobe (4/08);City of Long Beach (2008, 1/09)

Belmont Pool Revitalization Project

Existing Site Storm Drain System

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The City tests samples of ocean water for three types of bacteria (total coliform, fecal coliform, and enterococcus) and results are evaluated against standards established by the State. The thresholds to determine hazardous health conditions are:

- **Total Coliform:** 1,000 per 100 milliliters (mL) if Fecal/Total is >.1; 10,000 per 100 mL if Fecal/Total is <.1
- **Fecal Coliform:** 400 per 100 mL
- **Enteroccoccus:** 104 per 100 mL

Currently, the City tests the ocean water quality at 15 various locations along the coast. The West Side of Belmont Pier and Prospect Street Beach are two sampling sites located adjacent to the west and east of the Project site, respectively. In the 2013–2014 sampling year, summer dry weather A and B grades were up 10 percent from the previous year. Winter dry weather grades improved as well, with all locations earning A or B grades. However, all locations received F grades in wet weather. The City's wet weather 5-year average continues to be the worst in the State, with only 7 percent A or B grades.[1]

After substantial rainfall (0.10 inch or more), high levels of bacteria from storm drains, rivers, and polluted runoff enter the ocean, and the City issues an advisory for beach-goers to avoid all ocean water contact for at least 72 hours after rainfall, per the County's regulations for all beaches. When a closure is required, the City of Long Beach posts closure notices on the beach and on the City's website.

Groundwater

Groundwater Hydrology. The County of Los Angeles overlies 15 groundwater basins, as established by the Los Angeles RWQCB Water Quality Control Plan (Basin Plan) for the Los Angeles region (1995, updated 2011). The Project site is located in the Coastal Plain of Los Angeles Groundwater Basin and overlies the West Coast Subbasin (Basin No. 4-11.03).[2] The West Coast Subbasin covers an area of 142 sq mi and is bound by the Ballona Escarpment to the north, the Newport-Inglewood Fault Zone to the east, and the Pacific Ocean and Palos Verdes Hills to the south and west. Groundwater recharge occurs primarily as a result of underflow from the Central Subbasin. Water spread in the Central Subbasin percolates into aquifers and eventually crosses through and over the Newport-Inglewood Fault Zone, supplementing the groundwater supply in the West Coast Subbasin. The general regional groundwater flow pattern is southward and westward from the Central Coastal Plain toward the Ocean.[3]

According to the geotechnical report prepared for the Project site, groundwater was encountered in boring samples at depths of 6 to 9 feet (ft) below the existing grade.[4] However, fluctuations in

1 Heal the Bay, *2013–2014 Beach Report Card*. Website: http://www.healthebay.org/sites/default/files/pdf/BRC_2014_WEB_.pdf (accessed June 6, 2014).
2 California Department of Water Resources, *Groundwater Bulletin 118*, Coastal Plain of Los Angeles County Groundwater Basin, West Coast Subbasin, February 27, 2004.
3 Ibid.
4 MACTEC, *Report of Preliminary Geotechnical Investigation Proposed Belmont Plaza Olympic Pool Revitalization Project*. April 14, 2009.

groundwater levels may occur due to tidal fluctuations, variations in precipitation, ground surface topography, subsurface stratification, irrigation, and other factors that may not be easily identified.

Groundwater Quality. The West Coast Basin consists of recent alluvium that forms the semi-perched aquifer, the Bellflower aquitard, and the Gage aquifer. Regional groundwater beneath the Project site is believed to be affected by seawater intrusion. The first regional-occurring aquifer beneath the site is the Gage aquifer.

The general quality of groundwater within the Los Angeles Coastal Plain has been substantially degraded from background levels. The groundwater in the surrounding area has experienced seawater intrusion, which is currently under control in most areas. Groundwater in the lower aquifers of this basin is generally of good quality. However, the quality of groundwater in parts of the upper aquifers is degraded by seawater intrusion and organic pollutants from a variety of sources, such as leaking tanks and leaking crude oil pipelines.

The Basin Plan identifies the Central Basin of the Los Angeles Coastal Plain as having four existing beneficial uses listed below:

- MUN – Municipal and Domestic Supply;
- IND – Industrial Service Supply;
- PROC – Industrial Process Supply; and
- AGR – Agricultural Supply

Floodplains/Inundation Zones

According to the FEMA Federal Insurance Rate Map (FIRM) No. 06037C1970F (September 26, 2008), the eastern portion of the Project site is located within Zone A, Special Flood Hazard Area (SFHAs) subject to inundation by the 1-percent annual chance flood (see Figure 4.8.3). The western half of the Project site is located within Zone X, areas determined to be outside the 0.2-percent chance (500-year) floodplain.

Since the Project site abuts the beach and is adjacent to the Pacific Ocean, the Project site is located within the Tsunami Inundation Area, according to the Tsunami Inundation Map.[1] Damage from a tsunami wave generated from a large offshore earthquake also has the potential to occur in the Long Beach Harbor areas. To date, only the 1964 Alaska earthquake and a 1960 earthquake in Chile have caused tidal damage to the Long Beach area, which was limited to the impacts from tidal surges in the harbor areas.[2]

[1] California Emergency Management Agency, California Geological Survey, and University of Southern California. Tsunami Inundation Map. Website: http://www.conservation.ca.gov/cgs/geologic_hazards/Tsunami/Inundation_Maps/LosAngeles/Documents/Tsunami_Inundation_LongBeach_Quad_LosAngeles.pdf (accessed June 6, 2013).

[2] City of Long Beach General Plan, Seismic Safety Element, 1988. Website: http://www.lbds.info/planning/advance_planning/general_plan.asp (accessed June 6, 2014).

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LEGEND

- Project Site

- SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD
The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

ZONE A - No Base Flood Elevations determined.

ZONE X - Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than1foot or with drainage areas less than 1 square mile; and areas protected by levees from1% annual chance flood.

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FIGURE 4.8.3

Belmont Pool Revitalization Project

Floodplain Map

SOURCE: Bing (c. 2010) and Federal Emergency Management Agency. Map Service Center Website, "Current FEMA Issued Flood Maps". http://1.usa.gov/IEYQjB Accessed 5/20/2013.

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4.8.2 Regulatory Setting

Federal Policies and Regulations.

Clean Water Act. In 1972, the Federal Water Pollution Control Act (later referred to as the Clean Water Act [CWA]) was amended to require that the discharge of pollutants into waters of the United States from any point source be effectively prohibited unless the discharge is in compliance with a National Pollutant Discharge Elimination System (NPDES) permit. In 1987, the CWA was again amended to require that the United States Environmental Protection Agency (EPA) establish regulations for the permitting of storm water discharges (as a point source) by municipal and industrial facilities and construction activities under the NPDES permit program. The regulations require that Municipal Separate Storm Sewer System (MS4) discharges to surface waters be regulated by an NPDES permit.

The CWA requires states to adopt water quality standards for water bodies and have those standards approved by the EPA. Water quality standards consist of designated beneficial uses for a particular water body (e.g., wildlife habitat, agricultural supply, or fishing), along with water quality criteria necessary to support those uses. Water quality criteria are set concentrations or levels of constituents—such as lead, suspended sediment, and fecal coliform bacteria—or narrative statements that represent the quality of water that supports a particular use. Because California had not established a complete list of acceptable water quality criteria for toxic pollutants, EPA Region IX established numeric water quality criteria for toxic constituents in the form of the California Toxics Rule (CTR).

When designated beneficial uses of a particular water body are being compromised by water quality, Section 303(d) of the CWA requires identifying and listing that water body as impaired. Once a water body has been deemed impaired, a Total Maximum Daily Load (TMDL) must be developed for each impairing water quality constituent. A TMDL is an estimate of the total load of pollutants from point, nonpoint, and natural sources that a water body may receive without exceeding applicable water quality standards (often with a "factor of safety" included, which limits the total load of pollutants to a level well below that which could cause the standard to be exceeded). Once established, the TMDL is allocated among current and future dischargers into the water body.

National Flood Insurance Program. The National Flood Insurance Act of 1968 established the National Flood Insurance Program, which is based on the minimum requirements for floodplain management in the Federal Code of Regulations 44, Section 59-77, and is designed to minimize flood damage within SFHAs. FEMA is the agency that administrates the National Flood Insurance Program. SFHAs are defined as areas that have a 1-percent chance of flooding within a given year, also referred to as a 100-year flood. FIRMs were developed to identify areas of flood hazards within a community.

State Regulations.

Porter-Cologne Water Quality Control Act. The federal CWA places the primary responsibility for the control of water pollution and for planning the development and use of water resources with the states, although it does establish certain guidelines for the states to follow in developing their programs.

California's primary statute governing water quality and water pollution is the Porter-Cologne Water Quality Control Act of 1970 (Porter-Cologne Act). The Porter-Cologne Act grants the State Water Resources Control Board (SWRCB) and the Regional Water Quality Control Boards (RWQCBs) broad powers to protect water quality and is the primary vehicle for implementation of California's responsibility under the federal CWA. The Porter-Cologne Act grants the SWRCB and RWQCBs the authority and responsibility to adopt plans and policies, to regulate discharges to surface and groundwater, to regulate waste disposal sites, and to require cleanup of discharges of hazardous materials and other pollutants. The Porter-Cologne Act also establishes reporting requirements for unintended discharges of any hazardous substance, sewage, oil, or petroleum product.

Each RWQCB must formulate and adopt a water quality plan for its region. The regional plans are to conform to the policies set forth in the Porter-Cologne Act and established by the SWRCB in its State water policy. The Porter-Cologne Act also provides that an RWQCB may include in its region a regional plan with water discharge prohibitions applicable to particular conditions, areas, or types of waste.

California Coastal Act. The California Coastal Commission (Coastal Commission) is responsible for protecting water quality in coastal environments as defined under Sections 30230 and 30231 of the California Coastal Act (Coastal Act). The water quality provisions provide a broad basis for protecting coastal waters, habitats, and biodiversity associated with new development and redevelopment projects. To meet the objectives of Sections 30230 and 30231, the Coastal Commission supports a three-pronged approach to water quality management, which includes implementing site design, source control, and treatment control Best Management Practices (BMPs). New development projects that are within the Coastal Zone are required to apply for a Coastal Development Permit (CDP) through the Coastal Commission prior to construction. As part of the CDP process, projects must demonstrate water quality protection with the implementation of site design, source control, and treatment control BMPs.

Los Angeles Water Quality Control Plan (Basin Plan). The Los Angeles RWQCB has adopted a Basin Plan for its region of responsibility, which includes the City. The agency has delineated water resource area boundaries based on hydrological features. For purposes of achieving and maintaining water quality protection, specific beneficial uses have been identified for each of the hydrologic areas described in the Basin Plan. The Basin Plan also establishes implementation programs to achieve water quality objectives to protect beneficial uses and requires monitoring to evaluate the effectiveness of the programs. These objectives must comply with the State antidegradation policy (State Board Resolution No. 68-16), which is designed to maintain high-quality waters while allowing some flexibility if beneficial uses are not unreasonably affected.

Beneficial uses of water are defined in the Basin Plan as those necessary for the survival or well-being of humans, plants, and wildlife. Examples of beneficial uses include drinking water supplies; swimming, industrial and agricultural water supply; and the support of freshwater and marine habitats and their organisms.

The Project site is located adjacent to, and runoff from the Project site ultimately flows into, the beach of Long Beach. The following list summarizes the beneficial uses for the beach of Long Beach as designated by the Los Angeles RWQCB:

- **Water Contact Recreation (REC-1):** Uses of water for recreational activities involving body contact with water, where ingestion of water is reasonably possible. These uses include, but are not limited to, swimming, wading, waterskiing, skin and scuba diving, surfing, white water activities, fishing, or use of natural hot springs.
- **Noncontact Water Recreation (REC-2):** Uses of water for recreational activities involving proximity to water but not normally involving body contact with water, where ingestion of water is reasonably possible. These uses include, but are not limited to, picnicking, sunbathing, hiking, beachcombing, camping, boating, tidepool and marine life study, hunting, sightseeing, and aesthetic enjoyment in conjunction with the above activities.
- **Migration of Aquatic Organisms (MIGR):** Uses of water that support habitats necessary for migration, acclimatization between fresh and saltwater, or other temporary activities by aquatic organisms, such as anadromous fish.
- **Wildlife Habitat (WILD):** Uses of water that support terrestrial ecosystems, including, but not limited to, preservation and enhancement of terrestrial habitats, vegetation, wildlife (i.e., mammals, birds, reptiles, amphibians, invertebrates), and wildlife water and food sources.
- **Spawning, Reproduction, and/or Early Development (SPWN)** Uses of water that support high-quality aquatic habitats suitable for reproduction and early development of fish, most frequently for grunion species.
- **Commercial and Sport Fishing (COMM):** Uses of water for commercial or recreation collection of fish, shellfish, or other aquatic organisms.
- **Navigation (NAV):** Uses of water for shipping, travel, or other transportation by private, military, or commercial vessels.
- **Marine Habitat (MAR):** Uses of water that support marine ecosystems, including but not limited to, preservation or enhancement of marine habitats, vegetation such as kelp, fish, shellfish, or wildlife (e.g., marine mammals, shorebirds).
- **Shellfish Harvesting (SHELL):** Uses of water that support habitats suitable for the collection of filter-feeding shellfish (e.g., clams, oysters, and mussels) for human consumption, commercial, or sports purposes.

The Los Angeles RWQCB has designated narrative or numerical water quality objectives for all of its inland surface waters and enclosed bays and estuaries for the following parameters: ammonia; bacteria (coliform); bioaccumulation; biochemical oxygen demand (BOD);

biostimulatory substances; chemical constituents; chlorine; color; exotic vegetation; floating material; methylene blue activated substances (MBASs); mineral quality; nitrogen (nitrate, nitrite); oil and grease; dissolved oxygen; pesticides; pH; polychlorinated biphenyls (PCBs); radioactive substances; solid, suspended, or settable solids; taste and odor; temperature; toxicity; and turbidity. These objectives are listed in Table 4.8.A. If these objectives are exceeded, the Los Angeles RWQCB can use its regulatory authority to require municipalities to reduce pollutant loads to the affected receiving waters. The Los Angeles RWQCB utilizes water quality criteria, in the form of "scientific information developed by the EPA regarding the effect a constituent concentration has on human health, aquatic life, or other uses of water," to develop its water quality objectives.[1]

The Los Angeles RWQCB employs water quality standards from the California Toxics Rule (40 Code of Federal Regulations [CFR] §131.38) for potentially toxic constituents, primarily trace (heavy) metals and organic compounds, to determine whether beneficial uses are affected by storm and dry weather runoff. The values represent the numeric limits in receiving waters that will protect the "presence of, as well as the uses of, both fresh and salt water organisms."

That is, these values represent concentrations within a water body. The State has developed bacteriological standards to monitor water quality at public beaches. These are based on legislation adopted in 1999 (Assembly Bill 411) and are promulgated in the California Health and Safety Code, Section 115880. In the "Guidance for Beaches and Recreational Waters," the bacteriological standards are defined in Appendix A, Article 4, Healthfulness. Table 4.8.A, Water Quality Standards and Benchmarks, provides a comparison of standards and benchmarks for concentrations of constituents in runoff or in receiving waters.

California Ocean Plan. The SWRCB has adopted a Water Quality Control Plan for point source discharges to ocean waters of California called the California Ocean Plan (Ocean Plan). With the exception of wildlife habitat, the Ocean Plan identifies the same beneficial uses as the Los Angeles Basin Plan (Basin Plan). The Ocean Plan also incorporates general requirements for the management of wastes discharged directly into the ocean, effluent quality requirements for waste discharges directly into the ocean, discharge prohibitions, and general provisions. The Ocean Plan is incorporated by reference into the Basin Plan.

The Ocean Plan identifies beneficial uses for the Pacific Ocean. The Project site is located adjacent to, and runoff from the Project site eventually flows into, the Pacific Ocean. The following list summarizes the beneficial uses for ocean waters of the State as designated by the Ocean Plan:

- **Industrial Service Supply (IND)**: Uses of water for industrial activities that do not depend primarily on water quality including, but not limited to, mining, cooling water supply, hydraulic conveyance, gravel washing, fire protection, or oil well repressurization.

1 Los Angeles RWQCB. Water Quality Control Plan, Los Angeles Region, 1995, updated 2011.

Table 4.8.A: Water Quality Standards and Benchmarks

Constituent	Basin Plan Objectives	California Toxics Rule (mg/L)[1]	Assembly Bill 411[2]
Ammonia	Numeric objectives have only been established for COLD and WARM beneficial uses. Shall not be present at levels that, when oxidized to nitrate, pose a threat to groundwater.	N/A[3]	N/A
Bacterial, Coliform	REC-1: Fecal coliform concentration shall not exceed a log mean of 200/100 milliliters (mL) (based on a minimum of not less than four samples for any 30-day period), nor shall more than 10 percent of samples collected during any 30-day period exceed 4,000/ 100 mL. SHELL: The median total coliform concentration throughout the water column for any 30-day period shall not exceed 70/100 mL, nor shall more than 10 percent of the samples collected during any 30-day period exceed 230/100 mL for a five-tube decimal dilution test or 330/100 mL when a three-tube decimal test is used.	N/A	Fecal coliform: 200/100 mL Total coliform: 1,000/100 mL
Bioaccumulation	Toxic pollutants shall not be present at levels that will bioaccumulate in aquatic life to levels that are harmful to aquatic life or human health.	See levels for metals	N/A
Biological Oxygen Demand (BOD)	Waters shall be free of substances that result in increases in the BOD, which adversely affect beneficial uses.	N/A	N/A
Biostimulatory Substances	Waters shall not contain biostimulatory substances in concentrations that promote aquatic growth to the extent that such growth causes nuisance or adversely affects beneficial uses.	N/A	N/A
Chemical Constituents	Surface waters shall not contain concentrations of chemical constituents in amounts that adversely affect any designated beneficial use.	Includes pesticides and PCBs	N/A
Chemical Oxygen Demand (COD)	N/A	N/A	N/A
Chlorine, Total Residual	Chlorine residual shall not be present in surface water discharges at concentrations that exceed 0.1 mg/L and shall not persist in receiving waters at any concentration that causes impairment of beneficial uses.	N/A	N/A
Color	Waters shall be free of coloration that causes nuisance or adversely affects beneficial uses.	N/A	N/A
Total Copper	N/A	0.009	
Exotic Vegetation	Exotic vegetation shall not be introduced around stream courses to the extent that such growth causes nuisance or adversely affects beneficial uses.	N/A	N/A
Floating Material	Waters shall not contain floating materials, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses.	N/A	N/A

Table 4.8.A: Water Quality Standards and Benchmarks

Constituent	Basin Plan Objectives	California Toxics Rule (mg/L)[1]	Assembly Bill 411[2]
Total Lead	N/A	0.025	N/A
Methylene Blue Activated Substances (MBASs)	Waters shall not have MBAS concentrations greater than 0.5 mg/L in waters designated MUN.	N/A	N/A
Mineral Quality	No waterbody specific objectives	N/A	N/A
Nitrogen (Nitrate, Nitrite)	Waters shall not exceed 10 mg/L nitrogen as nitrate-nitrogen plus nitrite-nitrogen, 45 mg/L as nitrate, 10 mg/L as nitrate-nitrogen, or 1 mg/L as nitrite-nitrogen.		
Oil and Grease	Waters shall not contain oils, greases, waxes, or other materials in concentrations that result in a visible film or coating on the surface of the water or on objects in the water that cause nuisance or adversely affect beneficial uses.	N/A	N/A
Oxygen, Dissolved	SPWN: Waters shall not be depressed below 7 mg/L as a result of waste discharges.	N/A	N/A
Pesticides	No individual pesticide or combination of pesticides shall be present in concentrations that adversely affect beneficial uses. There shall be no increase in pesticide concentrations found in bottom sediments or aquatic life.	Chlordane: maximum concentrations, 2.4; continuous concentrations, 0.0043	N/A
pH	Inland water shall not be depressed below 6.5 or raised above 8.5 as a result of waste discharges. Ambient pH levels shall not be changed more than 0.5 units from natural conditions as a result of waste discharge.	N/A	N/A
Total Phosphorus	N/A	N/A	N/A
Polychlorinated Biphenyls (PCBs)	Pass-through or uncontrollable discharges to waters, or at locations where the waste can subsequently reach waters, are limited to 70 pg/L (30-day average) for protection of human health and 14 ng/L (daily average) to protect aquatic life in inland fresh waters.	N/A	N/A
Radioactive Substances	Radionuclides shall not be present in concentrations that are deleterious to human, plant, animal, or aquatic life or that result in the accumulation of radionuclides in the food web to an extent that presents a hazard to human, plant, animal, or aquatic life.	N/A	N/A
Solid, Suspended, or Settleable Materials	Waters shall not contain suspended or settleable material in concentrations that cause nuisance or adversely affect beneficial uses.	N/A	N/A
Total Suspended Solids (TSS)	N/A	N/A	N/A

Table 4.8.A: Water Quality Standards and Benchmarks

Constituent	Basin Plan Objectives	California Toxics Rule (mg/L)[1]	Assembly Bill 411[2]
Total Dissolved Solids (TDS)	N/A	N/A	N/A
Tastes and Odors	Waters shall not contain taste- or odor-producing substances in concentrations that impart undesirable tastes or odors to fish flesh or other edible aquatic resources, cause nuisance, or adversely affect beneficial uses.	N/A	N/A
Temperature	The natural receiving water temperature of all waters shall not be altered unless it can be demonstrated that such alteration in temperature does not adversely affect beneficial uses.	N/A	N/A
Toxicity	All waters shall be free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in, human, plant, animal, or aquatic life.	N/A	N/A
Turbidity	Waters shall be free of changes in turbidity that cause nuisance or adversely affect beneficial uses. Increases in natural turbidity attributable to controllable water quality factors shall not exceed the following limits: • Where natural turbidity is between 0 and 50 National Turbidity Units (NTU), increases shall not exceed 20 percent. • Where natural turbidity is greater than 50 NTU, increases shall not exceed 10 percent.	N/A	N/A
Total Zinc	N/A	0.12	N/A

Source: Los Angeles Regional Water Quality Control Board. Water Quality Control Plan, Los Angeles Region, 1995, updated 2011.
[1] Chronic toxicity values (over a 4-day period) in water with a hardness of 100 mg/L.
[2] Values are based on the log mean of at least five weekly samples during any 30-day sampling period.
[3] Not applicable. No standard or benchmark listed.
mg/L = milligrams per liter
N/A = not applicable
pH = percentage of hydrogen (acidity level)
ng//L = nanograms per liter
pg/L = picograms per liter

- **Water Contact Recreation (REC-1):** Uses of water for recreational activities involving body contact with water, where ingestion of water is reasonably possible. These uses include, but are not limited to, swimming, wading, waterskiing, skin and scuba diving, surfing, white water activities, fishing, or use of natural hot springs.
- **Noncontact Water Recreation (REC-2):** Uses of water for recreational activities involving proximity to water but not normally involving body contact with water, where ingestion of water is reasonably possible. These uses include, but are not limited to, picnicking, sunbathing, hiking, beachcombing, camping, boating, tidepool and marine life study, hunting, sightseeing, and aesthetic enjoyment in conjunction with the above activities.
- **Navigation (NAV)**: Uses of water for shipping, travel, or other transportation by private, military, or commercial vessels.
- **Commercial and Sport Fishing (COMM):** Uses of water for commercial or recreation collection of fish, shellfish, or other aquatic organisms.
- **Preservation of Biological Habitats (BIOL)**: Uses of water that support designated areas or habitats, such as Areas of Special Biological Significance (ASBS), established refuges, parks, sanctuaries, ecological reserves, or other areas where the preservation or enhancement of natural resources requires special protection.
- **Rare, Threatened, or Endangered Species (RARE)**: Uses of water that support habitats necessary, at least in part, for the survival and successful maintenance of plant or animal species established under State or federal law as rare, threatened, or endangered.

The Ocean Plan sets forth limits of water quality characteristics for ocean waters to ensure the reasonable protection of beneficial uses and the prevention of nuisance. Similar to the Basin Plan, the Ocean Plan has established water quality objectives for bacteriological, physical, chemical, radioactive, and biological characteristics. These objectives are listed in Table 4.8.B.

Clean Water Act, Section 303, List of Water Quality Limited Segments. Section 303(d) specifically requires the State to develop a list of impaired water bodies and subsequent numeric TMDLs for whichever constituents impair a particular water body. These constituents include inorganic and organic chemical compounds, metals, sediments, and biological agents. The TMDL is the total amount of a constituent that can be discharged while meeting water quality objectives and protecting beneficial uses. It is the sum of the individual load allocations for point-source inputs (e.g., an industrial plant), load allocations for nonpoint-source inputs (e.g., runoff from urban areas), and natural background, with a margin of safety.[1]

[1] Los Angeles RWQCB. Water Quality Control Plan, 1995, updated 2011.

Table 4.8B: Water Quality Objectives

Constituent	Ocean Plan Objectives
Bacterial Characteristics	REC-1: Total coliform density shall not exceed 1,000/100 mL; Fecal coliform density shall not exceed 200/100 mL; Enterococcus density shall not exceed 35/100 mL (based on geometric mean of the five most recent samples for any 30-day period). SHELL: The median total coliform density shall not exceed 70/100 mL, nor shall more than 10 percent of the samples collected during any 30-day period exceed 23/100 mL.
Physical Characteristics	1. Floating particulates and grease and oil shall not be visible. 2. The discharge of waste shall not cause aesthetically undesirable discoloration of the ocean surface. 3. Natural light shall not be significantly reduced at any point outside the initial dilution zone as the result of the discharge of waste. 4. The rate of deposition of inert solids and the characteristics of inert solids in ocean sediments shall not be changed such that benthic communities are degraded.
Chemical Characteristics	1. The dissolved oxygen concentrations shall not at any time be depressed more than 10 percent from that which occurs naturally, as the result of the discharge of oxygen-demanding waste materials. 2. The pH shall not be changed at any time more than 0.2 units from that which occurs naturally. 3. The dissolved sulfide concentration of waters in and near sediments shall not be significantly increased above that present under natural conditions. 4. The concentration of substances set forth in Table 1, Water Quality Objectives, in the Ocean Plan, in marine sediments shall not be increased to levels that would degrade indigenous biota. 5. The concentration of organic materials in marine sediments shall not be increased to levels that would degrade marine life. 6. Nutrient materials shall not cause objectionable aquatic growths or degrade indigenous biota. 7. Numerical Water Quality Objectives: Refer to Table 1, Water Quality Objectives, in the Ocean Plan, for specific numerical water quality objectives related to chemical constituents.

Source: State Water Resources Control Board and California Environmental Protection Agency. 2012. California Ocean Plan.
mL = milliliters

On November 12, 2010, the EPA approved California's 2008–2010 Section 303(d) list of impaired waters and disapproved the omission of several water bodies and associated pollutants that meet federal listing requirements. The EPA identified additional water bodies and pollutants for inclusion on the State's 303(d) list. The EPA provided public notice and the opportunity for public comment on our proposed additions that ended December 23, 2010. On October 11, 2011, the EPA issued its final decision regarding the waters, which the EPA added to the State's 303(d) list.

The City of Long Beach City Beach is on the list of waters added to the 2010 303(d) list. This location is placed in the Category 5 criteria, which means that it is a water segment where standards are not met and a TMDL is required, but not yet completed, for at least one of the listed pollutants. Long Beach City Beach is listed as impaired for indicator bacteria on the 2010 303(d) list of impaired waters.[1]

TMDL Requirements. The Long Beach City Beaches were identified on the 2006 and 2010 303 (d) list of impaired waters as requiring a TMDL due to exceedances in concentrations of indicator bacteria. As such, the EPA approved the *Long Beach City Beaches and Los Angeles River Estuary Total Maximum Daily Loads for Indicator Bacteria* on March 26, 2012. This TMDL sets water quality standards for select indicator bacteria (e.g., E. coli, enterococci, total coliform, and fecal coliform). Concentrations of indicator bacteria are used to indicate the risk associated with the presence of fecal material and associated pathogens.[2] The anticipated TMDL completion date is 2019.

Clean Water Act, Section 402, National Pollutant Discharge Elimination System. Direct discharges of pollutants into waters of the United States are not allowed, except in accordance with the NPDES program established in Section 402 of the CWA.

General Construction Activity Storm Water Permit. The *General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities*, Order No. 2009-0009-DWQ, National Pollutant Discharge Elimination System No. CAS000002, as amended by Order Nos. 2010-0004-DWQ and 2012-0006-DWQ (Construction General Permit), adopted by the SWRCB, regulates construction activity that includes clearing, grading, and excavation resulting in soil disturbance of at least 1 ac of total land area. The Construction General Permit authorizes the discharge of storm water to surface waters from construction activities. It prohibits the discharge of materials other than storm water and authorized nonstorm-water discharges and all discharges that contain a hazardous substance in excess of reportable quantities established at 40 CFR 117.3 or 40 CFR 302.4, unless a separate NPDES Permit has been issued to regulate those discharges.

The Construction General Permit requires that all project designers for projects where construction activities will occur over more than 1 ac do the following:

- Complete a Risk Assessment to determine pollution prevention requirements pursuant to the three risk levels established in the General Permit;
- Eliminate or reduce nonstorm-water discharges to storm sewer systems and other waters of the nation;

1 United States Environmental Protection Agency (EPA), Region 9 Water Program, 2010 Integrated Report (Clean Water Act Section 303(d) List / 305(b) Report) - Statewide. Website: http://www.waterboards.ca.gov/water_issues/programs/tmdl/integrated2010.shtml (accessed February 6, 2015).

2 Los Angeles RWQCB. Long Beach City Beaches and Los Angeles River Estuary TMDLs for Indicator Bacteria. Website: http://www.waterboards.ca.gov/losangeles/water_issues/programs/tmdl/Established/Longbeach/finalTMDLs-LongBeachCityBeaches-LARiverEstuaryBacteria.pdf. (accessed February 9, 2015).

- Develop and implement a Storm Water Pollution Prevention Plan (SWPPP) that specifies BMPs to reduce pollution in storm water discharges to the Best Available Technology Economically Achievable/Best Conventional Pollutant Control Technology (BACT/BCPCT) standards; and
- Perform inspections and maintenance of all BMPs.

In order to obtain coverage under the Construction General Permit, a project contractor must electronically file all Permit Registration Documents with the SWRCB prior to the start of construction. Permit Registration Documents must include:

- Notice of Intent (NOI)
- Risk Assessment
- Site map
- SWPPP
- Annual fee
- Signed certification statement

Typical BMPs contained in SWPPPs are designed to minimize erosion during construction, stabilize construction areas, control sediment, control pollutants from construction materials, and address post construction runoff quantity (volume) and quality (treatment). The SWPPP must also include a discussion of the program to inspect and maintain all BMPs.

Local Requirements

Construction and operation of the proposed Project is subject to requirements of the following local permits and regulations.

Groundwater Discharge Permit. On July 6, 2013, the Los Angeles RWQCB issued the *Waste Discharge Requirements for Discharges of Groundwater from Construction and Project Dewatering to Surface Waters in Coastal Watersheds of Los Angeles and Ventura Counties* (Order No. R4-2013-0095, Permit No. CAG994004) (Groundwater Discharge Permit). This permit regulates discharges of treated and untreated groundwater generated from permanent or temporary project dewatering operations or other applicable wastewater discharges not specifically covered in other general or individual NPDES permits. It specifies the discharge prohibitions, effluent limitations and discharge specifications, receiving water limitations, and general provisions and compliance determination criteria for groundwater generated from permanent or temporary dewatering operations or other wastewater discharge not covered in other general or individual NPDES permits. Dischargers are required to collect and analyze representative groundwater samples for all constituents listed in the Groundwater Discharge Permit. Based on the results, dischargers would be required to provide treatment for any toxic compounds detected above the applicable screening levels. To obtain coverage under the Groundwater Discharge Permit, each permittee must submit an NOI to begin the application process.

Municipal NPDES Permit. The City of Long Beach is subject to the *Waste Discharge Requirements for Municipal Separate Storm Sewer System Discharges from the City of Long Beach* (Permit No. R4-2014-0024, NPDES No. CAS004003) (MS4 Permit), which was approved February 6, 2014, and became effective on March 28, 2014. This MS4 Permit supersedes Order No. 99-060 issued in 1999. To implement the requirements of the 1999 MS4 Permit, the City developed the Long Beach Storm Water Management Program (LBSWMP), a comprehensive program of practices and activities aimed at reducing or eliminating storm water pollutants from new development to the maximum extent practicable.

The 2014 MS4 Permit requires that the City develop a Watershed Management Program (WMP) to implement the requirements of the MS4 Permit on a watershed scale that will include customized strategies, control measures, and BMPs. WMPs shall be developed using the Los Angeles RWQCB's Watershed Management Areas (WMAs). The City can elect to collaborate with other MS4 permittees on the development of an Enhanced Watershed Management Program (EWMP) that will evaluate the multibenefits of regional projects and implement regional control measures and BMPs. The WMP or EWMP will include an evaluation of existing water quality conditions, identify water quality priorities within each WMA, select watershed control measures, and incorporate compliance schedules. The draft WMPs are due to the Los Angeles RWQCB by June 28, 2015, and will then be implemented upon final approval. In the interim period between the approvals of the WMPs, the LBSWMP will be in effect.

Currently, the MS4 permit requires that the project designer and/or contractor of all new development and redevelopment projects that fall under specific "priority" project categories must develop a Standard Urban Stormwater Mitigation Plan (SUSMP). Certain categories of development are considered "priority" because the Los Angeles RWQCB determined that they have the greatest potential to degrade water quality. The three categories of "priority" projects include: (1) 10 or more home subdivisions; (2) 100,000-square-foot (sf) or larger commercial developments; and (3) projects located adjacent to or directly discharging to environmentally sensitive areas. Because the proposed Project includes more than 100,000 sf of commercial development, it is considered a "priority" project. As stated above, the guidance documents from the previous MS4 Permit will be in effect until the approval of the final WMPs. Therefore, a SUSMP is required to be developed for the proposed Project.

Municipal Code Section 18.61. Section 18.61, NPDES and SUSMP Regulations, of the City Municipal Code provides regulations and gives legal effect to certain requirements of the MS4 Permit and the subsequent requirements of the SUSMP, mandated by the Los Angeles RWQCB. The intent of these regulations is to prohibit non-storm water discharges into the storm drain systems or receiving waters and to implement source control BMPs to prevent or reduce the discharge of pollutants into the storm water to the maximum extent practicable. Chapter 18.61.040 of the Municipal Code states that:

> *New development projects and redevelopment projects in the City subject to the design and implementation of post-construction controls to mitigate storm water pollution, prior to completion of the projects, shall apply if required in the NPDES and SUSMP Regulations Manual.*

Municipal Code Section 18.74. Section 18.74, Low Impact Development Standards, of the City's Municipal Code requires the use of low impact development (LID) standards in the planning and construction of development projects contained in the *LID Best Management Practices Manual*. Compliance with the LID standards is determined through a LID Plan review. The LID Plan must demonstrate compliance with the requirements for infiltration, capture and reuse, evapotranspiration, and/or treatment on site through the use of BMPs. The on-site storm water management techniques must be properly sized, at a minimum, to infiltrate, evapotranspire, and/or store for use without any storm water runoff leaving the site to the maximum extent feasible, for at least the volume of water produced by a 0.75-inch storm event, the 85th percentile 24-hour storm event, or the 85th percentile 24-hour runoff event determined as the maximized capture storm water volume for the area using a 48- to 72-hour draw down time, or the volume of annual runoff based on unit basin storage water quality volume to achieve 80 percent or more volume treatment. Section 18.74.050 of the Municipal Code requires that new development or redevelopment projects that do not demonstrate compliance with the LID requirements pay an off-site runoff mitigation fee.

4.8.3 Impact Significance Criteria

The impact significance criteria used for this analysis are based primarily on Appendix G of the *State California Environmental Quality Act (CEQA) Guidelines* and the City's CEQA Checklist. The proposed Project may be considered to have a significant effect related to water quality if implementation would:

Threshold 4.8.1: **Violate any water quality standards or waste discharge requirements;**

Threshold 4.8.2: **Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater level (e.g., the production rate of preexisting nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted);**

Threshold 4.8.3: **Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on or off site;**

Threshold 4.8.4: **Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or a substantial increase in the rate or amount of surface runoff in a manner that would result in flooding on or off site;**

Threshold 4.8.5: **Create or contribute runoff water that would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff;**

Threshold 4.8.6: **Otherwise substantially degrade water quality;**

Threshold 4.8.7: **Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map;**

Threshold 4.8.8: **Place within a 100-year flood hazard area structures which would impede or redirect flood flows;**

Threshold 4.8.9: **Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam; or**

Threshold 4.8.10: **Expose the same due to inundation by seiche, tsunami, or mudflow.**

The Initial Study previously prepared for the proposed Project determined that the proposed Project would not have a significant impact with respect to Threshold 4.8.7, the placement of housing within a 100-year flood zone because the proposed Project does not include any residential components. Therefore, Threshold 4.8.7 is not addressed further in this Draft EIR.

CEQA Baseline. At the time the NOP was issued, the Project site contained both the Belmont Pool facilities and the outdoor temporary pool (opened in December 2013 to provide swimming facilities while the permanent facility was under construction). Although the site contained the former Belmont Pool building at the time of the NOP, the facility was subsequently demolished in February 2015 to alleviate an imminent public safety threat due to the seismically unsafe condition of the building.

The inclusion of the former building in the assessment of hydrology and water quality impacts is appropriate because the former facility was present on the site for approximately 45 years and represents the historic use of the site, and the historic drainage conditions for the site. The substantial evidence of recent historical use supports the determination that the Belmont Pool building as the baseline for hydrology and water quality impacts is appropriate.

4.8.4 Project Impacts

Threshold 4.8.1: **Would the project violate any water quality standards or waste discharge requirements?**

and

Threshold 4.8.6: **Would the project otherwise substantially degrade water quality?**

Less than Significant Impact with Mitigation Incorporated.

Construction. Pollutants of concern during construction include sediments, trash, petroleum products, concrete waste (dry and wet), sanitary waste, and chemicals. During construction activities, it is anticipated that the Project site would be graded and/or excavated resulting in exposed soil. Consequently, there would be an increased potential for soil erosion compared to existing conditions. In addition, chemicals, liquid products, petroleum products (such as paints, solvents, and fuels), and concrete-related waste may be spilled or leaked and have the potential to be transported via storm runoff into downstream receiving waters (i.e., beach in Long Beach and, ultimately, the Pacific Ocean).

As specified in Mitigation Measure 4.8.1, the proposed Project would comply with the requirements of the Construction General Permit. Under the Construction General Permit, the proposed Project would be required to prepare a SWPPP and implement Construction BMPs detailed in the SWPPP during construction activities to minimize erosion and prevent spills. Construction BMPs would include, but not be limited to, Erosion Control and Sediment Control BMPs designed to minimize erosion and retain sediment on site and Good Housekeeping BMPs to prevent spills, leaks, and discharge of construction debris and waste into receiving waters. The SWPPPs would be developed, and Construction BMPs selected and implemented, to target pollutants of concern during construction. The Construction BMPs would be designed to retain sediment and other pollutants on site, so they would not reach receiving waters.

Construction activities on the Project site could require excavation of up to 13 ft below the existing grade during the removal of the existing wooden piles and construction of the pools. Groundwater depths ranged from approximately 6 to 9 ft below existing grades. Due to the anticipated depth of excavation and the depth of groundwater, it is anticipated that groundwater would be encountered during excavation, which would require groundwater dewatering.

Groundwater may contain high levels of total dissolved solids and other constituents that could be introduced to surface waters. As specified in Mitigation Measure 4.8.2, any groundwater dewatering during excavation would be conducted in accordance with the Los Angeles RWQCB's Groundwater Discharge Permit, which would require testing and treatment (as necessary) of groundwater encountered during groundwater dewatering prior to release to the storm drain system. If dewatered groundwater cannot meet the discharge limitations specified in the Groundwater Discharge Permit, groundwater would be disposed of in the sewer system and would have to meet Los Angeles County Sanitation District (LACSD) discharges limits per the requirements set forth in LACSD's Wastewater Ordinance.[1]

Implementation of Mitigation Measures 4.8.1 and 4.8.2, which require compliance with the General Construction Permit and the Groundwater Discharge Permit, including implementation of BMPs to target pollutants of concern, would reduce potential construction impacts related to violation of water quality standards or waste discharge requirements and degradation of water quality to less than significant levels.

Operation. Pollutants of concern during operation of the proposed on-site uses could potentially include pathogens, metals, nutrients, pesticides, organic compounds, sediment, trash and debris, oxygen-demanding substances, and oil and grease. In the existing condition, the Project site consists of approximately 2.1 ac of impervious surface area and approximately 3.7 ac of pervious surface. In the proposed Project condition, the Project site would consist of approximately 1.6 ac of impervious surface area and approximately 4.2 ac of pervious surface. The proposed Project

1 Los Angeles County Sanitation District (LACSD). Wastewater Ordinance. April 1, 1972 amended July 1, 1998. Website: http://www.lacsd.org/wastewater/industrial_waste/iwordinances/wastewater_ordinance.asp (accessed February 10, 2015).

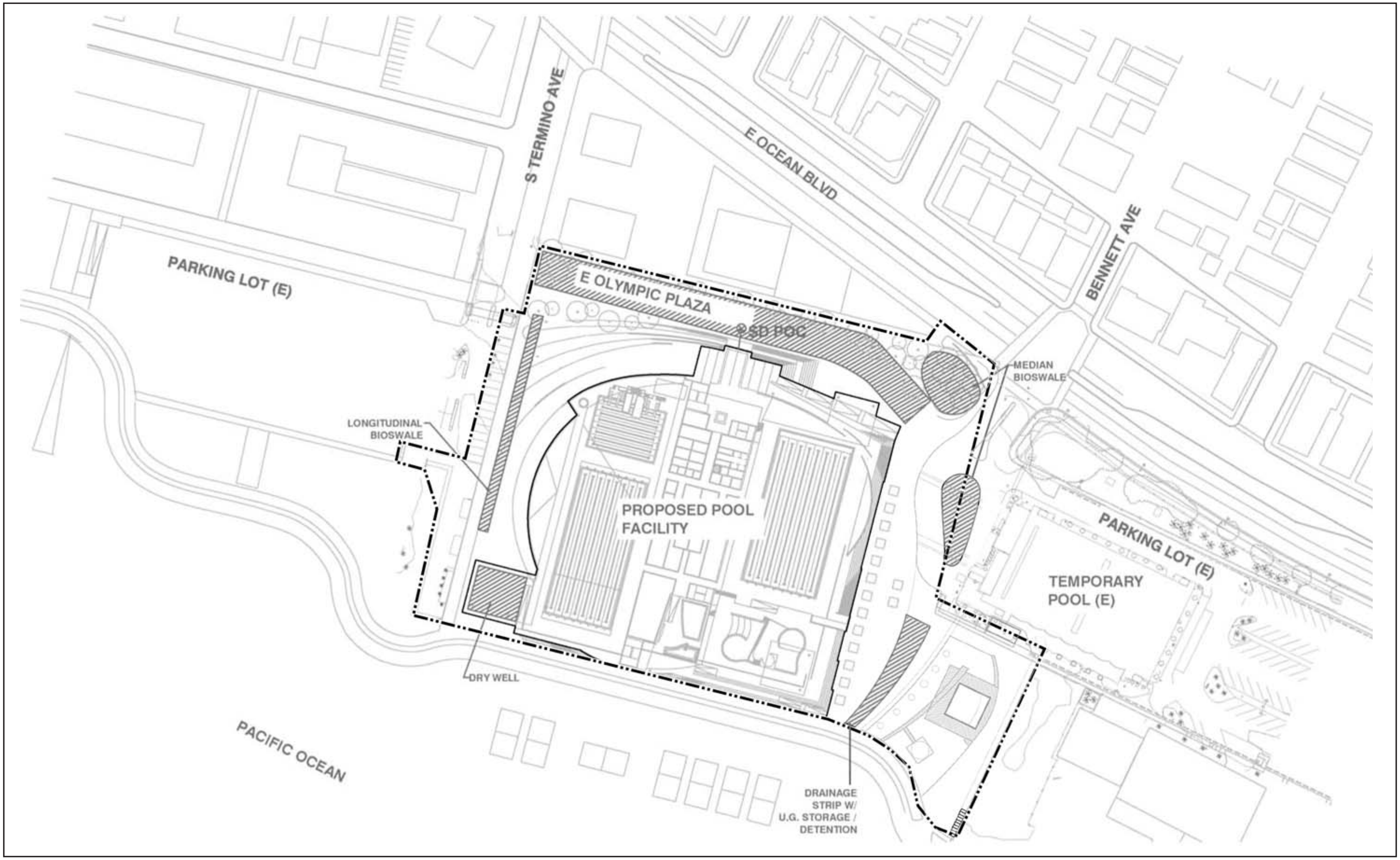
would, therefore, result in a permanent decrease in impervious surface area of approximately 0.5 ac and an increase in pervious area of approximately 0.5 ac. A decrease in impervious area would decrease the volume of runoff during a storm.

In accordance with the requirements of the LBSWMP and the MS4 Permit, new development and significant redevelopment projects must incorporate site design and source control BMPs to address post-construction storm water runoff management. In addition, new developments and redevelopment projects meeting one of the three categories (designated “Priority Projects”) must implement applicable source control BMPs and treatment control BMPs on the site. Selection of treatment control BMPs is based on the pollutants of concern for the specific Project site and the BMP’s ability to effectively treat those pollutants, in consideration of the site conditions and constraints. Further, new development and redevelopment projects must develop a project-specific SUSMP that describes the type of BMPs chosen for the Project site, as well as include operation and maintenance requirements for all structural treatment control BMPs.

As specified in Mitigation Measure 4.8.3, an SUSMP would be prepared for the proposed Project. The Site Design, Source Control, and Treatment BMPs specified in the Final SUSMP would be incorporated into the design of the proposed Project to treat pollutants of concern in storm water runoff prior to discharge into the storm drain system. Site Design BMPs are BMPs that reduce runoff or pollutants at the source through intentional use of landforms and materials. Source Control BMPs are measures that focus on reducing or eliminating runoff and controlling sources of pollutants during operation of the Proposed Project. Treatment BMPs utilize treatment mechanisms to remove pollutants that have entered storm water runoff. The BMPs would be incorporated into the design of the proposed Project and would treat storm water runoff from the Project site.

As shown in Figure 4.8.4, the proposed treatment BMPs are anticipated to include biofiltration swales (bioswales), filtration strip, an underground detention basin, and a drywell. Bioswales are vegetated channels that convey storm water and remove pollutants by filtration through the grass, sedimentation, adsorption to soil particles, and infiltration through the soil. Filtration strips are channels that convey storm water and remove pollutants by sedimentation and adsorption to soil particles, and infiltration through the soil. Detention basins are designed to reduce sediment and particulate loading in storm water runoff. Water is temporarily detained in the basin to allow sediment and particulates to settle out before the runoff is discharged to receiving waters. A drywell is an underground structure designed specifically for infiltration of stormwater.

As specified in Mitigation Measure 4.8.3, an SUSMP would be developed for the proposed Project, which would include the BMPs that would be consistent with the requirements of the City’s *Low Impact Development (LID) Best Management Practices (BMP) Design Manual* and would target pollutants of concern from the Project site. In addition, the SUSMP would include an operations and maintenance plan for the bioswales, drywell, filtration strip, and an underground detention basin to ensure their long-term performance. Implementation of BMPs that target pollutants of concern in runoff from the Project site, as required by Mitigation Measure 4.8.3, would reduce potential operational impacts related to violation of water quality standards or waste discharge requirements and degradation of water quality to less than significant levels.



LSA

FIGURE 4.8.4

- Project Site

N

0 120 240
FEET

SOURCE: Hastings+Chivetta

Belmont Pool Revitalization Project

Water Quality Best Management Practices

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Threshold 4.8.2: Would the project substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater level (e.g., the production rate of preexisting nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted)?

Less than Significant Impact.

Construction. Due to the depth of groundwater (6 to 9 ft below existing grades) and the anticipated depth of excavation (up to 13 ft below existing grade), it is anticipated that groundwater dewatering would be required during removal of the existing wooden piles and construction of the pools. However, groundwater dewatering activities would be temporary, and the volume of groundwater removed would not be substantial. In addition, grading and construction activities would compact soil, which can decrease infiltration during construction. However, construction activities would be temporary, and the reduction in infiltration would not be substantial. Therefore, construction of the proposed Project would not substantially deplete groundwater or interfere with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level. Construction impacts related to groundwater supplies would be less than significant, and no mitigation is required.

Operation. Operation of the proposed Project would not require groundwater extraction. The proposed Project would not directly utilize local groundwater but continue to use water from the local municipal supply. Additionally, the proposed Project would replace the existing facility with a similar facility. As discussed previously, the proposed Project would decrease impervious surface by 0.5 ac, which would increase infiltration. As a result, the proposed Project would not constitute interference with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level. Operational impacts related to groundwater supplies would be less than significant, and no mitigation is required.

Threshold 4.8.3: Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on or off site?

and

Threshold 4.8.4: Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or a substantial increase in the rate or amount of surface runoff in a manner that would result in flooding on or off site?

Less than Significant Impact with Mitigation Incorporated.

Construction. During construction activities on the Project site, there is the potential for the drainage pattern to be altered temporarily. As previously described, the Project site would be graded and excavated soil would be exposed, and there would be an increased potential for soil erosion and flooding compared to existing conditions. During a storm event, soil erosion and sedimentation could occur at an accelerated rate. In addition, grading and construction activities would compact soil, which can increase runoff during construction. There are no on-site streams or rivers; therefore, the proposed Project would not alter the course of a stream or river.

Mitigation Measure 4.8.1 requires preparation of a SWPPP to identify Construction BMPs to be implemented as part of the proposed Project to reduce impacts to water quality and drainage during construction, including those impacts associated with soil erosion, siltation, and increased runoff. Construction BMPs would include, but not be limited to, Erosion Control and Sediment Control BMPs designed to minimize erosion sedimentation. The SWPPP would be developed, and Construction BMPs selected and implemented, to target pollutants of concern during construction. Implementation of Mitigation Measure 4.8.1, which requires compliance with the requirements of the Construction General Permit and implementation of BMPs during construction, would reduce potential construction impacts related to erosion, siltation, and flooding to less than significant levels.

Operation. The proposed Project would change on-site drainage patterns by adding impervious surface areas and structures. However, flows from the Project site would continue to discharge to the existing off-site storm drain system. There are no on-site streams or rivers; therefore, the proposed Project would not alter the course of a stream or river.

The proposed Project would decrease the overall impervious area by 0.5 ac and increase the pervious area by 0.5 ac, resulting in an increase in filtration. The proposed Project would also include a comprehensive drainage system to convey on-site storm flows, including on-site detention and infiltration BMPs. A detailed hydrology report would be prepared for the proposed Project to ensure that the on-site storm drain facilities are appropriately sized to prevent on-site or off-site flooding (refer to Mitigation Measure 4.8.4). In the proposed condition, the impervious surface areas would not be prone to erosion or siltation. Treatment BMPs, including biofiltration swales (bioswales), filtration strip, an underground detention basin, and a drywell, are anticipated to be incorporated into the proposed Project design to convey storm water and minimize on-site erosion and siltation that could reach downstream receiving waters (refer to Mitigation Measure 4.8.3).

Therefore, with implementation of Mitigation Measure 4.8.3, which requires the implementation of Treatment BMPs to control runoff, and Mitigation Measure 4.8.4, which requires the development of a hydrology report to ensure flows would not exceed existing storm drain facilities, the proposed Project would not contribute to an increase in downstream erosion, siltation, or flooding.

Threshold 4.8.5: Would the project create or contribute runoff water that would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?

Less than Significant Impact with Mitigation Incorporated.

Construction. As discussed above, construction of the proposed Project has the potential to introduce pollutants into the storm water drainage system from erosion, siltation, and accidental spills. In addition, grading and construction activities would compact soil, which can increase runoff during construction. However, as specified in Mitigation Measure 4.8.1, the Construction General Permit requires preparation of a SWPPP to identify Construction BMPs to be implemented during the proposed Project construction to reduce impacts to water quality, including those impacts associated with soil erosion, siltation, spills, and increased runoff.

Due to the depth of groundwater (6 to 9 ft below existing grades) and the anticipated depth of excavation (up to 13 ft below existing grade), it is anticipated that groundwater dewatering would be required during the removal of the existing wooden piles and construction of the pools. However, groundwater dewatering activities would be temporary, and the volume of groundwater removed would not be substantial. As specified in Mitigation Measure 4.8.2, any groundwater dewatering during excavation would be conducted in accordance with the Los Angeles RWQCB’s Groundwater Discharge Permit, which would require testing and treatment (as necessary) of groundwater encountered during groundwater dewatering prior to release to the storm drain system. If dewatered groundwater cannot meet the discharge limitations specified in the Ground Water Discharge Permit, groundwater would be disposed of in the sewer and would have to meet the LACSD discharge limits.

With implementation of Mitigation Measures 4.8.1 and 4.8.2, which require compliance with the General Construction Permit and the Groundwater Discharge Permit, construction impacts related to exceeding the capacity of, and providing additional sources of polluted runoff to, storm water drainage systems would be reduced to less than significant levels.

Operation. As discussed above, the proposed Project would decrease impervious surface area by 0.5 ac and increase the pervious area by approximately 0.5 ac, which would decrease the volume and velocity of runoff on the site. The proposed Project would also include a comprehensive drainage system to convey on-site storm flows. During design of the proposed Project, a detailed hydrology report would be prepared to ensure that the on-site storm drain facilities are appropriately sized to prevent on-site flooding (Mitigation Measure 4.8.4). In addition, the proposed Project would include Treatment BMPs, including biofiltration swales (bioswales), filtration strip, an underground detention basin, and a drywell to convey storm water and reduce potential pollutants and the volume of runoff reaching downstream receiving waters (refer to Mitigation Measure 4.8.3).

Therefore, with implementation of Mitigation Measures 4.8.3 which requires the implementation of Treatment BMPs to control runoff, and Mitigation Measure 4.8.4, which requires the development of a hydrology report to ensure flows would not exceed existing storm drain facilities, operational impacts related to exceedance of the capacity of, and providing additional sources of polluted runoff to, storm water drainage systems would be reduced to a less than significant level.

Threshold 4.8.8: Would the project place within a 100-year flood hazard area structures which would impede or redirect flood flows?

Less than Significant with Mitigation Incorporated. According to Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) No. 06037C1970F (September 26, 2008), the eastern half of the Project site is located within Zone A, a Special Flood Hazard Area (SFHA) subject to inundation by the 1-percent annual chance flood, and the western half of the Project site is located within Zone X, areas determined to be outside the 0.2-percent chance (500-year) floodplain (see Figure 4.8.3). The City is a participant in the National Flood Insurance Program (NFIP), which allows City property owners to obtain federally backed flood insurance.[1] FEMA requires that all projects within Zone A enforce NFIP floodplain management regulations and purchase mandatory flood insurance. The regulations require that a project not increase the base flood elevation of a 100-year floodplain more than 1 ft. During subsequent engineering and design phase of the proposed Project, detailed analysis would be conducted to ensure that the design specifically addresses floodplain issues. In addition, implementation of Mitigation Measure 4.8.5 would require a floodplain report to be prepared in order to reduce impacts to the floodplain. Compliance with City and FEMA regulations and implementation of Mitigation Measure 4.8.5 would ensure that the proposed Project would not expose people or structures to the risk of flooding, create floodplains, or result in an increase in the base flood elevation. Therefore, impacts associated with flood hazard areas would be less than significant.

Threshold 4.8.9: Would the project expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?

Less than Significant Impact. Dam failure is defined as the structural collapse of a dam that releases the water stored in a reservoir behind the dam. A dam failure is usually the result of the age of the structure, inadequate spillway capacity, or structural damage caused by an earthquake or flood. Three flood control dams lie upstream of the City: Sepulveda Basin, Hansen Basin, and Whittier Narrows Basin. Sepulveda and Hansen Basins lie more than 30 mi upstream from where the Los Angeles River passes through the City, which is north of the Project site. According to the Sepulveda and Hansen Dam Failure Inundation Maps,[2] the Project site is not located within the dam inundation area. In addition, flood waters from these dam failures are expected to dissipate before reaching the City, due to low and flat ground and their distances from the City.

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[1] City of Long Beach, Public Works. 2015. Flood Hazards/Flood Zone Information. Website: http://www.longbeach.gov/pw/engineering/floodzone.asp#Building in a Flood Zone (accessed February 10, 2015).

[2] City of Long Beach. 2004. City of Long Beach Natural Hazards Mitigation Plan.

The Project site is located within the dam inundation area for the Whittier Narrows Dam. [1] According to the U.S. Army Corps of Engineers, Dam Safety Program[2] (Corps 2015), Whittier Narrows Dam received a Dam Safety Action Class II rating in December 2008. This rating is assigned to dams where failure could begin during normal operations or be initiated as the consequence of a natural event, such as an earthquake. This classification indicates that the likelihood of failure, prior to remediation, is too high to assure public safety, or that the combination of life or economic consequences with probability of failure is very high. However, because of the project site's location at the furthest point away from the Whittier Narrows Dam within the inundation area, most of the flooding would dissipate by the time it reaches the Project site. In addition, the City would have ample time to notify onsite users to evacuate and onsite users would have ample time to evacuate before waters reached the project site. Additionally, the Project does not propose the development of habitable structures onsite, thereby further minimizing the risk to life and property in the event of a dam failure. Furthermore, the United States Army Corps of Engineers has implemented the following Interim Risk Reduction Measures to reduce impacts to life and property in the event of dam failure: remote monitoring, inspection and monitoring, flood mapping, updating the Emergency Action Plan annually, inspecting toe drain and gallery, and initiating a Dam Safety Modification Study. The City has also developed emergency preparedness plans that would help the public be prepared for these types of emergency situations. In addition, the County of Los Angeles has regional catastrophic preparedness planning and regional evacuation routes. Therefore, because the City and County have implemented mitigation plans, emergency preparedness plans, and evacuation routes, impacts associated with the failure of a dam or levee would be less than significant, and no mitigation is required.

Threshold 4.8.10: Would the project result in inundation by seiche, tsunami, or mudflow?

Less than Significant Impact. Seiching is a phenomenon that occurs when seismic groundshaking induces standing waves (seiches) inside enclosed bodies of water, including lakes and reservoirs. Such waves can flood adjacent properties. According to the *Geotechnical Evaluations* (Appendix E) prepared for the proposed Project, the site is not located in the vicinity of any large bodies of water that could adversely affect the site in the event of earthquake-induced seiches. Therefore, the risk associated with possible seiche waves is not considered a potential constraint or a potentially significant impact of the proposed Project, and no mitigation is necessary.

Tsunamis are generated wave trains generally caused by tectonic displacement of the sea floor associated with shallow earthquakes, sea floor landslides, rock falls, and exploding volcanic islands. The proposed Project is located adjacent to the beach and the Pacific Ocean and is within a tsunami inundation zone.[3] Up to 900 patrons are anticipated as part of typical daily operation of the Belmont Pool. Although there could be an increase in visitors to the site during special events, the proposed Project is replacing an existing use and would not create a new risk. Additionally, the proposed

[1] City of Long Beach. 2015. City of Long Beach Natural Hazards Mitigation Plan.

[2] United States Army Corps of Engineers Los Angeles District. 2015. Website: http://www.spl.usace.army.mil/Media/FactSheets/tabid/1321/Article/477341/dam-safety-program.aspx; (accessed August 13, 2015).

[3] California Emergency Management Agency, California Geological Survey, and University of Southern California. 2009. Tsunami Inundation Map for Emergency Planning Long Beach Quadrangle. Website: http://www.conservation.ca.gov/cgs/geologic_hazards/Tsunami/Inundation_Maps/LosAngeles/Documents/Tsunami_Inundation_LongBeach_Quad_LosAngeles.pdf (accessed February 10, 2015).

Project would not increase the risk of a tsunami occurring. Furthermore, as stated above, the City has implemented the 2015 Natural Hazards Mitigation Plan for the purpose of protecting the lives, property, and facilities of citizens, employees, businesses, industry, infrastructure, and the environment from natural hazards. In addition, the County of Los Angeles has developed regional catastrophic preparedness planning and regional evacuation routes. Therefore, because the proposed Project is not introducing a new risk to tsunami exposure and with the implementation of the Natural Hazards Mitigation Plan, emergency preparedness plans, and the County of Los Angeles regional catastrophic plans, the risks associated with tsunamis are considered less than significant, and no mitigation is required.

Mudslides and mudflows are described as a shallower type of slope failure, usually affecting the upper soil mantle or weathered bedrock underlying natural slopes and triggered by surface or shallow subsurface saturation. A typical mudslide or mudflow is a failure of the upper 4 ft of saturated hillside material. As stated in the *Geotechnical Evaluations*, the Project site is relatively level and the absence of nearby slopes precludes any slope stability hazards. Furthermore, the site is not in a state of California Earthquake-Induced Landslide Hazard Zone. Therefore, the proposed Project would result in less than significant impacts related to exposure of people or structures to risk of loss, injury, or death involving flooding as a result of inundation by mudflow, and no mitigation is required.

4.8.5 Cumulative Impacts

The cumulative study area for hydrology and water quality is the Los Cerritos Channel and Alamitos Bay WMA. This is considered the cumulative study area because it includes drainage from all the areas that lead to Alamitos Bay. This area is essentially built out; therefore, future development would involve redevelopment of existing properties. Each of the cumulative projects, individually and cumulatively, could potentially increase the volume of storm water runoff and contribute to pollutant loading in storm water runoff reaching both the City's storm drain system and the San Gabriel River, and ultimately the Pacific Ocean, resulting in cumulative impacts to hydrology and surface water quality. However, as with the proposed Project, each of the cumulative projects would be subject to NPDES and MS4 Permit requirements for both construction and operation. Each project would be required to develop a SWPPP and SUSMP that target site-specific pollutants of concern and would be evaluated individually to determine appropriate BMPs to minimize impacts to surface water quality. Furthermore, since the Los Cerritos Channel and Alamitos Bay WMA is along the Pacific Ocean, there is the potential for cumulative projects, individually and cumulatively, to result in an encroachment into the 100-year flood zone, similar to the proposed Project. However, as with the proposed Project, each of the cumulative projects would be required to comply with City and FEMA regulations and prepare a Floodplain Report during final design to address any potential impacts to the floodplain, and if required, reduce those impacts. In addition, the City Development Services Director reviews all development projects on a case-by-case basis to ensure that sufficient local and regional drainage capacity is available. Thus, the proposed Project's contribution to cumulative impacts to hydrology and water quality would be less than significant.

4.8.6 Level of Significance Prior to Mitigation

Construction and operational impacts related to groundwater recharge and flooding due to failure of a dam or levee would be less than significant. There would be no potential construction or operational impacts related to placement inundation by seiche, tsunami, or mudflow. In addition, cumulative impacts to hydrology and water quality would be less than significant.

Construction and operational impacts related to violation of water quality standards and waste discharge requirements; degradation of water quality; on- or off-site erosion, siltation, and flooding; exceeding the capacity of or providing additional sources of polluted runoff to the storm water drainage system; and placement of structures within a 100-year floodplain would be potentially significant prior to mitigation.

4.8.7 Mitigation Measures

The following measures are required actions of the proposed Project that would reduce impacts to hydrology and water quality below levels of significance.

Mitigation Measure 4.8.1: **Construction General Permit.** Prior to issuance of a grading permit, the City of Long Beach (City) shall obtain coverage for the proposed Project under the State Water Resources Control Board National Pollutant Discharge Elimination System *General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities* (Order No. 2009-0009-DWQ, Permit No. CAS000002), as amended by Order Nos. 2010-0004-DWQ and 2012-0006-DWQ (Construction General Permit), or subsequent issuance. For projects with a disturbed area of 5 or more acres, a Storm Water Pollution Prevention Plan (SWPPP) with construction Best Management Plans (BMPs) is required to be submitted to both the Los Angeles Regional Water Quality Control Board (RWQCB) and the City.

The City shall provide the Waste Discharge Identification Numbers to the Development Services Director to demonstrate proof of coverage under the Construction General Permit. A SWPPP shall be prepared and implemented for the proposed Project in compliance with the requirements of the Construction General Permit. The SWPPP shall identify construction BMPs to be implemented to ensure that the potential for soil erosion and sedimentation is minimized and to control the discharge of pollutants in storm water runoff as a result of construction activities.

Mitigation Measure 4.8.2: **Dewatering During Construction Activities.** During project construction, the City of Long Beach Development Services Director, or designee, shall ensure that any dewatering activities during construction shall comply with the requirements of the *Waste Discharge Requirements for Discharges of Groundwater from Construction and Project Dewatering to Surface Waters in Coastal Watersheds of Los Angeles and Ventura Counties* (Order No. R4-2013-0095, Permit No. CAG994004) (Groundwater Discharge Permit) or subsequent permit. This Groundwater Discharge Permit shall include submission of a Notice of Intent (NOI) for coverage under the permit to the Los Angeles RWQCB at least 45 days prior to the start of dewatering and compliance with all applicable provisions in the permit, including water sampling, analysis, and reporting of dewatering-related discharges. If dewatered groundwater cannot meet the discharge limitations specified in the Groundwater Discharge Permit, a permit shall be obtained from the Los Angeles County Sanitation District (LACSD) to discharge groundwater to the sewer per LACSD's Wastewater Ordinance.

Mitigation Measure 4.8.3 **Standard Urban Stormwater Mitigation Plan.** Prior to issuance of grading permits, the City shall submit a Final Standard Urban Stormwater Mitigation Plan (SUSMP) for the proposed Project to the Development Services Director for review and approval. Project-specific site Design, Source Control, and Treatment Control BMPs contained in the Final SUSMP shall be incorporated into final design. The BMPs shall be consistent with the requirements of the *Low Impact Development (LID) Best Management Practices (BMP) Design Manual*. Additionally, the BMPS shall be designed and maintained to target pollutants of concern and reduce runoff from the Project site. The SUSMP shall include an operations and maintenance plan for the prescribed Treatment Control BMPs to ensure their long-term performance.

Mitigation Measure 4.8.4 **Hydrology Reports.** Prior to issuance of grading permits, the City shall submit a final hydrology report for the proposed Project to the City Development Services Director, or designee, for review and approval. The hydrology report shall demonstrate, based on hydrologic calculations, that the proposed Project's on-site storm conveyance and detention and infiltration facilities are designed in accordance with the requirement of the Los Angeles County Department of Public Works Hydrology Manual.

Mitigation Measure 4.8.5 **Floodplain Report.** During final design, the Project engineer shall prepare and submit a floodplain/hydrology report to the City Development Services Director, or designee, to address any potential impacts to the floodplain and, if required, reduce those impacts. The report shall comply with City and Federal Emergency Management Agency (FEMA) regulations and shall not increase the base flood elevation by more than 1 foot. Detailed analysis shall be conducted to ensure that the Project design specifically addresses floodplain issues so that the proposed Project complies with local and FEMA regulations on floodplains.

4.8.8 Significant Unavoidable Adverse Impacts

With implementation of the mitigation measures identified above, the proposed Project would not result in significant unavoidable adverse impacts related to Hydrology and Water Quality.

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4.9 LAND USE

This section describes the existing land uses on the proposed Belmont Pool Revitalization Project (proposed Project) site and in its vicinity and evaluates the compatibility of the proposed Project with surrounding land uses and relevant policy and planning documents. The consistency analysis in this section was prepared in compliance with the *State California Environmental Quality Act (CEQA) Guidelines* Section 15125(d). Information presented in this section is based on information provided in the City of Long Beach (City) General Plan; Zoning Code (Title 21); the City Parks, Recreation, and Marine Strategic Plan; and the Local Coastal Program.

Scoping Process

The City distributed the first Notice of Preparation (NOP) for the Draft Environmental Impact Report (EIR) from April 18 to May 17, 2014. Three comment letters were received in response to this NOP. However, due to changes in the proposed Project, the City re-issued and recirculated a revised NOP for the Draft EIR between April 9 and May 8, 2014. The City received five comment letters in response to the reissued NOP during the public review period (refer to Appendix A for copies of these comment letters, as well as the NOP and Initial Study [IS] prepared for the proposed Project). No comment letters raised issues regarding land use and planning.

4.9.1 Methodology

The impact analysis of this Land Use section considers the physical effects of the proposed Project related to land use compatibility (e.g., air quality, aesthetics, noise, and circulation) and considers whether or not there are any potential inconsistencies of the proposed Project with regard to planning documents from the City and other agencies with applicable plans or policies. Regulations and policies from the City's General Plan and Local Coastal Program are also discussed in applicable topical sections of the Draft EIR, where policies related to physical effects are addressed. Table 4.9.A lists relevant local programs, plans, and policies addressed in this Draft EIR and references where further discussion of each plan can be found in Chapter 4.0 of this Draft EIR.

Land use impacts are assessed based on physical effects related to land use compatibility and consistency with adopted plans and regulations. Specifically, this section of the Draft EIR addresses the potential environmental impacts related to the following:

- **Land Use**
  - On-site land uses
  - Adjacent land uses
- **Plans and Regulations**
  - California Coastal Act of 1976 (Coastal Act)
  - City of Long Beach Local Coastal Program (LCP)
  - City of Long Beach General Plan

Table 4.9.A: Consistency with California Coastal Act Policies

California Coastal Act Policies	Discussion/Analysis of the Proposed Project
Section 30210: In carrying out the requirement of Section 4 of Article X of the California Constitution, maximum access, which shall be conspicuously posted, and recreational opportunities shall be provided for all the people consistent with public safety needs, and the need to protect public rights, rights of private property owners, and natural resource areas from overuse.	**Consistent.** The proposed Project provides for enhanced public safety needs through the reconstruction of the Belmont Pool facilities. The proposed Project includes installation of ADA-compliant facilities, including ramp access, thereby increasing public access and improving public safety. Belmont Pool has been located in the coastal zone for approximately 45 years and there is community support to continue and maintain the uses at this location. The pool complex has previously and would continue to remain open to the public. Classes and other programs offered at the facility would continue to serve various populations including children, youth, and seniors. Therefore, the proposed Project would be consistent with Coastal Act Section 30210.
Section 30211: Development shall not interfere with the public's right of access to the sea where acquired through use or legislative authorization, including, but not limited to, the use of dry sand and rocky coastal beaches to the first line of terrestrial vegetation.	**Consistent.** The proposed Project would not interfere with the public's right of access to the sea or beach. The proposed Project would replace and upgrade the previous pool facilities and would provide additional access through the installation of new modern facilities. The proposed Project would maintain the existing coastal access for the public, and the new facilities would serve local and regional visitors and enhance the existing public recreational opportunities. Therefore, the proposed Project would be consistent with Coastal Act Section 30211.
Section 301212.5: Wherever appropriate and feasible, public facilities, including parking areas or facilities, shall be distributed throughout an area as to mitigate against the impacts, social and otherwise, of overcrowding or overuse by the public of any single area.	**Consistent.** Parking for the proposed Project would continue to be provided by the two existing pay lots adjacent to the Project site: (1) the Belmont Veteran's Memorial Pier Parking Lot (Pier Parking Lot) northwest of the pool facility; and (2) the Beach Parking Lot (Beach Parking Lot) southeast of the pool. Both lots contain an approximate total of 1,050 public parking spaces. No additional parking is proposed. Facilities associated with the proposed Project are not located in close proximity to similar recreational facilities and the proposed Project would replace a previous use that has not induced substantial overcrowding or overuse. As discussed in Section 4.13, Transportation and Traffic, of this Draft EIR, unless special events are held at both the indoor and outdoor pools simultaneously, the total number of spectators for the proposed Project is expected to be similar to the baseline conditions of the existing pool facility. Additionally, any event with more than 450 spectators would be considered a large special event that would require an Event Traffic Management Plan (Mitigation Measure 4.13.1). This plan may include active traffic management and/or off-site parking and shuttles. Therefore, the proposed Project would be consistent with Coastal Act Section 30212.5.

Table 4.9.A: Consistency with California Coastal Act Policies

California Coastal Act Policies	Discussion/Analysis of the Proposed Project
Section 30213: Lower cost visitor and recreational facilities shall be protected, encouraged, and, where feasible, provided. Developments providing public recreational opportunities are preferred. The commission shall not: (1) require that overnight room rentals be fixed at an amount certain for any privately owned and operated hotel, motel, or other similar visitor-serving facility located on either public or private lands; or (2) establish or approve any method for the identification of low or moderate income persons for the purpose of determining eligibility for overnight room rentals in any such facilities.	**Consistent.** Coastal recreation uses in the vicinity would remain available to the public, for example, sightseeing on the pier, bicycle access at the proposed Project site, and other passive beach activities. The proposed Project facility would be accessible to the public for a nominal fee and as stated above, classes and other programs offered at the facility would serve various populations including children, youth, and seniors. Various swim meets and competitions will be hosted at the facility and such events would be accessible for the public to attend at a nominal charge anticipated to range from $3 to $15 depending on the event. These operational characteristics are consistent with the operational characteristics of the former Belmont Pool facility. No substantial changes related to public recreation are anticipated after Project completion. Therefore, the proposed Project would be consistent with Coastal Act Section 30213.
Section 30220: Coastal areas suited for water-oriented recreational activities that cannot readily be provided at inland water areas shall be protected for such uses.	**Consistent.** A recreational pool is not coastal-dependent, however the Belmont Pool facilities have been located in the Coastal Zone for approximately 45 years, and there is community support to continue such uses at this location. The pool complex has and would continue to remain open to the public, and classes and other programs would serve various populations including children, youth, and seniors. In addition, the location of the pool facilities at the beach encourages public access and use of coastal resources. Therefore, the proposed Project would be consistent with Coastal Act Section 30220.
Section 30221: Oceanfront land suitable for recreational use shall be protected for recreational use and development unless present and foreseeable future demand for public or commercial recreational activities that could be accommodated on the property is already adequately provided for in the area.	**Consistent.** See response to Coastal Act Section 30220. The Belmont Pool facilities would provide long-term recreational uses for persons within the City and the region. As demand for Olympic-standard aquatic facilities in the City remains high, conversion of the proposed Project site to other uses is not under consideration or very likely and the continuation of a pool facility ensures the continuation of recreational uses on oceanfront lands. The proposed Project would, therefore, be consistent with Coastal Act Section 30221, by protecting such recreational facilities for the long term.
Section 30231: The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of wastewater discharges and entrainment, controlling	**Consistent.** The pool complex has and would continue to remain open to the public; classes and other programs would continue to serve various populations including children, youth, and seniors. Harbor and coastal waters will be protected through implementation of the water quality management program, including implementation of BMPs both during construction and operation. BMPs as outlined in Section 4.8, Hydrology and Water Quality, of this Draft EIR, are designed to ensure that water quality is not adversely impacted and that biological productivity of coastal waters is

Table 4.9.A: Consistency with California Coastal Act Policies

California Coastal Act Policies	Discussion/Analysis of the Proposed Project
runoff, preventing depletion of groundwater supplies and substantial interference with surface water flow, encouraging waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams.	maintained. During construction, BMPs would prevent soil and sediment, construction debris, and chemicals from entering surface water flows. During operation, BMPs would keep pesticides and trash from surface water flows. Although groundwater dewatering would be required during construction, groundwater dewatering activities would be temporary, and the volume of groundwater removed would not be substantial. During operation, the impervious surface area would decrease by 0.5 ac, which would increase infiltration. As a result, the proposed Project would not interfere with groundwater recharge such that there would be a net depletion in groundwater supplies. Surface water flow would not be substantially altered by the proposed Project since the replacement of the former pool facility would result in a decrease in impervious surface area and stormwater runoff from the site compared to existing conditions. The proposed Project would increase the amount of pervious land cover by 0.5 ac as described in Section 4.8, Hydrology and Water Quality. Therefore, the proposed Project would be consistent with Coastal Act Section 30231 by minimizing adverse effects on coastal waters.
Section 30232: Protection against the spillage of crude oil, gas, petroleum products, or hazardous substances shall be provided in relation to any development or transportation of such materials. Effective containment and cleanup facilities and procedures shall be provided for accidental spills that do occur.	**Consistent.** Accidental spillage of hazardous substances during construction is controlled through implementation of appropriate NPDES or other regulatory measures to ensure against any impacts resulting from accidental spills. During operational activities, spillage of solvents and fuels on site can occur as part of typical pool maintenance activities. However, the uses on site are not changing, and the chemicals needed for pool and building maintenance are not changing. Prevention and clean up would comply with all applicable health and safety regulations. In addition, implementation of operational BMPs regarding the transportation and disposal of such wastes would ensure effective containment of accidental spills. Therefore, the proposed Project would be consistent with Coastal Act Section 30232.
Section 30233: The diking, filling, or dredging of open coastal waters, wetlands, estuaries, and lakes shall be permitted in accordance with other applicable provisions of this division, where there is no feasible less environmentally damaging alternative, and where feasible mitigation measures have been provided to minimize adverse environmental effects.	**Consistent.** The proposed Project does not include dredging or diking of open coastal waters, wetlands, estuaries, or lakes. Therefore, the proposed Project would be consistent with Coastal Act Section 30233.

Table 4.9.A: Consistency with California Coastal Act Policies

California Coastal Act Policies	Discussion/Analysis of the Proposed Project
Section 30235: Revetments, breakwaters, groins, harbor channels, sea wall, cliff retaining walls, and other construction that alters natural shoreline processes shall be permitted when required to serve coastal dependent uses or to protect existing structures or public beaches in danger from erosion, and when designed to eliminate or mitigate adverse impacts on local shoreline and sand supply.	**Consistent.** The proposed Project does not include any revetments, breakwaters, groins, walls, or other construction that would alter natural shoreline processes. Therefore, the proposed Project would be consistent with Coastal Act Section 30235.
Section 30240: Environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values, and only uses dependent on those resources shall be allowed within those areas. Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be sited and designed to prevent impacts which would significantly degrade those areas and shall be compatible with the continuance of those habitat and recreation areas.	**Consistent.** Consistent with Section 4.3, Biological Resources, there are no environmentally sensitive habitat areas on or adjacent to the Project site. The Project site is currently fully developed with active (pool) and passive (park) recreation uses. There are no native landscaping, waters, or wetland habitat present on or adjacent to the Project site. Therefore, the proposed Project would be consistent with Coastal Act Section 30240.
Section 30244: Where development would adversely impact archaeological or paleontological resources as identified by the State Historic Preservation Officer, reasonable mitigation measures shall be required.	**Consistent.** No archaeological resources as identified on the California State Historic Resources Inventory would be impacted by Project implementation and the proposed Project site is not considered to be sensitive for archeological resources. Furthermore, there are no known paleontological resources on the Project site. However, as discussed further in Section 4.4, Cultural and Paleontological Resources, of this Draft EIR, the proposed Project would have a less than significant impact on paleontological resources with the implementation of mitigation requiring paleontological monitoring for any excavation occurring in depths equal to or greater than 23 ft. Therefore, the proposed Project would be consistent with Coastal Act Section 30244.
Section 30251: The scenic and visual qualities of coastal areas shall be considered and protected as a resource of public importance. Permitted development shall be sited and designed to protect views to and along the ocean and scenic coast areas, to minimize the alteration of natural landforms, to be visually compatible with the character of surrounding areas and where feasible to restore and enhance visual quality in visually degraded areas. New	**Consistent.** As discussed in Section 4.1, Aesthetics, of this EIR, the proposed Project improvements ensure protection of on-site and off-site public views along the ocean and coastal area. The proposed facilities have been designed to modernize the previous Belmont Pool facilities while continuing to promote visits to both the coastal beach and the public pool facility, as both are resources of public importance. The proposed facilities have been designed to reflect the character of the coast. The main pool structure is characterized by a translucent cover for the indoor, competition pool that would maximize views of the ocean and coastal area. The structure will be an elliptical-

Table 4.9.A: Consistency with California Coastal Act Policies

California Coastal Act Policies	Discussion/Analysis of the Proposed Project
development in highly scenic areas such as those designated in the California Coastline Preservation and Recreation Plan prepared by the Department of Parks and Recreation and by local government shall be subordinate to the character of its setting.	shaped dome similar to a drop of water. The glass curtain wall surrounding the outdoor pool would serve to partially maintain views of areas surrounding the Project site and would allow for increased light intrusion. Views of the ocean would be improved as compared to the previous pool facilities because the new pool has been designed to be narrower and would slope in height (refer to Figure 4.1.4, Pre- and Post-Project Building Orientation). While the maximum height for the proposed Project is 11 ft higher than the previous Belmont Pool building, the sloping shape of the proposed Project would reduce the bulk and massing of the new facility in comparison to the former facility which was characterized by a consistent roof line that maintained the maximum height throughout the entire length of the building. Further, the proposed Project would enhance the visual quality of the Project site by constructing a new building and introduce an enhanced architecture with upgraded landscaping. No existing landforms would be altered by Project implementation. Preservation of the scenic coastal character is consistent with the objectives of the California Coastline Preservation and Recreation Plan. Therefore, the proposed Project would be consistent with Coastal Act Section 30251.
Section 30253: New development shall: (1) minimize risks to life and property in areas of high geologic, flood, and fire hazard; (2) assure stability and structural integrity, and neither create nor contribute significantly to erosion, geologic instability, or destruction of the site or surrounding area, or in any way require the construction of protective devices that would substantially alter natural landforms along bluffs and cliffs; (3) be consistent with requirements imposed by an air pollution control district or the State Air Resources Control Board as to each particular development; (4) minimize energy consumption and vehicle miles traveled; and (5) where appropriate, protect special communities and neighborhoods which, because of their unique characteristics, are popular visitor destination points for recreational users.	**Consistent.** The proposed Project would replace a former structure that was deemed seismically unsafe. The proposed Project would also provide for implementation of proposed improvements in a manner that would minimize risks to life and property through the implementation of site-specific recommendations and specifications prepared by professional engineers and others. A geotechnical evaluation was prepared for the proposed Project, which, together with compliance with the seismic requirements of the UBC and the recommended engineering design measures, would ensure stability, structural integrity, and protection of the site and surrounding area. Additional detail regarding geologic hazards is provided in Section 4.5, Geology and Soils, of this Draft EIR. A Phase I Hazardous Materials Assessment (Phase I HMA) was also prepared for the proposed Project, with potential hazards and hazardous material impacts at the Project site and in the surrounding area that may result from implementation of the proposed Project. Compliance with the mitigation measures outlined in Section 4.7 of this Draft EIR would reduce any potential hazards as a result of hazardous material release or fires. The proposed Project would incorporate a number of energy-efficient measures, including variable frequency drive pool pumps, day lighting, and LED pool lighting. In addition, the proposed Project would be built to meet the Leadership in Energy and

Table 4.9.A: Consistency with California Coastal Act Policies

California Coastal Act Policies	Discussion/Analysis of the Proposed Project
	Environmental Design (LEED) Gold certification standards. As discussed in Section 4.1, Aesthetics, the proposed Project would retain existing coastal access, and enhance the former recreational uses of the Project site, thereby enhancing visitor-serving recreation opportunities. The proposed Project would be implemented as consistent with federal, State, and local rules and regulations addressing public health and safety, including requirements from the SCAQMD. The proposed Project would revitalize an existing popular destination point for local recreational users and provide an updated facility for regional swim competitions. Based on the above reasons, the proposed Project would be consistent with Coastal Act Section 30253.
Section 30255: Coastal-dependent developments shall have priority over other developments on or near the shoreline. Except as provided elsewhere in this division, coastal dependent developments shall not be sited in a wetland. When appropriate, coastal related developments should be accommodated within reasonable proximity to the coastal-dependent uses they support.	**Consistent.** The proposed Project enhances a previous recreational- and visitor-serving use on the coast. The proposed Project is not sited on a wetland, and no coastal-dependent developments would be impacted by the proposed Project. Therefore, the proposed Project would be consistent with Coastal Act Section 30255.

ac = acre(s)
ADA = Americans with Disabilities Act (of 1990)
BMPs = best management practices
City = City of Long Beach
Coastal Act = California Coastal Act
EIR = Environmental Impact Report
ft = foot/feet
LED = light-emitting diode
NPDES = National Pollutant Discharge Elimination System
SCAQMD = South Coast Air Quality Management District
UBC = Uniform Building Code

  - City of Long Beach Zoning Code, Title 21
  - City of Long Beach Parks, Recreation, and Marine Strategic Plan
  - Southern California Association of Governments (SCAG) Regional Comprehensive Plan (RCP) and Regional Transportation Plan (RTP)
- **Proposed Projects (Cumulative Analysis)**
  - Pending Development Applications

The consistency analysis presented in this section was prepared in compliance with *State CEQA Guidelines* Section 15125(d). The purpose of the required analysis is to identify potential inconsistencies between the proposed Project and applicable general plans and regional plans. Neither CEQA nor the *State CEQA Guidelines* set forth standards for determining when a project is inconsistent with an applicable plan, and the final determination that a project is consistent or inconsistent with an applicable plan should be made by the lead agency when it acts on a project. Using the methodology described below, the analysis in this Draft EIR presents the findings of policy review and is intended to provide a guide to the decision-makers for policy interpretation.

A project's inconsistency with a policy is only considered significant if such inconsistency would cause significant physical environmental impacts (per *State CEQA Guidelines* Section 15382). This Draft EIR section determines whether any project inconsistencies with public land use policies and documents would be significant and whether mitigation is feasible. Under this approach, a policy conflict is not in and of itself considered to be a significant environmental impact. An inconsistency between a proposed project and an applicable plan is a legal determination that may or may not indicate the likelihood of environmental impact. In some cases, an inconsistency may be evidence that an underlying physical impact is significant and adverse. For example, if the proposed project affected agricultural land, one standard for determining whether the impacts were significant would be to determine whether the project violated a plan or policy protecting agricultural land. The environmental impact, however, would be the physical conversion of agricultural land to nonagricultural uses. Conversely, plan consistency may indicate that a potential environmental impact is less than significant.[1]

4.9.2 Existing Environmental Setting

The approximately 5.61 acres (ac) Project site is located in Belmont Shore in the southeastern portion of the City. The Project site is bounded by the Pacific Ocean to the south; the City's Beach Maintenance Yard, a large parking lot that provides parking for visitors to the beach, the former Belmont Pool, beach volleyball, Rosie's Dog Beach, and a boat launch to the southeast; East Olympic Plaza to the north; and the Belmont Veterans Memorial Pier parking lot to the northwest (see Figure 3.1). An existing passive park is located north of the former pool building and south of Olympic Plaza.[2] The Project site is accessible from Ocean Boulevard.

1 The methodology presented in this section is based on the methodology recommended in Kostka and Zischke's *Practice Under the California Environmental Quality Act.* Continuing Education of the Bar: Oakland, California, 2013.

2 This passive park was part of the 1968 Belmont Pool project and does not have a separate name.

The former pool complex located on the Project site consisted of an enclosed swimming pool, two outdoor pools (swimming and wading), a passive park on the north side of the pool building, locker rooms at the east end of the structure, and an existing restaurant at the west end of the structure. The former pool building had 45,595 square feet (sf) of space and was approximately 60 feet (ft) in height. The three pools provided a total of 18,410 sf of water surface area. Due to its proximity to the Pacific Ocean, the former buildings on the Project site featured glass panel walls and sliding doors which could be opened to convert the indoor pool area to an open-air facility, if desired (see Figure 3.2). The former indoor pool was closed to the public on January 13, 2013, as a result of substandard seismic and structural conditions, and was demolished in February 2015 because of an imminent threat to public safety. The demolition of the structure was conducted under a separate emergency permit; therefore, this EIR does not include analysis of the demolition of the Belmont Pool structure.

As illustrated by Figure 3.3, General Plan Land Use Designations (refer to Chapter 3.0, Project Description), the area south of the Project site is designated as open space/park uses, with residential land use designations for areas west, north, and east of the Project site. Consistent with these General Plan land use designations, existing land uses surrounding the Project site include beach uses and the Pacific Ocean south of the Project site and residential uses west, north, and east of the Project site. Specifically, land uses around the Project site include the Belmont Shore neighborhood to the northeast, the Belmont Veterans Memorial Pier, Belmont Beach, and parking to the northwest, and the Pacific Ocean, beaches, and parking lots to the west and east. In addition, several businesses are located along the northern side of East Olympic Plaza, including Belmont Shores Children's Center, a vacant commercial building, the former Yankee Doodles restaurant, a dog wash, and Chuck's Coffee Shop.

4.9.3 Regulatory Setting

Federal Policies and Regulations. There are no federal land use policies or regulations that are applicable to the Project site with respect to land use regulation.

State Regulations.

California Coastal Act/Local Coastal Program/Coastal Development Permit. The Coastal Act was created to: (1) protect, maintain, and, where feasible, enhance and restore the overall quality of the Coastal Zone environment and its natural and man-made resources; (2) ensure orderly, balanced utilization and conservation of Coastal Zone resources that take into account social and economic needs; (3) maximize public access to and along the coast and public recreational opportunities in the Coastal Zone consistent with sound resource conservation principles and constitutionally protected rights of private property owners; (4) ensure priority for coastal-dependent development over other development on the coast; and (5) encourage State and local cooperation in preparing procedures to implement coordinated planning and development for mutually beneficial uses in the Coastal Zone. The Coastal Act requires all cities located within the Coastal Zone to adopt a Local Coastal Program (LCP). The LCP is used by cities to regulate local land uses and development in a manner that is consistent with the goals of the Coastal Act. Specifically, LCPs identify the location, type, densities, and other land use policies for future development within the Coastal Zone of a jurisdiction.

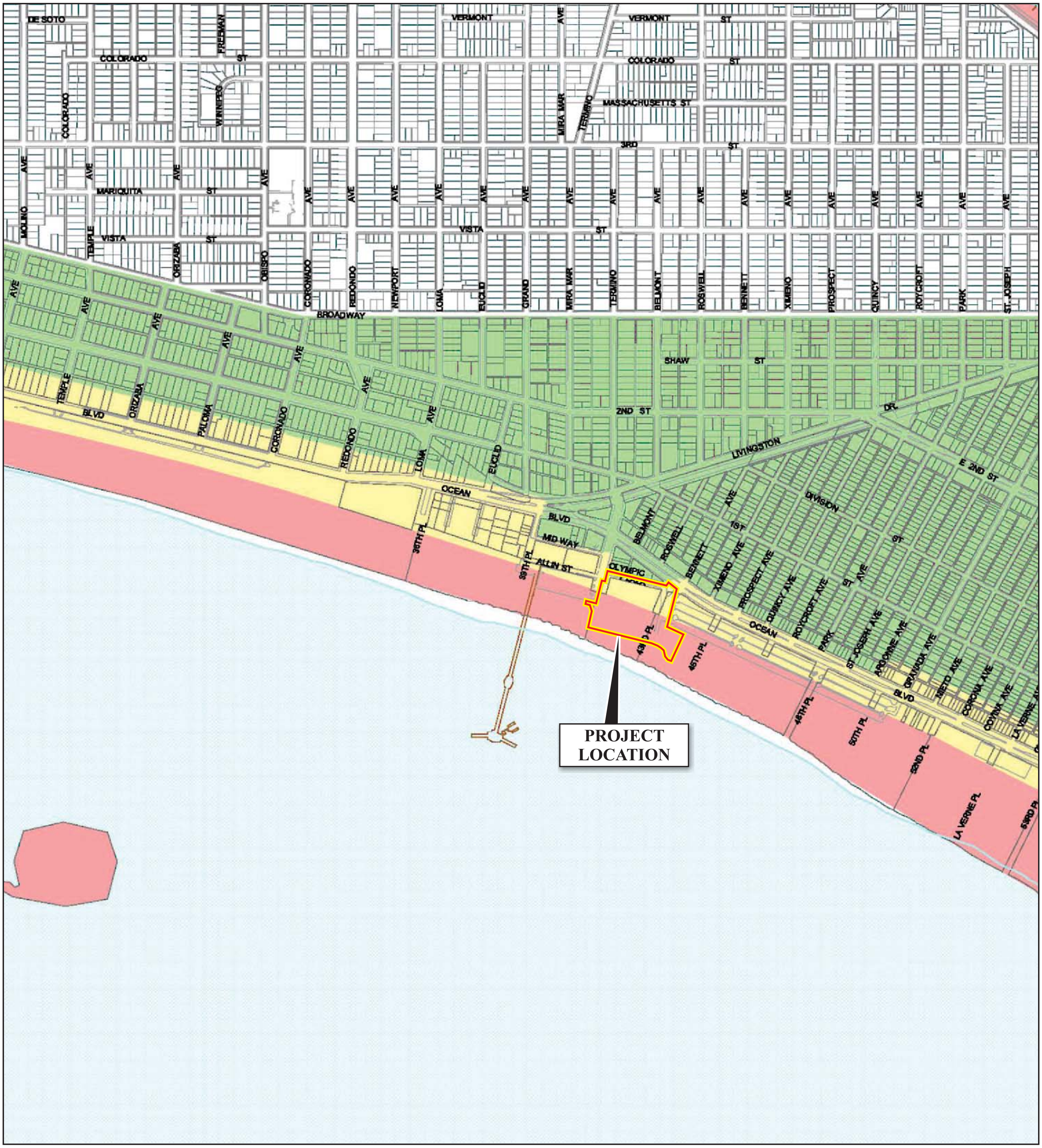
The Project site is located entirely within the Coastal Zone (refer to Figure 4.9.1, Coastal Zone) and is under the land use planning and regulatory jurisdiction of both the City and the California Coastal Commission (Coastal Commission). An LCP that governed land uses within the City was adopted by the City Council on February 12, 1980, and certified by the Coastal Commission on July 22, 1980. After the Coastal Commission has certified an LCP, the primary responsibility for issuing Coastal Development Permits (CDPs) is transferred from the Coastal Commission to the local government for all nonshore/nonwater projects in the Coastal Zone. However, the Coastal Commission retains permanent coastal permit authority over development proposed on tidelands, submerged lands, and public trust lands. Projects proposed within the Coastal Zone are required to obtain a CDP prior to commencement. A portion of the site is within the City's jurisdiction to issue a CDP, while the tidelands and shoreline areas of the site are under the CDP jurisdiction of the Coastal Commission.

Local and Regional Policies and Regulations. The Project site is covered by several planning documents and programs that have varying degrees of regulation over use of the site. The adopted planning documents regulating land use within and around the Project site are the City of Long Beach General Plan, the City of Long Beach Zoning Code, and the City of Long Beach Parks, Recreation, and Marine Strategic Plan.

In addition, the Southern California Association of Governments (SCAG) has adopted the RCP, the RTP, and the Compass Blueprint, which serve as regional planning policy documents applicable to the proposed Project.

Southern California Association of Governments Regional Comprehensive Plan. Regional planning is conducted for a six-county metropolitan region comprising the Counties of Orange, Los Angeles, Ventura, Riverside, San Bernardino, and Imperial. SCAG is the federally recognized Metropolitan Planning Organization (MPO) for these six counties. Long Beach is part of the Gateway Cities subregion within the SCAG region. The Gateway Cities subregion is governed by the Gateway Cities Council of Governments (Gateway COG). The SCAG's RCP is a regional policy document that responds to Southern California's housing, traffic, water, air quality, and other regional challenges. The plan is a collaborative effort to address the region's challenges and set a path forward. The RCP ties together SCAG's role in transportation, land use, and air quality planning and further promotes environmental policies. Second, it recommends key roles and responsibilities for the public and private sectors and requests that reasonable policies be implemented.

The RCP's objective is to balance resource conservation, economic vitality, and quality of life. The plan lays out a long-term planning framework that responds to growth and infrastructure challenges in a comprehensive way. Local governments are asked to consider the plan's recommendations in General Plan updates, municipal code amendments, design guidelines, incentive programs, and other actions.



LSA

FIGURE 4.9.1

LEGEND

City Permit Jurisdiction

Appealable Area

State Permit Jurisdiction

N

Belmont Pool Revitalization Project

Coastal Zone

SOURCE: City of Long Beach Department of Planning

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City of Long Beach General Plan. The General Plan for the City of Long Beach presents a vision for the City's future and a strategy to make that vision a reality. The Long Beach General Plan is a document adopted by the City Council that serves the following purposes:

- Provides a vision and framework for the City's long-range physical and economic development and resource conservation that reflects the aspirations of the community
- Provides strategies and specific implementing actions that will allow this vision to be accomplished
- Establishes a basis for judging whether specific development proposals and public projects are in harmony with Plan policies and standards
- Allows City departments, other public agencies, and private developers to design projects that will enhance the character of the community, preserve and enhance critical environmental and historical resources, and minimize hazards
- Provides the basis for establishing and setting priorities for detailed plans and implementing programs such as the Zoning Code, Capital Improvement Plans, facilities plans, and specific plans

The City's General Plan consists of a series of State-mandated and optional elements to direct the City's physical, social, and economic growth. The Long Beach General Plan is organized into 11 elements: Land Use, Transportation, Housing, Conservation, Noise, Open Space and Recreation, Public Safety, Scenic Routes, Seismic Safety, Historic Preservation, and Air Quality. The City has also adopted an LCP as part of its General Plan. Each of the 11 General Plan Elements are briefly described below.

Land Use Element. The Land Use Element of the City's General Plan was adopted in 1989 and revised most recently in 1997. The Land Use Element presents goals and policies pertaining to how existing development is going to be maintained and enhanced and how new development will occur. As the City is almost fully developed, the Land Use Element focuses on how population and employment growth can be strategically inserted to preserve the City's distinguishing and valued qualities. However, there are limited areas of the City that are not achieving their full potential, and the element establishes strategies for their enhancement and revitalization. Land Use Element goals and policies directly affect the establishment and maintenance of the neighborhoods, districts, corridors, and open spaces that distinguish and contribute to the City's livability, vitality, and image. A key ingredient to successful implementation of this vision is the management of land uses and the appropriate mix of land uses. To this end, a Land Use Map was adopted and included in the Land Use Element to guide future development decisions.

The northern portion of the Project site is designated as Mixed-Use Land Use District (LUD) No. 7. Mixed-Use LUD No. 7 is intended to provide employment centers (including retail, office, and medical facilities), high-density residential, visitor-serving facilities, personal and professional services, and recreational facilities at large, vital activity centers in the City. The southern portion of the Project site is located within LUD No. 11, Open Space and Parks, which is intended to preserve open space areas and provide additional recreational opportunities for residents of and visitors to the City.

It should be noted that the City is currently in the process of updating its General Plan Land Use Element. Under the new Land Use Element, the proposed project would be in an area designated as the "Waterfront PlaceType." This PlaceType would allow for the redevelopment of the Belmont Pier and Pool Complex along with other water-dependent ancillary uses.

Mobility Element. The Mobility Element, which was adopted in 2013, addresses the movement of people and goods via automobiles, transit, bicycles, and other modes. It addresses key issues such as trip reduction; parking, bicycle, and pedestrian access; traffic flow; transportation improvements and funding; and traffic safety.

The Project site is located south of Ocean Boulevard, southeast of Livingston Drive, and north of the Pacific Ocean. Ocean Boulevard is designated as a Congestion "Hot Spot" in the City's Mobility Element.

2013–2021 Housing Element. The City's 2013–2021 Housing Element (Housing Element) was adopted for the current planning cycle in January 2014 and was certified by the California Department of Housing and Community Development in April 2014. The City's Housing Element reflects the State's housing unit construction goals as allocated by SCAG in the Regional Housing Needs Assessment for the years between 2014 and 2021. The Housing Element analyzes current housing needs, estimates future housing needs, considers potential sites for additional housing, and establishes goals, policies, and programs in response to both current and future housing needs.

There are no residential units on the Project site, and no residential units are proposed as part of the Project.

Conservation Element. The Conservation Element was adopted in 1973. The primary objective of the Conservation Element is to provide direction regarding the conservation, development, and utilization of natural resources. It identifies the City's natural resources and provides goals and policies for their preservation, development, and wise use. This element addresses harbors, water supply (as a resource) and water quality (including river, bay, and ocean water quality, and potable drinking water), terrestrial and marine biological resources, mineral resources, visual resources, soils and beaches, and open space. Goals and policies from the Conservation Element are addressed throughout this Draft EIR.

Noise Element. The Noise Element, which was adopted in 1975, identifies noise-sensitive land uses and noise sources, and defines areas of noise impacts. Goals and policies within the Noise Element provide a framework to ensure that City residents will be protected from excessive noise intrusion.

The primary existing noise sources in the vicinity of the Project site are transportation uses, primarily traffic on Ocean Boulevard.

Although the typical outdoor pool operations would not include substantial noise generation, the proposed Project would generate noise from limited special events occurring at the outdoor pool, from sources which include, but are not limited to, spectators, whistles from officiating water polo games, starting horns, and the use of a public address system. Noise levels generated from the indoor pool from sources including spectators and the public address sound system would be contained within the building.

Open Space and Recreation Element. The Open Space and Recreation Element, which was adopted in 2002, addresses the provision of parklands and recreation programs for the City's residents. Specific recreational issues and policies contained in the Open Space and Recreation Element include parks and recreation facilities, recreation programs, shared facilities, coastal recreation and support facilities, marine recreation, and public access.

As previously stated, the Project site was previously developed with recreational uses, including the Belmont Pool buildings and a passive park north of the pool buildings.

Seismic Safety Element. The Seismic Safety Element, which was adopted in 1988, provides goals and policies to reduce the potential risk of death, injuries, property damage, and economic and social dislocation resulting from seismic hazards.

According to geotechnical reports prepared for the proposed Project (Appendix E), the Project site is not located within an Alquist-Priolo Special Study Zone (geological hazard), and no known faults traverse the Project site. However, the Project site is located within seismically active Southern California. The closest mapped active fault to the Project site is the Newport-Inglewood Fault, which is approximately 1.5 miles from the Project site. Refer to Section 4.5, Geology and Soils, of this Draft EIR for further discussion related to potential impacts related to seismic hazards.

Public Safety Element. The Public Safety Element, which was adopted in 1975, provides goals and policies to reduce the potential risk of death, injuries, property damage, and economic and social dislocation resulting from natural and human-induced hazards. The Public Safety Element specifically addresses urban fire hazards, coastal hazards, geologic hazards, crime prevention, utility-related hazards, hazardous materials, flood hazards, and disaster planning.

According to the geotechnical reports prepared for the proposed Project, the Project site is located in a liquefaction hazards zone, and mitigation is provided in Section 4.5, Geology and Soils, to address this potential hazard. Because the proposed Project would not include housing or other habitable structures, it was determined that the proposed Project would not result in significant impacts related to the placement of housing within a flood zone. Refer to

Section 4.5, Geology and Soils, and Section 4.7, Hazards and Hazardous Materials, for additional discussion of potential hazards associated with Project implementation.

Scenic Routes Element. The Scenic Routes Element, which was adopted in 1975, addresses selective and protective criteria and standards for the designation of scenic corridors within the City. The Scenic Routes Element also contains specific urban design criteria and standards that support the regulation of structures, signage, utility lines, landscaping, view corridors, street furniture, and other visual elements within scenic corridors.

As previously stated, visitors to the Project site enjoy views of the Pacific Ocean. The following are City-designated Local Scenic Routes near the Project site as established by the General Plan Scenic Routes Element: (1) Ocean Boulevard between the Los Angeles River and Livingston Drive (borders the northern portion of the Project site); (2) Livingston Drive between Ocean Boulevard and 2nd Street (approximately 650 ft northeast and north of the Project site); and (3) 2nd Street between Livingston Drive and Pacific Coast Highway (approximately 0.40 mile north of the Project site).

Historic Preservation Element. The Historic Preservation Element, which was adopted in 2010, addresses the protection and sustainability of the City's historic resources. Goals and policies presented within the Historic Preservation Element are intended to recognize, maintain, and protect the community's unique historical, cultural, and archeological sites and structures.

As described further in Section 4.4, Cultural and Paleontological Resources, of this Draft EIR, there are no known prehistoric archaeological sites within the Project site nor did the former Belmont Pool facilities meet either the California Register of Historical Resources or the City's Historic Landmark criteria. Therefore, these facilities are not considered historical resources pursuant to CEQA.

Air Quality Element. The Air Quality Element, which was adopted in 1996, bridges the Land Use and Transportation Elements of the City's General Plan to better recognize the relationship between land use patterns, transportation planning, and air quality, and identifies a broad range of actions that could contribute to cleaner air in the City and surrounding region. The Air Quality Element identifies a series of policies, programs, and strategies that encourage fewer vehicle trips, increased opportunities for alternative transportation modes and fuels, and land use patterns that can be efficiently served by a diversified transportation system.

City of Long Beach Zoning Code. Zoning is the division of a City into districts and the application of development regulations specific to each district. The City of Long Beach Zoning Code, Title 21 of the Municipal Code, includes regulations concerning where and under what conditions a business may operate in the City. It also establishes zone-specific height limits, setback requirements, parking ratios, and other development standards.

It is the intent of the City to have consistency between the General Plan Land Use Element and the Zoning Ordinance in order to ensure that long-term goals and objectives are implemented through land use regulations and other tools. The zoning ordinance and zoning designations of the land are primary tools implementing the City's General Plan. Planned development districts in the City were established to allow flexible development plans to be prepared for areas of the City that may benefit from the formal recognition of unique or special land uses and the definition of special design policies and standards not otherwise possible under conventional zoning district regulations.

Figure 3.4, Zoning Designations in the Project Vicinity (refer to Chapter 3.0, Project Description) illustrates the existing zoning designations for the Project site and surrounding areas. The Project site is zoned Park (P) and Belmont Pier Planned Development District (PD-2). The intent of the park district is to preserve publically owned natural and open space areas for active and passive public use. The intent of the PD-2 designation is to provide a set of land use regulations specific to the Belmont Pool and Pier, due to its unique land use. As established by the City's Zoning Code, the maximum allowable height of building structures within the Park zoning district is 30 ft. Therefore, the proposed Project requires a variance to allow for the proposed 71 ft high Belmont Pool structure. However, it should be noted that the former Belmont Pool facilities also exceeded the Zoning Code requirement with a maximum height of 60 ft. Additionally, because the proposed Project would be a domed structure, the maximum height would only be reached at one point, and several portions of the structure would be lower in height than the former Belmont Pool facility.

Although the City Zoning Code establishes parking requirements for development projects in the City, there are no specific parking requirements for facilities included as part of the Project.

The proposed Project requires site plan review and approval as part of overall project approvals. The site plan review process helps guide the design of new projects to ensure compatibility between new development and existing neighborhoods in terms of scale, style, and construction materials. The Planning Commission has site plan review approval authority over the Project and may impose reasonable Conditions of Approval including, but not limited to, requirements for revised site layout, changes in building materials, colors, textures, additional screening and/or landscaping, and street improvements or other dedications.

For some uses, a Conditional Use Permit (CUP) is required to operate in a specific zone allowing an applicant to engage in specified activities or conduct a business under special conditions designed to protect the neighborhood and the community. Each CUP application is individually reviewed to determine whether the proposed use can operate at a given location without harming its neighbors or the surrounding community. The proposed café use is located in the portion of the site zoned Park (P). A CUP is required for any restaurant uses (with or without the sale of alcoholic beverages) in the Park zoning district. Therefore, the independent tenant for the café would be required to obtain a CUP at the time of occupancy.

City of Long Beach Parks, Recreation, and Marine Strategic Plan. The City Department of Parks, Recreation, and Marine developed a departmental Strategic Plan in April 2003. The departmental Strategic Plan assessed recreation needs and objectives citywide. The following strategies established in this plan are applicable to the proposed Project:

- **Strategy 2.1:** Focus on improving the level of safety within City parks and recreational facilities.
- **Strategy 2.2:** Focus on improving the condition of Department parks and recreational facilities.
- **Strategy 3.1:** Establish lifetime use opportunities. Recreation programs and facilities will be designed to develop and serve a lifetime user through active, passive, and educational experiences.

4.9.4 Impact Significance Criteria

The thresholds for land use impacts used in this analysis are consistent with Appendix G of the *State CEQA Guidelines*. The proposed Project may be deemed to have a significant impact with respect to land use if it would:

Threshold 4.9.1:	**Physically divide an established community;**
Threshold 4.9.2:	**Conflict with any applicable Land Use Plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the General Plan, Specific Plan, LCP, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect; or**
Threshold 4.9.3:	**Conflict with any applicable Habitat Conservation Plan (HCP) or Natural Community Conservation Plan (NCCP).**

The Initial Study, included as Appendix A, substantiates that because the existing Project site was previously developed with the former Belmont Pool complex and is surrounded by existing development, and because the proposed Project would redevelop the Project site with new and expanded Belmont Pool facilities, the proposed Project would not result in any impacts related to the division of an established community (Threshold 4.9.1). The IS/NOP also found that the Project site and its surrounding area are not subject to any Habitat Conservation Plan (HCP) or Natural Communities Conservation Plan (NCCP). Therefore, the proposed Project would not conflict with an HCP or NCCP relating to the protection of biological resources (Threshold 4.9.3). Therefore, these thresholds will not be addressed in the following analysis.

In addition, unlike other impacts evaluated in this Draft EIR, land use conflicts and inconsistencies with land use plans, policies, and regulations are inherently a permanent feature of project operations. Therefore, a discussion of the potential for the proposed Project to result in land use impacts during its construction is not applicable.

CEQA Baseline. At the time the NOP was published (April 2014), the Project site contained both the Belmont Pool facilities and the outdoor temporary pool (opened in December 2013 to provide swimming facilities while the permanent facility was under construction). Although the site contained the former Belmont Pool building at the time of the NOP, the facility was subsequently demolished in

February 2015 to alleviate an imminent public safety threat due to the seismically unsafe condition of the building.

The inclusion of the former building in the assessment of land use and planning impacts is appropriate because the site has been dedicated as the Belmont Pool Plaza since 1962 when the use of Tidelands funds for the construction of the "Belmont Plaza Beach Center" (now Belmont Plaza) project was approved by the voters in February 1962 after the Long Beach City Council voted to place the item in the municipal election. Furthermore, the former pool was in use for approximately 45 years and has long been included in applicable land use and planning documents regulating the site. Substantial evidence supports the determination that a baseline condition with the former building is appropriate based on recent historic use and the long-term designation of the site for aquatic recreational purposes.

4.9.5 Project Impacts

Threshold 4.9.2: Would the project conflict with any applicable Land Use Plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the General Plan, Specific Plan, LCP, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?

Less than Significant Impact. The Project site is under the land use planning and regulatory jurisdiction of the City and the Coastal Commission. The existing Project site is owned and operated by the City, which has the primary authority for development, maintenance, and operation of uses within the pool complex. The City's Department of Parks, Recreation, and Marine is responsible for the daily operations within the complex. The proposed replacement of the pool facilities is intended to enhance the public's access and recreational opportunities and is a continuation of existing/previous land uses, consistent with existing land use plans, policies, and regulations. The proposed Project's consistency with applicable City and Coastal Commission land use plans and policies is discussed in more detail below.

California Coastal Commission/California Coastal Act/Local Coastal Program. The Coastal Act requires all cities located within the Coastal Zone to adopt an LCP. The LCP is used by cities to regulate local land uses and development in a manner that is consistent with the goals of the Coastal Act. The City has an LCP that was certified by the Coastal Commission in 1980 and that governs permitted uses, activities, and development in the Coastal Zone within the City. The proposed Project is consistent with the policies and guidelines contained in the LCP, which states, "Belmont Plaza Pool is a facility which was designed and is utilized for Olympic-class swimming and diving events. It is, therefore, unusually important in the training of U.S. athletes for international events."

The City-certified LCP includes the Project site and surrounding area, and the City retains jurisdiction over the approval of a CDP for a portion of the site. However, because the Project site includes areas within the tidelands and submerged lands, the Coastal Commission retains jurisdiction over the approval of a CDP for those parts of the project site. The appropriate standard for review is the proposed Project's consistency with the LCP and the Coastal Act.

The Coastal Act identifies Coastal Resources Planning and Management Policies (Chapter 3, Section 30200 et seq.) that address the following issue areas:

- Public Access
- Recreation
- Marine Environment
- Land Resources
- Development
- Industrial Development

Table 4.9.A outlines the applicable Coastal Act policies and discusses the proposed Project's consistency with each applicable policy. Several policies are not included in Table 4.9.A because they address issues that are not applicable to the proposed Project. Policies not included in the discussion include the following: access and development policies for new development projects; development of marine, private, upland, and agricultural lands; construction altering the natural shoreline; water supply and flood control projects; and policies related to industrial developments.

As indicated above, the policies within Chapter 3 of the Coastal Act are intended to provide protection for suitable oceanfront lands to be used for water-oriented and recreational purposes. The proposed Project is consistent with the intent of these policies. The proposed Project consists of replacement of and improvements to the existing water-oriented, recreational- and visitor-serving facilities. In addition, the proposed Project would further increase public recreational opportunities by providing a modern upgraded facility that is Americans with Disabilities Act (ADA)-compliant and is consistent with the current needs of the aquatics community. As indicated in Table 4.9.A, the proposed Project is consistent with applicable Coastal Act policies, and impacts are, therefore, considered less than significant. No mitigation is required.

SCAG's Regional Policies. As detailed previously, SCAG's Regional Policy documents respond to Southern California's housing, traffic, water, air quality, and other regional challenges. The RCP's objective is to balance resource conservation, economic vitality, and quality of life. The RTP is a Regional Policy document that responds to Southern California's regional traffic challenges. In addition, the SCAG Compass Growth Vision provides policies to direct growth related to mobility, livability, prosperity, and sustainability.

The SCAG RCP includes a package of policies related to growth and development that seeks to coordinate infrastructure with projected population and housing growth. In general, SCAG policies encourage job and housing opportunities to be balanced at the county or subregional level (Regional Statistical Area). SCAG policies also encourage job growth to be concentrated near transit services, transit nodes, existing freeways, high-occupancy vehicle lanes, and toll roads.

SCAG maintains an Intergovernmental Review Criteria List to assist agencies in determining whether a project is considered regionally significant. The Intergovernmental Review Criteria

List includes the following criteria for determination of regionally significant projects: transportation projects (including the expansion of freeways, State highways, principal arterials, or routes that provide primary access to major activity centers), public service or utility projects (e.g., electrical sewage or water treatment facilities or flood control projects), and air quality regulatory plan projects. Based on the criteria contained in the *State CEQA Guidelines* and SCAG's Intergovernmental Review Criteria List described above, the proposed Project is not a project of regional significance. Therefore, the proposed Project would not result in impacts related to regional planning issues, and no mitigation is required.

As stated previously, the RCP aims to reduce emissions and increase mobility through strategic land use changes. However, because the proposed Project is a replacement/expansion of previous recreational facilities and would not alter the previous land uses on the Project site, these RCP strategies are not applicable to the proposed Project. No mitigation is required.

General Plan Land Use Element. The City's General Plan land use designations for the Project site are LUD No. 7, Mixed-Use, and LUD No. 11, Open Space and Parks. The northern portion of the Project site is designated as No. 7 Mixed-Use (see Figure 3.3). Mixed-use accommodates a wide range of uses and is intended to provide for use in large activity centers of the City.

According to the City's General Plan, LUD No. 7 is intended for large, vital activity centers. Combinations of land uses intended in LUD No. 7 include employment centers; visitor-serving uses, high-density residential, personal or professional services, and recreation uses. Permitted uses within LUD No. 11 include employment centers (e.g., retail, offices, and medical facilities), high-density residential uses, visitor-serving facilities, personal and professional services, and recreational uses. LUD No. 11 is intended to provide for "preserving natural habitat areas and promoting the mental and physical health of the community through recreational, cultural, and relaxation pursuits. Parks are characterized by open spaces devoted to leisure activities including the enjoyment of nature, wildlife, cultural heritage, sports, and similar activities." Consistent with the intent of LUD No. 7, the proposed Project includes the replacement and construction of the new Belmont Pool complex, which is a visitor-serving recreational use. The proposed Project also includes an open space/park area (a park use), a café (a retail use) and gathering area, and public restrooms, consistent with permitted land uses as allowed within LUD No. 7. Therefore, the proposed Project would be consistent with both LUD No. 7 and LUD No. 11.

The City's General Plan Land Use Element also contains goals and policies that are applicable to the proposed Project. These applicable goals and policies from the City's General Plan are listed in Table 4.9.B, along with a consistency analysis of the proposed Project with each relevant goal and policy. The purpose of this discussion is to provide a guide to the decision-makers' policy interpretation and should be considered preliminary; a final determination of consistency with plans and policies would be made by City decision-makers. As identified through this consistency analysis, the proposed Project would be consistent with applicable policies in the City's General Plan.

Replacing and improving the pool facilities and related ancillary uses on the Project site would also be consistent with the existing land uses in the area and would not conflict with the recreational objectives of the existing land use designations. Further, the proposed Project would improve the character of the recreation areas and would further the objective of supporting recreation uses. The proposed Project would result in a modern aquatics facility that is ADA-compliant, which would increase the overall value of the Project site as a recreational resource consistent with the designations within the General Plan Land Use Element.

As previously stated, the City is currently in the process of updating its General Plan Land Use Element. Under the new Land Use Element, the proposed Project would be in an area designated for waterfront uses, which among other things, would allow for redevelopment of the Belmont Pier and Pool Complex. As such, in the event that the proposed Project is approved after the General Plan is updated, the proposed Project would be consistent with the City's General Plan land use designation for the site. Therefore, implementation of the proposed Project would not result in significant land use compatibility issues with the City's General Plan Land Use Element.

General Plan Open Space and Recreation Element. The City's Open Space and Recreation Element defines the Belmont Pool complex as a special-use park because of the numerous recreational amenities and specialized aquatic uses it has provided. The proposed Project would be consistent with the objectives and policies established in the General Plan Open Space and Recreation Element for the Project area because the proposed Project would enhance recreation opportunities and facilities on the Project site (i.e., replacing the facility to meet current seismic standards, improving the facility to meet Leadership in Energy and Environmental Design (LEED) Gold building standards, and upgrading to a modern aquatics facility that is ADA-compliant, meeting the needs and desires of the competitive and recreational aquatics community). Therefore, the proposed Project would be consistent with, and furthers the intent of, the policies within the Open Space and Recreation Element. Therefore, no adverse impacts to open space and recreation amenities would result, and mitigation would not be required.

Table 4.9.B: General Plan Land Use Policy Consistency Analysis

Policies	Consistency Analysis
Land Use. Recent zoning code amendments to restrict building heights to 24/28 feet and to minimize bulk reflect the residents' strong desire to maintain Belmont Shore as a low scale, low-density neighborhood with many amenities. Maintaining this profile for this neighborhood is recommended. Also important to this neighborhood and the larger community is the continued vitality of the commercial center along 2nd Street. This bustling retail activity creates a very positive image for Long Beach and should be encouraged and supported. Parking problems are currently being addressed by a joint effort of City staff, the Belmont Shore Parking and Business Improvement Area Advisory Commission, and neighborhood-wide community groups. This effort should continue as long as necessary. Additional region-serving uses should not be permitted. Belmont Shore should remain low density overall. This plan recommends a general retention of densities permitted by the Local Coastal Program. Intensification of the existing business mix without adequate consideration for parking, traffic, and the residential quality of life should not be permitted.	**Consistent.** The proposed Project would replace the former Belmont Pool and provide the City with a new, modern pool complex. The Project proposes the construction and operation of an approximately 125,500 sf replacement pool complex that includes indoor and outdoor pool components and a café. While the proposed aquatic complex would exceed the height requirements established in the Zoning Code, the former Belmont Pool facility was also in excess of the maximum building height. Additionally, because the proposed Project would be a domed structure, the maximum height would only be reached at one point, and several portions of the structure would be lower in height than the former Belmont Pool facility. However, a height variance would be required for the proposed Project. The recreational uses that would occupy the Project building are anticipated to be community and regional-serving in nature. No changes to the existing parking lots are included in the proposed Project. As a result, event traffic was considered in the traffic analysis for the proposed Project. Any event with more than 450 spectators would be considered a large special event that would require an Event Traffic Management Plan. Mitigation Measure 4.12.1 requires the City to prepare and implement an Event Traffic Management Plan that provides traffic and control measures for special events.
Design Controls/Architectural Compatibility. Respecting the low scale of existing homes and minimizing the bulk of new developments is necessary. Architectural conformance is considered important and respecting existing scales is considered mandatory.	**Consistent.** Although the proposed Project's building height would be similar to the former Belmont Pool facility, the proposed Project would require a variance to allow for the proposed 71 ft high Belmont Pool structure. However, it should be noted that the former Belmont Pool facilities also exceeded the Zoning Code requirement with a maximum height of 60 ft. Additionally, because the proposed Project would be a domed structure, the maximum height would only be reached at one point and several portions of the structure would be lower in height than the former Belmont Pool facility. As shown on Figures 3.7a and 3.7b, the proposed Project would feature an elliptical-shaped dome, comprised of a web of structural steel, infilled with ethylene tetrafluoroethylene (ETFE) plastic creating a

Table 4.9.B: General Plan Land Use Policy Consistency Analysis

Policies	Consistency Analysis
	continuous shell over the competition pool. The translucent cover would serve as the main arena and would house the indoor pools and bleachers. The dome shape of the proposed Project would reduce the bulk and massing of the new facility and introduce an enhanced architecture to the Project site.
Neighborhood Services, Facilities, and Amenities. Belmont Shore is well served by various types of educational, commercial/retail, and recreational facilities. Alamitos Bay, the Pacific Ocean, and Marine Stadium provide ample opportunities for water sports. The City-owned green space located along Livingston Drive provides passive recreational uses. Rogers Junior High and Lowell Elementary Schools provide educational opportunities to residents. The commercial center located along 2nd Street is a popular shopping and entertainment strip serving residents and tourists alike.	**Consistent.** As described above, the proposed Project's recreational facilities would provide increased visibility to the City's existing water sports recreational facilities. The improved aquatic facilities would attract both local residents and visitors to the local commercial establishments in the vicinity of the Project site.

City = City of Long Beach
ft = foot/feet
sf = square feet

City of Long Beach Zoning Code. The Project site encompasses areas zoned Park and PD-2. Figure 3.4 illustrates the zoning designations for the Project site and surrounding areas. The PD zoning designation was established to allow flexible development plans for areas of the City that represent unique or special land uses, such as the Belmont Pool complex.

The proposed Project would replace a previous use with a similar use. The active recreational uses in the proposed Project are consistent with the existing zoning designations. The proposed Project would improve the character of the recreation areas and would further the objective of supporting coastal recreation uses. Although the existing zoning of the Project site is consistent with the recreational uses on the site and in the surrounding area, as established by the City's Zoning Code, the maximum allowable height of building structures within the Park zoning district is 30 ft. Therefore, the proposed Project would require the approval of a variance to allow for the proposed maximum height of 71 ft. In addition, the proposed Project would provide ADA-compliant facilities, which would increase access to the Project site for recreation. Therefore, following approval of the requested height variance, no impacts related to zoning consistency would occur with implementation of the proposed Project, and no mitigation would be required.

City of Long Beach Parks, Recreation, and Marine Strategic Plan. The City Department of Parks, Recreation, and Marine developed a Strategic Plan in February 2003. The departmental Strategic Plan assessed recreation needs and objectives citywide and identified strategies to provide recreation opportunities and improve water quality and City beach areas. Specific strategies that are applicable to the proposed Project are listed in Subsection 4.9.1, Existing Environmental Setting. The proposed Project would be consistent with and further the intent of these strategies. Specifically, the proposed Project would:

- Improve and modernize the former pool complex condition, infrastructure, and amenities through the replacement of deteriorated facilities with new facilities that accommodate both competitive and recreational swimmers, divers, and other aquatic users. (Strategy 2.2)

Therefore, the proposed Project would not conflict with the City Department of Parks, Recreation, and Marine Strategic Plan, and impacts related to this topic would be less than significant, and no mitigation would be required.

4.9.6 Cumulative Impacts

As defined in Section 15130 of the *State CEQA Guidelines*, cumulative impacts are the incremental effects of an individual project when viewed in connection with the effects of current and probable future projects within the cumulative impact area for land use. Construction of the proposed Project, when considered in conjunction with several other existing and planned developments in proximity to the Project, would contribute to recreational facilities within the City. The cumulative study area for consideration of potential land use impacts includes the City of Long Beach.

It should be noted that the proposed Project site is currently designated as LUD No. 7 and LUD No. 11 by the City's General Plan Land Use Element and General Plan Land Use Map. These land use designations allow for parks and open space and the development of a mix of commercial, recreation, and retail uses. As such, development of the proposed Project would be consistent with the existing General Plan land use designations. The land use patterns around the Project site have been long-established with recreational, open space, and small areas of retail (food and concession areas) development. The proposed Project involves replacement of a former pool facility and would be compatible with development in the immediate area surrounding the Project site. Therefore, the construction of the new Belmont Pool facilities would not result in a potential inconsistency with the City General Plan or other land planning documents, nor would the proposed Project result in significant land use compatibility issues.

Land use compatibility is a combination of other impacts, including potential aesthetic, air quality, noise, and traffic impacts. Potential cumulative impacts associated with traffic generation and related air quality and noise impacts are addressed in those topical sections of this Draft EIR. None of these related environmental topics were found to have significant cumulative effects. Therefore, implementation of the proposed Project would not result in, or contribute to, a cumulatively significant land use impact, and no mitigation is required.

4.9.7 Level of Significance Prior to Mitigation

The proposed Project would not conflict with applicable planning documents following City-approval of the proposed height variance and CUP for food and beverage sales.

Activities associated with implementation of the proposed Project would not substantially conflict with adjacent land uses. The Project is intended to provide recreational opportunities in an area where adequate supporting uses and public services and facilities exist. Therefore, the proposed Project would not conflict with adjacent land uses, and no mitigation is required.

4.9.8 Mitigation Measures

No mitigation is required.

4.9.9 Level of Significance after Mitigation

All potential Land Use impacts would be less than significant. No mitigation is required.

4.10 NOISE

This section evaluates the potential short-term construction and long-term operational noise impacts of the proposed Belmont Pool Revitalization Project (proposed Project). This analysis is intended to satisfy the City of Long Beach's (City) requirement for a Project noise impact analysis by examining the short-term construction and long-term operational impacts on on-site and off-site land uses involving sensitive receptors and evaluating the effectiveness of proposed mitigation measures. Noise calculation sheets developed during preparation of the following noise analysis are included in Appendix G of this Draft Environmental Impact Report (EIR).

Scoping Process

The City of Long Beach distributed the first Notice of Preparation (NOP) for the Draft EIR from April 18 to May 17, 2013. The City received three comment letters in response to the original NOP. No comment letter associated with noise was received in response to the original NOP circulated for the proposed Project. Due to revisions in the Project Description, the City re-issued the NOP for the Draft EIR between April 9, 2014, and May 8, 2014. The City received five comment letters in response to the re-issued NOP during the public review period. No noise-related issues were raised in those comment letters.

4.10.1 Methodology

The evaluation of noise impacts associated with the proposed Project includes the following:

- Determination of the short-term construction noise impacts on on-site and off-site noise-sensitive uses with industry-recognized noise emission levels for construction equipment;
- Determination of the long-term operational noise impacts, including vehicular traffic and aircraft activities, on on-site and off-site noise-sensitive uses; and
- Determination of the required mitigation measures to reduce short-term and long-term noise impacts from all sources.

Fundamentals of Noise.

Noise Definition. Noise impacts can be described in three categories. The first category includes audible impacts, which refer to increases in noise levels noticeable to humans. Audible increases in noise levels generally refer to a change of 3 decibels (dB) or greater, because this level has been found to be barely perceptible in exterior environments. The second category, potentially audible, refers to a change in the noise level between 1 and 3 dB. This range of noise levels has been found to be noticeable only in carefully controlled laboratory environments. The last category includes changes in noise levels of less than 1 dB, which are inaudible to the human ear. Only audible changes in existing ambient or background noise levels are considered potentially significant and adverse.

Characteristics of Sound. Sound is increasing in the environment and can affect quality of life. Noise is usually defined as unwanted sound. Noise consists of any sound that may produce physiological or psychological damage and/or interfere with communication, work, rest, recreation, and sleep. To the human ear, sound has two specific characteristics: pitch and loudness. Pitch is generally an annoyance, while loudness can affect the ability to hear. Pitch is the number of complete vibrations (or cycles per second) of a wave, resulting in the tone's range from high to low. Loudness is the strength of a sound and describes a noisy or quiet environment; it is measured by the amplitude of the sound wave. Loudness is determined by the intensity of the sound waves, combined with the reception characteristics of the human ear. Sound intensity refers to how hard the sound wave strikes an object, which in turn produces the sound's effect. This characteristic of sound can be precisely measured with instruments. The analysis of a project defines the noise environment of the project area in terms of sound intensity and its effect on adjacent noise-sensitive land uses.

Measurement of Sound. Sound intensity is measured through the A-weighted scale to correct for the relative frequency response of the human ear. That is, an A-weighted noise level de-emphasizes low and very high frequencies of sound similar to the human ear's de-emphasis of these frequencies. Unlike linear units, such as inches or pounds, decibels are measured on a logarithmic scale, representing points on a sharply rising curve.

For example, 10 dB are 10 times more intense than 1 dB, 20 dB are 100 times more intense, and 30 dB are 1,000 times more intense. Thirty decibels (30 dB) represent 1,000 times as much acoustic energy as 1 dB. The decibel scale increases as the square of the change, representing the sound pressure energy. A sound as soft as human breathing is about 10 times greater than 0 dB. The decibel system of measuring sound gives a rough connection between the physical intensity of sound and its perceived loudness to the human ear. A 10 dB increase in sound level is perceived by the human ear as only a doubling of the loudness of the sound. Ambient sounds generally range from 30 A-weighted decibels (dBA) (very quiet) to 100 dBA (very loud).

Sound levels are generated from a source, and their decibel level decreases as the distance from that source increases. Sound dissipates exponentially with distance from the noise source. For a single point source, sound levels decrease approximately 6 dB for each doubling of distance from the source. This drop-off rate is appropriate for noise generated by stationary equipment. If noise is produced by a line source, such as highway traffic or railroad operations, the sound decreases 3 dB for each doubling of distance in a hard-site environment. Line source noise in a relatively flat environment with absorptive vegetation decreases 4.5 dB for each doubling of distance.

There are many ways to rate noise for various time periods, but an appropriate rating of ambient noise affecting humans also accounts for the annoying effects of sound. Equivalent continuous sound level (L_{eq}) is the total sound energy of time-varying noise over a sample period. The predominant rating scales for human communities in the State of California are the L_{eq} and community noise equivalent level (CNEL) or the day-night average level (L_{dn}) based on dBA. CNEL is the time-varying noise over a 24-hour period, with a 5 dBA weighting factor applied to the hourly L_{eq} for noises occurring from 7:00 p.m. to 10:00 p.m. (defined as relaxation hours) and a 10 dBA weighting factor applied to noise occurring from 10:00 p.m. to 7:00 a.m. (defined as sleeping hours). L_{dn} is similar to the CNEL scale but without the adjustment for events occurring during the evening hours. CNEL and L_{dn} are within 1 dBA of each other and are normally exchangeable. The noise adjustments are added to the noise events occurring during the more sensitive hours.

Other noise rating scales of importance when assessing the annoyance factor include the maximum noise level (L_{max}), which is the highest exponential time-averaged sound level that occurs during a stated time period. The noise environments discussed in this analysis are specified in terms of maximum levels, denoted by L_{max} for short-term noise impacts. L_{max} reflects peak-operating conditions and addresses the annoying aspects of intermittent noise.

Another noise scale often used together with the L_{max} in noise ordinances for enforcement purposes is noise standards in terms of percentile exceedance in noise levels. For example, the L_{10} noise level represents the noise level exceeded 10 percent of the time during a stated period. The L_{50} noise level represents the median noise level. Half the time, the noise level exceeds this level, and half the time, it is less than this level. The L_{90} noise level represents the noise level exceeded 90 percent of the time and is considered the background noise level during a monitoring period. For a relatively constant noise source, the L_{eq} and L_{50} are approximately the same.

Physiological Effects of Noise. Physical damage to human hearing begins at prolonged exposure to noise levels higher than 85 dBA. Exposure to high noise levels affects the entire system, with prolonged noise exposure in excess of 75 dBA increasing body tensions and thereby affecting blood pressure and functions of the heart and the nervous system. In comparison, extended periods of noise exposure above 90 dBA would result in permanent cell damage. When the noise level reaches 120 dBA, a tickling sensation occurs in the human ear even with short-term exposure. This level of noise is called the threshold of feeling. As the sound reaches 140 dBA, the tickling sensation is replaced by the feeling of pain in the ear. This is called the threshold of pain. A sound level of 160–165 dBA will result in dizziness or loss of equilibrium. The ambient or background noise problem is widespread and generally more concentrated in urban areas than in less-developed areas.

Vibration. Vibration refers to groundborne noise and perceptible motion. Groundborne vibration is almost exclusively a concern inside buildings and is rarely perceived as a problem outdoors where the motion may be discernible; however, without the effects associated with the shaking of a building, there is less of an adverse reaction. Vibration energy propagates from a source through intervening soil and rock layers to the foundations of nearby buildings. The vibration then propagates from the foundation throughout the remainder of the structure. Building vibration may be perceived by the occupants as motion of building surfaces, rattling of items on shelves or hanging on walls, or as a low-frequency rumbling noise. The rumble noise is caused by the vibrating walls, floors, and ceilings that radiate sound waves. Annoyance from vibration often occurs when the vibration exceeds the threshold of perception by 10 dB or less. This is an order of magnitude below the damage threshold for normal buildings.

Typical sources of groundborne vibration are construction activities (e.g., blasting, pile driving, and operating heavy-duty earth-moving equipment), steel-wheeled trains, and occasional traffic on rough roads. Problems with groundborne vibration and noise from these sources are usually localized to areas within about 100 feet (ft) from the vibration source, although there are examples of groundborne vibration causing interference out to distances greater than 200 ft (Federal Transit Administration [FTA] May 2006). When roadways are smooth, vibration from traffic, even heavy trucks, is rarely perceptible. It is assumed for most projects that the roadway surface will be smooth enough that groundborne vibration from street traffic will not exceed the impact criteria; however, construction of a project could result in groundborne vibration that could be perceptible and annoying. Groundborne noise is not likely to be a problem because noise arriving via the normal airborne path usually will be greater than groundborne noise.

Groundborne vibration has the potential to disturb people as well as to damage buildings. It is not uncommon for construction processes such as blasting and pile driving to cause vibration of sufficient amplitudes to damage nearby buildings (FTA 2006). Groundborne vibration is usually measured in terms of vibration velocity, either the root-mean-square (RMS) velocity or the peak particle velocity (PPV). RMS is best for characterizing human response to building vibration, and PPV is used to characterize potential for building or structural damage. Ground vibrations from construction activities do not often reach the levels that can damage structures, but they can achieve the audible and sensate ranges in buildings very close to the site. Problems with groundborne vibration from construction sources are usually localized to areas within approximately 100 ft from the vibration source.

Factors that influence groundborne vibration and noise include the following:

- **Vibration Source:** Vehicle suspension, wheel types and condition, track/roadway surface, track support system, speed, transit structure, and depth of vibration source
- **Vibration Path:** Soil type, rock layers, soil layering, depth to water table, and frost depth
- **Vibration Receiver:** Foundation type, building construction, and acoustical absorption

Among the factors listed above, there are significant differences in the vibration characteristics when the source is underground compared to at the ground surface. In addition, soil conditions are known to have a strong influence on the levels of groundborne vibration. Among the most important factors are the stiffness and internal damping of the soil and the depth to bedrock.

Table 4.10.A illustrates human response to various vibration levels, as described in the FTA *Transit Noise and Vibration Impact Assessment* (FTA 2006).

Table 4.10.A: Human Response to Different Levels of Groundborne Noise and Vibration

Vibration Velocity Level	Noise Level		Human Response
	Low Frequency[1]	Mid Frequency[2]	
65 VdB	25 dBA	40 dBA	Approximate threshold of perception for many humans. Low-frequency sound usually inaudible; mid-frequency sound excessive for quiet sleeping areas.
75 VdB	35 dBA	50 dBA	Approximate dividing line between barely perceptible and distinctly perceptible. Many people find transit vibration at this level unacceptable. Low-frequency noise acceptable for sleeping areas; mid-frequency noise annoying in most quiet occupied areas.
85 VdB	45 dBA	60 dBA	Vibration acceptable only if there are an infrequent number of events per day. Low-frequency noise unacceptable for sleeping areas; mid-frequency noise unacceptable even for infrequent events with institutional land uses such as schools and churches.

Source: Federal Transit Administration *Transit Noise and Vibration Impact Assessment* (2006).
1 Approximate noise level when vibration spectrum peak is near 30 Hz.
2 Approximate noise level when vibration spectrum peak is near 60 Hz.
dBA = A-weighted decibels VdB = velocity in decibels

4.10.2 Existing Environmental Setting

The approximately 5.8 acres (ac) Project site is located in Belmont Shore Beach Park in the southeastern portion of the City. The Project site is bounded by the Pacific Ocean to the south and the City's Beach Maintenance Yard, a large parking lot that provides parking for visitors to the beach, the former Belmont Pool, beach volleyball, Rosie's Dog Beach, and a boat launch to the southeast. Adjacent land uses to the north include a variety of one-story commercial businesses, the Belmont Shores Children's Center, and residences located across Ocean Boulevard. Adjacent land uses to the west include Belmont Veterans Memorial Pier and parking lot, as well as the Surf Terrace apartment complex and Belmont Shore Condominiums (see Figure 3.2). The residences located across Ocean Boulevard are approximately 100 ft from the Project construction boundary. Residences at the Surf Terrace apartment complex to the west are approximately 80 ft from the Project construction boundary. The playground associated with the Children's Center is located approximately 25 ft from the Project construction boundary. An existing passive park is located north of the former pool building and south of Olympic Plaza.[1] Primary access for parking to the Project site is provided to the east of the site at the Beach Parking Lot from Ocean Boulevard via Bennett Avenue. Secondary parking is from the Pier Parking Lot to the west of the site and is accessed from Ocean Boulevard via Termino Avenue.

The former pool complex located on the Project site consisted of an enclosed swimming pool, two outdoor pools (swimming and wading), a passive park on the north side of the pool building, locker rooms at the east end of the structure, and a restaurant at the west end of the structure. The former indoor pool was closed to the public on January 13, 2013, as a result of substandard seismic and structural conditions, and was demolished in February 2015 because of an imminent threat to public safety. The demolition of the structure was conducted under an emergency permit and, therefore, this Draft Environmental Impact Report (EIR) does not include analysis of the demolition of the Belmont Pool structure. The outdoor swimming pool and passive park remain open on the Project site. In

1 This passive park was part of the 1968 Belmont Pool project and does not have a separate name.

addition, a temporary pool was constructed in the Beach Parking lot and opened in December 2013 to provide swimming facilities while the permanent facility was under construction.

Sensitive Land Uses in the Project Vicinity. Certain land uses are considered more sensitive to noise than others. Examples of these include residential uses, educational facilities, hospitals, childcare facilities, outdoor recreation areas, and senior housing. The sensitive land uses within the vicinity of the proposed Project include the existing Belmont Shores Children's Center (Preschool/Child Care) facility located approximately 25 ft from the northern Project construction boundary, residences across East Ocean Boulevard to the northeast located approximately 100 ft from the northern Project construction boundary, and residences across Termino Avenue to the northwest located approximately 80 ft from the western Project construction boundary.

Overview of the Existing Noise Environment. The primary existing noise sources in the Project area are from vehicle traffic on Project area roadways. Other existing noise sources in the vicinity of the Project include activity associated with the temporary outdoor pool, which is used by clubs, local high schools, and the general public. Noise from motor vehicles is generated by engine vibrations, the interaction between the tires and the road, and the exhaust system. Traffic on Ocean Boulevard, Termino Avenue, and Bennett Avenue contribute to area ambient noise levels. Tables 4.10.B and 4.10.C provide the traffic noise levels along the roadways adjacent to the Project site under the existing conditions. These noise levels are representative of the worst-case scenario, which assumes no shielding exists between the traffic and the locations from which the noise contours are drawn.

4.10.3 Regulatory Setting

Federal Regulations and Policies.

Federal Transit Administration. The Federal Transit Administration (FTA) establishes acceptable levels of groundborne vibration for building types that are sensitive to vibration. These levels are based on the maximum levels for a single event. Additionally, in the *Transit Noise and Vibration Impact Assessment* (FTA 2006), the FTA provided groundborne vibration and noise impact criteria guidance. The criteria established by the FTA account for variation in project types, as well as the frequency of events, which differ widely among projects. Although the criteria are provided for community response to groundborne vibration from rapid rail transit systems, they also provide good guidelines for human response to vibration in general.
Table 4.10.D lists the groundborne vibration and noise impact criteria for human annoyance. Vibration Category 1 land uses include vibration-sensitive research and manufacturing, hospitals with vibration-sensitive equipment, and university research operations. Vibration Category 2 land uses include all residential land uses and any buildings in which people sleep, such as hotels and hospitals. Vibration Category 3 land uses include schools, churches, other such institutions, and quiet offices.

Table 4.10.B: Existing Weekday Baseline Traffic Noise Levels

Roadway Segment	ADT	Centerline to 70 CNEL (ft)	Centerline to 65 CNEL (ft)	Centerline to 60 CNEL (ft)	CNEL (dBA) 50 Ft from Centerline of Outermost Lane
Ocean Boulevard west of Redondo Avenue	25,230	< 50	75	155	65.1
Ocean Boulevard between Redondo Avenue and Loma Avenue	27,195	< 50	78	163	65.4
Ocean Boulevard between Loma Avenue and Mira-Mar Avenue	27,855	< 50	80	165	65.5
Ocean Boulevard between Mira-Mar Avenue and Termino Avenue	9,240	< 50	< 50	82	60.7
Ocean Boulevard between Termino Avenue and Bennett Avenue	9,575	< 50	< 50	84	60.9
Ocean Boulevard between Bennett Avenue and Granada Avenue	8,500	< 50	< 50	78	60.4
Ocean Boulevard east of Granada Avenue	7,730	< 50	< 50	74	60.0
Livingston Avenue between Mira-Mar Avenue and Termino Avenue	19,405	< 50	80	166	65.6
Livingston Avenue between Termino Avenue and 2nd Street	20,155	< 50	82	170	65.7
Livingston Avenue east of 2nd Street	3,190	< 50	< 50	< 50	55.8
2nd Street south of Livingston Avenue	20,860	< 50	< 50	104	62.4
Termino Avenue south of Ocean Boulevard	3,110	< 50	< 50	< 50	58.0
Termino Avenue between Ocean Boulevard and Livingston Avenue	3,495	< 50	< 50	56	58.6
Termino Avenue north of Livingston Avenue	830	< 50	< 50	< 50	49.9
Bennett Avenue south of Ocean Boulevard	1,120	< 50	< 50	< 50	51.2
Bennett Avenue north of Ocean Boulevard	740	< 50	< 50	< 50	49.4
Granada Avenue south of Ocean Boulevard	710	< 50	< 50	< 50	49.2
Granada Avenue north of Ocean Boulevard	1,500	< 50	< 50	< 50	52.5

Source. Compiled by LSA Associates, Inc. (March 2016).
Note: Traffic noise within 50 ft of the roadway centerline should be evaluated with site-specific information.
ADT = average daily traffic
CNEL = Community Noise Equivalent Level
dBA = A-weighted decibels
ft = feet

Table 4.10.C: Existing Saturday Baseline Traffic Noise Levels

Roadway Segment	ADT	Centerline to 70 CNEL (ft)	Centerline to 65 CNEL (ft)	Centerline to 60 CNEL (ft)	CNEL (dBA) 50 Ft from Centerline of Outermost Lane
Ocean Boulevard west of Redondo Avenue	18,050	< 50	62	125	63.6
Ocean Boulevard between Redondo Avenue and Loma Avenue	19,720	< 50	65	132	64.0
Ocean Boulevard between Loma Avenue and Mira-Mar Avenue	20,655	< 50	67	136	64.2
Ocean Boulevard between Mira-Mar Avenue and Termino Avenue	8,540	< 50	< 50	78	60.4
Ocean Boulevard between Termino Avenue and Bennett Avenue	8,900	< 50	< 50	80	60.6
Ocean Boulevard between Bennett Avenue and Granada Avenue	7,705	< 50	< 50	73	59.9
Ocean Boulevard east of Granada Avenue	7,240	< 50	< 50	71	59.7
Livingston Avenue between Mira-Mar Avenue and Termino Avenue	12,785	< 50	63	127	63.8
Livingston Avenue between Termino Avenue and 2nd Street	14,490	< 50	67	137	64.3
Livingston Avenue east of 2nd Street	3,050	< 50	< 50	< 50	55.6
2nd Street south of Livingston Avenue	16,370	< 50	< 50	90	61.4
Termino Avenue south of Ocean Boulevard	2,990	< 50	< 50	< 50	57.9
Termino Avenue between Ocean Boulevard and Livingston Avenue	3,440	< 50	< 50	55	58.5
Termino Avenue north of Livingston Avenue	600	< 50	< 50	< 50	48.5
Bennett Avenue south of Ocean Boulevard	1,560	< 50	< 50	< 50	52.7
Bennett Avenue north of Ocean Boulevard	700	< 50	< 50	< 50	49.2
Granada Avenue south of Ocean Boulevard	1,150	< 50	< 50	< 50	51.3
Granada Avenue north of Ocean Boulevard	1,420	< 50	< 50	< 50	52.2

Source. Compiled by LSA Associates, Inc. (March 2016).
Note. Traffic noise within 50 ft of the roadway centerline should be evaluated with site-specific information.
ADT = average daily traffic
CNEL = Community Noise Equivalent Level
dBA = A-weighted decibels
ft = feet

Table 4.10.D: Groundborne Vibration and Noise Impact Criteria

Land Use Category	Groundborne Vibration Impact Levels (VdB re 1 micro inch/sec)			Groundborne Noise Impact Levels (dB re 20 micro Pascals)		
	Frequent Events[1]	Occasional Events[2]	Infrequent Events[3]	Frequent Events[1]	Occasional Events[2]	Infrequent Events[3]
Category 1: Buildings where vibration would interfere with interior operations.	65 VdB[4]	65 VdB[4]	65 VdB[4]	N/A[5]	N/A[5]	N/A[5]
Category 2: Residences and buildings where people normally sleep.	72 VdB	75 VdB	80 VdB	35 dBA	38 dBA	43 dBA
Category 3: Institutional land uses with primarily daytime use.	75 VdB	78 VdB	83 VdB	40 dBA	43 dBA	48 dBA

Source: Federal Transit Administration *Transit Noise and Vibration Impact Assessment* (2006).
1 Frequent Events is defined as more than 70 events per day.
2 Occasional Events is defined as between 30 and 70 vibration events of the same source per day.
3 Infrequent Events is defined as fewer than 70 events per day.
4 This criterion limit is based on levels that are acceptable for most moderately sensitive equipment, such as optical microscopes. Vibration-sensitive manufacturing or research will require detailed evaluation to define the acceptable vibration levels. Ensuring lower vibration levels in a building often requires special design of the HVAC systems and stiffened floors.
5 Vibration-sensitive equipment is not sensitive to groundborne noise.
dB = decibels
dBA = A-weighted decibels
HVAC = heating, ventilation, and air conditioning
inch/sec = inches per second
N/A = Not Applicable
VdB = vibration velocity decibel

Based on the *Transit Noise and Vibration Impact Assessment* (FTA 2006), the potential construction vibration damage criteria vary. For example, as shown in Table 4.10.E, for a building that is constructed with reinforced concrete with no plaster, the FTA guidelines show that a vibration level of up to 102 velocity decibels (VdB) (equivalent to 0.5 inch per second [inch/sec] in RMS) (FTA 2006) is considered safe and would not result in any construction vibration damage. For a non-engineered timber and masonry building, the construction vibration damage criterion is 94 VdB (0.2 inches/sec in RMS). No specific thresholds have been adopted or recommended for commercial and office uses.

Table 4.10.E: Construction Vibration Damage Criteria

Building Category	PPV (inch/sec)	Approximate Lv[1]
Reinforced-concrete, steel or timber (no plaster)	0.5	102
Engineered concrete and masonry (no plaster)	0.3	98
Non-engineered timber and masonry buildings	0.2	94
Buildings extremely susceptible to vibration damage	0.12	90

Source: Federal Transit Administration, Transit Noise and Vibration Impact Assessment (May 2006).
1 RMS VdB regarding 1 micro-inch/sec.
inch/sec = inches per second
$Lv = 20 \log_{10} (V/V_{ref})$
PPV = peak particle velocity
RMS = root-mean-square
VdB = velocity in decibels

United States Environmental Protection Agency. In 1972, Congress enacted the United States Noise Control Act. This act authorized the Environmental Protection Agency (EPA) to publish descriptive data on the effects of noise and establish levels of sound "requisite to protect the public welfare with an adequate margin of safety." These levels are separated into health (hearing loss levels) and welfare (annoyance levels). For protection against hearing loss, 96 percent of the population would be protected if sound levels are less than or equal to 70 dBA during a 24-hour period of time. At 55 dBA L_{dn}, 95 percent sentence clarity (intelligibility) may be expected at 11 ft, and no community reaction would occur. However, 1 percent of the population may complain about noise at this level, and 17 percent may indicate annoyance. The EPA cautions that these identified levels are not standards because they do not take into account the cost or feasibility of the levels.

State Regulations and Policies. The State of California has established regulations that help prevent adverse impacts to occupants of buildings located near noise sources. Referred to as the "State Noise Insulation Standard," it requires buildings to meet performance standards through design and/or building materials that would offset any noise source in the vicinity of the receptor. State regulations include requirements for the construction of new hotels, motels, apartment houses, and dwellings other than detached single-family dwellings that are intended to limit the extent of noise transmitted into habitable spaces. These requirements are found in California Code of Regulations (CCR) Title 24 (known as the California Building Standards Code), Part 2 (known as the California Building Code [CBC]), Appendix Chapter 12.

California Health and Safety Code, Division 28, Noise Control Act. The California Noise Control Act states that excessive noise is a serious hazard to public health and welfare and that it is the policy of the State to provide an environment for all Californians that is free from noise that jeopardizes their health or welfare. The goal is to minimize the number of people that would be exposed to excessive noise but not to create an environment completely free from any noise.

California Government Code Section 65302. Section 65302(f) of the California Government Code and the Guidelines for the Preparation and Content of the Noise Element of the General Plan prepared by the California Department of Health Services and included in the 1990 State of California General Plan Guidelines published by the State Office of Planning and Research provides requirements and guidance to local agencies in the preparation of their Noise Elements.

The Guidelines require that major noise sources and areas containing noise-sensitive land uses be identified and quantified by preparing generalized noise exposure contours for current and projected conditions. Contours may be prepared in terms of either the CNEL or the Day-Night Average Level (L_{dn}), which are descriptors of total noise exposure at a given location for an annual average day. The CNEL and L_{dn} are generally considered to be equivalent descriptors of the community noise environment within plus or minus 1 dB.

The Noise Element (1975) contained in the City of Long Beach General Plan is in compliance with the Guidelines and is further discussed below.

Local Regulations and Policies.

City of Long Beach General Plan Noise Element. The Noise Element of the General Plan contains noise standards for mobile noise sources. These standards address the impacts of noise from adjacent roadways and airports. The City specifies outdoor and indoor noise limits for residential uses, places of worship, educational facilities, hospitals, hotels/motels, and commercial and other land uses. The noise standard for exterior living areas is 65 dBA CNEL. The indoor noise standard is 45 dBA CNEL, which is consistent with the standard in the California Noise Insulation Standard.

City of Long Beach Municipal Code. The City has adopted a quantitative Noise Control Ordinance, No. C-5371, Long Beach 1977 (Municipal Code, Chapter 8.80). The ordinance establishes maximum permissible hourly noise levels generated from operations for different districts throughout the City. Tables 4.10.F and 4.10.G list exterior noise and interior noise limits for various land uses.

Table 4.10.F: Exterior Noise Limits, L_N (dBA)

Receiving Land Use	Time Period	L_{50}	L_{25}	L_8	L_2	L_{max}
Residential (District One)	Night: 10:00 PM–7:00 AM	45	50	55	60	65
	Day: 7:00 AM–10:00 PM	50	55	60	65	70
Commercial (District Two)	Night: 10:00 PM–7:00 AM	55	60	65	70	75
	Day: 7:00 AM–10:00 PM	60	65	70	75	80
Industrial (District Three)	Anytime[1]	65	70	75	80	85
Industrial (District Four)	Anytime[1]	70	75	80	85	90

Source: City of Long Beach Municipal Code.
[1] For use at boundaries rather than for noise control within industrial districts.
dBA = A-weighted decibels
L_{max} = maximum sound level
L_N = percentile noise exceedance level
L_{50} = noise level representing the median noise level; half the time, the noise level exceeds this level, and half the time, it is less than this level
L_{25} = the noise level exceeded 25 percent of the time during a stated period
L_8 = the noise level exceeded 8 percent of the time during a stated period
L_2 = the noise level exceeded 2 percent of the time during a stated period

Table 4.10.G: Maximum Interior Sound Levels, L_N (dBA)

Receiving Land Use	Time Interval	L_8	L_2	L_{max}
Residential	10:00 PM–7:00 AM	35	40	45
	7:00 AM–10:00 PM	45	50	55
School	7:00 AM–10:00 PM (while school is in session)	45	50	55
Hospital and other noise-sensitive zones	Anytime	40	45	50

Source: City of Long Beach Municipal Code.
dBA = A-weighted decibels
L_{max} = maximum sound level
L_N = percentile noise exceedance level
L_8 = the noise level exceeded 8 percent of the time during a stated period
L_2 = the noise level exceeded 2 percent of the time during a stated period

The City's Noise Control Ordinance (Section 8.80.202) governs the time of day that construction work can be performed. The Noise Ordinance prohibits construction, drilling, repair, remodeling, alteration, or demolition work between the hours of 7:00 p.m. and 7:00 a.m. on weekdays or federal holidays (considered a weekday) if the noise would create a disturbance across a residential or commercial property line or violate the quantitative provisions of the ordinance, except for emergency work authorized by the building official. The Noise Ordinance also prohibits construction, drilling, repair, remodeling, alteration, or demolition work between the hours of 7:00 p.m. on Friday and 9:00 a.m. on Saturday and after 6:00 p.m. on Saturday, except for emergency work authorized by the building official. No construction, drilling, repair, remodeling, alteration, or demolition work shall occur at any time on Sundays, except for emergency work authorized by the building official.

4.10.4 Impact Significance Criteria

The thresholds for impacts related to noise used in this analysis are consistent with Appendix G of the *State California Environmental Quality Act (CEQA) Guidelines*. The proposed Project may be deemed to have a significant impact with respect to noise if it would cause:

Threshold 4.10.1: **Exposure of persons to or generation of noise levels in excess of standards established in the local General Plan or Noise Ordinance, or applicable standards of other agencies;**

Threshold 4.10.2: **Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels;**

Threshold 4.10.3: **A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project;**

Threshold 4.10.4: **A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project;**

Threshold 4.10.5: **For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, if the project would expose people residing or working in the project area to excessive noise levels; or**

Threshold 4.10.6: **For a project within the vicinity of a private airstrip, if the project would expose people residing or working in the project area to excessive noise levels.**

During the scoping process, it was determined that no noise impacts associated with private airstrips would occur upon implementation of the proposed Project because the proposed Project is not located within 2 miles (mi) of a public airport, within the vicinity of a private airstrip, or within an airport land use plan (Thresholds 4.10.5 and 4.10.6). Therefore, these issues are not discussed further in this Draft EIR. Refer to Appendix A, Initial Study (IS)/NOP, for additional discussion.

4.10.5 Project Impacts

The proposed Project would replace the former Belmont Pool and provide the City with a new, modern pool complex. The proposed Project includes the construction and operation of a replacement pool complex that includes indoor and outdoor pool components. Typical daily operation of the proposed Project would include daily use by local high school swimming and water polo teams for training; swimming, diving, and water polo clubs; and the general public, including recreational swimming, lap swimming for fitness, and swim lessons. Occasionally throughout the year, the proposed Project is anticipated to facilitate special events such as high school and collegiate swimming and water polo competitions. Both daily operations and special events have the potential to occur at either the indoor pools or the outdoor pools. The proposed Project includes a Public Address (PA) system with approximately seven outdoor speakers aimed down at the pool and six temporary speakers that could be installed for outdoor special events. Special events are anticipated to be from 2–4 hours in length and would occur at various times during the day, with the possibility of them also being held at night and lasting until the close of the facility at 10:00 p.m. The following impacts of the proposed Project have been identified based on Project characteristics and the significance thresholds defined above.

CEQA Baseline. At the time the NOP was issued, the Project site contained both the Belmont Pool facilities and the outdoor temporary pool (opened in December 2013 to provide swimming facilities while the permanent facility was under construction). Although the site contained the former Belmont Pool building at the time of the NOP, the facility was subsequently demolished in February 2015 to alleviate an imminent public safety threat due to the seismically unsafe condition of the building.

Although the former facility was present on the site for approximately 45 years and represents the historic use of the site, the activities associated with the temporary outdoor pool represent a more accurate portrayal of the existing noise conditions for the site. The temporary outdoor pool is currently used by clubs, local high schools, and the general public, and creates noise associated with spectators, whistles and recreational activities. In addition, the temporary outdoor pool is part of the baseline condition because it was opened prior to the release of the second NOP issued by the City for the proposed Project.

Threshold 4.10.1: Would the project cause exposure of persons to or generation of noise levels in excess of standards established in the local General Plan or Noise Ordinance, or applicable standards of other agencies?

Less than Significant After Mitigation.

Traffic Noise. The Federal Highway Administration (FHWA) highway traffic noise prediction model (FHWA RD-77-108) was used to evaluate traffic-related noise conditions in the vicinity of the Project site. The resultant noise levels were weighted and summed over a 24-hour period in order to determine the CNEL values. The existing traffic volumes presented in Section 4.12, Transportation and Traffic, of this Draft EIR were used to evaluate existing traffic noise on roadway segments in the Project vicinity for the noise analysis. Tables 4.10.B and 4.10.H show the existing weekday traffic noise levels without and with the Project, respectively. Tables 4.10.C and 4.10.I show the existing Saturday traffic noise levels without and with the Project, respectively. As previously stated, these noise levels represent the worst-case scenarios, which assume that no shielding is provided between the traffic and the locations where the noise contours are drawn.

Table 4.10.H: Existing Weekday With Project Traffic Noise Levels

Roadway Segment	ADT	Centerline to 70 CNEL (ft)	Centerline to 65 CNEL (ft)	Centerline to 60 CNEL (ft)	CNEL (dBA) 50 Ft from Centerline of Outermost Lane	Increase from Baseline Conditions (dBA)
Ocean Boulevard west of Redondo Avenue	26,110	< 50	77	158	65.2	0.1
Ocean Boulevard between Redondo Avenue and Loma Avenue	28,505	< 50	81	168	65.6	0.2
Ocean Boulevard between Loma Avenue and Mira-Mar Avenue	29,095	< 50	82	170	65.7	0.2
Ocean Boulevard between Mira-Mar Avenue and Termino Avenue	10,435	< 50	< 50	88	61.3	0.6
Ocean Boulevard between Termino Avenue and Bennett Avenue	10,815	< 50	< 50	90	61.4	0.5
Ocean Boulevard between Bennett Avenue and Granada Avenue	9,590	< 50	< 50	84	60.9	0.5
Ocean Boulevard east of Granada Avenue	8,360	< 50	< 50	77	60.3	0.3
Livingston Avenue between Mira-Mar Avenue and Termino Avenue	19,555	< 50	80	167	65.6	0.0
Livingston Avenue between Termino Avenue and 2nd Street	20,420	< 50	83	172	65.8	0.1
Livingston Avenue east of 2nd Street	3,190	< 50	< 50	< 50	55.8	0.0
2nd Street South of Livingston Avenue	21,110	< 50	< 50	105	62.5	0.1
Termino Avenue south of Ocean Boulevard	3,930	< 50	< 50	60	59.1	1.1
Termino Avenue between Ocean Boulevard and Livingston Avenue	3,955	< 50	< 50	60	59.1	0.5
Termino Avenue north of Livingston Avenue	910	< 50	< 50	< 50	50.3	0.4
Bennett Avenue south of Ocean Boulevard	3,600	< 50	< 50	< 50	56.3	5.1
Bennett Avenue north of Ocean Boulevard	740	< 50	< 50	< 50	49.4	0.0
Granada Avenue south of Ocean Boulevard	710	< 50	< 50	< 50	49.2	0.0
Granada Avenue north of Ocean Boulevard	1,810	< 50	< 50	< 50	53.3	0.8

Source. Compiled by LSA Associates, Inc., (March 2016).
Note. Traffic noise within 50 ft of the roadway centerline should be evaluated with site-specific information.
ADT = average daily traffic
CNEL = Community Noise Equivalent Level
dBA = A-weighted decibels
ft = feet

Table 4.10.I: Existing Saturday With Project Traffic Noise Levels

Roadway Segment	ADT	Centerline to 70 CNEL (ft)	Centerline to 65 CNEL (ft)	Centerline to 60 CNEL (ft)	CNEL (dBA) 50 Ft from Centerline of Outermost Lane	Increase from Baseline Conditions (dBA)
Ocean Boulevard west of Redondo Avenue	20,210	< 50	66	134	64.1	0.5
Ocean Boulevard between Redondo Avenue and Loma Avenue	23,050	< 50	71	146	64.7	0.7
Ocean Boulevard between Loma Avenue and Mira-Mar Avenue	23,655	< 50	72	149	64.8	0.6
Ocean Boulevard between Mira-Mar Avenue and Termino Avenue	11,540	< 50	< 50	94	61.7	1.3
Ocean Boulevard between Termino Avenue and Bennett Avenue	12,280	< 50	< 50	98	62.0	1.4
Ocean Boulevard between Bennett Avenue and Granada Avenue	10,665	< 50	< 50	90	61.4	1.5
Ocean Boulevard east of Granada Avenue	8,940	< 50	< 50	80	60.6	0.9
Livingston Avenue between Mira-Mar Avenue and Termino Avenue	12,895	< 50	63	128	63.8	0.0
Livingston Avenue between Termino Avenue and 2nd Street	15,215	< 50	69	142	64.5	0.2
Livingston Avenue east of 2nd Street	3,050	< 50	< 50	< 50	55.6	0.0
2nd Street south of Livingston Avenue	17,060	< 50	< 50	92	61.5	0.1
Termino Avenue south of Ocean Boulevard	5,230	< 50	< 50	71	60.3	2.4
Termino Avenue between Ocean Boulevard and Livingston Avenue	4,560	< 50	< 50	65	59.7	1.2
Termino Avenue north of Livingston Avenue	850	< 50	< 50	< 50	50.0	1.5
Bennett Avenue south of Ocean Boulevard	8,320	< 50	< 50	55	59.9	7.2
Bennett Avenue north of Ocean Boulevard	700	< 50	< 50	< 50	49.2	0.0
Granada Avenue south of Ocean Boulevard	1,150	< 50	< 50	< 50	51.3	0.0
Granada Avenue north of Ocean Boulevard	2,260	< 50	< 50	< 50	54.3	2.1

Source. Compiled by LSA Associates, Inc., (March 2016).
Note. Traffic noise within 50 ft of the roadway centerline should be evaluated with site-specific information.
ADT = average daily traffic
CNEL = Community Noise Equivalent Level
dBA = A-weighted decibels
ft = feet

As shown in Tables 4.10.H and 4.10.I, project-related traffic noise levels would have a traffic noise increase of up to 2.4 dBA, except for Bennett Avenue south of Ocean Boulevard. Although traffic noise levels along Bennett Avenue south of Ocean Boulevard would increase by up to 7.2 dBA, this roadway segment is the entrance to the proposed Project, and there are no off-site noise-sensitive land uses adjacent to this segment of the road. The traffic noise increases of up to 2.4 dBA along other roadway segments in the vicinity of the Project are less than the 3 dBA threshold normally perceptible by the human ear in an outdoor environment. Therefore, no significant traffic noise impacts would occur on off-site noise-sensitive land uses. No mitigation measures for off-site uses would be required. Also, on-site traffic noise impacts would not occur because the Project is not considered to be noise sensitive, and mitigation measures for on-site uses are not required.

Long-Term Operation. A reference noise level from a PA sound system was obtained from a noise level measurement conducted by RECON Environmental, Inc., at a high school championship football game (RECON 2003). Each loudspeaker was estimated to generate an hourly equivalent (L_{eq}) noise level of 71.3 dBA at a distance of 50 ft. Crowd noise was measured to be 65 dBA L_{eq} at 75 ft. It is anticipated that reference noise level measurements obtained from RECON at the high school championship football game would be similar to typical daily events or special events at the proposed Project.

Activities from the outdoor pool during practices and regular events would not involve a substantial number of spectators, whistles from officiating water polo games, starting horns, or the use of a PA sound system. Without a substantial number of spectators or without the use of a PA sound system, noise levels generated from the outdoor pool under normal operations would be less than 50 dBA L_{eq} at the perimeter of the facility. Therefore, noise generated from the outdoor pool during practices and regular events would not have the potential to impact nearby noise-sensitive uses. However, noise levels generated from the outdoor pool during special events would have the potential to impact nearby noise-sensitive uses because these events would involve a substantial number of spectators, whistles from officiating water polo games, starting horns, and the use of a PA sound system. The conceptual configuration showing how the speakers would be installed is presented in Figure 4.10.1 (as well as in Figure 3.8 in Chapter 3.0, Project Description). Noise levels generated from the indoor pool would not impact the closest residences at the Belmont Shore Condominiums, which is located approximately 180 ft from the building edge of the proposed Project because the combination of building attenuation and distance attenuation would be 46 dBA. A conservative building interior-to-exterior attenuation was assumed to be 15 dBA (measured at 5 ft from the building edge), and the distance attenuation was calculated to be 31 dBA based on 5 ft from the building edge to 180 ft at the closest residences.

Crowd/Spectator Noise.

Exterior Noise. The proposed temporary outdoor seating is located approximately 190 ft from the Belmont Shores Children's Center to the north, 325 ft from the existing residences to the northeast (across from Ocean Boulevard), and 320 ft from existing residences to the northwest (across from Termino Avenue). A noise level reduction of 8 dBA was estimated for the Belmont Shores Children's Center due to the partial shielding provided by the proposed building structures on the west side of the Project and the existing block wall surrounding the Children's Center outdoor uses. A noise level reduction of 5 dBA was estimated for the two residential locations because there is partial shielding provided by the existing building to the north and the proposed building structures on the west side of the Project. The playground associated with the Belmont Shores Children's Center, the residences to the northeast, and the residences to the northwest may be subject to exterior noise levels from crowd noise reaching 48.9, 47.3, and 47.4 dBA L_{eq} (1-hour), respectively. Spectator noise levels from the temporary outdoor seating would not

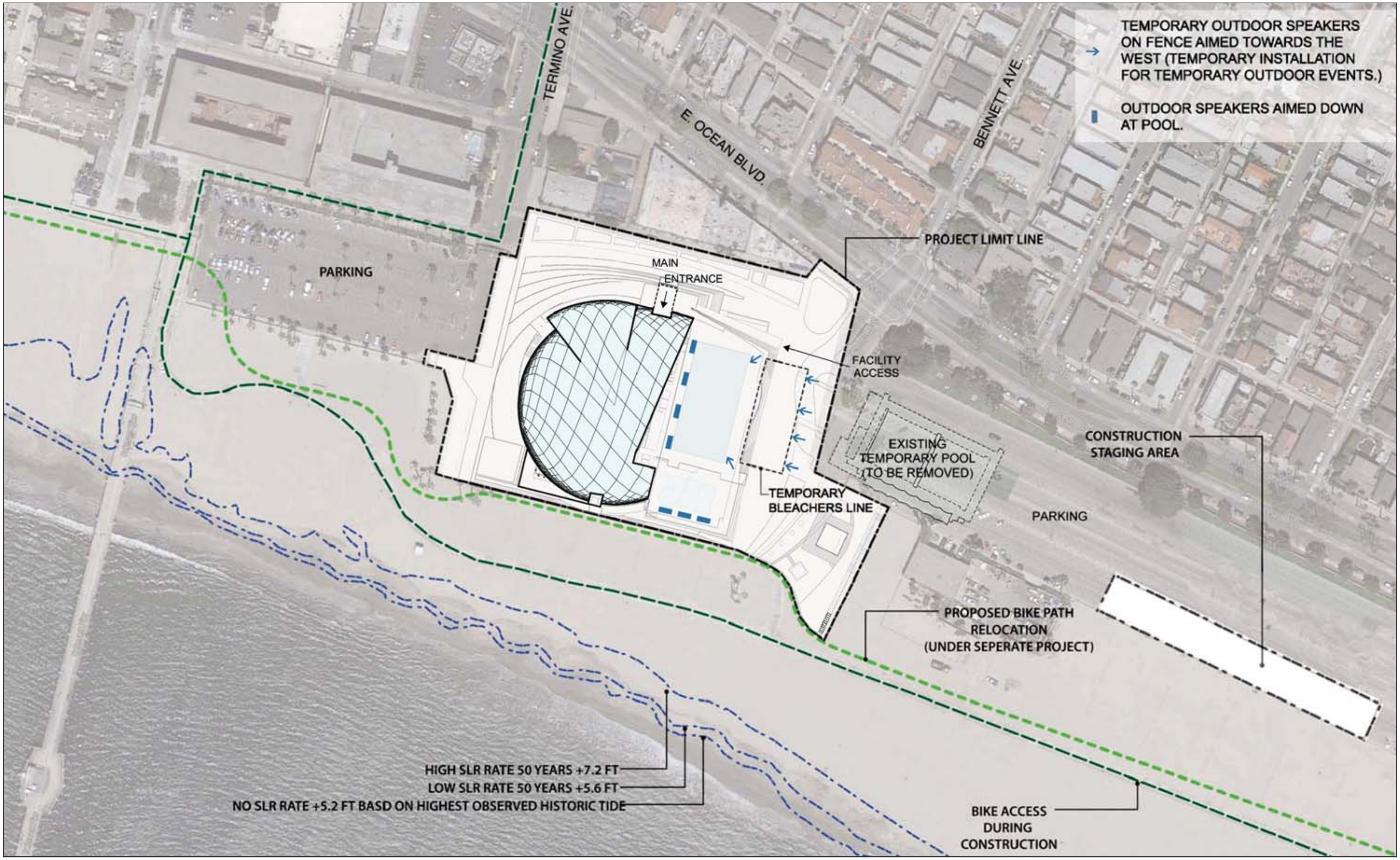

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FIGURE 4.10.1

N

Belmont Pool Revitalization Project

Conceptual Speaker Configuration Design

SOURCE: Hastings+Chivetta

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exceed any of the City's daytime exterior L_{50}, L_{25}, L_8, L_2, and L_{max} standards of 50, 55, 60, 65, and 70 dBA, respectively, at the Belmont Shores Children's Center or the closest residences.

Interior Noise. Based on the typical sound level reductions of buildings identified in Protective Noise Levels, Condensed Version of EPA Levels Document (November 1978, EPA-550/9-79-100), standard building construction in Southern California would provide 24 dBA (the national average is 25 dBA) or more in noise reduction from exterior to interior with windows and doors closed. With windows and doors open, the exterior-to-interior noise reduction drops to 12 dBA (the national average is 15 dBA) or more. Classrooms associated with the Belmont Shores Children's Center, the residences to the northeast, and the residences to the northwest may be subject to interior noise levels from crowd noise reaching up to 24.9 dBA L_{eq}, 23.3 dBA L_{eq}, and 23.4 dBA L_{eq} (1-hour), respectively, with windows and doors closed. Classrooms associated with the Belmont Shores Children's Center, the residences to the northeast, and the residences to the northwest may be subject to interior noise levels from crowd noise reaching up to 36.9 dBA L_{eq}, 35.3 dBA L_{eq}, and 35.4 dBA L_{eq} (1 hour), respectively, with windows and doors open. Therefore, spectator noise levels at the outdoor seating area would not exceed any of the City's daytime interior L_8, L_2, and L_{max} standards of 45 dBA, 50 dBA, and 55 dBA, respectively, at either the Belmont Shores Children's Center or the two residential locations. Since the proposed Project is not expected to be used after 10:00 p.m., no nighttime operational noise would occur and, therefore, no violation of the City's nighttime noise standards would occur.

Public Address System Noise. The proposed outdoor pool would have four different outdoor speaker locations with a total of thirteen speakers (Figure 4.10.1). Of the thirteen speakers, seven speakers are permanently installed, and would be aimed down at the pool. The remaining six are temporary speakers that would be installed for outdoor special events. Four permanent outdoor overhead speakers are located on the west side of the pool. The centerpoint of this group of speakers is located approximately 412 ft from the Belmont Shores Children's Center, 328 ft from the residences to the northeast (across from Ocean Boulevard), and 589 ft from the residences to the northwest (across from Termino Avenue). Three permanent outdoor overhead speakers are located near the recreation pool. The centerpoint of this group of speakers is located approximately 444 ft from the Belmont Shores Children's Center, 527 ft from the residences to the northeast (across from Ocean Boulevard), and 538 ft from the residences to the northwest (across from Termino Avenue). Four outdoor temporary speakers are to be located on the east side of the temporary outdoor seating. The centerpoint of this group of speakers is located approximately 307 ft from the Belmont Shores Children's Center, 440 ft from the residences to the northeast (across from Ocean Boulevard), and 426 ft from the residences to the northwest (across from Termino Avenue). The remaining two temporary outdoor speakers are to be located on the east side of the pool, one speaker at each end of the pool facing each other. The centerpoint of this group of speakers is located approximately 349 ft from the Belmont Shores Children's Center, 363 ft from the residences to the northeast (across from Ocean Boulevard), and 509 ft from the residences to the northwest (across from Termino Avenue).

Noise levels generated from the speakers located near the temporary seating and the recreation pool are directed downward and would have a 5 dBA noise attenuation due to directivity at the Belmont Shores Children's Center, for the residences to the northeast (across from Ocean Boulevard), and for the residences to the northwest (across from Termino Avenue). Noise levels generated from the speakers located across the pool from the temporary seating are directed west towards the temporary seating and would have a 5 dBA noise attenuation due to directivity for the residences to the northeast (across from Ocean Boulevard) and a 1 dBA noise attenuation for the Belmont Shores Children's Center and residences to the northwest (across from Termino Avenue). Also, as mentioned above, a noise level reduction of 8 dBA was estimated for the Belmont Shores Children's Center due to the partial shielding provided by the proposed building structures on the west side of the Project and the existing block wall surrounding the Children's Center outdoor uses. A noise level reduction of 5 dBA was estimated for the residences to the northeast (across from Ocean Boulevard) and residences to the northwest (across from Termino Avenue) because there is partial shielding provided by the existing building to the north and the proposed building structure on the west side of the Project.

Exterior Noise. The playground associated with the Belmont Shores Children's Center, outdoor living areas associated with residences to the northeast (across from Ocean Boulevard), and residences to the northwest (across from Termino Avenue) may be subject to exterior noise levels from speaker noise reaching up to 54.2, 54.5, and 54.3 dBA L_{eq} (1-hour), respectively. Therefore, speaker noise levels would potentially exceed the City's daytime exterior L_{50} standard of 50 dBA at the playground of the Belmont Shores Children's Center, at the outdoor living areas of the residences to the northeast (across from Ocean Boulevard) and the residences to the northwest (across from Termino Avenue); mitigation is discussed below.

Interior Noise. Based on standard building attenuation with windows and doors closed as mentioned above, classrooms associated with the Belmont Shores Children's Center, indoor areas at the residences to the northeast (across from Ocean Boulevard) and the residences to the northwest (across from Termino Avenue) may be subject to interior noise levels reaching up to 30.2, 30.5, and 30.3 dBA L_{eq} (1-hour), respectively, with windows and doors closed. Classrooms associated with the Belmont Shores Children's Center, the residences to the northeast, and the residences to the northwest may be subject to interior noise levels from crowd noise reaching up to 42.2, 42.5, and 42.3 dBA L_{eq} (1 hour), respectively, with windows and doors open. Therefore, speaker noise levels would not exceed the City's daytime interior noise standard at Belmont Shores Children's Center and the two residential locations. Since the proposed Project is not expected to be used after 10:00 p.m., no nighttime operational noise would occur and, therefore, no violation of the City's nighttime noise standards would occur.

Combined Noise Levels.

Exterior Noise. The combined noise levels from the crowd and speaker noise would result in an exterior noise level of 55.3 dBA L_{eq} (1-hour) at the playground associated with the Belmont Shores Children's Center, 55.3 dBA L_{eq} (1-hour) at the outdoor living areas of the residences to the northeast (across from Ocean Boulevard), and 55.1 dBA L_{eq} (1-hour) at the outdoor living areas of the residences to the northwest (across from Termino Avenue). The combined noise levels at the Belmont Shores Children's Center and the two residential locations would potentially exceed the City's daytime exterior L_{50} and L_{25} standard of 50 and 55 dBA, respectively. Implementation of Mitigation Measure 4.10.1, which requires measures to reduce noise levels from the speakers, would reduce the combined noise level to less than the City's exterior noise standards. Therefore, this impact would be less than significant after mitigation.

Interior Noise. The combined interior noise level with windows and doors closed would be 31.3 dBA L_{eq} (1-hour) in the classroom associated with the Belmont Shores Children's Center, 31.3 dBA L_{eq} (1-hour) at the residences to the northeast (across from Ocean Boulevard), and 31.1 dBA L_{eq} (1-hour) at the residences to the northwest (across from Termino Avenue). The combined interior noise level with windows and doors open would be 43.3 dBA L_{eq} (1 hour) in the classroom associated with the Belmont Shores Children's Center, 43.3 dBA L_{eq} (1 hour) at the residences to the northeast (across from Ocean Boulevard), and 43.1 dBA L_{eq} (1 hour) at the residences to the northwest (across from Termino Avenue). The combined noise levels at the Belmont Shores Children's Center and the two residential locations would not exceed the City's daytime interior standard. Since the proposed Project is not expected to be used after 10:00 p.m., no nighttime operational noise would occur, and no violation of the City's nighttime noise standards would occur.

Threshold 4.10.2: Would the project cause exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?

Less than Significant Impact. The primary source of vibration during construction would be generated by front-end loaders, small bulldozers, dump trucks, hydraulic hammer, and pile drivers. The closest heavy construction activities to receptors would be located approximately 25 ft from the Belmont Shore Children's Center and other commercial buildings. The nearest residences to the northeast and northwest are located approximately 100 ft and 80 ft, respectively, from heavy construction activities. The estimated vibration level at the closest residence to the northeast and northwest would be 0.049 inch/sec and 0.097 inch/sec, respectively. The estimated vibration levels at the Belmont Shores Children's Center and other commercial buildings would be 0.101 inch/sec. These construction vibration levels are below the damage threshold of 0.3 inch/sec for older residential buildings and 0.5 inch/sec for modern industrial commercial buildings. Therefore, the proposed Project would result in a less than significant impact, and no mitigation is required.

Threshold 4.10.3: Would the project cause a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

Less than Significant Impact. As mentioned above, Tables 4.10.H and 4.10.I show that the Project-related traffic noise levels would have a traffic noise increase of up to 2.4 dBA, except for Bennett Avenue south of Ocean Boulevard. Although traffic noise levels along Bennett Avenue south of Ocean Boulevard would increase by up to 7.2 dBA, this roadway segment is the entrance to the proposed Project and there are no off-site noise-sensitive land uses adjacent to it. The traffic noise increases of up to 2.4 dBA along other roadway segments in the Project area are less than the 3 dBA threshold normally perceptible by the human ear in an outdoor environment. Therefore, no significant traffic noise impacts or permanent increase in ambient noise levels would occur in the Project vicinity or to off-site noise-sensitive land uses. No mitigation measures are required.

Threshold 4.10.4: Would the project cause a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

Less than Significant Impact. Two types of short-term noise impacts would occur during Project construction. The first type would be from construction crew commutes and the transport of construction equipment and materials to the Project site. The pieces of heavy equipment for grading and construction activities will be moved on site, will remain for the duration of each construction phase, and will not add to the daily traffic volume in the Project vicinity. A high single-event noise exposure potential at a maximum level of 84 dBA L_{max} from trucks passing at 50 ft will exist. However, the projected construction traffic will be minimal when compared to existing traffic volumes on Ocean Boulevard and other affected streets, and its associated long-term noise level change will not be perceptible. Therefore, short-term construction-related worker commutes and equipment transport noise impacts would be less than significant.

The second type of short-term noise impacts is related to the noise generated by heavy construction equipment operating at the Project site. Construction is performed in discrete steps, each of which has its own mix of equipment and consequently its own noise characteristics. These various sequential phases would change the character of the noise generated and the noise levels within the Project area as construction progresses. Despite the variety in the type and size of construction equipment, similarities in the dominant noise sources and patterns of operation allow construction-related noise ranges to be categorized by work phase. Table 4.10.J lists typical construction equipment noise levels (L_{max}) recommended for noise impact assessments, based on a distance of 50 ft between the equipment and a noise receiver.

Typical noise levels at 50 ft from an active construction area can range up to 91 dBA L_{max} during the noisiest construction phases. The site preparation phase, which includes grading and paving, tends to generate the highest noise levels because the noisiest construction equipment is earthmoving equipment. Earthmoving equipment includes excavating machinery such as backfillers, bulldozers, and front-end loaders. Earthmoving and compacting equipment includes compactors, scrapers, and graders. Typical operating cycles for these types of construction equipment may involve 1 or 2 minutes of full power operation followed by 3 or 4 minutes at lower power settings.

Construction of the proposed Project is expected to require the use of graders, bulldozers, water trucks, and pickup trucks. Noise associated with the use of construction equipment is estimated to be between 75 and 85 dBA L_{max} at a distance of 50 ft from the active construction area for the grading phase. As seen in Table 4.10.J, the maximum noise level generated by each grader is assumed to be approximately 85 dBA L_{max} at 50 ft from the grader in operation. Each dozer would generate approximately 82 dBA L_{max} at 50 ft. The maximum noise level generated by water trucks/pickup trucks is approximately 75 dBA L_{max} at 50 ft from these vehicles. Each doubling of the sound source with equal strength increases the noise level by 3 dBA. Each piece of construction equipment operates as an individual point source. The worst-case composite noise level at the nearest residence during this phase of construction would be 87 dBA L_{max} (at a distance of 50 ft from an active construction area).

Table 4.10.J. Typical Construction Equipment Noise Levels

Equipment Description	Spec 721.560[1] L_{max} at 50 ft	Actual Measured[2] L_{max} at 50 ft
Backhoes	80	78
Compactor (ground)	80	83
Cranes	85	81
Dozers	85	82
Dump Truck	84	76
Excavators	85	81
Flat Bed Trucks	84	74
Front-End Loaders	80	79
Graders	85	N/A[3]
Jackhammer	85	89
Pickup Truck	55	75
Pneumatic Tools	85	85
Pumps	77	81
Rock Drill	85	81
Roller	85	80
Scrapers	85	84
Tractors	84	N/A
Impact Pile Driver	95	101

Source: Federal Highway Administration Roadway Construction Noise Model (January 2006).
Note: Noise levels reported in this table are rounded to the nearest whole number.
1 Maximum noise levels were developed based on Spec 721.560 from the Central Artery/Tunnel (CA/T) program to be consistent with the City of Boston's Noise Code for the "Big Dig" project.
2 The maximum noise level was developed based on the average noise level measured for each piece of equipment during the CA/T program in Boston, Massachusetts.
3 Since the maximum noise level based on the average noise level measured for this piece of equipment was not available, the maximum noise level developed based on Spec 721.560 was used.
ft = foot/feet
L_{max} = maximum instantaneous sound level
N/A = not applicable

In addition to standard construction equipment, the Project anticipates the use of hydraulic hammer pile drivers. Noise generated by a hydraulic hammer pile driver was evaluated to be similar as a typical pile driver. Table 4.10.J shows that a typical pile driver generates noise levels of approximately 95 dBA L_{max} at 50 ft. If pile driving is conducted concurrently with site preparation, the construction site could potentially generate noise levels of 96 dBA L_{max} at a distance of 50 ft.

The following land uses are located within the vicinity of the proposed construction activities:

- **Residential Uses.** The closest residences to the northeast and northwest are located approximately 100 ft and 80 ft from the Project construction boundary and may be subjected to short-term noise reaching 90 and 92 dBA L_{max}, respectively, generated by the proposed Project construction activities.
- **Belmont Shores Children's Center.** The Belmont Shores Children's Center is located approximately 25 ft from the construction boundary and may be subject to short-term noise reaching 102 dBA L_{max} or higher generated by construction activities at the Project site.

The closest existing sensitive receptors would be subject to short-term noise levels that would be higher than existing ambient noise levels in the Project area but would no longer occur once construction of the Project is completed. In addition, noise generated from construction activities would be intermittent and temporary. Section 8.80.202 of the City's Municipal Code allows elevated construction-related noise levels as long as the construction activities are limited to the hours specified. Adherence to the City's noise regulations and implementation of Mitigation Measures 4.10.2 and 4.10.3, which require standard conditions for construction and conducting a preconstruction community meeting, would reduce construction noise impacts to sensitive receptors. Therefore, temporary increases in ambient noise levels in the proposed Project vicinity associated with Project construction would be reduced to less than significant levels.

4.10.6 Cumulative Impacts

The cumulative study area for construction noise impacts is localized to the Project site and properties immediately adjacent to construction activities. In general, only projects occurring adjacent to or very close to the Project site are considered to be within the cumulative noise study area due to the localized effects of noise. Currently, there are no proposed or approved but not yet fully constructed projects within the cumulative noise study area for the proposed Project. Because construction noise and vibration are localized and rapidly attenuate within an urban environment, other related projects are located too far from the Project site to contribute to cumulative impacts related to noise levels due to construction activities. Construction activity at any related project site would not result in a noticeable increase in noise to sensitive receptors adjacent to the proposed Project site. Furthermore, all related projects would be required to comply with the City Noise Control Ordinance. Therefore, cumulative construction impacts would be less than significant.

As a rule of thumb, it takes a doubling of noise-generating sources, such as vehicles or visitors, to result in an increase of 3 dBA. Operations associated with the proposed Project are not anticipated to lead to a substantial increase in the number of visitors and vehicles to the Project site. Therefore, the long-term ambient noise levels associated with increased traffic are not anticipated to be significant as a result of the proposed Project, would not contribute substantially to cumulative roadway noise impacts, and would have a less than cumulatively considerable impact. Also, since no cumulative projects were identified for the cumulative noise study area, the proposed Project would not contribute to off-site cumulative noise impacts from on-site activities and would have a less than cumulatively considerable impact.

4.10.7 Level of Significance Prior to Mitigation

The proposed Project would not result in any impacts related to excessive noise levels associated with a public or private airport/airstrip. The proposed Project would not contribute substantially to cumulative construction or operational noise levels, and cumulative impacts would be less than significant. However, the proposed Project could result in potentially significant impacts related to on-site construction and operational noise levels related to spectator and PA systems sources. These impacts would be potentially significant prior to mitigation. Potential impacts related to groundborne vibration and noise levels would be less than significant.

4.10.8 Mitigation Measures

The following mitigation measures are incorporated to offset the potentially significant operational and construction-related noise impacts of the proposed Project.

Mitigation Measure 4.10.1: Prior to issuance of the occupancy permit, the City of Long Beach's (City) Development Services Director, or designee, shall verify that a sound engineer has designed the permanent and temporary sound systems such that the City's exterior noise standards (daytime exterior noise level of 50 dBA L_{50}) are not exceeded at the surrounding sensitive land uses. Measures capable of reducing the noise levels include, but are not limited to:

- Reducing the source levels;
- Reducing the speaker elevations;
- Directing the speakers away from adjacent noise-sensitive land uses; and
- Using highly directional speakers.

Mitigation Measure 4.10.2: Prior to issuance of demolition or grading permits, the City of Long Beach's (City) Development Services Director, or designee, shall verify that construction and grading plans include the following conditions to reduce potential construction noise impacts on nearby sensitive receptors:

- During all site excavation and grading, the construction contractors shall equip all construction equipment, fixed or mobile, with properly operating and maintained mufflers consistent with manufacturers' standards;
- The construction contractor shall place all stationary construction equipment so that emitted noise is directed away from sensitive receptors nearest the Project site;
- The construction contractor shall locate equipment staging to create the greatest distance between construction-related noise sources and noise-sensitive receptors nearest the Project site during all Project construction;
- The construction contractor shall ensure that engine idling from construction equipment (i.e., bulldozers and haul trucks) is limited to a maximum of 5 minutes at any given time; and
- The construction contractor shall ensure that all construction activities are scheduled to avoid operating several pieces of heavy equipment simultaneously.
- Construction, drilling, repair, remodeling, alteration, or demolition work shall be limited to the hours of 7:00 a.m. to 7:00 p.m. Monday through Friday, and 9:00 a.m. to 6:00 p.m. on

Saturday. In accordance with City standards, no construction activities are permitted outside of these hours.

Mitigation Measure 4.10.3: Prior to issuance of a grading permit, the City of Long Beach Tidelands Capital Improvement Division shall hold a community preconstruction meeting in concert with the construction contractor to provide information to the public regarding the construction schedule. The construction schedule information shall include the duration of each construction activity and the specific location, days, frequency, and duration of the pile driving that will occur during each phase of the Project construction. Public notification of this meeting shall be undertaken in the same manner as the Notice of Availability mailings for this Draft Environmental Impact Report.

4.10.9 Level of Significance after Mitigation

Implementation of Mitigation Measures 4.10.1, 4.10.2, and 4.10.3 would reduce operational and construction-related noise impacts on off-site noise-sensitive land uses to less than significant levels.

4.11 RECREATION

This section analyzes the potential recreation impacts associated with construction and operation of the proposed Belmont Pool Revitalization Project (proposed Project). This section also addresses the proposed impacts to recreation resources with consideration of local, State, and California Coastal Commission (Coastal Commission) policies; and provides recommended mitigation measures pursuant to the California Environmental Quality Act (CEQA) where applicable. The analysis in this section is based on the Open Space and Recreation Element of the City of Long Beach (City) General Plan and the Long Beach Department of Parks, Recreation, and Marine Departmental Strategic Plan. These documents are available for review at the City of Long Beach Department of Development Services.

Scoping Process

The City of Long Beach distributed the first Notice of Preparation (NOP) for this Draft Environmental Impact Report (EIR) from April 18 to May 17, 2013. The City received three comment letters in response to the original NOP. No comments related to recreation were received in response to the original NOP circulated for the proposed Project. Due to revisions in the Project Description, the City re-issued the NOP for the EIR between April 9, 2014, and May 8, 2014. The City received five comment letters in response to the re-issued NOP during the public review period, including a written comment from Lucy Johnson, community member and organizer of the Facebook page, "Rebuild Belmont Plaza Pool." Ms. Johnson's letter, dated April 15, 2014, recommended that the pool design be consistent with the recreational needs of the Long Beach community and swimming industry at large. In response, the City has engaged the local swimming community stakeholders, including Ms. Johnson, during several meetings to address the desires of the public while balancing the requirements and limitations of the City.

4.11.1 Methodology

The analysis in this section addresses issues relating to recreational facilities and the provision of recreational opportunities and services that may be affected by the proposed Project. Impacts to recreational facilities in and around the Project site were determined by comparing goals and policies as adopted in the California Coastal Act (Coastal Act), the City's General Plan Open Space and Recreation Element, and the City Department of Parks, Recreation, and Marine Strategic Plan with the proposed Project's recreational improvements.

4.11.2 Existing Environmental Setting

The Existing Project Site. The Project site is on a City-owned 5.6-acre beach-front parcel, located in Belmont Shore Beach Park in southeast Long Beach. The Project site was the home of the former Belmont Pool. The Belmont Pool was once a state-of–the-art facility that served as an important recreational and competitive venue for the State, City, and region, but it has severely degraded over time. The former indoor pool was closed to the public on January 13, 2013, as a result of substandard seismic and structural conditions and was demolished because of an imminent threat to public safety. The demolition of the structure was conducted under an emergency permit and this Draft EIR does not include analysis of the demolition of the former Belmont Pool structure.

The former Belmont Pool was comprised of an enclosed swimming pool, two outdoor pools (swimming and wading), restaurant, banquet hall, locker room area, and a passive park on the north side of the Project site. The previous pool building had 45,595 square feet (sf) of space and was approximately 60 feet (ft) in height. The three pools provided a total of 18,410 sf of water surface area and featured glass panel walls and sliding doors that could open the indoor pool area to the open air if desired. The northern portion of the Project site contained open space and green space areas totaling 118,790 sf and 45,160 sf, respectively.

Currently, the Project site includes the passive park and the two outdoor pools, which remain open to the public. In order to provide adequate aquatic services during the planning and construction of the proposed Project, the City approved the installation of a temporary outdoor pool. The temporary outdoor pool is located immediately east of the Project site in the western portion of the Beach Parking Lot. The temporary pool was installed and opened on December 19, 2013, and is expected to remain open until the proposed Project would begin operations. The removal of the former Belmont Pool building occurred in February 2015, and only the foundation of the structure remains. A layer of backfilled sand was placed over the site of the former building at the request of the Coastal Commission. The foundation is inaccessible by the public until the proposed Project construction begins.

The visitors can access the Project site via walking, bicycling, public transportation, or car. Vehicular access to the Project site is via Termino Avenue or Ocean Boulevard. Pedestrian access is via the beach or the passive park on the northern portion of the Project site. Parking is available in either the Pier Parking Lot (to the west side of the pool complex) or the Beach Parking Lot (east side of the complex).

Land Uses in the Project Vicinity. The land uses surrounding the site include the following:

- Belmont Shore neighborhood to the northeast; this neighborhood includes predominantly single-family and multifamily residential uses with some retail/restaurant uses.
- Belmont Veterans Memorial Pier, Belmont Beach, Surf Terrace Apartments, Belmont Shores Condominiums, and the Pier Parking Lot to the northwest.
- City of Long Beach maintenance yard, the temporary outdoor pool, and the Beach Parking Lot are located to the east and southeast. The maintenance yard is used for storage of City maintenance vehicles and equipment.
- Pacific Ocean and beaches are to the south.
- Several businesses are located along the northern side of East Olympic Plaza, including Belmont Shores Children’s Center, a vacant commercial building, the former Yankee Doodles restaurant, a dog wash, and Chuck’s Coffee Shop. The businesses front onto Ocean Boulevard, but some rear entrances open to East Olympic Plaza.

Overview of Existing Recreational Environment. In addition to the aquatic operations at the Project, the City’s Department of Parks, Recreation, and Marine own and operate three additional Public Pool facilities:

- **Martin Luther King Jr. Pool** located at 1910 Lemon Avenue. This pool is an indoor year-round facility providing youth and adult recreational open swim, swim lessons, lap swimming, aquatic exercise programs and junior lifeguard training programs.
- **Silverado Park Pool** located at 1540 West 32nd Street. This pool is a year round, indoor 25 - meter pool. This facility provides youth and adult recreational open swim, swim lessons, lap swim, and water exercise classes.
- **Will J. Reid Scout Pool** located at 4747 Daisy Avenue. This pool is a free recreational swimming pool open year-round.

During the summer months, Millikan High School Pool and Jordan High School Pool are utilized to meet public demand for aquatic recreational resources through City/Long Beach Unified School District (LBUSD) joint use agreements. None of these other pools offer Olympic-sized standard competitive swim/dive/water polo facilities. Also, Long Beach City College contains one pool, and California State University at Long Beach has two pools, adding three additional pools that are available for use by the public.[1]

4.11.3 Regulatory Setting

State Regulations and Policies.

California Coastal Act. The Recreation Policies contained in Article 3 of the Coastal Act are intended to provide protection for suitable ocean front land to be used for recreational purposes as well as maintaining upland areas to support coastal recreation uses, where feasible. The policies prioritize water-oriented recreational activities and encourage increased recreational boating use of coastal waters by developing support facilities. The policies also place priority on the use of private lands suitable for visitor-serving commercial recreational facilities designed to enhance public opportunities for coastal recreation over private residential, general industrial, or general commercial development, but not over agriculture or coastal-dependent industries.

Local Regulations and Policies.

City of Long Beach Open Space and Recreation Element. The Long Beach City Council adopted the most recent Open Space and Recreation Element of the General Plan on October 15, 2002. The Project site is designated Open Space and Parks/Mixed Use in the City's General Plan, and is zoned P-Park and PD-2 (Subarea 1). There are several Goals/Objectives, Policies, and Programs in the Open Space and Recreation Element that are applicable to the proposed Project, as listed below:

- Provide the recreational resources the public wants. (Goals/Objectives 4.4)
- Make all recreation resources environmentally friendly and socially and economically sustainable. (Goals/Objectives 4.5)

[1] City of Long Beach. Pools. Website: http://www.longbeach.gov/park/recreation/aquatics/pools/default.asp (accessed January 23, 2015).

- Create additional recreation open space and pursue all appropriate available funding to enhance recreation opportunities. (Open Space and Recreation Element, Policy 4.1)
- Fully maintain public recreation resources. (Goals/Objectives 4.7)
- Provide access to recreation resources for all individuals in the community. (Goals/ Objectives 4.11)
- With the help of the community, plan and maintain park facilities at a level acceptable to the constituencies they serve. (Open Space and Recreation Element, Policy 4.6)
- Give special consideration to handicapped and disadvantaged residents in accessing public recreation resources. (Open Space and Recreation Element, Policy 4.13)

City of Long Beach Parks, Recreation, and Marine Strategic Plan. The City Department of Parks, Recreation, and Marine developed a Departmental Strategic Plan in February 2003. The Departmental Strategic Plan assessed recreation needs and objectives citywide. There are several strategies in the Plan that apply to the proposed Project, as listed below:

- Improve access to city parks in Long Beach. (Strategy 1.2)
- Focus on improving the level of safety within City Parks and Recreational Facilities. (Strategy 2.1)
- Focus on improving the condition of Department Parks and Recreational Facilities. (Strategy 2.2)
- Establish lifetime use opportunities. Recreation programs and facilities will be designed to develop and serve a lifetime user through active, passive, and educational experiences. (Strategy 3.1)

4.11.4 Impact Significance Criteria

The thresholds for recreation impacts used in this analysis are consistent with Appendix G of the *State CEQA Guidelines*. The proposed Project may be deemed to have a significant impact with respect to recreation if it would:

Threshold 4.11.1: **Increase demand on the City Department of Parks, Recreation, and Marine's services and facilities beyond its capacity, thereby accelerating or leading to substantial physical deterioration of existing recreation facilities; or**

Threshold 4.11.2: **Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment.**

The Initial Study (IS)/NOP (Appendix A) prepared for the proposed Project identified no impacts related to how the Project may increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated (Threshold 4.11.1). The IS/NOP stated that the increased capacity of the Belmont Pool complex as a result of the proposed Project would not result in increased demand at other parks and recreational resources in the City. The Project would not provide any new housing and would not increase the population in the City. Therefore, the proposed Project would not result in substantial deterioration of other parks or recreation resources, and this topic will not be further analyzed in the Draft EIR

CEQA Baseline. At the time the NOP was issued, the Project site contained both the Belmont Pool facilities and the outdoor temporary pool (opened in December 2013 to provide swimming facilities while the permanent facility was under construction). Although the site contained the former Belmont Pool building at the time of the NOP, the facility was subsequently demolished in February 2015 to alleviate an imminent public safety threat due to the seismically unsafe condition of the building.

The inclusion of the former building in the assessment of recreation impacts is appropriate because the site has been dedicated as the Belmont Pool Plaza since 1962 when the use of Tidelands funds for the construction of the “Belmont Plaza Beach Center” (now Belmont Plaza) project was approved by the voters after the Long Beach City Council placed the item in the municipal election. Specifically, the former pool was in use for recreational and aquatic purposes for approximately 45 years and the temporary pool allows the site to continue its purpose as a local and regional aquatic facility until the permanent replacement facility is constructed. Substantial evidence supports the determination that inclusion of the former pool facility and its operations as the baseline for recreational impacts is appropriate because it is based on recent historical use and is consistent with City's land use designations for the Project site.

4.11.5 Project Impacts

Threshold 4.11.2: Would the project include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?

Less than Significant Impact with Mitigation Incorporated.

The proposed Project includes the construction and operation of an aquatics facility that would replace the former Belmont Pool facility with a new, modern pool complex. The proposed Project includes indoor and outdoor pool components. Permanent indoor spectator seating would be provided for approximately 1,250 people to view competitive events at the 50-Meter Competition Pool and the Dive Pool. Temporary outdoor seating would be provided for larger events at the Outdoor 50-Meter Competition Pool with a maximum seating capacity of up to 3,000 spectators. The proposed Belmont Pool building would also be designed as a landmark structure blending unique components with a goal to showcase the structure as a state-of-the-art facility for competitive swimming. Conceptual Elevations for the proposed structure are presented in Figures 3.7a and 3.7b. Interior cross-sections of the proposed structure are illustrated in Figures 3.7c and 3.7d.

Project components make up the entire structure and include the following:

- **The Plinth:** This element would be the foundation of the entire structure and would include a raised concrete platform at the pool deck and first floor level that is raised 7 ft above the surrounding beach and existing site. Below the pool deck level, utility spaces would house the pool equipment, water chambers, chemical storage, and other utilities required to operate the aquatic components.

- **The Bubble:** The Bubble would be a translucent cover to serve as the main arena and would house the indoor pools and permanent indoor bleachers. The structure would be an elliptical shaped dome, comprised of a web of structural steel, infilled with ethylene tetrafluoroethylene (ETFE) plastic, creating a continuous shell over the competition pool. The proposed Bubble structure would have a maximum height of 71 ft above the adjacent grade.
- **Level 1: The Plinth:** The Plinth would be the foundation of the entire structure, consisting of a concrete platform at the pool decks and support functions for the indoor and outdoor pools, including lockers, offices, supply rooms, storage, stairs, and elevators. This level is raised approximately 7 ft above the surrounding beach and existing site based on the anticipated maximum ocean high-water mark to protect the pools, buildings, and structures from a high-water event. Below the pool deck level, utility spaces would house the pool equipment, water chambers, chemical storage, and other utilities required to operate the aquatic components.
- **Level 1 Mezzanine:** The Level 1 Mezzanine would be located adjacent to the outdoor pool deck and would allow for additional outdoor patio space separate from the Plinth level. The Level 1 Mezzanine can be used by visitors and summer swim programs and includes public toilet facilities and mechanical rooms. The exterior patio space would be 6,000 sf.
- **Level 2:** This level is primarily for visitor spectating and includes access to the indoor bleacher seating, concession area, and toilet facilities. This level would be 14,300 sf, which would include the bleacher seating.
- **Level 2 Mezzanine:** Located at the highest publicly accessible level of the facility, the Level 2 Mezzanine includes indoor and outdoor spaces for flexible programming. This level would be 4,850 sf.
- **Café:** This element would consist of a 1,500 sf building, located at the southwest corner of the Project site and is separate from the Plinth component. The Café would be occupied by an independent tenant and would serve Café food and beverages to the visitors of the pool facility, bicyclists, walkers, and beach-goers. A visitor drop-off location in this area would provide a safe and unobtrusive way for both passenger cars and buses to drop off visitors to the pool complex.

  A gathering area adjacent to the Café would include bicycle parking and interactive pedestrian features such as sandboxes, outdoor seating, landscaping, and public art opportunities.
- **Public Restrooms:** A public restroom facility would be provided just east of the Café building and would be approximately 600 sf.

The proposed Bubble structure would include an indoor pool configuration that would provide approximately 18,610 sf of water surface area for recreational, instructional, and competitive uses and would comply with the preferred rules standards for all aquatic sports except Olympic long-course swimming. The pool features within the structure would include the following:

- **Indoor 50-Meter Competition Pool.** A competition-sized pool (25 meters wide and 50 meters in length) with a surface area of approximately 13,220 sf would be usable year-round. This pool would feature a moveable floor to allow for floor depth adjustments ranging from 0 ft, 0 inches, to 8 ft, 0 inches deep. Eight 9 ft, 0-inch-wide lanes would be identified with solid black floor markers for 50-meter swimming. Twenty-one 7 ft, 6-inch-wide lanes would be provided across the pool. Wall targets and floor markers would be provided per the Federation Internationale de Natation (FINA) regulations. Race courses would contain buffer lanes at the outside of the racing lanes measuring at least 1 ft, 0 inches. Rope anchors would be provided in the pool for floating lane lines. Two 6 ft wide movable bulkheads would also be provided to divide the pool.

- **Indoor Teaching Pool.** The indoor teaching pool would consist of approximately 820 sf and would vary from a minimum depth of 3–6 ft to a maximum depth of 5 ft and include a large staircase into the pool.
- **Indoor Spa Pool.** The indoor spa pool would be approximately 250 sf and 3 ft deep. The spa would be made of concrete and feature a ceramic tile interior with hydrotherapy jets.
- **Dive Pool.** The indoor dive pool would be approximately 4,205 sf and would range from 16 to 17 ft deep. This pool would feature a dive tower with platforms at 1, 3, 5, 7.5, and 10 meters**.** Two 3-meter springboards and two 1-meter springboards would be provided on the platform side of the pool. The 10 meter platform is 10 ft wide which supports synchronized diving.
- **Dive Spa Pool.** The indoor dive spa pool would be located adjacent to the Dive Pool and would be approximately 115 sf and 3 ft deep.

The indoor component would also include the following support facilities: men's and women's locker rooms and restroom facilities, storage for equipment and furnishings, spaces for mechanical systems, a lobby/reception area, and staff administrative areas for full-time and temporary staff.

The proposed outdoor pool component would include two separate pools with an approximate total of 17,840 sf of water surface. The outdoor pools are proposed to be located directly adjacent to the indoor pools for utilization of common support facilities in the pool building. The pool features in this component would include the following:

- **Outdoor 50-Meter Competition Pool.** The outdoor competition pool would have a surface area of approximately 14,120 sf, with a minimum depth of 8 ft, 6 inches, and a maximum depth of 10 ft. The Outdoor Competition Pool would have ten 8 ft, 0-inch-wide lanes marked with solid black floor markers for 50-meter swimming, meeting all preferred rules standards for swimming, water polo, and synchronized swimming. Twenty-one 7 ft, 6-inch-wide lanes would be provided across the pool. Wall targets and floor markers would be provided per FINA regulations. Race courses would contain buffer lanes at the outside of the racing lane measuring at least 1 ft, 0 inches. The outdoor competition pool would comply with the preferred rules standards for swimming, water polo, and synchronized swimming. One 6 ft wide movable bulkhead would be provided to divide the pool.
- **Outdoor Recreation Pool.** The outdoor recreation pool would be approximately 3,720 sf with a maximum depth of 4 ft.

The proposed pool facility would provide opportunities for public swimming, as well as training venues for swimming, diving and aquatic sports training, and competitive meets. These activities are very similar to the activities that have occurred over the past 45 years in the former pool complex.

The Proposed project includes approximately 36,450 sf of pool surface area, thereby increasing the surface water area of the 18,410 sf former Belmont Pool by 18,040 sf, which would allow for recreational and competitive activities to occur simultaneously, if necessary. The availability for simultaneous operations is proposed in an attempt to resolve scheduling conflicts that occurred at the former Belmont Pool facility. The intensity of each individual event would not change, but a larger number of teams would be able to compete more often. The new facility is designed to enable public use during competition to allow for simultaneous pool usage at previously conflicted times of day.

The proposed Project would not alter or impede access to the beaches, and would not increase the population or use of off-site recreational facilities. Because the proposed Project is a recreational facility intended to provide a public recreation benefit, it would not substantially affect any of the existing off-site, adjacent recreational uses or activities such as the surrounding beach area, dog park, and associated pedestrian and bicycle paths surrounding the Project site. These Project components would improve the physical condition of the existing recreational facility. In addition, the proposed Project would increase the value of this recreational resource by making the facility better suited to meet existing aquatic needs and future trends.

Construction (Short-Term) Impacts on Recreational Facilities. The former pool facilities were closed, and were demolished due to seismic safety concerns. Construction activities, including clearing and grading of the remainder of the Project site, construction staging in the adjacent Beach Parking Lot, and construction of the proposed Project facilities would occur in close proximity to the temporary pool. However, it is anticipated that the temporary pool would remain open until completion of the new indoor pool complex in order to accommodate the ongoing pool activities.

The entire Project site would be screened with construction fencing and would be off-limits for the duration of construction. Construction of the proposed Project is anticipated to commence in 2017 and be completed within approximately 18 months, subject to available funding. The primary staging area for construction would be in the eastern portion of the Beach Parking Lot (see Figure 3.5, Section 3.0, Project Description). However, a majority of the public parking would remain available during construction. Also, transit service would remain operational during the construction phase.

Beach and Pier access is available to pedestrian/bicycle traffic via Shoreline Beach Bike Path from the west, at 39th Place and East Midway Street. Pedestrian/bicycle and vehicle access is available east of the Project site from Granada Avenue where the east end of the Beach Lot would remain available for public access.

Although access to the Belmont Veteran's Memorial Pier, parking lots, beach areas, and the pedestrian/bicycle path may be subject to disruption during the construction of the proposed Project, Mitigation Measure 4.12.2 (see Section 4.12, Traffic and Circulation) requires that a Construction Traffic Management Plan be implemented to ensure that construction activities do not prevent access to the Belmont Veteran's Memorial Pier, beach access, and nearby pedestrian/bicycle path facilities in the Project vicinity. With implementation of the Construction Traffic Management Plan, construction activities are expected to have less than significant impacts on access to the surrounding off-site recreational facilities.

Therefore, even though construction staging would occur in the Beach Parking Lot, access to recreational activities would not be significantly adversely impacted during the construction phases of the Project because access to recreational uses in the surrounding areas would remain available. With implementation of Mitigation Measure 4.12.2, short-term construction-related impacts on recreational resources would be less than significant.

Operational (Long-Term) Impacts on Recreational Facilities. The proposed Project would result in construction of new recreation facilities on the site to replace the previous pool facilities. The primary goal of the proposed Project is to develop a state-of-the-art aquatic facility to serve as an important recreational and competitive venue for the City, region, and State. The proposed Project would replace the previous facility with a more modern pool complex that better meets the needs of recreational and competitive swimmers, divers, and recreational pool users.

The proposed Project would redesign the existing passive park and open space areas to be situated along the western and northern portions of the Project site (refer to Figure 3.9). The current passive park and open space areas occupy approximately 118,790 sf and 45,160 sf of the site but would increase to approximately 127,085 sf and 55,745 sf, respectively, as a result of the proposed Project. The passive park and open space areas would be intended for general park uses, similar to the uses at the existing passive park. The passive park and open space areas would also provide for linkages from the beach to East Olympic Plaza area and other surrounding pathways, including the rerouted bicycle and pedestrian path. The modifications to the passive park and open space areas would adapt to the proposed Belmont Pool facilities while maintaining the site's open space and recreational benefits. Therefore, no long-term significant recreational impacts related to the operation of the proposed Project are anticipated, and no mitigation is required.

California Coastal Act Policies. Several provisions of the Coastal Act pertain to recreational facilities in the Coastal Zone. As discussed in Section 4.9, Land Use, the proposed Project must be approved as part of a Coastal Development Permit (CDP) issued by the Coastal Commission prior to Project construction. An application for a CDP will be submitted following certification of the EIR and approval of the proposed Project by the City. Each applicable Coastal Act policy, and its consistency with the proposed Project, is outlined in Table 4.9.A in Section 4.9, Land Use. As stated in the analysis for the Project's consistency with Coastal Act recreational policies in Section 4.9 of this Draft EIR, renovation of the pool complex shows a commitment by the City to the long-term use of this area as an aquatics recreational facility. A brief discussion is included here as it relates specifically to recreational policies.

Coastal Act Article 1 contains general policies and is not applicable to a recreation discussion. Similarly, Article 4 (Marine Resources), Article 5 (Land Resources), Article 6 (Development), and Article 7 (Industrial Development) are not applicable to the recreational component of the proposed Project.

The following sections of the Coastal Act pertain to recreational facilities and are applicable to the proposed Project:

Coastal Act Article 2, Public Access

- In carrying out the requirement of Section 4 of Article 2 of the California Constitution, maximum access, which shall be conspicuously posted, and recreational opportunities shall be provided for all the people consistent with public safety needs, and the need to protect public rights, rights of private property owners, and natural resource areas from overuse. (Coastal Act Section 30210)
- Wherever appropriate and feasible, public facilities, including parking areas or facilities, shall be distributed throughout an area so as to mitigate against the impacts, social and otherwise, of overcrowding or overuse by the public of any single area. (Coastal Act Section 30212.5)

- Lower cost visitor and recreational facilities shall be protected, encouraged, and, where feasible, provided. Developments providing public recreational opportunities are preferred. (Coastal Act Section 30213)

The remaining policies contained in Article 2 address new development, distribution of development, and implementation of public access policies, and are not applicable to the discussion of the proposed Project's potential recreational impacts.

Coastal Act Article 3, Recreation

- Oceanfront land suitable for recreational use shall be protected for recreational use and development unless present and foreseeable future demand for public or commercial recreational activities that could be accommodated on the property is already adequately provided for in the area. (Coastal Act Section 30221)

The remaining policies contained in Article 3 address new development, coastal aquaculture, and upland areas, and are not applicable to the discussion of the proposed Project's potential recreational impacts.

As discussed in detail in Section 4.9, Land Use, the proposed Project is consistent with the above Coastal Act sections regarding recreation resources. The proposed Project elements that further ensure compatibility with Coastal Act policies include the following:

- The proposed Project provides for enhanced public access through replacement of the previous facilities including compliance with current California Building Code (CBC). The proposed Project includes new facilities with up-to-date seismic and structural components improving public safety. (Coastal Act Section 30224)
- The proposed Project would enhance the existing water-oriented recreational activities of the Belmont Olympic Plaza. The proposed Project, which is adjacent to the ocean and ocean-front land, would enhance the existing recreational uses of the beach and pool facilities located there. (Coastal Act Section 30224)
- The proposed Project would accommodate changes in the needs of swimmers, divers, and other pool users while maintaining the recreational benefits of the existing bicycle and pedestrian path by rerouting it to a redesigned East Olympic Plaza, which would include bicycle and pedestrian enhancements. The proposed Project facilities would provide increased recreational opportunities because the renovated facilities would facilitate continued public use within the Coastal Zone. (Coastal Act Sections 30221 and 30224)

As indicated above, the policies within Chapter 3 of the Coastal Act are intended to provide protection for suitable ocean-front lands to be used for water-oriented and recreational purposes. As described above, the proposed Project is consistent with the intent of these policies. The proposed Project consists of the improvement of beachfront recreational and visitor-serving facilities. Therefore, based on the above discussion, the proposed Project would be consistent with Coastal Act policies, and impacts are considered less than significant. No mitigation measures are required.

City of Long Beach General Plan, Open Space and Recreation Element. As listed previously in Section 4.9.3, there are several Goals/Objectives, Policies, and Programs in the Open Space and Recreation Element that are applicable to the proposed Project**.** The proposed Project is consistent with the Element's objectives and policies because the Project would enhance the existing recreation and open space uses within the Project site. Specifically, the proposed Project would replace the previous pool/recreational facilities in order to continue meeting the recreational needs of existing and future residents. The proposed Project is consistent with making recreational resources "environmentally friendly" and sustainable because the proposed Project would meet Gold Leadership in Energy and Environmental Design (LEED) certification standards. Furthermore, the proposed Project would not substantially change visual access to the coast because it includes replacement of a former facility in the approximate same location. The proposed Project is consistent with the Open Space and Recreation Element goal to maintain public resources because it involves the replacement and revitalization of a key City recreational resource. The proposed pool complex would be built to current Americans with Disabilities Act (ADA) standards, and would continue to be available to the public at a nominal cost and, therefore, would be accessible and available to all members of the public.

As detailed above, the proposed Project does not conflict with the City's Open Space and Recreation Element. Therefore, no adverse impacts would result, and no mitigation measures are required.

The City Department of Parks, Recreation, and Marine Strategic Plan. As listed previously in Section 4.9.3, there are several strategies in the Plan that are applicable to the proposed Project**.** The proposed Project is consistent with the Plan's strategies because the proposed Project would ensure continuance of the previous recreation uses within the Project site. The proposed Project includes replacement of the former Belmont Pool with a new state-of-the-art aquatics facility and would not disrupt any existing recreational facility or recreational activities currently available in the vicinity of the Project site. The proposed Project would redesign the existing passive park to maintain the same park uses, and it would reroute the bicycle and pedestrian path to East Olympic Plaza that would include bicycle and pedestrian enhancements. The proposed Project would construct a modern pool complex and supporting infrastructure to improve the level of safety and access at the facility, and would ensure the continued operation of a pool facility on the site, pursuant to the needs of the aquatics community. Therefore, the proposed Project is consistent with the City's Department of Parks, Recreation, and Marine Strategic Plan Strategies listed above, and impacts are considered less than significant. No mitigation measures are required.

4.11.6 Cumulative Impacts

As defined in the *State CEQA Guidelines*, cumulative impacts are the incremental effects of an individual project when viewed in connection with the effects of past, current, and probable future projects within the cumulative impact area for recreational facilities. The Project site was previously developed as a community pool and would be replaced with similar recreational uses. The proposed Project would be consistent with the City's General Plan policies and with Coastal Commission policies. In addition, the proposed Project would expand the former pool amenities and integrate the existing public open space areas into the site design. As the replacement of a recreational facility, the proposed Project, in conjunction with the cumulative projects in the City, would contribute to the recreational opportunities in the City. The proposed Project is not anticipated to significantly increase the use or need for additional City park facilities. Compliance with City and Coastal Commission policies and an increase in public amenities demonstrates the proposed Project would have no potential cumulatively considerable impacts on such resources.

In addition, the proposed Project does not include any residential housing or a substantial increase in long-term employment opportunities that would increase the population in the City. Therefore, the proposed Project would not, with any other planned or proposed projects, cumulatively contribute to the increased use of or need for additional or expanded recreational facilities in the City. Based on these factors, the proposed Project would not contribute to adverse cumulative impacts related to recreation when combined with other foreseeable projects that are planned or expected to occur in Long Beach or the region. Implementation of the proposed Project is, therefore, considered to have less than cumulatively significant impacts related to recreational resources.

4.11.7 Level of Significance Prior to Mitigation

The proposed Project would not result in any significant impacts related to the increased use of existing recreational facilities that would either result in substantial physical deterioration of the facility or have a significant adverse physical effect on the environment.

4.11.8 Mitigation Measures

With implementation of Mitigation Measure 4.12.2, in Section 4.12, Transportation and Traffic, as identified in the Transportation and Traffic section, short-term construction-related impacts on recreational resources would be less than significant.

4.11.9 Level of Significance after Mitigation

Implementation of Mitigation Measure 4.12.2, as identified in Section 4.12, Transportation and Traffic, would ensure that short-term construction-related impacts on recreational resources would be less than significant. There are no significant unavoidable adverse impacts of the proposed Project related to recreational resources.

4.12 TRANSPORTATION AND TRAFFIC

This section analyzes the existing and planned transportation and circulation conditions for the Belmont Pool Revitalization Project (proposed Project) and the surrounding area, and identifies circulation impacts that may result during, or subsequent to, the development of the proposed Project. Also addressed are the potential traffic impacts of the operation of the proposed pool complex compared to the pre-closure operations of the existing Belmont Pool. The analysis contained in this section is based on the traffic modeling and calculation performed for the proposed Project presented in Appendix H.

Scoping Process

The City of Long Beach (City) distributed the first Notice of Preparation (NOP) for the Environmental Impact Report (EIR) for public review between April 18 and May 17, 2013. The City received three comment letters in response to the original NOP. No comment letters associated with Traffic and Transportation were received in response to the original NOP circulated for the proposed Project. Due to revisions in the Project Description, the City re-issued and circulated the NOP for public review between April 9, 2014, and May 8, 2014. The City received five comment letters in response to the re-issued NOP during the public review period. A comment letter from the Los Angeles County Metropolitan Transportation Authority (Metro) provided recommendations on the geographic area to be included in the Traffic Impact Analysis. Additionally, Metro provided recommended guidelines and guidance policies to be followed during the preparation of the *Traffic Impact Analysis* for the proposed Project to ensure compliance with the 2010 Congestion Management Program (CMP) for the County of Los Angeles (County). None of the arterial monitoring stations identified in Appendix A of the 2010 CMP for the County are located near the proposed Project, and the Project is not anticipated to conflict with standards established for designated roads or highways.

4.12.1 Methodology

The impacts of the added vehicle trips generated by the proposed Project were evaluated in comparison to the existing traffic conditions. The study area intersection level of service (LOS) analysis was conducted for the weekday a.m. peak hour, the weekday p.m. peak hour, and the Saturday midday peak hour. The study area was based on the vehicular parking routes for the Belmont Pool and includes the following 10 intersections that were analyzed for the report:

1. Redondo Avenue/Ocean Boulevard
2. Loma Avenue/Ocean Boulevard
3. Ocean Boulevard/Livingston Drive
4. Termino Avenue/Livingston Drive
5. Bennett Avenue/Livingston Drive (stop-controlled intersection)
6. Ximeno Avenue/Livingston Drive
7. 2nd Street/Livingston Drive

8. Termino Avenue/Ocean Boulevard
9. Bennett Avenue/Ocean Boulevard (stop-controlled intersection)
10. Granada Avenue/Ocean Boulevard (stop-controlled intersection)

Intersection Measures of Effectiveness. *Traffix* (Version 8.0 R1) computer software was utilized to determine the study area intersection LOS based on the Intersection Capacity Utilization (ICU) methodology for the signalized study area intersections and the Highway Capacity Manual (HCM) methodology for unsignalized intersections. Consistent with the City's requirements, the ICU methodology compares the volume-to-capacity (v/c) ratios of conflicting turn movements at an intersection, sums up these critical conflicting v/c ratios for each intersection approach, and determines the overall ICU. The resulting ICU is expressed in terms of LOS, where LOS A represents free-flow activity, and LOS F represents overcapacity operation. LOS is a qualitative assessment of the quantitative effects of such factors as traffic volume, roadway geometrics, speed, delay, and maneuverability on roadway and intersection operations. Typical intersection operations by LOS grade are described below in Table 4.12.A.

Table 4.12.A: LOS Descriptions

LOS	Description
A	No approach phase is fully utilized by traffic, and no vehicle waits longer than one red indication. Typically, the approach appears quite open, turns are made easily, and nearly all drivers find freedom of operation.
B	This service level represents stable operation, where an occasional approach phase is fully utilized, and a substantial number are nearing full use. Many drivers begin to feel restricted within platoons of vehicles.
C	This level still represents stable operating conditions. Occasionally, drivers may have to wait through more than one red signal indication, and backups may develop behind turning vehicles. Most drivers feel somewhat restricted, but not objectionably so.
D	This level encompasses a zone of increasing restriction approaching instability at the intersection. Delays to approaching vehicles may be substantial during short peaks within the peak period; however, enough cycles with lower demand occur to permit periodic clearance of developing queues, thus preventing excessive backups.
E	Capacity occurs at the upper end of this service level. It represents the most vehicles that any particular intersection approach can accommodate. Full utilization of every signal cycle is attained no matter how great the demand.
F	This level describes forced-flow operations at low speeds, where volumes exceed capacity. These conditions usually result from queues of vehicles backing up from a restriction downstream. Speeds are reduced substantially, and stoppages may occur for short or long periods of time due to the congestion. In the extreme case, speed can drop to zero.

LOS = level of service

The relationship between LOS and the ICU value (i.e., v/c ratio) is shown in Table 4.12.B:

Table 4.12.B: LOS/ICU Value Comparison

Level of Service	Volume-to-Capacity (ICU Methodology)	Level of Service	Volume-to-Capacity (ICU Methodology)
A	≤0.60	D	>0.80 and ≤0.90
B	>0.60 and ≤0.70	E	>0.90 and ≤1.00
C	>0.70 and ≤0.80	F	>1.00

ICU = intersection capacity utilization
LOS = level of service

For the HCM methodology, the LOS is presented in terms of total intersection delay (in seconds per vehicle). The relationship between LOS and the delay at unsignalized intersections is shown in Table 4.12.C.

Table 4.12.C: LOS/Unsignalized Intersection Delay Comparison

LOS	Unsignalized Intersection Delay (seconds) per Vehicle
A	≤ 10.0
B	>10.0 and ≤ 15.0
C	>15.0 and ≤ 25.0
D	>25.0 and ≤ 35.0
E	>35.0 and ≤ 50.0
F	>50.0

LOS = level of service

The City considers LOS D as the upper limit of satisfactory operations for total intersection operation. Mitigation is required for any signalized intersection where a project's traffic causes the intersection to deteriorate from LOS D to LOS E or F, or if the Project traffic causes an increase in v/c ratio of 0.02 or greater when the intersection is operating at LOS E or F in the baseline condition. Mitigation is required for any unsignalized intersection where a project's traffic increases the intersection delay by 2 percent or greater when the entire intersection is operating at LOS E or F in the baseline condition.

4.12.2 Existing Environmental Setting

Existing Circulation System. The Belmont Pool Plaza is located in the Belmont neighborhood in the southeastern portion of the City of Long Beach. The former Belmont Pool building was located near the intersection of Ocean Boulevard and Livingston Drive. A temporary outdoor pool (opened in December 2013 to provide swimming facilities while the permanent facility was under construction) is located in the Beach Parking Lot. Access to parking for the Belmont Pool is provided from Ocean Boulevard via Termino Avenue and Bennett Avenue. Public transportation in the vicinity of the Project is provided by Long Beach Transit. Long Beach Transit Routes 121 and 131 stop near the intersection of Termino Avenue/Ocean Boulevard. The Shoreline Beach Bike Path provides a Class I off-street bike path from the Los Angeles River to 54th Place and provides access to the Belmont Pool for bicycles. The location of the Project site is illustrated on Figure 3.1 (see Chapter 3.0, Project Description).

Existing Level of Service with Outdoor Pool. Traffic volumes were collected in February 2016 and analyzed to determine the existing LOS at the 10 study area intersections during the weekday a.m. peak hour, the weekday p.m. peak hour, and the weekend midday peak hour. The existing LOS is listed on Table 4.12.D, below. In addition, worksheets providing LOS calculations are provided in Appendix H.

Table 4.12.D: Existing Intersection Level of Service

Intersection	AM Peak Hour		PM Peak Hour		Weekend Midday Peak Hour	
	ICU/Delay	LOS	ICU/Delay	LOS	ICU/Delay	LOS
1. Redondo Avenue/Ocean Boulevard	0.70	B	0.72	C	0.59	A
2. Loma Avenue/Ocean Boulevard	0.61	B	0.65	B	0.46	A
3. Ocean Boulevard/Livingston Drive	0.49	A	0.58	A	0.45	A
4. Termino Avenue/Livingston Drive	0.40	A	0.63	B	0.47	A
5. Bennett Avenue/Livingston Drive	8.4 sec	A	8.4 sec	A	8.4 sec	A
6. Ximeno Avenue/Livingston Drive	0.14	A	0.19	A	0.17	A
7. 2nd Street/Livingston Drive	0.69	B	0.62	B	0.65	B
8. Termino Avenue/Ocean Boulevard	0.30	A	0.40	A	0.34	A
9. Bennett Avenue/Ocean Boulevard	9.6 seconds	A	11.2 seconds	B	10.8 seconds	B
10. Granada Avenue/Ocean Boulevard	8.6 seconds	A	9.6 seconds	A	9.5 seconds	B

ICU – Intersection Capacity Utilization
LOS – Level of Service

Level of Service Based on Historical Operations. At the time intersection traffic volumes were collected, the temporary outdoor pool at Belmont Pool Plaza was open for use by clubs, local high schools, and the general public. However, because of the smaller size of the outdoor pool compared to the indoor pool, it is not believed that the traffic volumes collected reflect historic typical conditions during operation of the entire Belmont Pool facility. In order to determine traffic conditions during typical operation of the entire Belmont Pool facility, historic data for the operation of the pool was examined.

Belmont Pool was open year-round but use can vary by season and temperature. In examining pool operations to determine historic typical trip generation, typical but busy conditions were analyzed. Special events were not considered as they do not occur on a typical day. Information regarding Belmont Pool's past operation was available from records of the City of Long Beach Parks and Recreation Department and interviews with Lori Jamacz who works for the City of Long Beach Parks, Recreation, and Marine Department at Belmont Pool.

Belmont Pool was used by local high school swimming and water polo teams, swimming, diving, and water polo clubs, and the general public including recreational swimming, lap swimming for fitness, and swim lessons. These uses were programmed throughout the day and not all resulted in trips to or from Belmont Pool in the typical commute peak hours. For example, clubs using the pool for swimming, diving, and water polo arrived before the start of the p.m. peak hour and left after the end of the p.m. peak hour.

Open swim for recreation and fitness of the general public began at 5:30 a.m. The typical stay at the pool complex for lap swimmers was 1 to 1.5 hours including time before and after their swim. During the peak hour between 7:00 a.m. and 9:00 a.m., it is estimated that 50 patrons arrived at and 100 patrons departed from the pool. Many of the patrons of Belmont Pool swimming for fitness arrived by bicycle. However, to present a worst-case scenario, each patron was analyzed as traveling in a single-occupant vehicle.

High school swimming and water polo teams arrived at Belmont Pool for practice after school and before the start of the p.m. peak hour, but departed during the p.m. peak hour. The pool has historically reopened to open swim for recreation and fitness of the general public at 4:00 p.m. During the peak hour between 4:00 p.m. and 6:00 p.m., it is estimated that 100 patrons arrived at and 65 patrons departed from the pool. To present a worst-case scenario, each patron was analyzed as traveling in a single-occupant vehicle.

On weekends, Belmont Pool was open for recreation and fitness of the general public during the midday peak hour. During the peak hour between 12:00 p.m. and 2:00 p.m. it is estimated that up to 300 patrons could have arrived at and 150 patrons could have departed from the pool. Families arriving for recreational swimming typically travel in one car. Patrons swimming laps for fitness could have arrived at the pool by bicycle on weekends. Again, to present a worst-case scenario, each patron was analyzed as traveling in a single-occupant vehicle. The resulting historic trip generation is displayed in Table 4.12.E.

Table 4.12.E: Belmont Pool Project Trip Generation

	AM Peak Hour			PM Peak Hour			Weekend Midday Peak Hour		
	In	Out	Total	In	Out	Total	In	Out	Total
Existing Belmont Pool	50	100	150	100	65	165	300	150	450

4.12.3 Regulatory Setting

Federal Regulations. There are no relevant federal traffic and circulation regulations applicable to the proposed Project.

State and Regional Policies and Regulations.

Congestion Management Program. In Los Angeles County, the CMP uses ICU intersection analysis methodology to analyze its operations. In June 1990, the passage of the Proposition 111 gas tax increase required urbanized areas in the State with a population of 50,000 or more to adopt a CMP. The Los Angeles County Metropolitan Transportation Authority (Metro) is the Congestion Management Agency (CMA) for the County. Metro has been charged with the development, monitoring, and biennial updating of Los Angeles County’s CMP. The Los Angeles County CMP is intended to address the impact of local growth on the regional transportation system. The CMP Highway System includes specific roadways, State highways, and CMP arterial monitoring locations/intersections. The CMP is also the vehicle for proposing transportation projects that are eligible to compete for the State gas tax funds.

Local Policies and Regulations.

City of Long Beach General Plan. An update to the City of Long Beach General Plan is currently underway. Traffic and circulation goals and policies are included in the Mobility Element of the City General Plan (2013). It is the stated goal of the City of Long Beach to create an efficient, balanced, multimodal mobility network. This goal is supported by the objectives to: (1) reconfigure streets to emphasize modal priorities, (2) strategically improve congested intersections and corridors, and (3) establish a more flexible level of service approach to traffic analysis and improvements.

4.12.4 Impact Significance Criteria

Criteria for determining the significance of impacts to transportation and circulation are based on the *State CEQA Guidelines*. Project-related traffic impacts may be considered potentially significant and adverse if the proposed Project would:

Threshold 4.12.1: **Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit;**

Threshold 4.12.2: **Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways;**

Threshold 4.12.3: **Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks;**

Threshold 4.12.4: **Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment);**

Threshold 4.12.5: **Result in inadequate emergency access; or**

Threshold 4.12.6: **Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.**

The City prepared an Initial Study/Notice of Preparation (IS/NOP) in April 2014 (Appendix A). The IS/NOP addressed the potential for a change in air traffic patterns (Threshold 4.12.3) and the potential to increase hazards due to a design feature (Threshold 4.12.4), and noted that these topics did not warrant further analysis in the EIR. The proposed Project is located approximately 3 miles southeast of Long Beach Municipal Airport, and the heights of the pool building, light standards, and other project features on the site would not be sufficient to require modifications to the existing air traffic patterns at the airport and, therefore, would not affect aviation traffic levels or otherwise result in substantial aviation-related safety risks. Furthermore, the proposed Project is the replacement of an existing facility in an urbanized coastal area, and does not include any design features that would create or increase hazard. These topics will not be further addressed in this EIR.

California Environmental Quality Act (CEQA) Baseline. At the time the NOP was issued, the Project site contained both the Belmont Pool facilities and the outdoor temporary pool (opened in December 2013 to provide swimming facilities while the permanent facility was under construction). Although the site contained the former Belmont Pool building at the time of the NOP, the facility was subsequently demolished in February 2015 to alleviate an imminent public safety threat due to the seismically unsafe condition of the building.

The inclusion of the former pool building in the assessment of traffic impacts is appropriate because the former facility was present on the site for approximately 45 years and represents the historic uses of the site, and the historic traffic conditions for the site. The substantial evidence of recent historical uses support the determination that the Belmont Pool building as the baseline for traffic impacts is appropriate.

4.12.5 Project Impacts and Mitigation Measures

Threshold 4.12.1: Would the project conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?

Less than Significant Impact with Mitigation Incorporated.

Construction Traffic. Construction of the proposed Project would require a net export of approximately 1,500 cubic yards (cy) of material, and construction worker commutes for the duration of the construction period. The staging area for construction would be in the Beach Parking Lot. Construction of the proposed Project is anticipated to commence in 2017 at the earliest and be completed within approximately 18 months.

Trips generated by construction traffic in the a.m. and p.m. peak hours could include construction workers arriving at the site, equipment and material delivery, and material export during the demolition phase. Large trucks, used for the delivery and removal of equipment and materials, utilize more roadway capacity than passenger vehicles due to their larger size, slower start-up times, and reduced maneuverability. In order to account for the increase in roadway capacity utilized by construction vehicles, passenger car equivalent (PCE) factors are used. These factors were applied to the vehicle trip generation to account for the difference in operational characteristics of heavy vehicles. In total, however, construction traffic is not anticipated to exceed the 100 inbound and 200 outbound trips already analyzed in the a.m. peak hour or the 200 inbound and 130 outbound trips already analyzed in the p.m. peak hour that would be expected with operation of the completed pool facility. Therefore, similar to operation of the completed pool facility, intersection operation is expected to remain at acceptable LOS during construction. Therefore, the proposed Project would not result in a significant impact related to construction traffic, and no mitigation is required.

Operational Traffic. The proposed Belmont Pool Project involves the construction of a new state-of-the-art pool facility. When compared to the former Belmont Pool, the proposed Project water surface area would be increased from 18,410 square feet (sf) to 36,450 sf. The proposed Project also includes a standalone 1,500 sf café. As a result of the proposed Project, multiple user groups could be programmed concurrently throughout the day. In addition, one of the pools could remain open to the general public while a special event is being held. However, because events are scheduled throughout the day, increased concurrent programming would not necessarily affect traffic during the peak hours.

A full-size indoor pool and a full-size outdoor pool could serve twice as many users as currently patronize the pool in the a.m. peak hour, the p.m. peak hour, and the weekend midday peak hour. To analyze this scenario, the operational traffic discussed above was doubled. Travel to Belmont Pool is possible by public transit, bicycle, and carpool but each patron was analyzed as traveling by single-occupant vehicle to present a conservative ("worst-case") scenario. The resulting trip generation is displayed in Table 4.12.F.

Table 4.12.F: Future with Project Trip Generation

	AM Peak Hour			PM Peak Hour			Weekend Midday Peak Hour		
	In	**Out**	**Total**	**In**	**Out**	**Total**	**In**	**Out**	**Total**
Proposed Project	100	200	300	200	130	330	600	300	900

Parking for Belmont Pool is located in a metered parking lot accessible from Bennett Avenue. Patrons of the pool might also have parked in the lot for Belmont Pier at the end of Termino Avenue, which is a pay-and-display lot. Given the various utility of the two roadways providing access to Belmont Pool, 75 percent of traffic to and from the pool was assigned to Bennett Avenue while the remaining 25 percent was assigned to Termino Avenue. Regionally, trips were distributed based on the location of residential land uses likely to generate travel demand to the pool during the peak hours analyzed.

Figure 4.12.1 illustrates the trip distribution and subsequent project trip assignment at the 10 study intersections. The results of these traffic numbers added to the study area intersections are presented in Table 4.12.G. Worksheets providing LOS calculations are provided in Appendix H.

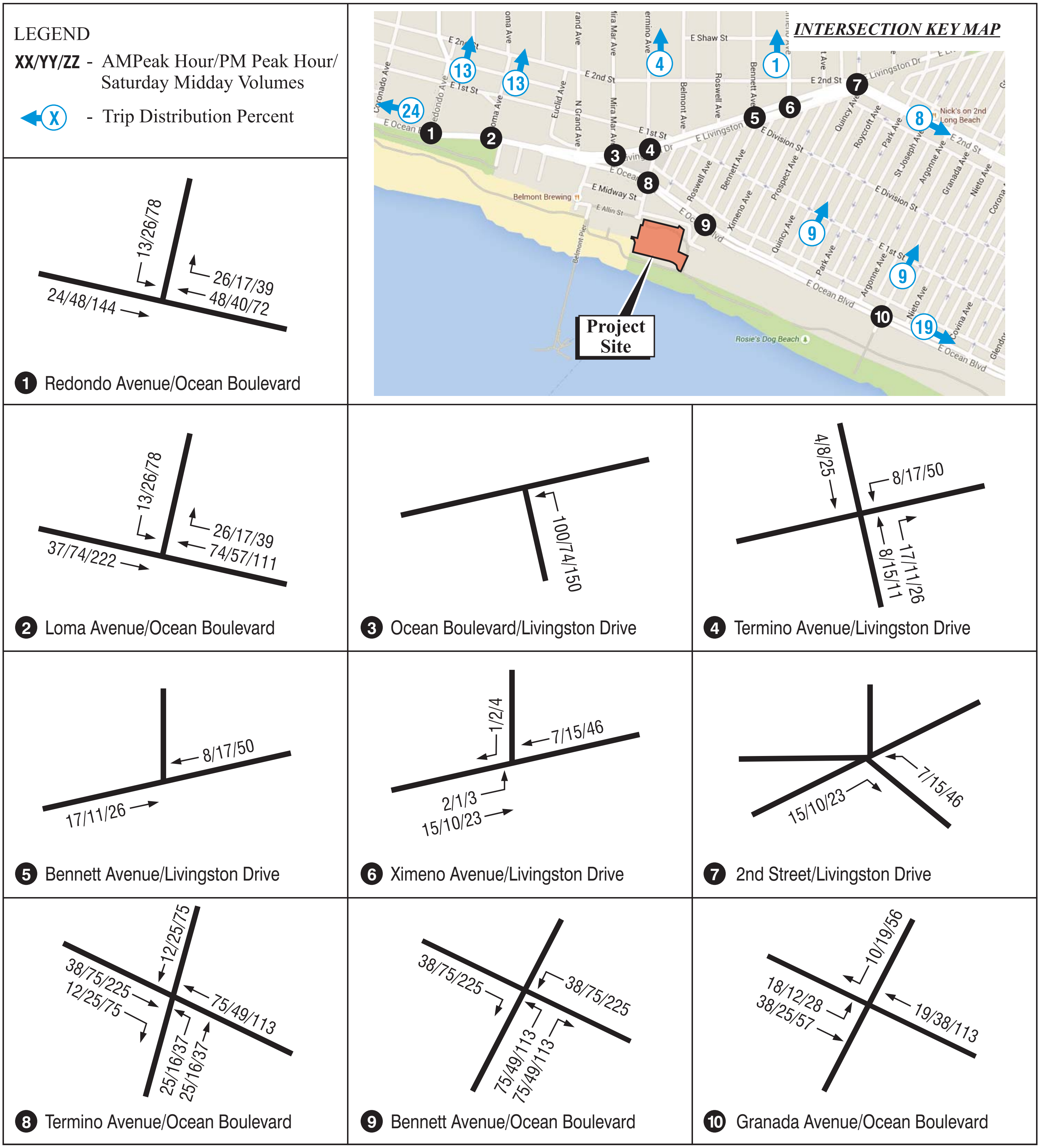

FIGURE 4.12.1

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Belmont Pool Revitalization Project

Trip Distribution and Assignment

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Table 4.12.G: Future with Project Intersection Level of Service

Intersection	AM Peak Hour		PM Peak Hour		Weekend Midday Peak Hour	
	ICU/Delay	LOS	ICU/Delay	LOS	ICU/Delay	LOS
1. Redondo Avenue/Ocean Boulevard	0.73	C	0.75	C	0.68	B
2. Loma Avenue/Ocean Boulevard	0.65	B	0.69	B	0.56	A
3. Ocean Boulevard/Livingston Drive	0.52	A	0.61	B	0.50	A
4. Termino Avenue/Livingston Drive	0.41	A	0.65	B	0.52	A
5. Bennett Avenue/Livingston Drive	8.4 sec	A	8.4 sec	A	8.4 sec	A
6. Ximeno Avenue/Livingston Drive	0.15	A	0.19	A	0.17	A
7. 2nd Street/Livingston Drive	0.69	B	0.62	B	0.66	B
8. Termino Avenue/Ocean Boulevard	0.34	A	0.44	A	0.48	A
9. Bennett Avenue/Ocean Boulevard	10.7 seconds	A	12.3 seconds	B	16.4 seconds	C
10. Granada Avenue/Ocean Boulevard	8.8 seconds	A	10.1 seconds	A	11.0 seconds	B

ICU – Intersection Capacity Utilization
LOS – Level of Service

As Table 4.12.G shows, all study area intersections are anticipated to operate at LOS C or better in the future with new traffic generated by an opportunity to program more overlapping uses of Belmont Pool as a result of the proposed Project. All study area intersections would operate at an LOS that is considered acceptable by the City of Long Beach (LOS D or better). Therefore, the proposed Project is not anticipated to conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system. Because the proposed Project would not conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system it would have a less than significant impact relative to this threshold, and no mitigation is required.

Special Event Traffic. Typical daily operation of the new Belmont Pool with up to 900 patrons in a peak hour is not anticipated to result in a significant traffic impact to the study area intersections. This includes typical daily use by local high school swimming and water polo teams for training; swimming, diving, and water polo clubs; and the general public, including recreational swimming, lap swimming for fitness, and swim lessons. Several times per year, Belmont Pool facilitates special events such as high school and collegiate swimming and water polo competitions. The previous facility provided 2,500 seats for spectators at events such as these at the indoor pool. As described further in Chapter 3.0, Project Description, of this Draft EIR, the proposed Project would provide 1,250 permanent seats for the indoor pool, and up to 3,000 temporary seats for the outdoor pool. No permanent outdoor spectator seating is included in the proposed Project. Unless special events are held at both the indoor and outdoor pools simultaneously, the total number of spectators for the proposed Project is expected to be similar to the baseline conditions of the former pool facility.

The Belmont Pool hosted the United States (U.S.) Olympic Swim trials in 1968 and 1976 and the National Collegiate Athletic Association (NCAA) championships in 1974 and 1978. If special events such as these again occur at the Belmont Pool after the proposed Project is constructed, they are not expected to occur regularly. In the event that a large special event is held at Belmont Pool, an Event Traffic Management Plan would need to be developed that addresses potential impacts to traffic circulation and the steps necessary to avoid potential significant traffic congestion and parking impacts. With typical average vehicle occupancy of 1.5 passengers per vehicle, an event with 450 spectators would be expected to generate 300 outbound trips, which is the traffic volume that was analyzed in the weekend midday peak hour. Therefore, any event with more than 450 spectators would be considered a large special event that would require an Event Traffic Management Plan. This plan may include active traffic management and/or off-site parking and shuttles. Because special events are sporadic and would occur at specific times per year consistent with existing (pre-closure) conditions, the impacts of special event traffic would not cause significant peak-hour LOS impacts. Mitigation Measure 4.12.1 requires the City to prepare and implement an Event Traffic Management Plan that requires traffic and control measures for special events to be reviewed and approved by the City of Long Beach Traffic Engineer. Implementation of Mitigation Measure 4.12.1 would reduce construction traffic impacts to the surrounding residences and businesses to less than significant levels.

Threshold 4.12.2: Would the project conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?

Less than Significant Impact. None of the arterial monitoring stations identified in Appendix A of the 2010 CMP for the County are located near the proposed Project, and the Project is not anticipated to conflict with standards established for designated roads or highways. The proposed Project would have a less than significant impact relative to the adopted CMP and no mitigation is required.

Threshold 4.12.5: Would the project result in inadequate emergency access?

Less than Significant Impact with Mitigation Incorporated.

Construction. Potential temporary lane closures could restrict access for emergency vehicles. Mitigation Measure 4.12.2 requires that a Construction Traffic Management Plan be prepared for the proposed Project, which would ensure that emergency vehicles would be able to navigate through streets adjacent to the Project site that may experience congestion due to construction activities. A Construction Traffic Management Plan that identifies traffic control for any potential street closures, detours, or other disruption to traffic circulation and public transit routes is necessary for the proposed Project. A Construction Traffic Management Plan also identifies the routes that construction vehicles are authorized to use to access the site, the hours of construction traffic, traffic controls and detours, and staging areas for equipment. Mitigation Measure 4.12.2

also requires that all emergency access to the Project site and adjacent areas be kept clear and unobstructed during all phases of construction. Traffic management personnel (flag persons), required as part of the Construction Traffic Management Plan, would be trained to assist in emergency response by restricting or controlling the movement of traffic that could interfere with emergency vehicle access. If a partial street closure (i.e., a lane closure) would be required, notice would be provided to the Long Beach Police Department, and flag persons would be used to facilitate the traffic flow until construction is complete. With implementation of Mitigation Measure 4.12.2, potential impacts related to emergency access during construction would be less than significant.

Operation. The proposed Project involves replacement of an existing pool facility, as well as modifications to the existing Olympic Plaza, that would restrict vehicular use and increase pedestrian and bicycle enhancements. The emergency access to/from the site will be designed to meet all applicable City Codes and standards and would be subject to review by the City Fire and Police Departments for compliance with fire and emergency access standards and requirements. The redesign of Olympic Plaza will meet fire access lane standards. The final site plan will be subject to Site Plan Review by all relevant City Departments, and Site Plan Review approval by the Planning Commission. No changes to the existing parking lots (Pier Parking Lot and Beach Parking Lot) are included as part of the proposed Project. Therefore, operational impacts of the proposed Project to emergency access are considered less than significant and no mitigation is required.

Threshold 4.12.6: Would the project conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?

Less than Significant Impact. The proposed Project reconstructs the Belmont Pool at the existing location, which is near a public transit stop and a Class I bike path. Existing pathways through the passive park would be rerouted to East Olympic Plaza to allow for utilization of the proposed pedestrian and bicycle enhancements. The facility would continue to be accessible for users of transit, bicycle, and pedestrian modes of travel because the site design allows for pedestrian linkages. The proposed pool facility would continue to be accessed via Long Beach Transit bus service (Routes 121 and 131) as well as sidewalks and the Shoreline Beach Bike Path (Class I off-street bike path). Therefore, the Project would not conflict with adopted plans supporting alternative transportation. The proposed Project would have less than significant impacts relative to public transit, bicycle, or pedestrian facilities, and no mitigation is required.

4.12.6 Cumulative Impacts

Construction of the proposed Project is anticipated to commence in 2017 at the earliest and be completed within approximately 18 months. Cumulative projects include any committed and/or approved developments near the Project site that will generate future vehicle trips that would utilize intersections identified in the Project traffic study area. According to the City, one project was identified within the cumulative project study area; the Leeway Sailing Center Pier Replacement. The City of Long Beach proposes to demolish and rebuild the existing Leeway Sailing Pier, Dock, and

Gondola Shed Structure in its general same location and footprint. The proposed rebuild is required to replace deteriorated infrastructure, which suffers from dry rot, corrosive sea spray, and deferred maintenance. The existing gondola shed structure will be replaced in its general same location on the pier and will provide the same uses. A new 80 ft accessible gangway will connect the pier to a new 2,094 sf timber floating dock to improve American with Disabilities Act access. This project is proposing to reconstruct the existing pier without expanding the size of the existing operation. Therefore, this project will not contribute new traffic to any of the study area intersections. Because no additional traffic from cumulative projects is anticipated at the study area intersections, no additional cumulative operational traffic impacts would occur. No mitigation is required.

4.12.7 Level of Significance Prior to Mitigation

All 10 intersections would operate a satisfactory LOS (LOS D or better, as defined by the City) during project construction and operation. Because construction and operation of the proposed Project would not conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, it would have a less than significant impact relative to this threshold, and no mitigation is required (Threshold 4.12.1).

Although construction and operation of the proposed Project would result in less than significant traffic impacts, in the event that a special event attracting more than 450 spectators is held at Belmont Pool, an Event Traffic Management Plan would need to be developed to address potential impacts to traffic circulation. Specifically, an Event Traffic Management Plan would identify the steps necessary to avoid potential significant traffic congestion and parking impacts. Without implementation of an Event Traffic Management Plan, these limited time traffic impacts to the surrounding residences and businesses may be significant and adverse (Threshold 4.12.1).

There are no arterial monitoring stations identified in the 2010 CMP for the County near the proposed Project, and the Project is not anticipated to conflict with standards established for designated roads or highways. The proposed Project would have a less than significant impact relative to the adopted CMP, and no mitigation is required (Threshold 4.12.2).

While operation of the proposed Project would involve the replacement of the former pool facility, which would be designed to meet all applicable City Codes and standards related to emergency access, potential temporary lane closures during project construction could restrict access for emergency vehicles. As such, mitigation in the form of a Construction Traffic Management Plan, which would identify traffic controls for any potential street closures, detours, or other disruption to traffic circulation and public transit routes, is necessary for the proposed Project. Without implementation of mitigation, potential impacts related to emergency access during construction would potentially be significant and adverse (Threshold 4.12.5).

The Project would not conflict with adopted plans supporting alternative transportation and would not interfere with existing bicycle paths or bus routes in the vicinity of the Project site. Therefore, the proposed Project would have less than significant impacts relative to public transit, bicycle, or pedestrian facilities, and no mitigation is required (Threshold 4.12.6).

4.12.8 Mitigation Measures

Implementation of the following mitigation measures will ensure that potential traffic impacts resulting from Project implementation would be reduced to less than significant levels.

Mitigation Measure 4.12.1: **Event Traffic Management Plan.** In the event that a large special event (defined as more than 450 spectators) is held at Belmont Pool, the City of Long Beach (City) Parks and Recreation Director, or designee, shall develop an Event Traffic Management Plan for review and approval by the City Traffic Engineer. The plan shall be designed by a registered Traffic Engineer and shall address potential impacts to traffic circulation and the steps necessary to minimize potential impacts (e.g., active traffic management and/or off-site parking and shuttles) during the large special event.

Mitigation Measure 4.12.2: **Construction Traffic Management Plan.** Prior to the issuance of any demolition permits, the City of Long Beach (City) Parks and Recreation Director, or designee, shall develop a Construction Traffic Management Plan for review and approval by the City Traffic Engineer. The plan shall be designed by a registered Traffic Engineer and shall address traffic control for any street closure, detour, or other disruption to traffic circulation and public transit routes and shall ensure that emergency vehicle access is maintained. The plan shall identify the routes that construction vehicles shall use to access the site, the hours of construction traffic, traffic controls and detours, and off-site staging areas. The plan shall also require that a minimum of one travel lane in each direction on Ocean Boulevard be kept open during construction activities. Access to Belmont Veterans' Memorial Pier, the Shoreline Beach Bike Path, and the beach shall be maintained at all times. The Construction Traffic Management Plan shall also require that access to the pier, the bike path, and the beach be kept open during construction activities. The plan shall also require the City to keep all haul routes clean and free of debris including, but not limited to, gravel and dirt.

4.12.9 Level of Significance After Mitigation

Potential impacts to Traffic from the proposed Project would be mitigated to less than significant levels with implementation of Mitigation Measures 4.12.1 and 4.12.2. Therefore, the proposed Project would not result in any significant unavoidable impacts related to Traffic.

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4.13 UTILITIES AND SERVICE SYSTEMS

The following section provides an analysis of utilities for the proposed Belmont Pool Revitalization Project (proposed Project) in the City of Long Beach (City). Utilities associated with the proposed Project include the provision or disposition of electricity, natural gas, water, wastewater, and solid waste disposal services. Information on previous conditions for the former Belmont Pool facilities presented in this section is based on a variety of sources. As such, specific references are identified within the subsection for each respective issue. This section addresses the following utility service systems (the service provider is noted in parenthesis):

- Electricity (Southern California Edison [SCE])
- Natural Gas (City of Long Beach Gas and Oil Department [LBGO])
- Water (Long Beach Water Department [LBWD])
- Wastewater (Los Angeles County Sanitation Districts [LACSD])
- Solid Waste (LACSD)

Scoping Process

The City distributed the first Notice of Preparation (NOP) for the Draft Environmental Impact Report (EIR) between April 18, 2013, and May 17, 2013. The City received three comment letters in response to the first NOP during the public review period. Only one comment letter raised issues regarding utilities. LACSD stated that wastewater flow originating from the Project site would discharge to the local sewer line, which is not maintained by LACSD, for conveyance to LACSD's Anaheim Street Trunk Sewer. LACSD also commented that the wastewater generated by the proposed Project would be treated at the Joint Water Pollution Control Plant (JWPCP) located in the City of Carson. The LACSD letter further stated that the available capacity of LACSD's treatment facility is limited to levels associated with the approved growth identified by the Southern California Association of Governments (SCAG). As such, LACSD's response did not constitute a guarantee of wastewater service; instead, LACSD advised the City that LACSD intends to provide service up to the levels that are legally permitted.

Due to the revisions in the Project Description, the City re-issued an updated NOP for the Draft EIR between April 9, 2014, and May 8, 2014. The City received five comment letters in response to the second NOP during the public review period. Only one comment letter raised issues regarding utilities. LACSD reiterated its comments on the original NOP by stating that wastewater flow originating from the Project site would discharge to the local sewer line, which is not maintained by LACSD, for conveyance to either or both LACSD's Anaheim Street Trunk Sewer or the Joint Outfall C Unit 3D Trunk Sewer, and would be treated at the Carson JWPCP. LACSD also commented that the available capacity of LACSD's treatment facility is limited to levels associated with the approved growth identified by SCAG. Again, LACSD's response did not constitute a guarantee of wastewater service. LACSD advised the City that it intends to provide service up to the legally permitted levels. The recommendations and concerns raised during the scoping process related to utilities are addressed in this EIR section.

4.13.1 Methodology

The impact analyses presented in this section are based on information from the utility service providers identified above, including SCE, LBGO, LBWD, and LACSD. Additional information was further obtained from the service providers' websites.

4.13.2 Existing Environmental Setting

The *State of California Environmental Quality Act (CEQA) Guidelines*, Appendix F, Energy Conservation, states that EIRs are required to include a discussion of the potential energy impacts of proposed projects, with particular emphasis on avoiding or reducing inefficient, wasteful, and unnecessary consumption of energy. The discussion below provides information pertaining to existing energy supplies and energy use patterns in the region and locality.

Electricity. The Project site is within the service territory of SCE, an independently owned utility, which provides electrical service throughout the City. SCE distributes electricity purchased through the California Power Exchange.

In January 2014, the California Energy Commission (CEC) published the Final Forecast for California Energy Demand for the years 2014 through 2024. According to the CEC, the electricity consumption in the SCE service area was estimated to be 100,365,000,000 kilowatt-hours (kWh) in both the high- and low-demand scenarios in 2012. According to the CEC, the electricity consumption in the SCE service area was estimated to be 99,786,000,000 kWh in the low-demand scenario and 103,936,000,000 kWh in the high-demand scenario in 2015. [1,2] According to the CEC, electricity consumption in the SCE service area is projected to reach between 109,206,000,000 kWh in the low-demand scenario and 120,745,000,000 kWh in the high-demand scenario in 2024.[3] Peak electricity demand is projected to reach between 24,482,000 kWh and 27,513,000 kWh in 2024.

Based on calculations using the California Emissions Estimator Model (CalEEMod) (Version 2013.2.2) the former Belmont Pool facilities were estimated to consume approximately 421,344 kWh per year (kWh/yr) of electricity. As such, the annual electrical demand associated with previous conditions on site represents approximately 0.0004 percent of the electricity consumption in the SCE service area in the years 2012 and 2015.

Natural Gas. The Project site is within the service territory of LBGO. Established in 1924, the LBGO provides natural gas services to residents and businesses of Long Beach and Signal Hill,

1 California Energy Commission (CEC). January 2014. California Energy Demand 2014-2024 Final Forecast. Volume 2: Electricity Demand by Utility Planning Area. January 2014 Website: http://www.energy.ca.gov/2013publications/CEC-200-2013-004/CEC-200-2013-004-V2-CMF.pdf (accessed February 20, 2015).

2 The CEC Report provides energy consumption forecasts for 2012 and 2015. No forecast is provided for 2014.

3 CEC. January 2014. California Energy Demand 2014-2024 Final Forecast. Volume 2: Electricity Demand by Utility Planning Area. January 2014 Website: http://www.energy.ca.gov/2013publications/CEC-200-2013-004/CEC-200-2013-004-V2-CMF.pdf (accessed February 20, 2015).

serving approximately 500,000 residents and businesses in the Cities of Long Beach and Signal Hill through over 1,800 miles (mi) of LBGO pipelines.[1] According to the 2014 California Gas Report, Long Beach's customer load profile is 56 percent residential and 44 percent commercial/industrial. The City's gas use is expected to remain fairly constant, increasing from 9.0 billion cubic feet (bcf) in 2014 to 9.6 bcf by 2035.[2]

Based on CalEEMoD estimations, the annual natural gas demand associated with the former Belmont Pool facilities were determined to be approximately 0.00096 bcf per year. Therefore, the annual natural gas demand associated with previous land uses on the project site represented approximately .0001 percent of the current natural gas demand (9.0 bcf) in the LBGO service area in 2014.

Water. The LBWD provides water service to the entire City, including the Project site, through a system of underground pipelines. Over 900 mi of water mains are maintained within LBWD's service area. As illustrated in Table 4.13.A, the major sources of water for the LBWD include water purchased from the Metropolitan Water District of Southern California (MWDSC), groundwater pumped and treated by the LBWD, recycled water and, possibly in the future, desalinated seawater.[3] The LBWD is conducting ongoing research of the technological, environmental, and financial feasibility of seawater desalination as a source of potable water.

Table 4.13.A: Water Supplies – Current and Projected (af/year)

Water Purchased From	2010	2015	2020	2025	2030	2035
Whole Purchases: MWDSC	22,237	24,520	24,046	18,551	17,477	11,929
Groundwater: LBWD Central Basin Aquifer Rights	34,655	33,000	33,500	34,000	34,500	35,000
Desalinated Water (Potable Supply)				5,000	5,000	10,000
Recycled Water	6,556	10,100	11,300	13,400	13,700	14,000
Total	**63,448**	**67,620**	**68,846**	**70,951**	**70,677**	**70,929**

Source: Long Beach Water Department. *2010 Urban Water Management Plan,* Table 16-Water Supplies- Current and Projected (af/year).
af/year = acre-feet per year
MWDSC = Metropolitan Water District of Southern California
LBWD = Long Beach Water Department

As shown in Figure 4.13.1, Existing Utilities in the Project Vicinity, LBWD's potable water lines are located in the streets surrounding the Project site. The annual water demand associated with previous conditions on site was calculated using CalEEMod. Based on this model, the Project site was estimated to consume approximately 19.61 acre-feet per year (af/year).

1 Long Beach Gas and Oil (LBGO). Welcome to Long Beach Gas & Oil Department Website: http://www.longbeach.gov/lbgo/ (accessed January 21, 2015).

2 California Gas and Electric Utilities. *2014 California Gas Report*. Website: http://www.socalgas.com/regulatory/documents/cgr/2014-cgr.pdf (accessed January 23, 2015).

3 City of Long Beach Water Department (LBWD). *2010 Urban Water Management Plan*. Website: http://www.lbwater.org/sites/default/files/file_attach/pdf/2010_uwmp.pdf (accessed February 23, 2015).

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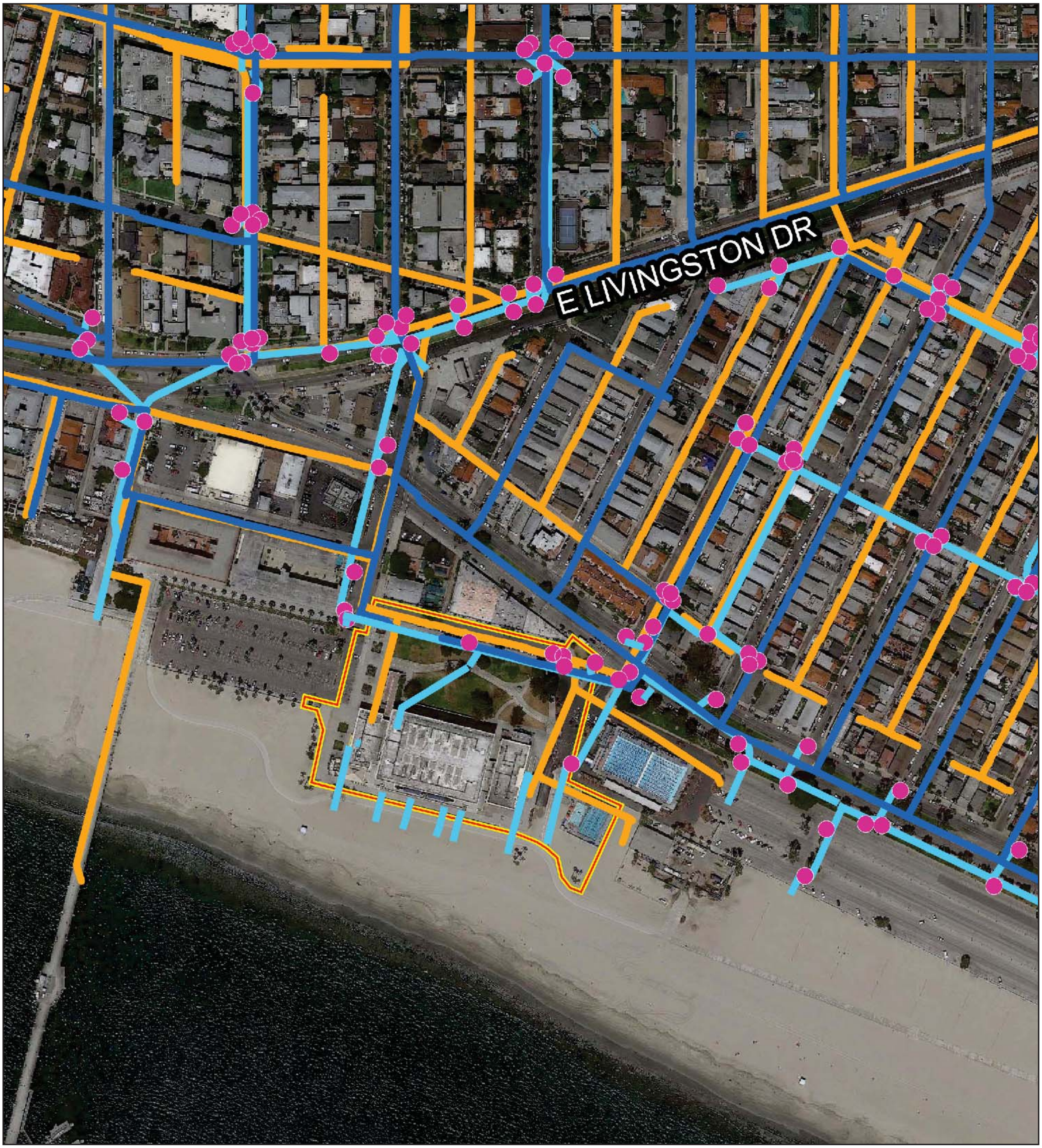

LSA

FIGURE 4.13.1

LEGEND

Project Site

Potable Water Lines

Reclaimed Water Lines

Existing Storm Drain Pipelines

Existing City Sewer Lines

Storm Drain Device

N

0 150 300

FEET

SOURCE: DigitalGlobe (4/08);City of Long Beach (2008, 1/09)

Belmont Pool Revitalization Project

Existing Utilities in the Project Vicinity

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The annual water demand associated with previous conditions on site represents approximately 0.031 percent of the water supply in the LBWD service area in 2010 and 0.029 percent of the water supply in the LBWD service area in 2015.

Wastewater. The LBWD operates and maintains nearly 765 mi of sanitary sewer lines and delivers over 40 million gallons per day (mgd) of wastewater to LACSD facilities located on the north and south sides of the City. Currently, a majority of the City's wastewater is delivered to the JWPCP of LACSD. The remaining portion of the City's wastewater is delivered to the Long Beach Water Reclamation Plant of LACSD. The JWPCP is located at 24501 S. Figueroa Street in the City of Carson and has a design capacity of 400 mgd, and currently processes an average flow of 280 mgd.[1]

The LACSD owns, operates, and maintains the large trunk sewers that form the backbone of the regional wastewater conveyance system. Local collector and/or lateral sewer lines are the responsibility of the jurisdiction in which they are located. The proposed Project is located within the jurisdictional boundaries of LACSD District 29. LACSD owns, operates, and maintains approximately 1,400 mi of sewers, ranging from 8 to 144 inches in diameter that convey approximately 500 mgd of wastewater to 11 wastewater treatment plants. Included in LACSD's wastewater collection system are 48 active pumping plants located throughout the County of Los Angeles (County).[2]

As noted in the comment letter (May 6, 2014) received by the LACSD, wastewater flow originating from the existing Project site discharges to a local sewer line, which is not maintained by the LACSD. Subsequently, wastewater in this sewer line is conveyed to either the LACSD's Anaheim Street Trunk Sewer located in 11th Street at Orange Avenue or the LACSD's Joint Outfall C Unit Trunk Sewer, located in 11th Street at Belmont Avenue. The 36-inch diameter Anaheim Street Trunk Sewer has a design capacity of 19.7 mgd and conveyed a peak flow of 5.7 mgd when last measured in 2012. The 51-inch diameter Joint Outfall C Unit Trunk Sewer has a design capacity of 29.2 mgd and conveyed a peak flow of 12.2 mgd, when last measured in 2012.[3]

As shown in Figure 4.13.1, the Project site has existing sanitary sewer lines that run along the perimeter of the Project site. The former Belmont Pool facilities generated wastewater from pool maintenance, restrooms and shower facilities, and the restaurant uses (La Palapa). According to the LACSD, a gymnasium with shower/locker room facilities would generate approximately 600 gallons per day (gpd) of wastewater per 1000 square feet (sf). In addition, according to LACSD, a restaurant use would generate approximately 1,000 gpd of wastewater per 1,000 sf. As such, it was estimated that the former Belmont Pool facility generated approximately 27,357 gpd[4] of wastewater and the previous restaurant uses associated with the former Belmont Pool facilities generated approximately 5,665 gpd of wastewater. The total wastewater generated was 33,022 gpd.

1 Los Angeles County Sanitation District (LACSD). Sewage Treatment. Website: http://www.lacsd.org/wastewater/wwfacilities/jwpcp/ (accessed January 21, 2015).
2 LACSD.Wastewater Collection Systems. Website: http://www.lacsd.org/wastewater/wwfacilities/wcs.asp. (accessed January 21, 2015).
3 LACSD. Letter dated May 6, 2014.
4 LACSD. Table 1, Loadings for Each Class of Land Use. Website: http://www.lacsd.org/civica/filebank/blobdload.asp?BlobID=3531 (accessed February 23, 2014).

Storm Drain. Storm water runoff from the Project site currently drains to a 12-inch reinforced concrete pipe (RCP) that runs under Olympic Plaza Drive, that then connects to an 18-inch RCP that transitions to a 24-inch RCP in Bennett Drive flowing northeast. The majority of the Project site sheet flows into Olympic Plaza Drive or one of the adjacent parking lots to the west or east of the Project site. A 10-inch storm drain previously ran from the former swimming pool and connected to the 12-inch storm drain in Olympic Plaza Drive, as well as several other down drains from the building.

Solid Waste. The City is a member of the LACSD. Within the City and at the Project site, solid waste collection services are provided by the City's Environmental Services Bureau. Citizens and businesses in the City generate an average of 368,000 tons of residential, commercial, and industrial waste each year. A large majority of the City's solid waste is disposed of at the Southeast Resource Recovery Facility (SERRF).[1] The City and LACSD have a Joint Powers Agreement to operate the SERRF, located at 120 Pier S Avenue in Long Beach. SERRF is a refuse-to-energy transformation facility that reduces the volume of solid waste by approximately 80 percent while creating electrical energy. The SERRF produces 36 megawatts (MW) of electricity for SCE per day,[2] which is enough to supply 35,000 homes with electrical power. Based on CalEEMod estimations, the Project site previously generated approximately 1 ton of solid waste per day.

The SERRF is the closest active solid waste facility operated by LACSD that could be used to dispose of waste generated at the Project site. Solid waste from the existing Project site was collected and trucked to the SERRF where it was processed through one of three boilers. In addition, the SERRF performs "front-end" and "back-end" recycling by recovering items such as white goods prior to incineration and collecting metals removed from the boilers after incineration. Each month, an average of 825 tons of metal are recycled rather than sent to a landfill. The Solid Waste Facility Permit from the County Solid Waste Management Program for the SERRF authorizes the disposal of a maximum of 2,240 tons per day. Currently, the SERRF accepts approximately 1,320 tons per day. Remaining capacity and estimated closure dates are not determined because the SERRF is a transformation facility that converts solid waste to energy and ash.[3] In 2011, approximately 203,040 tons, or 47 percent, of the solid waste disposed of by Long Beach residents and businesses were disposed of at the SERRF.[4]

As of October 31, 2013, the Puente Hills Landfill closed after 56 years of operation. Before the Puente Hills Landfill closed, the Puente Hills MRF accepted approximately 200 tons of waste per day. According to LACSD, upon the closure of the Puente Hills Landfill, residents and commercial haulers were encouraged to use other nearby LACSD's facilities for disposal and recycling. Alternative disposal options include two ramped-up Material Recovery Facilities (MRF) run by LACSD, the Downey Area Recycling and Transfer Facility (DART) in Downey, and the Puente Hills MRF, situated at the base of the Puente Hills Landfill. Beginning on November 1, 2013, the Puente

[1] LBGO. SERF. Website: http://www.longbeach.gov/lbgo/serrf/ (accessed January 21, 2015).
[2] LACSD. *Southeast Resource Recovery Facility (SERRF) Brochure*. Website: http://www.lacsd.org/solidwaste/swfacilities/rtefac/serrf/brochure.asp (accessed June 6, 2014).
[3] LBGO. SERF. Website: http://www.longbeach.gov/lbgo/serrf/ (accessed January 21, 2015).
[4] Los Angeles County Department of Public Works (LADPW), Environmental Programs Division. *Countywide Integrated Waste Management Plan, 2012 Annual Report August 2013*. Website: http://dpw.lacounty.gov/epd/swims/docs/pdf/CIWMP/2012.pdf (accessed January 22, 2015).

Hills MRF is able to accept up to approximately 3,000 tons of waste per day. Any residual waste is taken to out-of-county landfills.

According to the Los Angeles County Integrated Waste Management Plan 2012 Annual Report, nearly all solid waste in Los Angeles County is transported to disposal sites by truck. However, as public opposition to siting new or expanding existing disposal facilities near urban areas has grown, sites farther from the Los Angeles Basin have become more desirable, despite the costs associated with longer transport distances. For some sites, such as the Mesquite Regional Landfill in Imperial County, which is 210 miles from downtown Los Angeles, rail transport is an efficient means to transport solid waste to remote disposal sites. The Waste-by-Rail system will provide long-term disposal capacity to replace local landfills as they reach capacity and close. The starting point of the Waste-by-Rail System is the Puente Hills Intermodal Facility (PHIMF), located near the Puente Hills Materials Recovery Facility. Residual waste from materials recovery facilities and transfer stations located throughout the County will be loaded onto rail carts at the PHIMF, and then transported via rail to the Mesquite Regional Landfill for disposal. Completed in 2011, owned and operated by LACSD; the Mesquite Regional Landfill is permitted to receive up to 20,000 tons of municipal solid waste per day. Through the available MRFs run by LACSD; the temporary use of landfills in Orange, San Bernardino and Riverside Counties; and plans for future implementation of the waste-by-rail landfill system, Los Angeles County will be able to meet projected landfill needs.

4.13.3 Regulatory Setting

Federal Policies and Regulations.

Federal and State agencies regulate energy use and consumption through various means and programs. At the federal level, the United States Department of Transportation (DOT), the United States Department of Energy (DOE), and the United States Environmental Protection Agency (EPA) are the three federal agencies with substantial influence over energy policies and programs. Generally, federal agencies influence and regulate transportation energy consumption through establishing and enforcing fuel economy standards for automobiles and light trucks, through funding energy-related research and development projects, and through funding transportation infrastructure improvements. At the State level, the California Public Utilities Commission (CPUC) and the CEC are the two agencies with authority over different aspects of energy. The CPUC regulates privately owned utilities in the energy, rail, telecommunications, and water fields. The CEC collects and analyzes energy-related data; prepares statewide energy policy recommendations; plans, promotes, and funds energy efficiency programs; and adopts and enforces appliance and building energy-efficiency standards.

State Policies and Regulations.

Assembly Bill 939 – California Integrated Waste Management Act of 1989. The California Integrated Waste Management Act of 1989 (Assembly Bill [AB] 939) introduced an integrated waste management hierarchy to guide local agencies in the implementation of source reduction, recycling, composting, and environmentally safe transformation and land disposal. It required each county to establish a task force to coordinate the development of City Source Reduction and Recycling Elements (SRREs) and a countywide siting element. It also required each county to prepare, adopt, and submit an Integrated Waste Management Plan (IWMP) to the California

Integrated Waste Management Board (CIWMB), which was established by AB 939 to ensure the monitoring and enforcement of AB 939 mandates. Through source reduction, recycling, and composting activities, AB 939 required each city or county to divert 50 percent of all solid waste by January 1, 2000.

To note, on January 1, 2010, California's recycling and waste diversion efforts were streamlined into the new Department of Resources Recycling and Recovery – CalRecycle. CalRecycle manages programs created through two landmark initiatives – the Integrated Waste Management Act and the Beverage Container Recycling and Litter Reduction Act – that were formerly part of the CIWMB and the Department of Conservation (DOC). Now housed in the Natural Resources Agency, CalRecycle merges the duties of the CIWMB with those of the DOC's Division of Recycling to best protect public health and the environment by effectively and efficiently managing California's waste disposal and recycling efforts.

Although the requirements of AB 939 are directly applicable to cities and counties, AB 939 is also identified as a relevant regulation because individual development projects within the City contribute to the determination regarding whether the City is able to divert 50 percent of all solid waste.

Solid Waste Disposal Measurement Act (Assembly Bill 1016). The Solid Waste Disposal Measurement Act maintains the 50 percent diversion requirement from the Integrated Waste Management Act, but changes to a disposal-based measurement system, expressed as the 50 percent Equivalent Per Capita Disposal Target. This builds upon AB 939 by implementing a simplified and timelier indicator of jurisdiction performance that focuses on reported disposal at Board-permitted disposal facilities. More specifically, Senate Bill (SB) 1016 changes to a disposal-based indicator: the per-capita disposal rate. CalRecycle has calculated each jurisdiction's 50 percent equivalent per-capita disposal target (the diversion goal required under AB 939). For most jurisdictions, the 50 percent per-capita disposal target is based on the average of 50 percent of generation in 2003 through 2006 expressed in terms of per-capita disposal. Under the new measurement system, to meet the 50 percent target, a jurisdiction needs to annually dispose of an amount equal to or less than its 50 percent equivalent per-capita disposal target. The new per-capita disposal rate approach is not determinative of jurisdiction compliance. CalRecycle will use per-capita disposal as an indicator in evaluating program implementation and local jurisdiction performance. CalRecycle's evaluation will be focused on how jurisdictions are implementing their programs. The new per-capita disposal measurement system (SB 1016, Wiggins, Chapter 343, Statutes of 2008) became effective January 1, 2009.

Senate Bill 1327 – California Solid Waste Reuse and the Recycling Access Act of 1991. The California Solid Waste Reuse and Recycling Access Act of 1991, as amended, requires individual development projects to provide adequate storage areas for the collection and removal of recyclable materials. The size of these storage areas is to be determined by the appropriate jurisdiction's ordinance. If no such ordinance exists within the jurisdiction, the CIWMB-adopted ordinance shall take effect.

As discussed below, Chapter 8.60 of the Long Beach Municipal Code (LBMC) addresses solid waste, recycling, and litter prevention in the City. Despite the requirements set forth in Chapter 8.60 of the LBMC, the requirements in the California Solid Waste Reuse and the Recycling Access Act of 1991 are conservatively included in this analysis as all development projects within the State are required to provide adequate storage area for the collection and removal of recyclable materials per the Act.

Senate Bill 1374 – Construction and Demolition Waste Materials Diversion Requirements. SB 1374 (Kuehl), passed in 2002, requires that jurisdictions include in their annual AB 393 report a summary of the progress made in diverting construction and demolition waste. The legislation also requires that the CIWMB complete five items with regard to the diversion of construction and demolition waste: (1) adopt a model ordinance for diverting 50 to 75 percent of all construction and demolition debris from landfills; (2) consult with representatives of the League of California Cities, the California State Association of Counties, private and public waste services and building construction materials industry and construction management personnel during the development of the model ordinance; (3) compile a report on programs, other than the model ordinance, that local governments and general contractors can implement to increase the diversion of construction and demolition debris; (4) post a report on the agency's website for general contractors on methods by which contractors can increase diversion of construction and demolition waste materials; and (5) post on the agency's website a report for local governments with suggestions on programs, in addition to the model ordinance, to increase diversion of construction and demolition waste materials.

Although the requirements of SB 1374 are directly applicable to cities and counties, SB 1374 is also identified as a relevant regulation due to the fact that individual development projects within the City of Long Beach contribute to the determination whether the City is able to divert 50 to 75 percent of all construction and demolition debris from landfills.

Los Angeles County Integrated Waste Management Plan (1999). The Los Angeles County Integrated Waste Management Plan (CoIWMP), approved by the CIWMB on June 23, 1999, is a set of planning documents that sets forth a regional approach for the management of solid waste through source reduction, recycling and composting, and environmentally safe transformation and disposal.

The CoIWMP recognizes that landfills will remain an integral part of the County's solid waste management system in the foreseeable future and assures that the waste management practices of cities and other jurisdictions in the County are consistent with the solid waste diversion goals of AB 939.

The County continually evaluates landfill needs and capacity through its preparation of the CoIWMP annual reports. Within each annual report, future landfill disposal needs over the next 15-year planning horizon are addressed, in part, by determining the available landfill capacity. Landfill capacity is determined by several factors including: (1) the expiration of various landfill permits (e.g., land use permits, waste discharge requirement permits, solid waste facilities permits, and air quality permits); (2) restrictions to accepting waste generated only within a landfill's particular jurisdiction and/or watershed boundary; and (3) operational constraints. The most recent annual report was completed for 2012.

The CoIWMP includes the Countywide Integrated Waste Management Summary Plan (Summary Plan), which was approved by the CIWMP on June 23, 1999. Pursuant to AB 939, the Summary Plan describes the actions to be taken to achieve the mandated waste diversion goals of AB 939. The Summary Plan establishes Countywide goals and objectives for integrated waste management; establishes an administrative structure for preparing and managing the Summary Plan; describes the Countywide system of governmental solid waste management infrastructure; describes the current system of solid waste management in the County and the cities; summarizes the types of solid waste programs; describes programs that could be consolidated or coordinated Countywide; and analyzes how these Countywide programs are to be financed. As a result, a number of changes have occurred, such as regional solid waste management, demographics, and public awareness of environmental stewardship. At the same time, the County and the cities continue to enhance and expand their waste reduction efforts in response to changing conditions. As of 2011, the CIWMB approved the County's second Five-Year Review Report in August 2010, which concluded that an update to the Summary Plan is not necessary.[1]

As part of the CoIWMP and pursuant to AB 939, the County also prepared the Countywide Siting Element (Siting Element), which identifies goals, policies, and strategies that provide for the proper planning and siting of solid waste disposal and transformation facilities for the next 15 years. The Siting Element was approved by the CIWMB on June 24, 1998, and provides strategies and establishes siting criteria for evaluating the development of needed disposal and transformation facilities. In August 2010, the CIWMB approved the County's Second Five-Year Review Report, which provides a comprehensive analysis on the adequacy of the Summary Plan and Siting Element. The Five-Year Review Report confirmed the need to revise the Siting Element. The County continues to work with the Los Angeles County Integrated Waste Management Task Force in revising the Siting Element to reflect the most recent information regarding remaining landfill disposal capacity and the County's current strategy for maintaining adequate disposal capacity. The revised Siting Element would cover the 15-year planning period beginning 2010 through 2025. The goal is to complete the entire revision process, disseminate the document for public comment, and submit the final draft Siting Element document to CIWMB by early 2016.

The CIWMB is conservatively identified as a relevant regulation as its planning documents set forth the regional approach for the management of solid waste through source reduction, recycling and composting, and environmentally safe transformation and disposal. Individual development projects throughout the region contribute to the determination whether the CIWMB is ultimately implemented in a manner consistent with its desired approach.

Assembly Bill 341. On October 6, 2011, Governor Brown signed AB 341 establishing a State policy goal that no less than 75 percent of solid waste generated be source reduced, recycled, or composted by 2020. The bill also mandates that local jurisdictions implement commercial

[1] Los Angeles County Department of Public Works (LADPW), Environmental Programs Division. *Countywide Integrated Waste Management Plan, 2012 Annual Report August 2013*. Website: http://dpw.lacounty.gov/epd/swims/docs/pdf/CIWMP/2012.pdf (accessed January 22, 2015).

recycling by July 1, 2012. Finally, AB 341 requires California commercial enterprises and public entities that generate four or more cubic yards per week of waste, and multi-family housing complexes with five or more units, to adopt recycling practices.

Title 24 of the California Code of Regulations. Energy consumption by new buildings in California is regulated by the State Building Energy Efficiency Standards, embodied in Title 24 of the California Code of Regulations (CCR). The efficiency standards apply to both the new construction and rehabilitation of both residential and nonresidential buildings and regulate energy consumed for heating, cooling, ventilation, water heating, and lighting. The building efficiency standards are enforced through the local building permit process. Local government agencies may adopt and enforce energy standards for new buildings, provided these standards meet or exceed Title 24 Building Code requirements. Title 24 regulates building energy consumption for heating, cooling, ventilation, water heating, and lighting with regard to both electricity and natural gas. These standards are typically updated every 3 years by the CEC. The 2013 Standards will continue to improve upon the current 2008 Standards for new construction of, and additions and alterations to, residential and nonresidential buildings. The 2013 Standards went into effect on January 1, 2014, following approval of the California Building Standards Commission. Compliance with Title 24 energy efficiency requirements can be achieved through following a prescriptive approach outlined in the standards or following a performance approach using computer modeling. The prescriptive approach offers relatively little design flexibility but is easy to use, while the performance approach allows design flexibility that can be used to find the most cost-effective solutions, but which requires multiple calculations.

California Green Building Code (Title 24, Part 11). The purpose of the California Green Building Code (CALGreen Code) is to improve public health, safety, and general welfare by enhancing the design and construction of buildings through the use of building concepts having a positive environmental impact and encouraging sustainable construction practices in the following categories: (1) planning and design; (2) energy efficiency; (3) water efficiency and conservation; (4) material conservation and resource efficiency; and (5) environmental air quality. The CALGreen Code has approximately 52 nonresidential mandatory measures and an additional 130 provisions that have been placed in the appendix for optional use. Some key mandatory measures for commercial occupancies include specified parking for clean air vehicles, a 20-percent reduction of potable water use within buildings, a 50-percent construction waste diversion from landfills, use of building finish materials that emit low levels of volatile organic compounds, and commissioning for new, nonresidential buildings over 10,000 sf. Through its adoption of the CALGreen Code, the California Building Standards Commission set minimum green building standards that may, at the discretion of any local government entity, be applied. Beginning on January 1, 2014, the Long Beach Department of Development Services is required by State law to enforce the 2013 Edition of California Building Standards Codes (a.k.a., Title 24 of the CCR) (including Part 11, CALGreen Code). All projects submitted before or on December 31, 2013, are permitted to comply with the 2010 Edition of the California Building Standards Code.

California Energy Commission and the California Environmental Quality Act. In 1975, largely in response to the oil crisis of the 1970s, the State Legislature adopted AB 1575 (also known as the Warren-Alquist Act), which created the CEC. The statutory mission of the CEC is to forecast future energy needs; license power plants of 50 MW or larger; develop energy technologies and renewable energy resources; plan for and direct State responses to energy emergencies; and, perhaps most importantly, promote energy efficiency through the adoption and enforcement of appliance and building energy efficiency standards. AB 1575 also amended Public Resources Code (PRC) Section 21100(b)(3) and *State CEQA Guidelines* Section 15126.4 to require EIRs to include, where relevant, mitigation measures proposed to minimize the wasteful, inefficient, and unnecessary consumption of energy caused by a project. Thereafter, the State Resources Agency created Appendix F to the *State CEQA Guidelines*. Appendix F is an advisory document that assists EIR preparers in determining whether a project would result in the inefficient, wasteful, and unnecessary consumption of energy.

Local Policies and Regulations.

City of Long Beach Municipal Code. Chapter 8.60 of the LBMC addresses solid waste, recycling, and litter prevention in the City. Sections 8.60.025 and 8.60.020 establish standards and guidelines regarding refuse and recycling receptacles for removing and conveying waste; Section 8.60.080 addresses waste requiring special handling (e.g., material likely to become airborne); and Section 8.60.080 discusses permitting surrounding refuse transportation. Chapter 18.67 discusses regulations surrounding the City's construction and demolition recycling program. Section 18.67.020 applies to all construction projects issued a building permit after January 1, 2014, and requires that each project having a valuation greater than $200,000 to divert at least 60 percent of all project-related construction and demolition material.

As future property owners or occupants utilizing receptacles on the site would be serviced by the City, operational activities would be subject to the applicable requirements of Section 8.60 of the LBMC. In addition, since the proposed Project would have a valuation greater than $200,000, it would be subject to the applicable requirements of Section 18.67.020 of the LBMC.

Title 15, Public Utilities, of the LBMC includes seven chapters regulating wastewater line connections and the development of new wastewater facilities. Specifically, Chapter 15.01, Sewer-Rules, Regulations, and Charges, establishes that the current edition of the rules, regulations, and charges governing water and sewer service are to be approved by the Board of Water Commissioners. Chapter 15.08, Sewers-Permits, specifies that only employees of the Water Department are allowed to construct or alter a public sewer, a sewage pumping plant, a private sewer in a public street, or a house connection, or make a connection from a building sewer to a house connection unless a permit from the general manager has been provided. Chapter 15.16, Sewers-Industrial Waste and Wastewater, requires a permit for the release of any industrial waste into a mainline sewer. Chapter 15.20, Sewers-Use Regulations, prohibits the discharge of any of the following items into any public sewer in the City:

- Earth, sand, rocks, ashes, gravel, plaster, concrete, glass, metal filings or metal objects, or other materials which will not be carried by the sewer stream or anything which may obstruct the flow of sewage in the sewer or any object which will cause clogging of a sewage pump or a sewage sludge pump;

- Any garbage which has not been first shredded so that each particle is not more than 3/8 of an inch in any dimension or any garbage containing broken glass;
- Any solid or semisolid material such as garbage, trimmings, cuttings, offal, or other waste produced in the processing of meats, fruits, vegetables, foodstuffs or similar materials except garbage produced which meets the requirements of Chapters 15.04 through 15.28 and the rules, regulations, and charges governing water and sewer service;
- Any volatile liquids or substances which can produce toxic or flammable atmospheres in the sewer;
- Any compounds which may produce strong odors in the sewer or sewage treatment plant;
- Any storm water or runoff from any roof, yard, driveway, or street;
- Any materials which will cause damage to any part of the sewer system or abnormal sulphide generation or abnormal maintenance or operation costs of any part of the sewer system or which may cause any part of the sewer system to become a nuisance or a menace to public health or a hazard to workers or which will cause objectionable conditions at the final point of disposal of the sewage;
- Any liquid having a temperature in excess of 120 degrees Fahrenheit (ºF);
- Unpolluted water from refrigeration systems, air conditioning systems, industrial cooling systems, swimming pools, or other unpolluted water from any origin except as authorized by the general manager; or
- Any radioactive waste which constitutes or may constitute a public health hazard or endanger workmen charged with the maintenance of public sewers.

In addition, Chapter 15.20 includes regulations regarding building sewer lines across another lot; maintenance; existing sewers; backflow prevention; backflow noncompliance; septic tank abandonment; dumping contents of septic tanks or cesspools; opening manholes; damaging sewers; disposal of uncontaminated water; cellar and shower drainage; maintenance of facilities; and inspections. Finally, Chapters 15.24 and 15.28 include regulations for installations and inspections, respectively.

Given the proposed Project’s location within the City of Long Beach, the above-referenced sections of the LBMC are applicable to the proposed Project.

Fire Flow. The City adopted the California Fire Code (CFC), with some amendments and modifications, as part of the City’s Municipal Code. The modifications include amendments to fire extinguisher and storage requirements. Generally, the intent of the CFC is to prescribe regulations consistent with nationally recognized good practices for the safeguarding of life and property from the hazard of fire and explosion. Fire flow is the quantity of water available or needed for fire protection in a given area, and is normally measured in gallons per minute (gpm), as well as the duration of flow. Fire flow requirements, found in the City’s Municipal Code, are based on building types and floor area and range from 1,250 to 8,000 gpm at 20 pounds per square inch (psi).

In accordance with the CFC, the Long Beach Fire Department (LBFD) requires the installation of sprinkler systems in many new buildings, including retail buildings in excess of 5,000 square feet (sf) and buildings greater than 55 feet (ft) in height. In addition, on-site hydrants are required in any portion of a Project site that exceeds the allowable distance from a public hydrant located in the right-of-way. Fire flow requirements are subject to LBFD standards based on the type of building and its uses on a case-by-case basis.

City of Long Beach Construction and Demolition Ordinance. In response to State-mandated waste reduction goals, and as part of the City's commitment to sustainable development, the City of Long Beach adopted an ordinance that requires certain demolition and/or construction projects to divert at least 60 percent of waste through recycling, salvage, or deconstruction.

The Construction & Demolition Debris Recycling (C&D) Program, which took effect on November 5, 2007, aims to encourage permit applicants to recycle all C&D materials through a refundable performance deposit. The C&D program also encourages the use of green building techniques in new construction and promotes reuse or salvaging of recyclable materials in demolition, deconstruction, and construction projects.

In accordance with the C&D program, a Waste Management Plan (WMP) must be completed and approved prior to permits being issued. The WMP details how the Project will meet the requirement to divert 60 percent of C&D waste either through recycling, salvage, or deconstruction. At the conclusion of the Project, a final report detailing the amount of reuse, recycling, and disposal actually generated from the proposed Project must be submitted and approved by the City's Development Services Department prior to the Applicant receiving refund of the performance deposit. Projects that do not meet the 60 percent requirement may receive a partial refund in proportion to actual diversion.[1]

City of Long Beach General Plan. Public safety goals and recommendations are included in the Public Safety Element (1975) of the City's General Plan. The following goal is applicable to the proposed Project:

> **Development Goal 6.** Encourage transportation systems, utilities, industries, and similar uses to locate and operate in a manner consistent with public safety goals.

1 City of Long Beach. Construction and Demolition Ordinance. Website: http://www.lbds.info/civica/filebank/blobdload.asp?BlobID=2529 (accessed June 9, 2014).

4.13.4 Impact Significance Criteria

The thresholds for impacts related to geology and soils used in this analysis are consistent with Appendix G of the *State CEQA Guidelines*. The proposed Project may be deemed to have a significant impact with respect to utilities and service systems if it would:

Threshold 4.13.1:	**Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board (RWQCB);**
Threshold 4.13.2:	**Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects;**
Threshold 4.13.3:	**Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects;**
Threshold 4.13.4:	**Have sufficient water supplies available to serve the project from existing entitlements and resources, or require new or expanded entitlements;**
Threshold 4.13.5:	**Result in a determination by the wastewater treatment provider that serves or may serve the project that it has inadequate capacity to serve projected demand in addition to the provider's existing commitments;**
Threshold 4.13.6:	**Be served by a landfill with insufficient permitted capacity to accommodate the project's solid waste disposal needs;**
Threshold 4.13.7:	**Comply with federal, State, and local statutes and regulations related to solid waste;**
Threshold 4.13.8:	**Include a new or retrofitted storm water treatment control Best Management Practice (BMP), (e.g., water quality treatment basin, constructed treatment wetland), the operation of which could result in significant environmental effects (e.g., increased vectors and odors);**
Threshold 4.13.9:	**Result in substantial adverse physical impacts associated with the provision of new or physically altered energy transmission facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable levels of service; or**
Threshold 4.13.10:	**Result in substantial adverse physical impacts associated with the provision of or need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services: including fire protection, police protection, schools, or other public facilities.**

Threshold 4.13.9 was not evaluated in the Initial Study (IS) prepared for this Project. It has been included in this Draft EIR in response to Appendix F of the *State CEQA Guidelines*, which requires that EIRs include a discussion of potential energy impacts of a proposed project with particular emphasis on avoiding or reducing inefficient, wasteful, and unnecessary consumption of energy (refer to PRC 21100(b)(3) and Appendix F of the *State CEQA Guidelines*). Due to the fact that the proposed Project would redevelop the Project site with expanded Belmont Pool facilities, and as such, would not include on-site housing or result in population growth, the IS provided in Appendix A determined that the proposed Project would not result in impacts associated with the provision of new or physically altered governmental facilities related to fire protection, police protection, schools, libraries, and City resources (i.e., City staff) (Threshold 4.13.10). Therefore, these topics are not analyzed further in the Draft EIR.

CEQA Baseline. At the time the NOP was published (April, 2014), the project site contained both the Belmont Pool facilities and the outdoor temporary pool (opened in December 2013 to provide swimming facilities while the permanent facility is under construction). Although the site contained the former Belmont Pool building at the time of the NOP, the facility was subsequently demolished in February 2015 to alleviate an imminent public safety threat due to the seismically unsafe condition of the building.

The inclusion of the former building for assessing utility impacts is appropriate because the site has been dedicated as the Belmont Pool Plaza since 1962 and in use for approximately 45 years as a recreational and competitive pool facility. Substantial evidence supports the determination that the Belmont Pool building as the baseline for utility impacts is appropriate because it is based on recent historical use, its long-term presence on the project site, and consistency with the City’s land use designations for the site.

4.13.5 Project Impacts

Threshold 4.13.1: Would the project exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board (RWQCB)?

Less than Significant Impact.

Construction. Wastewater from the Project site would be treated at LACSD’s JWPCP. This facility is responsible for disposal of treated wastewater. The Los Angeles Regional Water Quality Control Board (RWQCB) regulates the treatment of wastewater at treatment plants and the discharge of treated wastewater into receiving waters. LACSD’s JWPCP is responsible for adhering to Los Angles RWQCB regulations as they apply to wastewater generated by the Project. As discussed in Section 4.8, Hydrology and Water Quality, due to the depth to groundwater (between 6 and 9 ft below ground surface [bgs]) and the anticipated depth of excavation (up to 13 ft below existing grade), there is a potential for the groundwater table to be encountered during excavation, which may require groundwater dewatering. As specified in Mitigation Measure 4.8.2, any groundwater dewatering during excavation would be conducted in accordance with the Los Angeles RWQCB’s Groundwater Discharge Permit, which would require testing and treatment (as necessary) of groundwater encountered during groundwater dewatering prior to release to a storm drain. If groundwater used during construction of the proposed Project cannot meet discharge limitations specified in the Ground Water Discharge Permit, a permit would be obtained from LACSD to dispose of the groundwater to the sewer system. The groundwater would have to meet LACSD discharge limitations prior to discharge to the sewer system. The discharge limitations ensure that the groundwater does not contain constituents in levels that would affect the LACSD JWPCP's ability to comply with the Los Angeles RWQCB regulations. In addition, LACSD would ensure they have adequate capacity to accommodate the discharged groundwater prior to issuing a permit. Therefore, since the capacity and discharge limitations of the treatment facility that serve the Project would not be exceeded, impacts regarding the ability of the treatment facility to treat and dispose of wastewater would be less than significant, and no mitigation is necessary.

Operation. As stated above, wastewater from the Project site would be treated at LACSD's JWPCP. This facility is responsible for disposal of treated wastewater. The Los Angeles RWQCB regulates the treatment of wastewater at treatment plants and the discharge of treated wastewater into receiving waters. LACSD's JWPCP is responsible for adhering to the Los Angeles RWQCB regulations as they apply to wastewater generated by the proposed Project. LACSD's JWPCP has been designed to treat typical wastewater flows from different land uses in the City of Long Beach and the greater Los Angeles area. The proposed Project would comply with all applicable sections of Title 15, Public Utilities, of the LBMC, and as such, would generate wastewater flows typical of similar uses in the City. In addition, the Project site has been developed with a recreational pool facility for approximately 45 years and has been provided wastewater service during that time. Although the proposed Project expands the size of the existing pool structure, the proposed Project would not produce wastewater atypical of flows received at the LACSD's JWPCP previously received from the project site. As discussed below under Thresholds 4.13.2 and 4.13.5, wastewater generated by the proposed Project would not require or result in the construction of new wastewater treatment facilities or expansion of existing facilities; and would not result in a determination by the wastewater treatment provider that they have inadequate capacity to serve the Project's projected demand in addition to existing commitments. Therefore, since the capacity of the treatment facility that serves the Project site would not be exceeded with project implementation, no impacts regarding the ability of the treatment facility to treat and dispose of wastewater would occur from Project implementation. Thus, Project impacts related to exceeding wastewater treatment requirements of the applicable RWQCB are considered less than significant, and no mitigation is required.

Threshold 4.13.2: **Would the project require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?**

or

Threshold 4.13.4: **Would the project have sufficient water supplies available to serve the project from existing entitlements and resources, or require new or expanded entitlements?**

Note: This section discusses the potential Project impacts related to water supplies and facilities. Wastewater generation facilities are discussed under the following thresholds: Thresholds 4.13.2 and 4.13.5.

Less than Significant Impact. The Project includes the construction and operation of new Belmont Pool facilities that would include 125,500 sf of new building space for the Belmont Pool facilities (an increase of 79,905 sf as compared to the former Belmont Pool facilities); 18,610 sf of surface area for the indoor pool; 17,840 sf of surface area for the outdoor pool; 1,500 sf for the proposed outdoor cafe space; permanent indoor seating for 1,250 people; and temporary outdoor seating for up to 3,000 people. Proposed water service to the Project site would include a connection to an existing 6-inch line, which connects to an existing water main under East Olympic Plaza. No new off-site water mains or laterals would be required to serve the proposed Project. Project development would result in both short-term and long-term increases in water demand.

Construction. Construction of the proposed Project would involve grading, site preparation, and construction of the new pool complex. A short-term demand for water would occur during construction associated with excavation, grading, and other construction-related activities on the Project site. As the Project construction activities would occur in phases over an approximately 1 to 2-year period, construction activities would occur intermittently and would be temporary in nature. It is anticipated that the temporary demand for water supplies for soil watering (fugitive dust control), clean up, masonry, and other related activities would not result in water demand atypical of the size and scale of this construction project. Water for construction activities would be provided by water tank trucks with a typical capacity for construction activities. Water supply would be from the LBWD municipal supply. Overall, the Project's demolition and construction activities are not expected to have any adverse impacts on the existing water system or availability of water supplies. Therefore, impacts associated with short-term construction activities would be less than significant, and no mitigation is required.

Operation. The LBWD provided water services to the previous pool complex and pool facilities. As previously stated, proposed water service to the Project site would include a connection to an existing 6-inch asbestos cement (AC)[1] line that connects to an existing water main under East Olympic Plaza. No new off-site water mains or laterals would be required to serve the proposed Project.

The proposed Project would implement, replace, and improve the previous pool complex, resulting in an increase of 18,040 sf of surface water (from a previous surface area of 18,410 sf total to the proposed 36,450 sf) and an additional 79,905 sf of building area, each of which would require a periodic increase in water service/supply. Based on water use estimates obtained from CalEEMod, operation of the proposed Project is anticipated to result in a water demand of 38.23 af/year. As shown in Table 4.13.B, this is an increase of 18.62 af/year.

1 Asbestos cement pipe was commonly used for pipes before asbestos was determined to be hazardous when airborne and does not pose any hazard as a result of water contact or transmission. However, in the event that new connections are required for the Proposed project, pipe material would consist of a different code-approved material such as copper or polyvinyl chloride.

Table 4.13.B: Proposed Project Water Demand

Use	Water Demand (acre feet per year)
Previous Belmont Pool Facilities	19.61
Proposed Project	38.23
Change in Water Demand	**18.62**

As discussed above, the City's Urban Water Management Plan (UWMP) provides water demand projections in 5-year increments through 2035, which are based on demographic data from the SCAG's 2008 Regional Transportation Plan, as well as billing data for each major customer class, weather, and conservation. The increase in water demand associated with the proposed Project represents approximately 0.027 percent of the LBWD water supply in 2015. Given that the proposed Project is not changing the land use on the Project site and the relatively small increase in water demand, it is anticipated that the increase in water demand attributable to the proposed Project would fall within the available and projected water supplies of the 2010 UWMP. The proposed Project would not necessitate new or expanded water entitlements or infrastructure as significant increases in water demands would not result from the proposed Project.
In addition, like all new development in California, the proposed Project would comply with California State law regarding water conservation measures, including pertinent provisions of Title 24 of the California Government Code (Title 24) regarding the use of water-efficient appliances. The proposed Project would also incorporate additional water conservation measures including, but not limited, to the following:

- Low-flow irrigation system with drip irrigation for shrub areas (90 percent efficiency)
- Rain sensors in conjunction with the automatic irrigation system
- Installation of mulch and/or soil amendments to help retain moisture
- Pool blankets
- Water-efficient plumbing fixtures
- Drought-tolerant landscaping

Furthermore, the proposed Project would be built to meet the standards associated with the Leadership in Energy and Environmental Design (LEED) Gold rating, which includes features that would greatly enhance water conservation (see Section 3.0, Project Description).

Therefore, because it is anticipated that the increase in water demand attributable to the proposed Project would fall within the available and projected water supplies of the 2010 UWMP and the proposed Project would incorporate additional water conservation features, impacts associated with the long-term operation of the proposed Project would be less than significant, and no mitigation is required.

Fire Flow. Fire flow requirements are based on building types and floor area and range from 1,250 to 8,000 gpm at 20 psi. In order to comply with the requirements of the LBFD, the proposed Project would be required to implement the minimum requirements for fire flow. Prior to the issuance of building permits, the approval of final building design, including all fire prevention and suppression systems, by the LBFD is required. Approval of the final building design would ensure that development is constructed pursuant to California Fire Code (CFC) requirements. Adequate fire flow is an integral part of the proposed Project's final building design. Thus, adequate fire flow would be assured through LBFD review of the final building design. With the payment of fees pursuant to Chapter 18.23 of the Fire Code and the implementation of applicable building code requirements in accordance with the CFC, including fire flow requirements, the LBFD would be able to maintain acceptable performance ratios and fire flow requirements without requiring a new fire protection facility or expansion to the existing fire protection facility. Potential impacts related to fire flow would be less than significant, and no mitigation is required.

Threshold 4.13.2: Would the project require or result in the construction of new water or wastewater treatment or collection facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

or

Threshold 4.13.5: Would the project result in a determination by the wastewater treatment provider that serves or may serve the project that it has inadequate capacity to serve projected demand in addition to the provider's existing commitments?

Note: This section discusses wastewater generation and facilities. Water supplies and facilities are discussed under the previous threshold: Thresholds 4.13.2 and 4.13.5.

Less than Significant Impact. Wastewater (sewer) collection for the Project site would be provided by LBWD, and the JWPCP would provide treatment of wastewater generated by the proposed Project. The Project site has an existing 6-inch vitrified clay pipe (VCP) that ran along the east and west side of the previous building. There were six connections to the 8-inch VCP sewer main located under East Olympic Plaza. The proposed Project would utilize the existing connections to the sewer main, and no new off-site sewer lines or laterals would be required to serve the proposed Project.

Construction. No significant increase in wastewater flows is anticipated as a result of construction activities on the Project site. Sanitary services during construction would likely be provided by portable toilet facilities, which transport waste off site for treatment and disposal. As discussed above under Threshold 4.13.1, if dewatered groundwater cannot be disposed of in the storm drain system, a permit would be obtained from LACSD to dispose of the groundwater to the sewer system. Groundwater dewatering activities would be temporary, and the volume of groundwater removed would not be substantial. In addition, LACSD would ensure they have adequate capacity to accommodate the discharged groundwater prior to issuing a permit.

Therefore, during construction, potential impacts to wastewater treatment and wastewater conveyance infrastructure would be less than significant, and no mitigation is required.

Operation. Utilizing the LACSD wastewater generation factor of 600 gpd per 1,000 sf for a gymnasium with shower/locker room and public restroom facilities and a generation factor of 1,000 gpd per 1,000 sf for restaurant uses, it was determined that the previous uses on the Project site generated approximately 30,756 gpd of wastewater. The proposed Project facilities would include approximately 127,600[1] sf (including the restaurant use), which would generate approximately 77,160 gpd of wastewater. See Table 4.13.C for the previous and proposed wastewater generation.

Table 4.13.C: Wastewater Generation

	Area (sf)	Flow Coefficient	Projected Daily Wastewater Generation (gpd)
Previous Total Daily Wastewater Generation	51,260 sf	600 gpd/1,000 sf for gymnasium with shower/locker room facilities 1,000 gpd/1,000 sf for restaurant uses	30,756
Proposed Total Daily Wastewater Generation	127,600	600 gpd/1,000 sf for gymnasium with shower/locker room facilities and public restroom facilities 1,000 gpd/1,000 sf for restaurant uses	77,160
Change in Wastewater Generation			**+46,404**

Source: Los Angeles County Sanitation District Average Wastewater Generation Factors. Table 1, Loadings for Each Class of Land Use.
gpd = gallons per day
sf = square feet

Wastewater Conveyance. As described above, sanitary sewer lines run along the perimeter of the Project site and include two 6-inch VCP along the east and west sides of the former building. There were six connections to the 8-inch VCP sewer main located under East Olympic Plaza. During construction, sewer service to the property to the north of the Project site would be maintained as required by LBWD. No new off-site sewer lines or laterals would be required to serve the proposed Project.

Local collector and/or lateral sewer lines are the responsibility of the jurisdiction in which they are located. The existing sewer lines to which the Project site currently connects are owned and maintained by the City. Before the Department of Development Services issues building permits, the LBWD must confirm that the City's Tidelands Capital Improvement Division has conducted a sewer capacity study substantiating that there is adequate sewer capacity available to accommodate flows from the proposed Project. In addition, the LBWD would require the approval of a sewer connection permit to allow connections to existing laterals. In the event that wastewater lines are found to contain insufficient capacity, be substandard, or in deteriorated

[1] The proposed Project facilities include 125,500 sf in building space + 600 sf in public restroom space + 1,500 sf in outdoor cafe use.

condition during the permitting and development process, a larger sewer line or a secondary sewer line would be necessary to connect to the nearest larger sewer line with sufficient capacity. Should larger or additional lines be required at a future date, the City's Tidelands Capital Improvement Division would be required by City regulations to make necessary improvements to achieve adequate service in consultation with the LBWD. The design of the proposed on-site wastewater lines, as well as any necessary wastewater line improvements, would be developed by a registered engineer and approved by the LBWD. As a result, the issuance of all applicable building permits would ensure that adequate sewer capacity is available prior to the start of construction.

As described above, wastewater originating at the Project site is conveyed by City sewer lines to either the LACSD's Anaheim Street Trunk Sewer located in 11th Street at Orange Avenue or the LACSD's Joint Outfall C Unit Trunk Sewer, located in 11th Street at Belmont Avenue. The 36-inch diameter Anaheim Street Trunk Sewer has a design capacity of 19.7 mgd and conveyed a peak flow of 5.7 mgd when last measured in 2012. The 51-inch diameter Joint Outfall C Unit Trunk Sewer has a design capacity of 29.2 mgd and conveyed a peak flow of 12.2 mgd, when last measured in 2012.[1] The anticipated increase in daily wastewater flow from the proposed Project would require approximately 0.33 percent of the existing available design capacity of the Anaheim Street Trunk Sewer and 0.27 percent of the existing available design capacity Joint Outfall C Unit Trunk Sewer. Therefore, both trunk sewers would have sufficient capacity to accommodate anticipated wastewater flows from the proposed Project.

As such, the proposed Project is not anticipated to cause a substantial increase in wastewater flows at a point where, and a time when, a sewer's capacity is already constrained or that would cause a sewer's capacity to become constrained. Impacts upon the local wastewater infrastructure system would, therefore, be considered less than significant, and no mitigation is required.

Wastewater Treatment. According to LACSD, it is anticipated that wastewater from the Project site would be treated at the JWPCP located in the City of Carson, which has a design capacity of 400 mgd and currently treats on average a wastewater flow of 280 mgd. The anticipated increase in daily wastewater flow that would result from Project implementation would represent .06 percent of the anticipated available daily capacity of the JWPCP. Therefore, the anticipated increase in daily wastewater flow from the proposed Project could be accommodated within the existing design capacity of the JWPCP. The proposed Project would not substantially or incrementally exceed the current or future scheduled capacity of the JWPCP by generating flows greater than those anticipated.

In addition, the projected wastewater flow calculations for the proposed Project do not account for the implementation of water conservation measures proposed by the City, which would further reduce wastewater flows beyond the projections noted above. Potential Project impacts related to wastewater treatment would be less than significant, and no mitigation is required.

1 LACSD. Letter dated May 6, 2014.

Threshold 4.13.3: Would the project require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

Less than Significant with Mitigation Incorporated. The Project includes the construction of new Belmont Pool facilities on the Project site. Operation of the former Belmont Pool facilities mostly generated onsite surface runoff with little to no surface flow entering the Project site from other areas. As stated previously, the existing storm drain system that served the former Belmont Pool facilities consists of a 12-inch reinforced concrete pipe (RCP) that runs under Olympic Plaza Drive, then connects to an 18-inch RCP that finally transitions to a 24-inch RCP in Bennett Drive flowing northeast. The majority of the Project site sheet flows into Olympic Plaza Drive or one of the adjacent parking lots to the west or east of the Project site. A 10-inch storm drain runs from the former swimming pool and connects to the 12-inch storm drain in Olympic Plaza Drive, as well as several other down drains from the building.

The capacity of the downstream storm drain network is dependent on peak discharge rates entering the system. As discussed in Section 4.8, Hydrology and Water Quality, in the existing condition, the Project site consists of 4.3 ac of impervious surface area (74 percent of the site) and 1.5 ac of pervious surface. The proposed Project would result in a permanent decrease in impervious surface area of 0.5 ac and 0.5 ac in pervious area. As a result, in the proposed condition, the Project site would consist of 1.6 ac of impervious surface area and 4.2 ac of pervious surface. A decrease in impervious area would decrease the volume of runoff during a storm. The proposed Project would also include a comprehensive drainage system to convey on-site storm flows, including on-site detention and infiltration systems. A detailed hydrology report would be prepared for the proposed Project to ensure that the on-site storm drain facilities are designed in accordance with the requirement of the Los Angeles County Department of Public Works Hydrology Manual to ensure that the runoff from the project site does not exceed existing conditions (refer to Mitigation Measure 4.8.4). With implementation of Mitigation Measure 4.8.4, runoff from the Project site would not exceed the capacity of the existing storm water drainage system and the proposed Project would not require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects. Therefore, impacts related to new or expanded storm water facilities would be less than significant with implementation of Mitigation Measure 4.8.4.

Threshold 4.13.6: Would the project be served by a landfill with insufficient permitted capacity to accommodate the project's solid waste disposal needs?

or

Threshold 4.13.7: Would the project not be in compliance with federal, State, and local statutes and regulations related to solid waste?

Less than Significant Impact. The former Belmont Pool facilities were demolished in February 2015. The proposed Project includes construction of new Belmont Pool facilities. For the purpose of this analysis, it is assumed that construction and operational solid waste would be disposed of at the SERRF because it is the closest active solid waste facility to the Project site. Any solid waste considered unprocessable to the SERRF (i.e., would damage or threaten to damage combustion units or otherwise adversely affect maintenance of SERRF, present a substantial endangerment to the health or safety of the public or SERRF employees, cause any permit requirement or condition to be violated, or exceed the materials handling capacity of the combustion feed system[1]) would be taken to landfills in Orange, San Bernardino and Riverside Counties.

Construction. The former Belmont Pool facilities were demolished in February 2015. The proposed Project includes construction of new Belmont Pool facilities. Construction of the new Belmont Pool facilities would generate C&D waste, including, but not limited to, soil, wood, asphalt, concrete, paper, glass, plastic, metals, and cardboard. The total amount of construction and demolition of waste that would be generated by the proposed Project has not been determined; however, the Project is required to comply with the City's 2007 Ordinance requiring that at least 60 percent of construction and demolition waste be recycled.In order to comply with the City's Ordinance, the City would implement a Construction & Demolition Debris Recycling Program. In accordance with the C&D Debris Recycling program, a Waste Management Plan (WMP) must be completed. The WMP would detail how the Project will meet the requirement to divert 60 percent of construction and demolition waste through recycling, salvage, or deconstruction. At the conclusion of the Project, a final report detailing the amount of reuse, recycling, and disposal actually generated from the proposed Project must be submitted and approved by the City's Development Services Department.[2]

The Solid Waste Facility Permit from the County Solid Waste Management Program for the SERRF authorizes the disposal of a maximum of 2,240 tons per day. Currently, the SERRF accepts approximately 1,320 tons per day. It is expected that the SERRF would continue to operate at current permitted daily capacity during the planning period of 2012 through 2027.[3] Construction of the proposed Project is anticipated to commence in 2017 and be completed within approximately 18 months. Therefore, solid waste generated by construction of the proposed Project would be served by SERRF, which currently has sufficient permitted capacity. Solid waste generated during construction of the proposed Project would not result in significant impacts related to landfill capacity or prevent compliance with federal, State, and local statutes and regulations related to solid waste. Therefore, impacts related to short-term construction and demolition waste would be less than significant, and no mitigation is required.

Operation. The Project site was previously developed with the former Belmont Pool facilities. Based on CalEEMod, it was determined that the former Belmont Pool facilities generated approximately 1 ton of solid waste per day. The proposed Project would include construction of approximately 79,905 sf of new Belmont Pool facilities for recreational use and a 1, 500 sf restaurant use. Upon completion of the Project, the new expanded pool complex would result in an increase in capacity and usage that would generate additional solid waste. The volume of solid

1 LBGO. Acceptable Waste. Website: http://www.longbeach.gov/lbgo/serrf/acceptable_waste.asp, (accessed September 26, 2013).

2 City of Long Beach, Construction and Demolition Ordinance. Website: http://www.lbds.info/civica/filebank/blobdload.asp?BlobID=2529 (accessed June 9, 2014).

3 LADPW. Environmental Programs Division. *Countywide Integrated Waste Management Plan, 2012 Annual Report August 2013*. Website: http://dpw.lacounty.gov/epd/swims/docs/pdf/CIWMP/2012.pdf (accessed January 22, 2015).

waste that would be generated by the proposed Project was calculated using CalEEMod. The total solid waste that would be generated during Project operation was estimated at 2.01 tons per day, which is an increase of 1.01 tons per day.

The Solid Waste Facility Permit from the County of Los Angeles Solid Waste Management Program for the SERRF authorizes the disposal of a maximum of 2,240 tons of waste per day.[1] Currently, the SERRF accepts approximately 1,290 tons of waste per day.[2] The anticipated increase in solid waste disposal attributable to the proposed Project would require 0.11 percent of the available daily disposal capacity at SERRF. The Mesquite Landfill is authorized to accept approximately 20,000 tons of waste per day.[3] The anticipated increase in solid waste disposal attributable to the proposed Project would require 0.005 percent of the available daily disposal capacity at the Mesquite Landfill. Therefore, both SERFF and the Mesquite Landfill have adequate capacity to serve the proposed Project, and impacts related to operational solid waste would be less than significant. No mitigation is required.

Compliance with Federal, State, and Local Statutes and Regulations related to Solid Waste. The City has extensive recycling programs, which include refuse management programs within its source reduction, composting, special waste materials, transformation, policy incentives, facility recovery, and public education components that help reduce the amount of trash sent to landfills (including the SERRF). The City also enacted an ordinance in 2007 that requires certain construction and demolition projects to recycle at least 60 percent of waste generated. These efforts have given the City one of the highest waste diversion rates in the nation.

Waste diversion for the proposed Project is anticipated to be consistent with other similar development within the City and divert a high percentage of trash from landfills based on compliance with standard City practices and regulations. In addition, the City would be required to implement a C&D program during construction. The City's C&D Debris Recycling Program required at least 60 percent of C&D waste (e.g., concrete, metals, and asphalt) to be recycled.

Additionally, the proposed Project would include on-site recycling containers and adequate storage area for such containers. All containers and storage areas on the Project site would be sized in accordance with the applicable provisions in the LBMC, including Sections 8.60.025 and 8.60.020, which establish standards and guidelines regarding refuse and recycling receptacles. Based on these considerations, the proposed Project would be consistent with the State of California Solid Waste Reuse and Recycling Access Act of 1991.

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1 LADPW. Environmental Programs Division. *Countywide Integrated Waste Management Plan, 2012 Annual Report August 2013*. Website: http://dpw.lacounty.gov/epd/swims/docs/pdf/CIWMP/2012.pdf (accessed January 22, 2015).

2 LACSD. *Southeast Recovery Facility (SERF) Brochure.* Website: http://lacsd.org/solidwaste/swfacilities/rtefac/serrf/brochure.asp (accessed January 22, 2015).

3 LADPW. Environmental Programs Division. *Countywide Integrated Waste Management Plan, 2012 Annual Report August 2013*. Website: http://dpw.lacounty.gov/epd/swims/docs/pdf/CIWMP/2012.pdf (accessed January 22, 2015).

Threshold 4.13.8: Would the project include a new or retrofitted storm water treatment control Best Management Practice (BMP), (e.g., water quality treatment basin, constructed treatment wetland), the operation of which could result in significant environmental effects (e.g., increased vectors and odors)?

Less than Significant with Mitigation Incorporated. As discussed in Section 4.8, Hydrology and Water Quality, treatment BMPs are anticipated to include biofiltration swales (bioswales), filtration strip, an underground detention basin, and a drywell. Bioswales are vegetated channels that convey storm water and remove pollutants by filtration through the grass, sedimentation, adsorption to soil particles, and infiltration through the soil. Filtration strips are channels that convey storm water and remove pollutants by sedimentation and adsorption to soil particles, and infiltration through the soil. Detention basins are designed to reduce sediment and particulate loading in storm water runoff. Water is temporarily detained in the basin to allow sediment and particulates to settle out before the runoff is discharged to receiving waters. A drywell is an underground structure designed specifically for infiltration of stormwater.

BMPs would be designed in accordance with the *Low Impact Development (LID) Best Management Practices (BMP) Design Manual* requirements. Because the minimum length of time for mosquito development is 96 hours, the water quality features would be designed to drain within 72 hours or be sealed against mosquitos. In addition, as specified in Mitigation Measure 4.8.3, a SUSMP would be prepared for the proposed Project. The SUSMP would include an operations and maintenance plan for the bioswales, drywell, filtration strip, and an underground detention basin to ensure their long-term performance and prevent odor and vector issues from developing. The City would be responsible for all maintenance activities associated with the storm water BMPs. BMPs would be inspected periodically by a designated staff member, such as the facilities manager, to ensure they are functioning properly. Routine and periodic maintenance activities such as debris and sediment removal and vector control would be conducted by the City's landscape maintenance crew. Nonroutine maintenance such as major reconstruction or replacement would be handled by contractors with experience in constructing storm water BMPs. Because the BMPs would be designed, inspected, and maintained as specified in Mitigation Measure 4.8.3 to prevent vectors and odors, impacts related to operation of storm water BMPs would be reduced to a less than significant level.

Threshold 4.13.9: Would the proposed project result in substantial adverse physical impacts associated with the provision of new or physically altered energy transmission facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable levels of service?

Less than Significant Impact.

Electricity. The Project proposes the construction of a new Belmont Pool facility that would be approximately 126,100 sf in size in addition to a separate 1,500 sf outdoor cafe facility. The proposed Project is presently served by all utilities. New development on site would result in an increased building area of approximately 75,740 sf, and would create an increase in long-term demand for electricity. However, because the Project site is currently served by all utilities and has operated with the same land use as proposed, no new off-site service lines or substations would be required to serve the proposed Project.

All new development is required to comply with State law regarding energy conservation measures, including pertinent provision of Title 24 of the California Government Code. Title 24 covers the use of energy-efficient building standards, including ventilation, insulation, construction, and the use of energy-saving appliances, conditioning systems, water heating, and lighting. In addition to the requirements of Title 24, the proposed Project would incorporate additional energy conservation measures including, but not limited to, the following: aquatic-specific variable frequency drives on pumps, high efficiency direct fire heating, underwater pool light-emitting diodes (LED) lights, day lighting, pool blankets.

As previously stated, the annual electrical demand of 421,344 kWh/yr associated with previous conditions on the Project site was calculated using CalEEMod. Upon completion of the new pool facilities, the proposed Project would result in an increase in capacity and usage that would require the use of approximately 895,215 kWh/yr, which would be an increase of 473,871 kWh/yr.

In May 2013, the CEC published preliminary California Energy Demands for the years 2014 through 2024.[1] According to the CEC, electricity consumption in the SCE service area is projected to reach between 107,929,000,000 kWh in the low-demand scenario and 118,193,000,000 kWh in the high-demand scenario in 2024. Based on CEC projections for the SCE service area in 2024, the anticipated increase in project-related annual electricity consumption would represent approximately 0.0004 percent of the forecasted net energy load. Based on these estimates, sufficient transmission and distribution capacity exists, and off-site improvements would not be necessary. Project-related on-site improvements would occur in a logical, efficient manner utilizing the most up-to-date design, construction, and operational methods available.

The supply and distribution of electricity to the proposed Project would not disrupt power to the surrounding area or adversely affect service levels because the Project involves the continuation of a previous land use. Therefore, impacts related to the provision of electricity services to the proposed Project would be less than significant, and the proposed Project would not require new or physically altered transmission facilities (other than those facilities needed for on-site distribution and hook-up into the existing system). Similarly, no significant impacts to local or regional supplies of electricity would occur as a result of the proposed Project, and no mitigation is necessary.

Natural Gas. The proposed Project is the reconstruction of a pool facility in an area presently served by all utilities. The proposed Project, which has a larger building area than the previous pool complex, would result in an increase in long-term demand for natural gas. Connections for natural gas would be located in a joint trench in order to connect to the existing service

[1] CEC. 2014-2014 Electricity Demand by Planning Area. Website: http://www.energy.ca.gov/2013publications/CEC-200-2013-004/CEC-200-2013-004-V1-CMF.pdf.

connections located in the northeastern portion of the Project site. No new off-site service lines or substations would be required to serve the proposed Project.

The proposed Project would generate an annual natural gas demand of 0.00229 bcf per year, which is an increase of 0.00133 bcf per year. According to the 2014 California Gas Report, the City's gas use is expected to remain constant, increasing from 9.0 bcf in 2014 to 9.6 bcf by 2035.[1] Therefore, the increase in annual natural gas demand associated with the proposed Project would be a negligible percent of the estimated available withdrawal capacity of the LBGO in 2035. Consequently, the supply and distribution of natural gas within the area surrounding the proposed Project would not be reduced or inhibited as a result of the proposed Project, and levels of service to off-site users would not be adversely affected. Furthermore, the proposed Project would reduce natural gas consumption through the installation of high-efficiency direct fire heating, and pool blankets. Therefore, impacts related to the provision of natural gas services to the proposed Project would be less than significant, and the proposed Project would not require new or physically altered transmission facilities (other than those facilities needed for on-site distribution and hook-up into the existing system). Similarly, no significant impacts to local or regional supplies of natural gas would occur as a result of the proposed Project, and no mitigation is required.

Consistency with Appendix F of the *State CEQA Guidelines*. CEQA requires that EIRs include a discussion of the potential energy impacts of a proposed Project to the extent relevant and applicable, with particular emphasis on avoiding or reducing inefficient, wasteful, and unnecessary consumption of energy (refer to PRC 21100[b][3]). Appendix F of the *State CEQA Guidelines* is an advisory document that assists lead agencies in determining whether a project will result in the inefficient, wasteful, and unnecessary consumption of energy. Not all items listed in Appendix F are applicable to every project; however, those items listed in Table 4.13.D are applicable and relevant to the proposed Project.

Compliance with Title 24 ensures that projects would preclude the inefficient, wasteful, and unnecessary consumption of energy.[2] As is the case with other uniform building codes, Title 24 is designed to provide certainty and uniformity throughout the State, while at the same time ensuring that the efficient and non-wasteful consumption of energy is ensured through design features. As indicated previously, the proposed Project's green features and LEED Gold design standards would result in the Project exceeding the California Building Energy Efficient Standards contained in Title 24.

According to the CEC, reducing energy use has been a benefit to all. Building owners save money, Californians enjoy a more secure and healthy economy, the environment is less negatively impacted, and the electrical system can operate in a more stable state. The CEC staff estimates that the implementation of the 2013 Building Energy Efficiency Standards may reduce statewide annual

1 Pacific Gas and Electric Company (PG&E). *2014 California Gas Report*, Website: file:///C:/Users/hhaskell/Downloads/cgr14.pdf.

2 Tracy First vs. City of Tracy, No. C059227, 2009 DJDAR 13866. Filed August 27, 2009. Certified for publication in its entirety on September 18, 2009.

Table 4.13.D: Proposed Project Comparison to CEQA Guidelines Appendix F

Appendix F Items for Consideration	Proposed Project
1. The Project's energy requirements and its energy use efficiencies by amount and fuel type for each stage of the Project's life cycle including construction, operation, maintenance, and/or removal. If appropriate, the energy intensiveness of materials may be discussed.	Operational energy use is discussed in Threshold 4.13.9. Energy use during construction would primarily involve gasoline and diesel and represents a short-term use of readily available, but nonrenewable fuels. The proposed Project would also include energy conservation features including, but not limited to, the following: installation of the following: aquatics-specific variable frequency drives on pumps, regenerative filtration system, LED pool lights, and pool blankets. Therefore, potential impacts would be less than significant, and no mitigation is required.
2. The effects of the Project on local and regional energy supplies and on requirements for additional capacity.	The proposed Project's impact relative to regional energy supplies is discussed in Threshold 4.13.9. The proposed Project would exceed the California Building Energy Efficient Standards contained in Title 24. Potential impacts would be less than significant, and no mitigation is required.
3. The effects of the Project on peak and base period demands for electricity and other forms of energy.	The proposed Project's impact relative to peak and base demands for electricity and other forms of energy is discussed in Threshold 4.13.9. The proposed Project would implement a variety of energy conservation measures and would exceed the California Building Energy Efficient Standards contained in Title 24. Potential impacts would be less than significant, and no mitigation is required.
4. The degree to which the Project complies with existing energy standards.	As discussed in Threshold 4.13.8, the proposed Project would implement a variety of energy conservation measures (i.e., installation of the following: aquatic-specific variable frequency drives on pumps, regenerative filtration system, LED pool lights, and pool blankets) and would exceed the California Building Energy Efficient Standards contained in Title 24. Potential impacts would be less than significant, and no mitigation is required.
5. The effects of the Project on energy resources.	As discussed in Threshold 4.13.9, the proposed Project would implement a variety of energy conservation measures (i.e., installation of the following: aquatic-specific variable frequency drives on pumps, regenerative filtration system, LED pool lights, and pool blankets) and would exceed the California Building Energy Efficient Standards contained in Title 24. Further, the energy demands of the proposed Project are within the delivery capabilities and projected loads for SCE and the LBGO. Potential impacts would be less than significant, and no mitigation is required.
6. The Project's projected transportation energy use requirements and its overall use of efficient transportation alternatives.	The proposed Project would be located in an urban area currently served by public transportation. Transit service is provided within the Project vicinity by Long Beach Transit. It is anticipated that the existing transit service in the Project area would be able to accommodate Project-generated transit trips. A coastal bike trail exists adjacent to the Project site to serve as an alternative for vehicular transportation in the area. The proposed Project would include bike racks to provide connection with the existing trail to encourage the use of bicycles as a means of alternative transportation and to reduce vehicle trips to the Project site. All other potential impacts related to transportation and circulation would be reduced to a less than significant level through the implementation of mitigation identified in Section 4.12, Transportation and Circulation, of this EIR.

CEQA = California Environmental Quality Act
EIR = Environmental Impact Report
LBGO = Long Beach Gas and Oil Department
LED = light-emitting diodes
SCE = Southern California Edison

electricity consumption by approximately 281 gigawatt-hours per year (gwh/yr), electrical peak demand by 195,000 kWh, and natural gas consumption by 16 million therms (1.6 bcf) per year.[1]

Based on the analysis in Threshold 4.13.9, the proposed Project would not result in the wasteful, inefficient, and unnecessary consumption of energy; would not cause the need for additional electrical energy or natural gas production facilities; and, therefore, would not create a significant impact on energy resources.

4.13.6 Cumulative Impacts

The proposed Project, in conjunction with other past, present, or reasonably foreseeable future projects, has the potential to contribute to a cumulative impact related to the demand for utilities. The cumulative study area for utility impacts consists of: (1) the area that could be affected by future proposed Project activities, and (2) the areas affected by other projects whose activities could directly or indirectly affect the utilities of the Project site within a service area.

Electricity. The geographic area for the cumulative analysis of impacts to the provision of electricity is the service territory of SCE. The CEC estimates that both the net peak demand and the net energy load within SCE's service territory will continue to grow annually by 1.4 percent and 1.2 percent, respectively.[2] Although the proposed Project has the potential to increase electrical demand in the area, SCE has identified adequate capacity to handle increase in electrical demand, and any increase in electrical demand resulting from the proposed Project would be incremental compared to an increase in regional electrical demand. Compliance with Title 24 of the California Administrative Code regulates energy consumption in new construction and regulates building energy consumption for heating, cooling, ventilation, water heating, and lighting for the proposed Project and all future projects. In addition, the proposed project would be designed to meet LEED Gold standards, including a number of energy-efficient measures such as variable frequency drives for pool pumps, high efficiency direct fire heating, LED pool lights, and pool blankets. Therefore, in relation to the cumulative study area, the Project's incremental contribution to increased demand for electricity would not be cumulatively considerable, and no mitigation is required.

Natural Gas. The geographic area for the cumulative analysis of impacts to the provision of natural gas is the service territory for the LBGO. According to the 2014 California Gas Report, the City's gas use is expected to remain constant, increasing from 9.0 bcf in 2014 to 9.6 bcf by 2035. The City's locally supplied deliveries are expected to decline from 0.4 bcf in 2014 to 0.1 bcf by 2035.[3] Therefore, sufficient gas supplies and infrastructure capacity are available, or have already been planned, to serve past, present, and reasonably foreseeable projects. Further, similar to the proposed

[1] CEC. *2016 Building Energy Efficiency Standards for Residential and Nonresidential Buildings*. Website: http://www.energy.ca.gov/2015publications/CEC-400-2015-037/CEC-400-2015-037-CMF.pdf (accessed February 23,2016).

[2] CEC. *California Energy Demand, 2010-2020 Adopted Forecast*. Website: http://www.energy.ca.gov/2009publications/CEC-200-2009-012/CEC-200-2009-012-CMF.PDF (accessed June 9, 2014).

[3] PG&E. *2014 California Gas Report*. Website: http://www.pge.com/pipeline/library/regulatory/downloads/cgr14.pdf (accessed November 4, 2013).

Project, all future projects would be subject to Title 24 requirements and would be evaluated on a case-by-case basis to determine the need for specific distribution infrastructure improvements. As there is adequate capacity and additional development within LBGO's service area would comply with Title 24, the proposed Project's contribution to cumulative natural gas impacts would be considered less than significant.

Solid Waste. The geographic area for the cumulative analysis of impacts to solid waste disposal capacity is the County of Los Angeles. The proposed Project in combination with other past, present, and reasonably foreseeable projects within the County would create an increased demand on landfills and solid waste services for the County. The construction and operation of the proposed Project would be served by the SERRF, a refuse-to-energy waste facility with sufficient permitted capacity to accommodate the Project's solid waste disposal needs. Remaining capacity and estimated closure dates for the SERRF are not determined because the facility is a transformation facility that converts solid waste to energy and ash. It is expected that the SERRF will continue to operate at current permitted daily capacity during the planning period from 2012 through 2027. The SERRF currently does not exceed its daily maximum permitted disposal capacity. Solid waste considered unprocessable by SERRF would be taken to landfills in Orange, San Bernardino and Riverside Counties.

Therefore, the proposed Project would not have a significant Project-specific or cumulative impact on waste disposal capacity at County transformation facilities and landfills. In addition, the City complies with all federal, State, and local statutes and regulations related to solid waste, and no mitigation is required.

Wastewater. The geographic area for the cumulative analysis for wastewater treatment is defined as the City and the LACSD service territory. Within its service area, LACSD uses United States Census Bureau population information with population projections, as well as current land use and build out or zoned land use to project current and future wastewater flows. Because LACSD projects that its existing and planned wastewater treatment capacity would be sufficient to accommodate the growth forecasted by the United States Census within its service area, development that is generally consistent with this forecast can be adequately served by LACSD facilities. The proposed project would replace and improve the previous Belmont Pool Facilities; no change in land use is proposed. LACSD existing facilities have the capacity to accommodate past, present, and reasonably foreseeable projects. The proposed Project would not contribute wastewater that would exceed the service capacity of LACSD. Therefore, the proposed Project would not significantly contribute to or cause cumulative impacts to wastewater services, and no mitigation is required.

Water. The geographic area for the cumulative analysis of water infrastructure includes the Project site and the service territory of the City. According to the City's UWMP, the MWDSC's future water supplies are fairly reliable as documented in its 2010 Regional UWMP, because the MWDSC current allocation plan guarantees an amount of water close to the LBWD's need for water, and because the

LBWD has a preferential right to the MWDSC supplies in excess of its need for that water.[1] In addition, LBWD, which provides the groundwater supply to the City, projects that there are sufficient groundwater supplies to meet any future demand requirements in the City. Therefore, existing water systems have sufficient capacity to meet the additional maximum day and peak-hour domestic water demand and fire flow demand from the proposed Project and other proposed projects within the City's service territory through 2020. As such, the potential cumulative impacts from past, present, and reasonably foreseeable projects related to water supply within the City would be less than significant.

4.13.7 Level of Significance Prior to Mitigation

A detailed hydrology report would be prepared for the proposed Project to ensure runoff from the Project site would not exceed the capacity of the existing storm water drainage system and the proposed Project would not require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects. Similarly, a SUSMP would include an operations and maintenance plan for the bioswales, drywell, filtration strip, and an underground detention basin to ensure their long-term performance and prevent odor and vector issues from developing. All other potential impacts related to utilities would be less than significant, and no mitigation is required.

4.13.8 Mitigation Measures

Refer to Section 4.8, Hydrology and Water Quality, for mitigation related to surface and groundwater hydrology and quality.

4.13.9 Level of Significance after Mitigation

All potential impacts related to utilities would be less than significant with implementation of mitigation measures.

[1] LBWD. *2010 Long Beach Urban Water Management Plan.* Website: http://www.lbwater.org/sites/default/files/file_attach/pdf/2010_uwmp.pdf (accessed June 9, 2014).

5.0 ALTERNATIVES

5.1 INTRODUCTION

The California Environmental Quality Act (CEQA) requires that an Environmental Impact Report (EIR) include a discussion of reasonable project alternatives that would "feasibly attain most of the basic objectives of the project, but would avoid or substantially lessen any significant effects of the project, and evaluate the comparative merits of the alternatives" (*State CEQA Guidelines*, Section 15126.6). This chapter identifies potential alternatives to the proposed Project and evaluates them, as required by CEQA.

Key provisions of the *State CEQA Guidelines* on alternatives (Section 15126.6(b) through (f)) are summarized below to explain the foundation and legal requirements for the alternatives analysis in the EIR:

- The discussion of alternatives shall focus on alternatives to the Project or its location that are capable of avoiding or substantially lessening any significant effects of the Project, even if these alternatives would impede to some degree the attainment of the Project objectives or would be more costly (15126.6(b)).
- The specific alternative of 'no Project' shall also be evaluated along with its impact (15126.6(e)(1)). The 'no Project' analysis shall discuss the existing conditions at the time the Notice of Preparation is published, and at the time the environmental analysis is commenced, as well as what would reasonably be expected to occur in the foreseeable future if the Project were not approved, based on current plans and consistent with available infrastructure and community services. If the environmentally superior alternative is the 'no Project' alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives (15126.6(e)(2)).
- The range of alternatives required in an EIR is governed by the 'rule of reason' that requires the EIR to set forth only those alternatives necessary to permit a reasoned choice. The alternatives shall be limited to ones that would avoid or substantially lessen any of the significant effects of the Project. Of those alternatives, the EIR need examine in detail only the ones that the lead agency determines could feasibly attain most of the basic objectives of the Project. The range of feasible alternatives shall be selected and discussed in a manner to foster meaningful public participation and informed decision-making. Among the factors that may be taken into account when addressing the feasibility of alternatives are site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries, and whether the proponent can reasonably acquire, control or otherwise have access to the alternative site (or the site is already owned by the proponent) (15126.6(f)).

- For alternative locations, only locations that would avoid or substantially lessen any of the significant effects of the Project need be considered for inclusion in the EIR (15126.6(f)(2)(A)).
- If the lead agency concludes that no feasible alternative locations exist, it must disclose the reasons for this conclusion, and should include the reasons in the EIR. For example, in some cases there may be no feasible alternative locations for a geothermal plant or mining Project, which must be in close proximity to natural resources at a given location (15126.6(f)(2)(B)).
- An EIR need not consider an alternative whose effect cannot be reasonably ascertained and whose implementation is remote and speculative (15126.6(f)(3)).

Pursuant to the guidelines stated above, a range of alternatives to the proposed Project is considered and evaluated in this EIR. These alternatives were developed in the course of Project planning and environmental review. The discussion in this section provides the following:

- A description of the alternatives considered.
- Comparative analysis of each alternative that focuses on the potentially significant unavoidable environmental impacts of the proposed Project, e.g., global climate change. The purpose of this analysis is to determine whether alternatives are capable of eliminating or reducing the significant environmental impacts of the Project to a less than significant level.
- Conclusions regarding the alternative’s: (1) ability to avoid or substantially lessen the significant unavoidable impacts of the Project; (2) ability to attain the Project objectives (as stated below); and (3) merits of each alternative compared to the merits of the proposed Project.

5.1.1 Project Objectives

The primary goal of the proposed Project is to replace the former Belmont Pool complex with a state-of-the-art aquatic facility to continue to serve as a recreational and competitive venue for the community, the City of Long Beach (City), the region, and the State. The specific objectives of the Project are to:

1. Redevelop the City-owned site of the former Belmont Pool with similar aquatic recreational purposes, consistent with the original ballot measure;
2. Replace the former Belmont Pool with a more modern facility that better meets the needs of the local community, region and State’s recreational and competitive swimmers, divers, aquatic sports participants, and additional pool users due to the tremendous demand for these services in the local community, region and State;
3. Minimize the time period that the community is without a permanent recreation and competitive pool facility;
4. Provide a facility that supports recreation, training, and all competitive events for up to 4,250 spectators (1,250 permanent interior seats, up to 3,000 temporary exterior seats);

5. Increase programmable water space for recreational swimming to minimize scheduling conflicts with team practices and events;
6. Provide a signature design in a new pool complex that is distinctive, yet appropriate for its seaside location;
7. Accommodate swimming, diving, and water polo national/international events by reflecting current competitive standards, in accordance with FINA regulations;
8. Operate a pool facility that would generate revenue to help offset the ongoing operations and maintenance costs;
9. Implement the land use goals of Planned Development PD-2;
10. Provide a facility that maximizes sustainability and energy efficiency through the use of selected high performance materials;
11. Minimize view disruptions compared to the former Belmont Pool facility;
12. Maximize views to the ocean from inside the facility;
13. Locate the pool in an area that serves the existing users;
14. Design the passive open space with drought tolerant and/or native landscaping and include areas suitable for general community use; and
15. Maintain or increase the amount of open space compared to the former Belmont Pool facility.

5.1.2 Significant Unavoidable Impacts of the Proposed Project

As discussed in detail in Chapter 4.0, Environmental Setting, Impacts, and Mitigation Measures, the proposed Project would not result in significant, unavoidable, adverse impacts related to aesthetics, air quality, biological resources, cultural resources, geology and soils, greenhouse gas emissions, hazardous materials, hydrology and water quality, land use, noise, recreation, transportation and circulation, and utilities and service systems. For the purpose of this analysis, it is assumed that all of the alternatives would comply with applicable federal, State, and local regulations, policies, and ordinances. It is also assumed that all design features, standard conditions, and mitigation measures required to reduce impacts associated with Project implementation would also apply to the Project alternatives and that similar reductions in impacts would be achieved through such design features, standard conditions, and mitigation. As such, all applicable design features, standard conditions, and mitigation measures are listed within their respective topical environmental impacts discussion. Therefore, the following discussion focuses on the ability of the alternatives to further reduce Project impacts and the potential impacts of the Project alternatives related to these issues.

5.2 ALTERNATIVES INITIALLY CONSIDERED BUT REJECTED FROM FURTHER CONSIDERATION

Section 15126.6(c) of the *State CEQA Guidelines* requires EIRs to identify any alternatives that were considered by the lead agency but were rejected during the scoping process and briefly explain the reasons underlying the lead agency's determination. In evaluating an appropriate range of alternatives to the proposed Project, a number of alternatives were considered and rejected for differing reasons by the City.

The alternatives considered and rejected for the proposed Project are described below.

5.2.1 Fully Enclosed Pools Alternative

The Fully Enclosed Pools Alternative assumes that all of the proposed pools would be enclosed by the Bubble structure. This alternative was considered because it would provide all visitors a controlled-climate swimming experience while simultaneously containing noise generated during aquatic activities in an attempt to reduce the potential for noise impacts on the surrounding neighborhoods.

A complex design that is able to enclose all the proposed pools was found to require a building footprint that encompasses a majority of the southern boundary of the Project site potentially blocking more scenic views than the former Belmont Pool. When considering the design of the structure required to enclose all the pools, the proposed Bubble structure of this alternative had the potential to substantially exceed the height, mass, and scale of the former Belmont pool complex. Although this alternative would replace the former Belmont Pool with a new pool facility, it was anticipated that the design of the building required to enclose all pools would substantially degrade the character of the site and have a substantially adverse effect on the scenic views of the coastline resulting in significant aesthetics impacts.

This alternative would include all operational characteristics and activities required to meet the recreational objectives for the Project. However, as described above, the scale and mass of the Bubble structure would likely lead to a significant aesthetic impacts, in conflict with the objective of minimizing view disruptions compared to the previous facility. Therefore, the Fully Enclosed Pools Alternative would not achieve the neighborhood compatibility desired by the objectives for the proposed Project. In addition, the increased structure size would require a longer construction period, additional construction materials, and increased demand for heating and cooling, thereby increasing potential air quality and Greenhouse Gas (GHG) emissions. Therefore, it was concluded that due to the potential increased GHG impacts, along with aesthetic impacts in conflict with the objectives for minimizing view disruptions, the Fully Enclosed Pools Alternative was rejected.

5.2.2 Alternative Project Locations

CEQA requires that the discussions of alternatives focus on alternatives to the Project or its location that is capable of avoiding or substantially lessening any significant impacts of the Project. The key question and first step in the decision whether to include in the Draft EIR an analysis of alternative sites is whether any of the significant impacts of the Project would be avoided or substantially lessened by relocating the Project. Only developments or locations that would avoid or substantially lessen any of the significant impacts of the Project need be considered for inclusion in the EIR (*State CEQA Guidelines*, Section 15126.6(f)(2)(A)). Further, *State CEQA Guidelines* Section 15126.6(f)(1) states that alternative locations only need be considered if the Project proponent can reasonably acquire or already owns the identified alternative site. If it is determined that no feasible alternative locations exist, the EIR must disclose the reasons for this conclusion (*State CEQA Guidelines*, Section 15126.6(f)(2)(B)).

Three alternative locations for the proposed Project were considered during preparation of the Draft EIR. A discussion of each alternative site is included below.

Harry Bridges Memorial Park. The Harry Bridges Memorial Park is a 4.1-acre park located within the Tidelands on the Pier J waterfront at Queens Highway and Harbor Scenic Drive in the City of Long Beach. The site consists of turf, trees, and small facilities for outside events. The site was considered because it does not contain major structures and because of its location near existing public use areas such as the Queen Mary, the Long Beach Arena, and the Aquarium of the Pacific. However, the Harry Bridges Memorial Park was designated as part of the parkland mitigation for the development of the Aquarium of the Pacific and Rainbow Harbor to replace recreational open space in Shoreline Park funded under the Land and Water Conservation Fund (LWCF) Act. Under Section 6(f)(3) of the LWCF Act, the Harry Bridges Memorial Park may not be converted to uses other than public outdoor recreation uses. For this protection to include the proposed Project's enclosed areas as an allowable use, a required petition to the Secretary of the Interior would be required. The petition process with the Secretary of the Interior was considered prohibitive due to the extended time, cost, and uncertain outcome. Additionally, the Harry Bridges Memorial Park is 1.7 acres smaller than the proposed Project site and is not likely to be able to accommodate the required infrastructure for the proposed Project or be able to maintain or increase the amount of open space compared to the former Belmont pool facility (Objective 15). A smaller aquatic facility would also not meet the objectives related to provision of a facility that supports all competitive swimming events, and increased programmable space to minimize scheduling conflicts (Objectives 2, 4, 5, and 7). Currently, the site is used for special events booked through the Queen Mary and there is no public parking at the site. The lack of adequate dedicated parking would negatively impact the future use of the site for the pool facilities.

Due to the location, this site would not allow for summer aquatics camps to have access to the beach, sailing center, or pier facilities, activities, which occurred at the former facility and are planned to continue at the new facility. This alternative site would not be directly accessible for pedestrian and/or bicycle users, and would therefore not serve these existing users (Objective 13).

In addition, this site would not meet many of the other project objectives including: redevelopment of the City-owned site of the former Belmont Pool facility (Objective 1); Minimization of the time period that the community is without a permanent recreation and competitive pool facility (Objective 3); Implementation of the land use goals of Planned Development PD-2 (regulations specific to the Belmont Pool and Pier) at the former site (Objective 9); and provision of views to the ocean from inside the facility (Objective 12). Therefore, for the reasons stated above, the Harry Bridges Memorial Park was rejected as a potential alternative site and was not considered further.

Queen Mary Site. The Queen Mary Site encompasses 43-acres of land located on the Pier J waterfront at the terminus of Queens Highway in the City of Long Beach. The site features the 1936 Queen Mary ocean liner, which is permanently moored and operates as a hotel and event center. The site also includes the Queen Mary Events Park, Sea Walk Village, adjacent Carnival Cruise Lines terminal, and associated parking areas. This alternative site was considered because of its location near existing public use areas such as the Long Beach Arena and the Aquarium of the Pacific. However, the site is currently leased to a private operator and not under the City's control. The current lease expires in approximately 40 years, and therefore the site would not be available for the City's use without renegotiating the lease and paying for the use of the site. The length of the existing lease makes the site unavailable for years, which is in conflict with Objective 3, to minimize the time the public is without a permanent pool facility. Furthermore, the site already provides parking for the current uses (Queen Mary ocean liner, Queen Mary Events Park, Sea Walk Village, and the Carnival Cruise Lines terminal), and would require the need for additional parking for the proposed Project. Providing additional parking for this site would be a challenge due to the current uses already competing for adequate parking spaces.

In addition, the site location would not allow for summer aquatics camps to have access to beach, sailing center, or pier facilities at this site, activities which occurred at the former facility and are planned to continue at the new facility. Traffic volumes associated with Interstate-710 (I-710) and the Magnolia Avenue/Queensway Bay Bridge are greater than the street system surrounding the proposed Project site. As a result, impacts related to traffic, parking, and air quality impacts would be greater than the proposed Project. This would result in recreational uses and sensitive receptors (swimmers, spectators) being located closer to pollution sources, such as the Port of Long Beach and truck traffic in the vicinity of the port. Finally, the Queen Mary Site would not redevelop the City-owned site of the former Belmont Pool facility (Objective 1).

In addition to not meeting Objectives 1 and 3, this site would not meet the other project objectives including: implementation of the land use goals of Planned Development PD-2 (regulations specific to the Belmont Pool and Pier) at the former site (Objective 9); provision of views to the ocean from inside the facility (Objective 12); and would not be directly accessible for pedestrian and/or bicycle users, therefore not serve these existing users (Objective 13). For the reasons stated above, the Queen Mary site was rejected as a potential alternative site and was not considered further.

"Elephant Lot" at the Long Beach Convention Center. The "Elephant Lot" is an approximately 13-acre surface parking lot on the east side of the Long Beach Convention Center (LBCC). The site is bound by East Seaside Way to the north, East Shoreline Drive to the south and east, and convention center facilities to the west. The site was considered because of its location in the Downtown area and proximity to existing public use areas, such as the LBCC, the Long Beach Arena and the Aquarium of the Pacific. However, Jehovah's Witness currently leases this parking lot site to accommodate parking demands during the annual convention at the LBCC. The lease expires in 2030 and requires 3,000 parking spaces in two different lots, currently the “Elephant Lot” provides over half of these parking spaces (1,915 spaces). Due to the existing lease, this alternative site is in conflict with Objective 3, to minimize the time the public is without a permanent pool facility. Further, any loss of parking for Jehovah’s Witness or the LBCC would require additional mitigation. Special events, such as the annual Grand Prix of Long Beach, also use the parking lot for events and staging. This alternative site would not represent the highest and best land use for the area adjacent to the convention center, which should be reserved for convention or hotel uses.

Although the proposed pool facility would be compatible with the scale and character of the Downtown area, the unique architecture of the proposed facility would compete with the LBCC and aquarium buildings, and, therefore, the proposed facility would no longer stand out as a signature design as it would at the proposed Project site (Objective 6).

In addition to not meeting Objectives 3 and 6, this site would not meet the other project objectives including: implementation of the land use goals of Planned Development PD-2 (regulations specific to the Belmont Pool and Pier) at the former site (Objective 9); provision of views to the ocean from inside the facility (Objective 12); and would not be directly accessible for pedestrian and/or bicycle users, therefore not serve these existing users (Objective 13). In addition, this implementation of the proposed Project on this alternative site would require a Local Coastal Program amendment, which would not be required at the Project site. For the reasons stated above, the “Elephant Lot” site was rejected as a potential alternative site and was not considered further.

Conclusion. For the reasons detailed above, none of the three alternative sites were deemed feasible and are therefore not analyzed further in the Draft EIR. The proposed Project involves replacement of the former Belmont Pool complex on the subject property, which has a notable aquatic history associated with the location. In November 1961, the Long Beach City Council voted to place an item on the February 1962 municipal election for the use of Tidelands funds for the construction of the “Belmont Plaza Beach Center” (now Belmont Plaza) project, which included a swimming pool, wading pool, and public parking lot. Proposition 7 was approved by the voters in February 1962, and the City Council ratified the election results in March 1962, paving the way for site acquisition and eventual construction.

In January 1967, plans were approved for a group of structures at Belmont Plaza, a site west of the Belmont Pier on the beach in Belmont Shore. The Belmont Pool opened in 1968 in time for the United States (U.S.) Olympic swimming trials. The facility hosted both the 1968 and the 1976 U.S. Olympic swimming trials, as well as the 1974 and 1978 National Collegiate Athletic Association (NCAA) swimming championships. Mark Spitz, Don Schollander, and Charles Hickox set men’s records during these trials. After the trials, the pool was opened to the public for recreational purposes.

The designated property consists of both “Open Space and Parks” and “Mixed Uses” land use designations and is within the Park (P) and Belmont Pier Planned Development District (PD-2, Subarea 1) zoning areas, which allows for the previous and proposed recreational uses. Moreover, all impacts of the proposed Project would be less than significant after mitigation. Relocating the Project to an alternative location would not avoid or reduce any of the potentially significant impacts of the proposed Project. Because the former Belmont Pool complex has been in operation on the Project site for the last 47 years, placing the facilities on another site would not meet several of the project objectives, as outlined above.

Additionally, funding for the proposed Project is entirely sourced from the Tidelands Operating Fund, an umbrella fund that allocates expenditures for tidelands operations and capital improvements projects within the tidelands area of the City. Tidelands are defined as those lands and water areas along the coast of the Pacific Ocean seaward of the ordinary high tide line to a distance of 3 miles. The Tidelands Trust not only restricts the use of the tidelands, but also restricts the use of income and revenue generated from businesses and activities conducted on the tidelands to be used solely for projects within the tidelands area. Because the proposed Project is dependent on funding from the Tidelands Operating Fund, any alternative location not in the tidelands would have to be funded through alternative sources. Due to a lack of available finances from other City sources, a project that would not be funded by the Tidelands Operating Fund would not be economically infeasible. Therefore, all three alternative sites were located in the tidelands. Additionally, according to the City, no other properties within the City's Tidelands would be large enough or are currently available to be considered as an alternative location. Therefore, the EIR does not include analysis regarding alternative locations.

5.3 ALTERNATIVES UNDER CONSIDERATION

Section 21100 of the Public Resources Code (PRC) and Section 15126.6 of the *State CEQA Guidelines* require an EIR to identify and discuss a No Project Alternative as well as a reasonable range of alternatives to a project that would feasibly attain most of the basic objectives of the project and would avoid or substantially lessen any of the significant environmental impacts. Based on the criteria listed above, the No Project Alternative and four project Alternatives have been selected to avoid or substantially lessen the significant impacts of the proposed Project. These alternatives include revisions to the proposed Project plans and reduced scale projects. The alternatives considered in this EIR include the following:

- **Alternative 1: No Project/No New Development.** This alternative would involve no changes to the existing land uses and conditions on the Project site. No new development on the Project site would occur. The temporary pool located in the parking area would continue to operate but no new pool facilities or open space would be constructed. The existing backfilled sand area where the previous building was located would remain unchanged.
- **Alternative 2: Maintain Temporary Pool with Ancillary Uses.** This alternative would involve improvements to construct a permanent foundation and permanent administrative and support facilities (lockers, restrooms, snack bar) consistent with the temporary pool configuration. The existing backfilled sand area would be removed and the open space park area would be expanded.
- **Alternative 3: Outdoor Diving Well.** This alternative would be similar to the proposed Project, but would locate the diving well outside the proposed enclosed pool facility. This alternative would require a revised site plan and would allow the building height to be

reduced. All other components would be included in this alternative, allowing similar programming and events to occur at the site.

- **Alternative 4: Reduced Project - No Outdoor Components.** This alternative would eliminate the outdoor pool component and reduce the overall footprint of the pool structure. Open space and park areas would be increased under this alternative. Many of the facility amenities would remain, and the indoor pool components, would remain the same as the proposed Project. A height variance would still be required under this alternative because the diving well would still be located within the structure.
- **Alternative 5: Reduced Project - No Diving Well and No Outdoor Components.** This alternative would be similar to Alternative 4, but would eliminate the indoor diving well component along with the outdoor pool facilities. This alternative would reduce the overall footprint and height of the pool structure, increasing open space and park areas. Although the diving well would not be included, a height variance would still be required under this alternative because the existing height limitation is 30’.

For each alternative, the analysis provides the following:

- Description of each alternative;
- Environmental analysis of the potential impacts of the alternative and the significance of those impacts (per the *State CEQA Guidelines*, significant effects of an alternative shall be discussed, but in less detail than those of the proposed Project);
- Overview of the potential impacts of the alternative and the significance of those impacts; and
- Summary comparison of the alternative relative to the proposed Project’s impacts, specifically addressing whether the alternative would meet the Project objectives, eliminate or reduce impacts as compared to the Project, and other comparative merits.

Table 5.A follows with a summary of each of the development alternatives.

5.4 ALTERNATIVE 1: NO PROJECT/NO NEW DEVELOPMENT

5.4.1 Description

Consistent with Section 15126.6(e) of the *State CEQA Guidelines*, the No Project/No Development Alternative is the existing condition of the Project site at the time the Notice of Preparation (NOP) was published, as well as what would be reasonably expected to occur in the foreseeable future if the Project were not approved. The setting of the site at the time the NOP was issued (April, 2014) is described throughout Section 4.0 of this EIR with respect to individual environmental issues and the baseline of the impact assessment of the proposed Project. At the time of the NOP, the Project site contained both the Belmont Pool facilities and the outdoor temporary pool (constructed in the Beach Parking Lot and opened in December 2013 in order to provide swimming facilities while the permanent facility is under construction). Although the site contained the former Belmont Pool building at the time the NOP was issued, the facility was subsequently demolished in February 2015 to alleviate an imminent public safety threat due to the seismically unsafe condition of the building.

Table 5.A: Summary of Development Alternatives

Alternative	Description	Basis for Selection and Summary Analysis
Proposed Project	• Approximately 5.8 ac. • Consistent with "Open Space and Parks" and "Mixed Uses" General Plan Land Use designations, and Park (P) and Belmont Pier Planned Development District (PD-2, Subarea 1) zoning designations. • Total new construction includes: 125,500 sf of new building space, 18,610 sf indoor pool surface area, 17,840 sf outdoor pool surface area, 55,745 sf passive park/landscaping 127,085 sf open space 1,250 permanent indoor seats, 3,000 temporary outdoor seats • Height variance required.	• The proposed Project is consistent with land use and zoning designations. • Meets all of the Project objectives. • Refer to Chapters 3.0 and 4.0 of this Draft EIR.
Alternative 1: No Project/No New Development	• Approximately 5.8 ac. • Project site would retain land use and zoning designations. • Two outdoor pools (4,400 sf) and temporary pool (13,450 sf) would remain. • Former Belmont Pool building location would be vacant. • Passive park and on-site landscaping would remain. • No height variance required.	• The No Project Alternative is required by CEQA. • Inconsistent with the majority of Project objectives.
Alternative 2: Maintain Temporary Pool with Ancillary Uses	• Approximately 5.8 ac. • Two outdoor pools (4,400 sf) and temporary pool (13,450 sf) would remain. • Temporary pool foundation would be constructed. • Permanent administrative and support facilities (lockers, restrooms, snack bar) would be constructed. • The existing backfilled sand area would be removed and passive park and on-site landscaping would be expanded. • Consistent with land use and zoning designations.	• Enhances views since former pool facility would not be reconstructed. • Converts existing temporary pool to a permanent facility. • Retains 2 existing outdoor pools. • Adds supporting ancillary uses. • Increases amount of open space. • Substantial reduction in usable pool space compared to proposed Project. • Unable to provide adequate programmable space. • Meets some of the Project objectives; but is inconsistent with most objectives.
Alternative 3: Outdoor Diving Well Alternative	• Approximately 5.8 ac. • Consistent with "Open Space and Parks" and "Mixed Uses" General Plan Land Use designations, and Park (P) and Belmont Pier Planned Development District (PD-2, Subarea 1) zoning designations. • Building height would be reduced, but would still require a height variance. • Total new construction would be similar to the proposed project; increasing outdoor pool area while slightly reducing indoor pool area.	• Reduces the height of the Bubble structure; height variance still required. • Land use and zoning designations are compatible with proposed uses. • Increased outdoor activity could result in increased noise impacts compared to the proposed Project. • Meets most of the Project objectives, but to a lesser degree than the proposed Project.

Table 5.A: Summary of Development Alternatives

Alternative	Description	Basis for Selection and Summary Analysis
Alternative 4: Reduced Project - No Outdoor Components	• Approximately 5.8 ac. • Consistent with "Open Space and Parks" and "Mixed Uses" General Plan Land Use designations, and Park (P) and Belmont Pier Planned Development District (PD-2, Subarea 1) zoning designations. • No reduction in the height of the building structure; height variance required. • Total new construction includes approximately 100,000 sf of new building space, 25,500 sf less than Proposed Project. • 18,610 sf indoor pool surface area. • 1,250 permanent indoor seating.	• Equal or fewer physical environmental impacts as compared to the proposed Project due to the removal of the outdoor pool and reduction in square footage of proposed Project. • Land use and zoning designations are compatible with proposed uses. • Decreased noise impacts through elimination of outdoor pool component. • Substantial reduction in usable pool space compared to proposed Project. • Meets some of the Project objectives, but to a lesser degree than the proposed Project.
Alternative 5: Reduced Project - No Diving Well and No Outdoor Components	• Approximately 5.8 ac. • Consistent with "Open Space and Parks" and "Mixed Uses" General Plan Land Use designations, and Park (P) and Belmont Pier Planned Development District (PD-2, Subarea 1) zoning designations. • Building height would be reduced, but would still require a height variance. • Total new construction includes approximately 100,000 sf of new building space, 25,500 sf less than Proposed Project. • 14,290 sf indoor pool surface area. • 1,250 permanent indoor seating.	• Equal or fewer physical environmental impacts as compared to the proposed Project due to the removal of the outdoor pool and reduction in square footage of proposed Project. • Reduces the height of the building; height variance still required. • Decreased noise impacts through elimination of outdoor pool component. • Land use and zoning designations are compatible with proposed uses. • Substantial reduction in usable pool space compared to proposed Project. • Meets some of the Project objectives, but to a lesser degree than the proposed Project.

Source: LSA Associates, Inc. (March 2016).
ac = acre(s)
CEQA = California Environmental Quality Act (CEQA)
EIR = Environmental Impact Report
sf = square feet

Therefore, the No Project Alternative will evaluate circumstances under which the Belmont Pool would no longer be present on site and includes the environmental condition for which no structures are rebuilt but where the temporary pool remains on the site until it reaches the end of its useful life.

5.4.2 Environmental Analysis

The No Project/No Development Alternative assumes that the on-site conditions, including the backfilled sand area where the former building stood, the existing open space areas, and the temporary pool would remain unchanged except for the reasonably foreseeable pool and park maintenance activities. All required permits and standard conditions related to demolition were addressed in the emergency permit processed as a separate project. As this alternative would not include the construction or operation of a new pool facility, it would eliminate all construction activities and any increase in operations, resulting in reduced environmental impacts when compared to the proposed Project.

Existing views of and from the site and the visual character of the area would not be altered. No new air pollutant emissions or greenhouse gases (GHG) emissions would be generated by new visitors, and no short-term construction emissions would occur since no new construction is proposed. The existing vegetation and wildlife on site would not be disturbed compared with existing conditions. Unknown potential subsurface archaeological and paleontological resources would remain undisturbed. There would be no impacts related to geology, soils, or hazardous materials. No short-term construction noise impacts or new long-term operational noise impacts would occur to the surrounding area. The No Project/No Development Alternative would enhance views in comparison to the proposed Project because the site where the former Belmont Pool facility stood would remain vacant and no new structures would be constructed. No additional requirements for fire or police services would occur. No additional vehicle trips would be generated by the site, no new sources of solid waste would be created by this alternative, and no increase in demand for energy would occur as a result of development.

However, under the No Project/No Development Alternative, the temporary pool would remain in place and would continue to degrade until it reaches the end of its operational lifespan, increasing the maintenance costs associated with operation of the facilities. There would be no change to the proposed Project site with regard to the percentage of the site that would remain pervious or the volume of runoff during a storm event, and runoff treatment from best management practices (BMPs) that are included in the proposed Project would not be implemented, resulting in incrementally greater hydrology/water quality impacts as compared to the proposed Project. In addition, the land use goals of the PD-2 designation (regulations specific to the use of the site for the Belmont Pool and Pier) would not be implemented and therefore the No Project/No Development Alternative would be in conflict with the City's land use plans for the site and have greater land use impacts as compared to the proposed project. The foreseeable impacts of the No Project/No Development Alternative include the permanent loss of parking where the temporary pool is located, and the inadequacy of the temporary facilities to replace the former aquatic facilities and serve the community/public recreational needs. Therefore, the No Project alternative would have greater impacts to Recreation than the proposed project.

5.4.3 Attainment of Project Objectives

The No Project/No Development Alternative would only achieve two of the Project objectives; this alternative would minimize view disruptions and maintain the amount of open space compared to the former Belmont Pool facility because no new structures would be constructed on the site (Project Objectives 11 and 15). The temporary pool would remain on a site that serves the existing users, but to a much lesser extent than the proposed Project's ability to accommodate the community/public needs (Project Objective 13).

The previous aquatic facility would not be replaced/redeveloped with a more modern facility including a 4,250 spectator capacity that better meets the needs of the aquatics community (Project Objectives 1, 2, and 4). The No Project/No Development Alternative would not increase programmable water space to relieve overcrowding and accommodate swim, diving, and water polo national/ international events in a new pool complex that is distinctive in design, yet is compatible with the seaside neighborhood (Project Objectives 5, 6, and 7). Under the No Project/No Development Alternative, the City would not be able to operate a pool facility that would generate revenue to help offset the ongoing operation and maintenance costs (Objective 8). Because the No Project/No Development Alternative would not include the construction of a new pool facility or associated improvements, this alternative would not achieve the design oriented objectives of the proposed Project (Objectives 9, 10, 12, and 14). Additionally, because no development would occur under this alternative, the time that the community is without a state of the art recreation and competitive pool would be extended indefinitely and not minimized (Project Objective 3).

5.4.4 Conclusion

The No Project/No Development Alternative acknowledges the demolition of the previous seismically unsafe pool structure under an emergency permit as a separate project. Because this alternative would not provide the new outdoor pool components associated with the proposed Project, it would reduce potentially significant noise impacts. However, a majority of the Project objectives would not be achieved with the No Project/No Development Alternative, and none of the Project benefits would be realized.

5.5 ALTERNATIVE 2: MAINTAIN TEMPORARY POOL WITH ANCILLARY USES

5.5.1 Description

This alternative would include the conversion of the temporary pool (approximately 13,450 sf) into a permanent aquatic facility, and would retain the existing two outdoor pools (4,400 sf). Alternative 2 would include the construction of a permanent foundation for the pool along with construction of new administrative and support facilities (lockers, restrooms, snack bar). The site plan for this alternative would be consistent with the temporary pool configuration, with administrative and support facilities placed adjacent to the pool. The existing backfilled sand area would be removed and the park area would be expanded.

5.5.2 Environmental Analysis

Aesthetics. Alternative 2 would maintain the existing site configuration of the temporary pool, but would include the installation of a permanent foundation for the pool and associated facilities. The proposed Bubble structure would not be included in the design of Alternative 2. The absence of the Bubble structure would represent a substantial reduction in the overall footprint of the pool facility as compared to the proposed Project. This alternative would be substantially smaller in scale, and on- and off-site views of the Project site would be enhanced from the existing conditions because no new structures would be constructed on the vacant former Belmont Pool site. Open space and park area would be substantially increased under this alternative because the existing backfilled sand area would be removed and the park area would be expanded. This alternative would, like the proposed Project, be required to comply with the City's lighting code. Under this alternative, potential aesthetic impacts related to construction would be reduced compared to impacts under the proposed Project because construction activities would be reduced. Similar to the proposed Project, visual impacts associated with Alternative 2 would be considered less than significant. However, Alternative 2 would result in fewer aesthetics-related construction and operational impacts as compared to the proposed Project because the administrative facilities would be housed in a significantly smaller building

Air Quality. Similar to the proposed Project, Alternative 2 would have less than significant impacts related to air quality. Construction and operational emissions associated with Alternative 2 would be reduced since the amount of operational pool space would be reduced and fewer vehicle trips would be generated due to the reduced size of the alternative. Overall, air quality impacts would be incrementally reduced during construction when compared to the Project due to the substantial reduction in permanent structures that would be constructed on the Project site. Similar to the proposed Project, Alternative 2 would not exceed significance thresholds for criteria pollutants with implementation of mitigation and standard South Coast Air Quality Management District (SCAQMD) measures. Operational impacts would be reduced due to the reduced amount of pool square footage. Overall, there would be fewer air quality emissions; therefore, Alternative 2 would result in fewer air quality impacts than the proposed Project.

Biological Resources. Similar to the proposed Project, Alternative 2 would have less than significant impacts related to biological resources. Unlike the proposed Project, Alternative 2 would not include the removal of existing vegetation on the Project site to create the open space and park areas. Rather, the existing backfilled sand area would be removed and the park area would be expanded without the need for tree removal. Therefore, unlike the proposed Project, implementation of Alternative 2 would not require mitigation to reduce potential impacts associated with the removal of on-site ornamental landscaping and associated nesting bird species during the breeding season. This alternative would implement a landscape plan similar to the proposed Project but with more open space. Overall, biological impacts associated with Alternative 2 are considered to be less than those identified for the proposed Project.

Cultural and Paleontological Resources. Similar to the proposed Project, Alternative 2 would not significantly impact known cultural resources. No archaeological or historical resources are known to exist at the Project site. However, a sensitive geologic formation, Young Alluvial Floodplain Deposits, have the potential to be encountered at approximately 23 feet (ft) below grade. Similar to the proposed Project, Alternative 2 would involve some excavation and construction activities and would be required to adhere to mitigation to protect any unknown archaeological or paleontological resources. Therefore, this alternative's impacts to cultural resources would be similar to the proposed Project.

Geology and Soils. Similar to the proposed Project, Alternative 2 would have less than significant impacts related to geology and soils with implementation of mitigation and adherence to the recommendations of the geology study and additional testing for corrosive soils. Construction and excavation activities associated with implementation of this alternative would be reduced as compared to those associated with the proposed Project; therefore, impacts to geology and soils would be fewer but similar. Geology and soils impacts associated with Alternative 2 are, therefore, considered to be similar to the proposed Project.

Global Climate Change. Similar to the proposed Project, Alternative 2 would have less than significant impacts related to GHG emissions and global climate change. Overall, GHG emissions would be incrementally reduced during construction when compared to the proposed Project due to the reduced amount of building construction. Operational emissions would also be reduced with the reduced amount of square footage and fewer vehicle trips. Overall, there would be fewer GHG emissions; therefore, Alternative 2 would have fewer GHG impacts as compared to the proposed Project.

Hazards and Hazardous Materials. Similar to the proposed Project, Alternative 2 would have less than significant impacts related to hazards and hazardous materials. Although there would be reduced construction required for this alternative, Alternative 2 would still be required to implement mitigation measures to reduce impacts associated with regulations for handling hazardous materials during construction activities. Neither the proposed Project nor Alternative 2 would result in significant adverse impacts related to hazardous materials during Project operations. Overall, impacts related to hazardous materials are considered the same for Alternative 2 as for the proposed Project.

Hydrology and Water Quality. Similar to the proposed Project, construction of Alternative 2 could potentially impact water quality related to erosion and pollutants. However, compliance with regulatory requirements and mitigation would ensure these impacts would be less than significant. Water quality impacts associated with construction would be similar, although reduced for this alternative, because the ancillary structures to be constructed would be significantly reduced as compared to the proposed Project. Additionally, Alternative 2 would not include the Bubble structure and, therefore, would have a substantially reduced building square footage and amount of impervious surfaces, resulting in less runoff than the proposed Project. With compliance with regulatory requirements, operational impacts would be less than significant for this alternative, similar to the proposed Project. Overall, impacts related to hydrology for Alternative 2 would be less than for the proposed Project.

Land Use. Unlike the proposed Project, Alternative 2 would not include the construction of the Bubble structure or any other buildings to house pool facilities, and, therefore, a variance for the exceedance of the 30-foot height limit would not be required. Under this alternative, as well as the proposed Project, there would be no impacts related to the division of an existing community. Similar to the proposed Project, Alternative 2 would be consistent with the policies contained in the City's General Plan and the Southern California Association of Government's (SCAG) Regional Comprehensive Plan. Overall, similar to the proposed Project, Alternative 2 would not conflict with adjacent land uses and would be consistent with applicable goals and policies from the City's General Plan, and the City's Zoning Code. However, unlike the proposed Project, Alternative 2 would include the permanent loss of approximately 135 parking spaces where the temporary pool would be made permanent in the western part of the Beach Parking Lot. This permanent loss of parking would have the potential to violate the provisions of the California Coastal Act of 1976 and the Local Coastal Program if it is interpreted that this parking loss would decrease public access to the coast. Therefore, impacts related to land use for Alternative 2 are considered incrementally greater than the proposed Project.

Noise. Similar to the proposed Project, Alternative 2 would have less than significant impacts related to noise. However, Alternative 2 would reduce the duration of the construction activities and would, therefore, result in reduced construction-related noise impacts.

Alternative 2 would convert the temporary pool to a permanent facility, with seating and outdoor speakers. Crowd noise and whistles from aquatic events would occur, similar to existing conditions, under this alternative. This alternative would not include any indoor facilities, and the noise generated from outdoor aquatic events would be similar to the existing temporary pool and the outdoor facilities under the proposed Project. Neither the proposed Project nor Alternative 2 would result in significant adverse impacts related to noise during construction or Project operations. Therefore, Alternative 2 would result in similar operational noise impacts as compared to the proposed Project.

Recreation. Under both the proposed Project and Alternative 2, access to the Belmont Veteran's Memorial Pier, parking lots, beach areas, and the pedestrian/bicycle path may be subject to disruption during construction activities. However, both alternatives would include implementation of mitigation requiring a Construction Traffic Management Plan. Therefore, construction activities are expected to have less than significant impacts on access to the surrounding off-site recreational facilities for both the proposed Project and this alternative.

Alternative 2, similar to the proposed Project, would not result in an increased demand for recreational facilities but could require development or expansion of additional recreational facilities in order to meet the needs of the competitive swimming, diving, and water polo communities. Neither this alternative nor the proposed Project changes the Project site's intended and designated use for recreational purposes. Although no significant and unavoidable recreational impacts are identified for either scenario, Alternative 2 would include a total pool surface area of 17,850 sf, 560 sf less than the surface water area of the former Belmont Pool facility. Without any increase in the pool surface area from the former Belmont pool, recreational and competitive activities could not occur simultaneously, and the demand for programming competitive swimmers, divers, and aquatic sports participants would not be met. Therefore, operational recreational impacts are considered greater than the proposed project for this alternative.

Transportation and Circulation. Under both the proposed Project and Alternative 2, potentially significant impacts related to construction traffic and special event traffic could occur. However, both alternatives would include implementation of mitigation requiring an Event Traffic Management Plan for special events, and a Construction Traffic Management Plan. Implementation of these traffic plans would ensure that less than significant traffic impacts would occur for both the proposed Project and Alternative 2.

Construction and operational traffic associated with Alternative 2 would be reduced since the amount of operational pool space and temporary spectator seating would also be reduced resulting in fewer vehicle trips generated. Although no significant and unavoidable traffic impacts are identified for either scenario, because Alternative 2 reduces the amount of construction required and significantly reduces the proposed pool surface area and programming opportunities, traffic impacts are considered to be less for this alternative when compared to the proposed Project. Overall, traffic impacts would be reduced during construction and operations when compared to the Project; therefore, Alternative 2 would have fewer traffic impacts than the proposed Project.

Utilities and Service Systems. Alternative 2 eliminates the indoor pools and diving well, thereby decreasing the usable pool space by approximately 49 percent. Demand for water, electricity, and natural gas would be reduced as there would be less pool area to maintain and heat. The reduced pool space would lead to a reduction in visitors and the number of special events, and subsequently, a reduction in the amount of demand for most utilities and service systems. The capacity needs for wastewater, solid waste, and, as a result of a decrease in impervious area, urban runoff would be reduced as well. Under Alternative 2, emergency calls for police and fire services are anticipated to be the same or less than for the proposed Project. Although no significant and unavoidable utilities and service systems impacts are identified for either scenario, because Alternative 2 reduces the total amount of pool space by approximately 49 percent, Alternative 2 would have fewer utilities and service system impacts than the proposed Project.

5.5.3 Attainment of Project Objectives

Unlike the proposed Project, Alternative 2 would not replace the former Belmont Pool complex with a modern pool complex. This alternative would convert the existing temporary pool facilities into permanent structures and would include the construction of associated support facilities. Alternative 2 would achieve some, but not all, of the Project objectives.

The administrative and support facilities would occupy a substantially reduced project footprint as compared to the proposed Project, and, therefore, minimize view disruptions compared to the proposed Project and would maximize views to the ocean from the newly-permanent outdoor facility (Objectives 11 and 12). Similar to the proposed Project, Alternative 2 would maintain the pool facility in a location that would serve the existing users, although not to the same extent as the proposed Project, and would provide a passive open space area (Objectives 13 and 14). The existing backfilled sand area would be removed and the park area would be expanded under Alternative 2, therefore increasing the amount of open space compared to the former Belmont Pool facility (Objective 15).

Similar to the proposed Project, the outdoor facility would utilize high performance materials for the maximization of sustainability and energy efficiency as determined feasible (Objective 10).

The activities to make the existing pool facilities permanent would reduce the amount and length of construction required to build the Project, which would minimize the time period that the community is without a pool facility (Objective 3). However, Alternative 2 would not provide a new pool complex, and, therefore, would not achieve any of the project objectives associated with the implementation of a new pool facility on the former Belmont Pool site (Objectives 1, 2, and 6). Although the outdoor temporary pool is 50 meters x 25 meters, it would not be able to meet the full demand for recreation and competition pool use, would not have any permanent seating, and could not host events to the same degree as the proposed Project (Objective 4). Although would be able to operate a pool facility, Alternative 2 would not increase programmable water space, accommodate national/international aquatic events, or generate revenue from pool facility events to the same extent as the proposed Project (Objectives 5, 7, and 8). Therefore, Alternative 2 would not meet the needs of the aquatic community.

Although this alternative would not require a height variance for the Bubble structure, Alternative 2 would include additional impacts related to parking losses. Unlike the proposed Project, Alternatives 2 includes the permanent loss of approximately 135 parking spaces in the western part of the Beach Parking Lot, the existing location of the temporary pool. This permanent loss of parking would require replacement parking elsewhere in the vicinity of the pool facility, which would be determined according to the provisions of PD-2 and the Local Coastal Program if it is interpreted that this parking loss would decrease public access to the coast. Alternative 2 would include the potential for additional impacts related to compliance with the land use provisions of PD-2 (Objective 9).

Therefore, the elimination of indoor pools and to the conversion of the temporary pool to a permanent facility under Alternative 2 would not maximize the potential of the site as an aquatic recreational complex. Although Alternative 2 would meet Project Objectives 3, 10, 11, 12, 13, 14, and 15, it would not meet them to the same degree as the proposed Project. In addition, this alternative would not meet any of the Project Objectives related to the provision of a new pool complex that would serve the recreation needs of the general public, as well as the needs of the established aquatic community served by the former Belmont Pool facility.

5.5.4 Conclusion

Alternative 2 would eliminate the indoor pool facility and reduce the total pool surface area by approximately 49 percent. The reduced project footprint would result in an increase in open space. Although the indoor pool component would be eliminated with Alternative 2, impacts related to cultural resources, geology and soils, hazardous materials, and noise (operations) would be similar to the proposed Project for this alternative.

Construction-related biological resources, hydrology and water quality, air quality, global climate change, noise, and traffic impacts would be fewer than those under the proposed Project because construction activities would be reduced.

Operational-related impacts associated with aesthetics, air quality, global climate change, hydrology and water quality, noise, traffic and circulation, and utilities and service systems impacts would be reduced when compared to the proposed Project. These impacts were determined to be less than significant for the proposed Project, and would remain less than significant for this alternative.

Compared to the proposed Project, land use and recreational impacts are greater for Alternative 2 due to the permanent loss of public beach parking and the reduction in available recreational opportunities and programmable water area as compared to the proposed Project. A variance could be required if the replacement parking cannot be relocated as provided in the land use requirements outlined in PD-2.

Similar to the proposed Project, Alternative 2 would not result in any significant unavoidable impacts. However, due to the elimination of the indoor pool component under Alternative 2, overall impacts would be incrementally less than the proposed Project with the exception of land use and recreational impacts, which would be greater.

5.6 ALTERNATIVE 3: OUTDOOR DIVING WELL/REVISED SITE PLAN

5.6.1 Description

This alternative would be similar to the proposed Project, but would locate the diving well outside the proposed pool facility. Locating the diving well outside the Bubble structure would reduce the height of the building. However, a height variance would still be required as the building would exceed the 30’ height limit. Due to space constraints in the proposed outdoor aquatic area, the separate 115 sf whirlpool for divers would not be included in Alternative 3.

5.6.2 Environmental Analysis

Aesthetics. Alternative 3 would modify the aesthetics of the proposed structure. The location of the diving well outside of the Bubble structure would decrease the height of the building, thereby representing a reduction in the overall scale of the structure as compared to the proposed Project. Although this alternative would be smaller in scale, on- and off-site views of the Project site would be similar to the proposed Project because the Bubble, the Support Bar Building, the Beach Café, and a majority of the Plinth would still be constructed. The open space and park area would increase under this alternative. The location of the diving well to the outdoor areas would require additional, taller outdoor lighting fixtures, but similar to the proposed Project, this alternative would be required to comply with the City’s lighting code. Potential aesthetic impacts related to construction would be reduced, but similar compared to impacts under the proposed Project. Similar to the proposed Project, visual impacts associated with Alternative 3 would be considered less than significant. However, because the building height would be reduced, Alternative 3 would result in reduced visual impacts as compared to the proposed Project.

Air Quality. Similar to the proposed Project, Alternative 3 would have less than significant impacts related to air quality. Construction and operational emissions associated with Alternative 3 would be similar since the site plan would be revised but similar vehicle trips would be generated. Although the bubble structure would be reduced in height, Overall air quality impacts would be similar during construction when compared to the Project due to the similar structures proposed for construction. Similar to the proposed Project, Alternative 3 would not exceed significance thresholds for criteria pollutants with implementation of mitigation and standard South Coast Air Quality Management District (SCAQMD) measures. Operational impacts would be similar with minor changes to the amount of pool square footage. Overall, there would be similar air quality emissions; therefore, Alternative 3 would result in air quality impacts similar to the proposed Project.

Biological Resources. Similar to the proposed Project, Alternative 3 would have less than significant impacts related to biological resources. Alternative 3, like the proposed Project, would remove vegetation on the Project site to create the open space and park areas. Therefore, similar to the proposed Project, implementation of Alternative 3 would include mitigation to reduce potential impacts associated with the removal of on-site ornamental landscaping and associated nesting bird species during the breeding season. This alternative would implement a landscape plan similar to the proposed Project. Therefore, biological impacts associated with Alternative 3 are considered to be similar to the proposed Project.

Cultural and Paleontological Resources. Similar to the proposed Project, Alternative 3 would not significantly impact known cultural resources. No archaeological or historical resources are known to exist at the Project site. However, a sensitive geologic formation, Young Alluvial Floodplain Deposits, have the potential to be encountered at approximately 23 ft below grade. Similar to the proposed Project, Alternative 3 would involve excavation and construction activities and would be required to adhere to mitigation to protect any unknown archaeological or paleontological resources. Therefore, this alternative’s impacts to cultural resources would be similar to the proposed Project.

Geology and Soils. Similar to the proposed Project, Alternative 3 would have less than significant impacts related to geology and soils with implementation of mitigation and adherence to the recommendations of the geology study and additional testing for corrosive soils. Construction and excavation activities associated with implementation of this alternative would be similar to those associated with the proposed Project; therefore, impacts to geology and soils would be comparable. Geology and soils impacts associated with Alternative 3 are, therefore, considered to be similar to the proposed Project.

Global Climate Change. Similar to the proposed Project, Alternative 3 would have less than significant impacts related to GHG emissions and global climate change. Overall, GHG emissions would be similar during construction when compared to the proposed Project due to the comparable amount of building construction. Operational emissions for Alternative 3 would also be similar to the proposed Project due to a similar amount of square footage and similar projected uses at the facility. Therefore, Alternative 3 would have similar GHG impacts as the proposed Project.

Hazards and Hazardous Materials. Similar to the proposed Project, Alternative 3 would have less than significant impacts related to hazards and hazardous materials. Although there would be revisions to the site plan for this alternative, Alternative 3 would still be required to implement mitigation measures to reduce impacts associated with regulations for handling hazardous materials during construction activities. Neither the proposed Project nor Alternative 3 would result in significant adverse impacts related to hazardous materials during Project operations. Overall, impacts related to hazardous materials are considered the same for Alternative 3 as for the proposed Project.

Hydrology and Water Quality. Similar to the proposed Project, construction of Alternative 3 could potentially impact water quality related to erosion and pollutants. However, compliance with regulatory requirements and mitigation would ensure these impacts would be less than significant. Although the diving well would be located outside for this alternative and a separate whirlpool for divers would not be included, water quality impacts associated with construction would be similar, since all major components on the Project site would be still be constructed. Alternative 3 would have a reduced building height, but would have a similar amount of impervious surfaces as the proposed Project. With compliance with regulatory requirements, operational impacts would be less than significant for this alternative, similar to the proposed Project. Overall, impacts related to hydrology for Alternative 3 would be similar to the proposed Project.

Land Use. Alternative 3 would include the construction of the Bubble structure, but the structure would be at a reduced height because the diving well would be relocated to the outside of the building. However, similar to the proposed Project, the Bubble structure under Alternative 3 would still exceed the 30-foot height limit and would require a height variance. Under this alternative, as well as the proposed Project, there would be no impacts related to the division of an existing community. Similar to the proposed Project, Alternative 3 would be consistent with the policies contained in the City's General Plan and the Southern California Association of Government's (SCAG) Regional Comprehensive Plan. Overall, similar to the proposed Project, Alternative 3 would not conflict with adjacent land uses and would be consistent with applicable goals and policies from the City's General Plan, the Local Coastal Program, and the City's Zoning Code. Overall, impacts related to land use for Alternative 3 are considered similar to the proposed Project.

Noise. Similar to the proposed Project, Alternative 3 would have less than significant impacts related to noise. Alternative 3 would have a similar duration for construction activities as the proposed project and would therefore have similar construction-related noise impacts.

Alternative 3 would move the diving well outside, as well as the associated seating and outdoor speakers. Crowd noise and whistles from aquatic events performed outside would be greater with the location of these activities outside of the proposed Project's Bubble structure. Although neither the proposed Project nor Alternative 3 would result in significant adverse impacts related to noise during construction or Project operations, overall impacts related to noise would be increased for Alternative 3 due to the diving activities being moved to the outdoor area. Therefore, Alternative 3 would result in greater noise impacts as compared to the proposed Project.

Recreation. Under both the proposed Project and Alternative 3, access to the Belmont Veteran's Memorial Pier, parking lots, beach areas, and the pedestrian/bicycle path may be subject to disruption during construction activities. However, both alternatives would include implementation of mitigation requiring a Construction Traffic Management Plan. Construction activities are expected to have less than significant impacts on access to the surrounding off-site recreational facilities.

Alternative 3, similar to the proposed Project, would not result in an increased demand for recreational facilities or require development or expansion of additional recreational facilities. Neither this alternative nor the proposed Project changes the Project site's intended and designated use for recreational purposes. No significant and unavoidable recreational impacts are identified for either the proposed Project or Alternative 3. The total pool surface area for this alternative would be similar to the proposed project, and the demand for programming competitive swimmers, divers, and aquatic sports participants would be met. Therefore, operational recreational impacts are considered similar to the proposed project for this alternative.

Transportation and Circulation. Under both the proposed Project and Alternative 3, potentially significant impacts related to construction traffic and special event traffic could occur. However, both the proposed Project and Alternative 3 would require implementation of mitigation requiring an Event Traffic Management Plan for special events, and a Construction Traffic Management Plan. With these measures, less than significant traffic impacts would occur for both the proposed Project and Alternative 3.

Construction and operational traffic associated with Alternative 3 would be similar since the amount of operational pool space and spectator seating would also be similar to the proposed Project. No significant and unavoidable traffic impacts are identified for either scenario. Overall, traffic impacts would be similar during construction and operations when compared to the Project; therefore, Alternative 3 would have similar traffic impacts than the proposed Project.

Utilities and Service Systems. Alternative 3 includes a similar usable pool area as the proposed Project. There would be similar numbers of visitors and special events, and subsequently, a similar amount of demand for most utilities and service systems. Demand for water, electricity, and natural gas would be the same as the proposed Project. The capacity needs for wastewater, solid waste, and urban runoff would also be similar to the proposed Project. Under Alternative 3, emergency calls for police and fire services are anticipated to be the same as for the proposed Project. No significant and unavoidable utilities and service systems impacts are identified for either scenario. Therefore, Alternative 3 would have similar utilities and service system impacts as the proposed Project.

5.6.3 Attainment of Project Objectives

Similar to the proposed Project, Alternative 3 would replace the former Belmont Pool complex with a modern pool complex. However, the site plan under Alternative 3 would be revised to locate the diving well component outside in order to reduce the height of the Bubble structure. This alternative would achieve many of the of the Project objectives, but not to the same extent as the proposed Project.

The relocation of the diving well to the outdoor pool area would result in a similar length of construction required to build the proposed Project, which would minimize the time period that the community is without a state-of-the-art recreation and competitive pool facility (Objective 3). In addition, the height of the Bubble structure would be reduced under Alternative 3, which would reduce the scale of the proposed buildings and improve scenic views of the coastline from inside and outside the facility, as compared to the proposed Project and the former Belmont Pool facility (Objectives 11 and 12). The amount and type of landscaped open space areas under Alternative 3 would be the same as the proposed Project (Objectives 14 and 15). Alternative 3 would provide a new pool complex that is compatible with its seaside location (Objective 6).

Similar to the proposed Project, Alternative 3 would provide a pool complex that accommodates swimming, diving, and water polo national/international events that include current competitive standards, in accordance with FINA regulations (Objective 7). However, because Alternative 3 would relocate the diving well to the outdoor pool component, space constraints would require the consolidation of pools and removal of the divers' whirlpool and the loss of an indoor competitive diving facility. Competitive divers and certain competitive events prefer indoor competitive facilities over outdoor facilities. The pool complex would be able to hold the same amount of the special events and public aquatic opportunities as compared to the proposed Project. Alternative 3 would not experience a substantial reduction in usable pool space or aquatic opportunities as a result of the revised site plan, and, therefore, be able to operate a pool facility that generates revenue to help offset the ongoing operation and maintenance costs (Objective 8).

Alternative 3, similar to the proposed Project, would redevelop and replace the former Belmont Pool with a more modern facility comprised of high performance materials that better meet the needs of recreational and competitive swimmers, divers, aquatic sports participants, and additional pool users (Objectives 1, 2, and 10) and increases programmable water space to minimize scheduling conflicts (Objective 5) that occurred during the operations of the former Belmont Pool facility. Both Alternative 3 and the proposed Project would locate the pool in an area that serves the existing users (Objective 13). Alternative 3 would include a total pool surface area of 36,335 sf, only 115 sf less than the proposed project (due to the loss of the whirlpool for divers). The increase in pool area would be comparable to the proposed Project and would alleviate the overcrowding and schedule conflicts of the former Belmont Pool. Therefore, Alternative 3 would meet the needs of aquatic community, similar to the proposed Project.

The proposed Project would include possible total of 4,250 seats (Objective 4) through the combination of 3,000 temporary outdoor seats for special events and 1,250 permanent indoor seats. By moving the diving well to the outdoor pool component, Alternative 3 would include the reconfiguration of the outdoor pool components, which may result in a reduction of outdoor seating. Alternative 3 is in compliance with the land use goals of Planned Development PD-2 (Objective 9). Therefore, Alternative 3 would meet a majority of the Project Objectives, similar to the proposed Project.

5.6.4 Conclusion

Alternative 3 would move the diving well outside, reducing the pool surface area by only 115 sf. Although the diving well would be located to the outdoor pool component under Alternative 3, impacts related to air quality, biological resources, cultural resources, geology and soils, global climate change, hazardous materials, hydrology and water quality, land use, recreation, traffic, and utilities and service systems impacts would be similar to the proposed Project for this alternative.

Operational-related impacts associated with aesthetics would be reduced when compared to the proposed Project due to the reduced project height. These impacts were determined to be less than significant for the proposed Project, and would remain less than significant for this alternative.

Compared to the proposed Project, operational noise impacts are greater for Alternative 3, as compared to the proposed Project, due to the location of additional activities, such as the diving well, to the outdoor pool area.

Similar to the proposed Project, Alternative 3 would not result in any significant unavoidable impacts. Overall impacts would be incrementally less than the proposed Project with the exception of noise impacts, which would be greater.

5.7 ALTERNATIVE 4: REDUCED PROJECT - NO OUTDOOR COMPONENTS

5.7.1 Description

Alternative 4 is a Reduced Project Alternative, which would eliminate the outdoor pool component, including the recreation pool, competition pool, and the public address system. The indoor component, facility amenities, and building design components would remain in place; however, the size of the Plinth structure would be reduced and be centralized around the Bubble component of the Project. The removal of the outdoor component would represent an approximately 20–30 percent reduction in the size of the building footprint and an approximately 49 percent reduction in the total pool area as compared to the proposed project. As part of this alternative, the outdoor cafe would remain. A height variance would still be required under this alternative due to indoor diving well.

5.7.2 Environmental Analysis

Aesthetics. Alternative 4 would eliminate the outdoor pool area and would modify the aesthetics of the proposed structure. The removal of the outdoor pool area would include the removal of the Plexiglas barrier and reduce the size of the Plinth, thereby representing a reduction in the overall mass and footprint of the structure as compared to the proposed Project. Because this alternative would be smaller in scale, impacts to views would be reduced as compared to the proposed Project. The open space and park area would increase under this alternative. This alternative would, like the proposed Project, be required to comply with the City's lighting code, although lighting would be reduced with the elimination of the outdoor pool components. Under this alternative, potential aesthetic impacts related to construction would be reduced compared to impacts under the proposed Project because construction activities would be incrementally reduced. Similar to the proposed Project, visual impacts associated with the Reduced Project Alternative would be considered less than significant. However, Alternative 4 would result in fewer construction and operational visual impacts as compared to the proposed Project due to the reduction in the proposed facilities.

Air Quality. Similar to the proposed Project, Alternative 4 would have less than significant impacts related to air quality. Construction and operational emissions associated with Alternative 4 would be reduced since the amount of operational pool space would be reduced and fewer vehicle trips would be generated due to the reduced size of the alternative. Overall, air quality impacts would be incrementally reduced during construction when compared to the Project due to the reduced amount of building construction. Similar to the proposed Project, Alternative 4 would not exceed significance thresholds for criteria pollutants with implementation of mitigation and standard South Coast Air Quality Management District (SCAQMD) measures. Operational impacts would be reduced with the reduced amount of pool square footage. Overall, there would be fewer air quality emissions; therefore, Alternative 4 would result in fewer air quality impacts than the proposed Project.

Biological Resources. Similar to the proposed Project, Alternative 4 would have less than significant impacts related to biological resources. Alternative 4, like the proposed Project, would remove vegetation on the Project site to create the open space and park areas. Therefore, similar to the proposed Project, implementation of Alternative 4 would include mitigation to reduce potential impacts associated with the removal of on-site ornamental landscaping and associated nesting bird species during the breeding season. This alternative would implement a landscape plan similar to the proposed Project, but would include additional park and open space area. Therefore, biological impacts associated with Alternative 4 are considered to be similar to the proposed Project.

Cultural and Paleontological Resources. Similar to the proposed Project, Alternative 4 would not significantly impact known cultural resources. No archaeological or historical resources are known to exist at the Project site. However, a sensitive geologic formation, Young Alluvial Floodplain Deposits, have the potential to be encountered at approximately 23 ft below grade. Similar to the proposed Project, Alternative 4 would involve excavation and construction activities and would be required to adhere to mitigation to protect any unknown archaeological or paleontological resources. Therefore, this alternative's impacts to cultural resources would be similar to the proposed Project.

Geology and Soils. Similar to the proposed Project, Alternative 4 would have less than significant impacts related to geology and soils with implementation of mitigation and adherence to the recommendations of the geology study and additional testing for corrosive soils. Construction and excavation activities associated with implementation of this alternative would be less than, but similar to those associated with the proposed Project; therefore, impacts to geology and soils would be comparable. Geology and soils impacts associated with Alternative 4 are, therefore, considered to be similar to the proposed Project.

Global Climate Change. Similar to the proposed Project, Alternative 4 would have less than significant impacts related to GHG emissions and global climate change. Overall, GHG emissions would be incrementally reduced during construction when compared to the proposed Project due to the reduced amount of building construction. Operational emissions would also be reduced due to the reduced amount of square footage and fewer associated vehicle trips. Overall, there would be incrementally fewer GHG emissions; therefore, Alternative 4 would have fewer GHG impacts as compared to the proposed Project.

Hazards and Hazardous Materials. Similar to the proposed Project, Alternative 4 would have less than significant impacts related to hazards and hazardous materials. Although there would be reduced construction required for this alternative, Alternative 4 would still be required to implement mitigation measures to reduce impacts associated with regulations for handling hazardous materials during construction activities. Neither the proposed Project nor Alternative 4 would result in significant adverse impacts related to hazardous materials during Project operations. Overall, impacts related to hazardous materials are considered the same for Alternative 4 as for the proposed Project.

Hydrology and Water Quality. Similar to the proposed Project, construction of Alternative 4 could potentially impact water quality related to erosion and pollutants. However, compliance with regulatory requirements and mitigation would ensure these impacts would be less than significant. Water quality impacts associated with construction would be similar, although incrementally reduced for this alternative, since all components on the Project site, with the exception of the outdoor pool components, would be still be constructed. Additionally, Alternative 4 would have a reduced building square footage, and would result in less impervious surfaces. With compliance with regulatory requirements, operational impacts would be less than significant for this alternative, similar to the proposed Project. Overall, impacts related to hydrology for Alternative 4 would be incrementally fewer than for the proposed Project.

Land Use. Similar to the proposed Project, Alternative 4 would be constructed up to a maximum height of 75 ft and require a variance for the exceedance of the 30-foot height limit. Under this alternative, as well as the proposed Project, there would be no impacts related to the division of an existing community. Similar to the proposed Project, Alternative 4 would be consistent with the policies contained in the City's General Plan and the Southern California Association of Government's (SCAG) Regional Comprehensive Plan. Overall, similar to the proposed Project, Alternative 4 would not conflict with adjacent land uses and would be consistent with applicable goals and policies from the City's General Plan, the Local Coastal Program, and the City's Zoning Code. Therefore, impacts related to land use for Alternative 4 are considered similar to the proposed Project.

Noise. Similar to the proposed Project, Alternative 4 would have less than significant impacts related to noise. However, Alternative 4 would reduce the duration of the construction activities and would, therefore, result in reduced construction-related noise impacts.

Alternative 4 would eliminate the outdoor pool area, as well as the associated temporary bleachers and outdoor speakers. Crowd noise and whistles from aquatic events occurring outside would be eliminated. Although neither the proposed Project nor Alternative 4 would result in significant adverse impacts related to noise during construction or Project operations, overall impacts related to noise would be reduced for Alternative 4 due to the removal of outdoor pool activities. Therefore, Alternative 4 would result in fewer noise impacts as compared to the proposed Project.

Recreation. Under both the proposed Project and Alternative 4, access to the Belmont Veteran's Memorial Pier, parking lots, beach areas, and the pedestrian/bicycle path may be subject to disruption during construction activities. However, both the alternative and the proposed Project would include implementation of mitigation requiring a Construction Traffic Management Plan. Construction activities are expected to have less than significant impacts on access to the surrounding off-site recreational facilities.

Alternative 4, similar to the proposed Project, would not result in an increased demand for recreational facilities or require development or expansion of additional recreational facilities. Neither this alternative nor the proposed Project changes the Project site's use for recreational purposes. Although no significant and unavoidable recreational impacts are identified for either scenario, the proposed Project includes approximately 36,450 square feet (sf) of pool surface area, as compared to a total pool surface area of 18,610 sf under Alternative 4. This is substantially less programmable water area than the proposed Project, and only 200 sf more than the former Belmont facility. Alternative 4 would not allow as many recreational and competitive activities to occur simultaneously. Without substantially increasing the pool surface area from the former Belmont pool, operational-related recreational impacts are considered greater for this alternative.

Transportation and Circulation. Under both the proposed Project and Alternative 4, potentially significant impacts related to construction traffic and special event traffic could occur. However, both Alternative 4 and the proposed Project would require implementation of mitigation requiring an Event Traffic Management Plan for special events, and a Construction Traffic Management Plan be implemented. With these measures, less than significant traffic impacts would occur for both the proposed Project and Alternative 4.

Construction and operational traffic associated with Alternative 4 would be reduced since the amount of operational pool space and temporary spectator seating would also be reduced resulting in fewer vehicle trips generated. Although no significant and unavoidable traffic impacts are identified for either scenario, because Alternative 4 reduces the amount of construction required and the proposed pool space by approximately 49 percent, traffic impacts are considered to be less for this alternative when compared to the proposed Project. Overall, traffic impacts would be reduced during construction and operations when compared to the Project; therefore, Alternative 4 would have fewer traffic impacts than the proposed Project.

Utilities and Service Systems. Alternative 4 eliminates the outdoor pool, thereby decreasing the usable pool space by approximately 49 percent. The reduced pool space would lead to a reduction in visitors and the number of special events, and subsequently, a reduction in the amount of demand for most utilities and service systems. Demand for water, electricity, and natural gas would also be reduced as there would be less pool area to maintain and heat. The capacity needs for wastewater, solid waste, and, as a result of a decrease in impervious area, urban runoff would be reduced as well. Under Alternative 4, emergency calls for police and fire services are anticipated to be the same or less than for the proposed Project. Although no significant and unavoidable utilities and service systems impacts are identified for either scenario, because Alternative 4 reduces the amount of pool space by approximately 49 percent, utilities and service system impacts are considered to be lower for this alternative when compared to the proposed Project. Therefore, Alternative 4 would have fewer utilities and service system impacts than the proposed Project.

5.7.3 Attainment of Project Objectives

Similar to the proposed Project, Alternative 4 would replace the former Belmont Pool complex with a modern pool complex. However, because it would not include outdoor pools, this alternative would achieve some, but not all, of the Project objectives.

The elimination of the outdoor pools would reduce the amount and length of construction required to build the Project, which would minimize the time period that the community is without a state-of-the-art recreation and competitive pool facility (Objective 3). In addition, the smaller building footprint would reduce the mass and scale of the proposed Plinth component and potentially increase landscaped open space areas and provide additional views of the coastline from inside and outside the facility (Objectives 11, 12, 14, and 15). Therefore, Alternative 4 would provide a new pool complex that is compatible with its seaside location (Objective 6). Both Alternative 4 and the proposed Project would locate the pool in an area that serves the existing users (Objective 13) and would utilize high performance materials for the maximization of sustainability and energy efficiency (Objective 10).

Similar to the proposed Project, Alternative 4 would be a pool complex that accommodates swimming, diving, and water polo national/international events that include current competitive standards, in accordance with FINA regulations (Objective 7). However, because Alternative 4 would result in 49 percent less pool space compared to the proposed Project, the pool complex would not be able to hold as many special events and public aquatic opportunities as compared to the proposed Project and would not maximize the potential of the site as an aquatic recreational complex. The facility would also not be able to simultaneously support both competitive and recreational uses. Similarly, although Alternative 4 would be able to operate a pool facility that generates revenue to help offset the ongoing operation and maintenance costs (Objective 8), the reduced pool space would result in a reduced number of special events and associated revenue. Therefore, this alternative would meet Objective 8 to a lesser degree than the proposed project.

Although Alternative 4 would redevelop and replace the former Belmont Pool with a more modern facility that better meets the needs of recreational and competitive swimmers, divers, and aquatic sports participants, (Objectives 1, and 2), and increases programmable water space to minimize scheduling conflicts (Objective 5), it does not meet these objectives to the same degree as the proposed Project. Alternative 4 provides only 330 sf more pool area than the former Belmont Pool facility, and is 49 percent less pool area than the proposed Project. The small increase in pool area would not alleviate the overcrowding and schedule conflicts of the former Belmont Pool as compared to the proposed Project. Therefore, Alternative 4 would not better meet the needs of aquatic community. This alternative would, therefore, be inconsistent with Objectives 2 and 5.

The proposed Project would include a total of 4,250 seats (Objective 4) through the combination of 3,000 temporary outdoor seats for special events and 1,250 permanent indoor seats. By removing the outdoor pool, Objective 4 would not be met because Alternative 4 would eliminate the 3,000 outdoor seats, leaving only 1,250 permanent indoor seats. The indoor diving well would require that the Bubble structure remain at a height that exceeds the limitations provided for the PD-2, similar to the proposed Project, which would require a variance for the structure to comply with the land use goals of Planned Development PD-2 (Objective 9). Therefore, the elimination of the outdoor pools under Alternative 4 would not maximize the potential of the site as an aquatic recreational complex. Although Alternative 4 would meet Project Objectives 1, 7, 11, 12, 14, and 15, it would not meet them or the remaining Project Objectives to the same degree as the proposed Project.

5.7.4 Conclusion

Alternative 4 would eliminate the outdoor pools and reduce the pool surface area by 49 percent as compared to the proposed Project. The Plinth and structural footprint would also be reduced and would result in an increase in open space. Although the outdoor pool component would be eliminated with Alternative 4, impacts related to biological resources, cultural resources, geology and soils, hazardous materials, and land use would be similar to the proposed Project for this alternative.

Construction-related aesthetics, hydrology and water quality, air quality, global climate change, noise, and traffic impacts would be fewer than those under the proposed Project because construction activities would be reduced.

Operational-related impacts associated with aesthetics, air quality, global climate change, hydrology and water quality, noise, traffic and circulation, and utilities and service systems impacts would be reduced when compared to the proposed Project. These impacts were determined to be less than significant for the proposed Project, and would remain less than significant for this alternative.

Compared to the proposed Project, recreational impacts are greater for Alternative 4 due to the reduction in available aquatic recreational opportunities as compared to the proposed Project.

Similar to the proposed Project, Alternative 4 would not result in any significant unavoidable impacts. However, due to the elimination of the outdoor pool component under Alternative 4, overall impacts would be incrementally less than the proposed Project with the exception of recreational impacts, which would be greater.

5.8 ALTERNATIVE 5: REDUCED PROJECT - NO DIVING WELL AND NO OUTDOOR COMPONENTS

5.8.1 Description

This alternative would be similar to Alternative 4, but would eliminate the outdoor pool components and the indoor diving well component. The open space and park area would be expanded under this alternative as the footprint of the facility would be reduced. Although this alternative would reduce the height of the building, it would still require a height variance due to the height limitation of 30 ft on the Project site.

5.8.2 Environmental Analysis

Aesthetics. Alternative 5 would eliminate the diving well and outdoor pool area, and, as a result, would modify the aesthetics of the proposed structure. The removal of the outdoor pool area would include the removal of the Plexiglas barrier and reduce the size of the Plinth, thereby representing a reduction in the overall mass and footprint of the structure as compared to the proposed Project. Because this alternative would be smaller in scale, impacts to views would be reduced as compared to the proposed Project. The Bubble interior mezzanines and levels the Beach Cafe, and a majority of the Plinth would still be constructed, but, with removal of the diving well component, the height of the building would be reduced. However, Alternative 5 would still exceed the 30-foot height limit and would require a height variance. Open space and park area would also increase under this alternative. This alternative would, like the proposed Project, be required to comply with the City's lighting code, although lighting would be reduced with the elimination of the outdoor pool components. Under this alternative, potential aesthetic impacts related to construction would be reduced compared to impacts under the proposed Project because construction activities would be incrementally reduced. Similar to the proposed Project, visual impacts associated with Alternative 5 would be considered less than significant. Alternative 5 would result in fewer visual impacts compared to the proposed Project.

Air Quality. Similar to the proposed Project, Alternative 5 would have less than significant impacts related to air quality. Construction and operational emissions associated with Alternative 5 would be reduced since the amount of operational pool space would be reduced and fewer vehicle trips would be generated due to the reduced size of the alternative. Overall, air quality impacts would be incrementally reduced during construction when compared to the Project due to the reduced amount of building construction. Similar to the proposed Project, Alternative 5 would not exceed significance thresholds for criteria pollutants with implementation of mitigation and standard South Coast Air Quality Management District (SCAQMD) measures. Operational impacts would be reduced with the reduced amount of pool square footage. Overall, there would be fewer air quality emissions; therefore, Alternative 5 would result in fewer air quality impacts than the proposed Project.

Biological Resources. Similar to the proposed Project, Alternative 5 would have less than significant impacts related to biological resources. Alternative 5, like the proposed Project, would remove vegetation on the Project site to create the open space and park areas. Therefore, similar to the proposed Project, implementation of Alternative 5 would include mitigation to reduce potential impacts associated with the removal of on-site ornamental landscaping and associated nesting bird species during the breeding season. This alternative would implement a landscape plan similar to the proposed Project, but with more open space and park area. Therefore, biological impacts associated with Alternative 5 are considered to be similar to the proposed Project.

Cultural and Paleontological Resources. Similar to the proposed Project, Alternative 5 would not significantly impact known cultural resources. No archaeological or historical resources are known to exist at the Project site. However, a sensitive geologic formation, Young Alluvial Floodplain Deposits, have the potential to be encountered at approximately 23 ft below grade. Similar to the proposed Project, Alternative 5 would involve excavation and construction activities and would be required to adhere to mitigation to protect any unknown archaeological or paleontological resources. Therefore, this alternative's impacts to cultural resources would be similar to the proposed Project.

Geology and Soils. Similar to the proposed Project, Alternative 5 would have less than significant impacts related to geology and soils with implementation of mitigation and adherence to the recommendations of the geology study and additional testing for corrosive soils. Construction and excavation activities associated with implementation of this alternative would be less than, but similar to those associated with the proposed Project; therefore, impacts to geology and soils would be comparable. Geology and soils impacts associated with Alternative 5 are, therefore, considered to be similar to the proposed Project.

Global Climate Change. Similar to the proposed Project, Alternative 5 would have less than significant impacts related to GHG emissions and global climate change. Overall, GHG emissions would be incrementally reduced during construction when compared to the proposed Project due to the lessened amount of building construction. Operational emissions would also be reduced with the reduced amount of square footage and fewer vehicle trips. Overall, there would be incrementally fewer GHG emissions; therefore, Alternative 5 would have fewer GHG impacts as compared to the proposed Project.

Hazards and Hazardous Materials. Similar to the proposed Project, Alternative 5 would have less than significant impacts related to hazards and hazardous materials. Although there would be reduced construction required for this alternative, Alternative 5 would still be required to implement mitigation measures to reduce impacts associated with regulations for handling hazardous materials during construction activities. Neither the proposed Project nor Alternative 5 would result in significant adverse impacts related to hazardous materials during Project operations. Overall, impacts related to hazardous materials are considered the same for Alternative 5 as for the proposed Project.

Hydrology and Water Quality. Similar to the proposed Project, construction of Alternative 5 could potentially impact water quality related to erosion and pollutants. However, compliance with regulatory requirements and mitigation would ensure these impacts would be less than significant. Water quality impacts associated with construction would be similar, although incrementally reduced for this alternative, since all of the components on the Project site, with the exception of the outdoor pool components and the diving well, would be still be constructed. Additionally, Alternative 5 would have a reduced building square footage, and would also have a reduced amount of impervious surfaces. With compliance with regulatory requirements, operational impacts would be less than significant for this alternative, similar to the proposed Project. Overall, impacts related to hydrology for Alternative 5 would be incrementally less than for the proposed Project.

Land Use. Unlike the proposed Project, Alternative 5 would not include the indoor diving well; however a variance would still be required for the exceedance of the 30-foot height limit. Under this alternative, as well as the proposed Project, there would be no impacts related to the division of an existing community. Similar to the proposed Project, Alternative 5 would be consistent with the policies contained in the City's General Plan and the Southern California Association of Government's (SCAG) Regional Comprehensive Plan. Overall, similar to the proposed Project, Alternative 5 would not conflict with adjacent land uses and would be consistent with applicable goals and policies from the City's General Plan, the Local Coastal Program, and the City's Zoning Code. Therefore, impacts related to land use for Alternative 5 are similar to the proposed Project.

Noise. Similar to the proposed Project, Alternative 5 would have less than significant impacts related to noise. However, Alternative 5 would reduce the duration of the construction activities and would, therefore, result in reduced construction-related noise impacts. Alternative 5 would also eliminate the outdoor pool area, as well as the associated temporary bleachers and outdoor speakers. Crowd noise and whistles from aquatic events performed outside would also be eliminated. Although neither the proposed Project nor Alternative 5 would result in significant adverse impacts related to noise during construction or Project operations, overall impacts related to noise would be reduced for Alternative 5. Therefore, Alternative 5 would result in fewer noise impacts as compared to the proposed Project.

Recreation. Under both the proposed Project and Alternative 5, access to the Belmont Veteran's Memorial Pier, parking lots, beach areas, and the pedestrian/bicycle path may be subject to disruption during construction activities. However, both the proposed Project and Alternative 5 would include implementation of mitigation requiring a Construction Traffic Management Plan. Construction activities are expected to have less than significant impacts on access to the surrounding off-site recreational facilities.

Alternative 2, similar to the proposed Project, would not result in an increased demand for recreational facilities but could require development or expansion of additional recreational facilities in order to meet the needs of the competitive swimming, diving, and water polo communities. Neither this alternative nor the proposed Project changes the Project site's use for recreational purposes. Although no significant and unavoidable recreational impacts are identified for either scenario, Alternative 5 would include a total pool surface area of 14,290 sf or less, increasing the indoor surface water area of the former Belmont Pool facility by only 280 sf. Without substantially increasing the pool surface area from the former Belmont pool, recreational and competitive activities could not occur simultaneously, and the demand for programming competitive swimmers, divers, and aquatic sports participants would not be met. Therefore, operational recreational impacts are considered greater than the proposed project for this alternative.

Transportation and Circulation. Under both the proposed Project and Alternative 5, potentially significant impacts related to construction traffic and special event traffic could occur. However, both alternatives would include implementation of mitigation requiring an Event Traffic Management Plan for special events, and a Construction Traffic Management Plan. With these measures, less than significant traffic impacts would occur.

Construction and operational traffic associated with Alternative 5 would be reduced since the amount of operational pool space and temporary spectator seating would also be reduced resulting in fewer vehicle trips generated. Although no significant and unavoidable traffic impacts are identified for either scenario, because Alternative 5 reduces the amount of construction required and the proposed pool space by approximately 49 percent, traffic impacts are considered to be fewer for this alternative when compared to the proposed

Project. Overall, Alternative 5 traffic impacts would be reduced during construction and operations when compared to the Project.

Utilities and Service Systems. Alternative 5 eliminates the outdoor pool, thereby decreasing the usable pool space by approximately 49 percent. The reduced pool space would lead to a reduction in visitors and the number of special events, and subsequently, a reduction in the amount of demand for most utilities and service systems. Demand for water, electricity, and natural gas would be reduced, as there would be less pool area to maintain and heat. The capacity needs for wastewater, solid waste, and, as a result of a decrease in impervious area, urban runoff would be reduced as well. Under Alternative 5, emergency calls for police and fire services are anticipated to be the same or less than for the proposed Project. Although no significant and unavoidable utilities and service systems impacts are identified for either scenario, because Alternative 5 reduces the amount of pool space by approximately 49 percent, utilities and service system impacts are considered to be less for this alternative when compared to the proposed Project. Therefore, Alternative 5 would have fewer utilities and service system impacts than the proposed Project.

5.8.3 Attainment of Project Objectives

Similar to the proposed Project, Alternative 5 would replace the former Belmont Pool complex with a modern pool complex. However, because it would not include outdoor pools or the diving well component, this alternative would achieve some, but not all, of the Project objectives as the proposed Project.

The elimination of the outdoor pools and the diving well component would reduce the amount and length of construction required to build the Project, which would minimize the time period that the community is without a state-of-the-art recreation and competitive pool facility (Objective 3). In addition, the smaller project footprint would reduce the mass and scale of the proposed Plinth component, increasing landscaped open space areas, and providing additional views of the coastline from inside and outside the facility (Objectives 11, 12, 14, and 15). Therefore, Alternative 5 would provide a new pool complex that is compatible with its seaside location (Objective 6).

Similar to the proposed Project, Alternative 5 would accommodate swimming and water polo national/international events that include current competitive standards, in accordance with FINA regulations (Objective 7). However, because Alternative 5 would remove the diving well component and approximately 49 percent of the programmable pool space, the pool complex would not be able to hold the same number of special events and public aquatic opportunities as compared to the proposed Project. Similarly, although Alternative 5 would be able to operate a pool facility that generates revenue to help offset the ongoing operation and maintenance costs (Objective 8), the lack of a diving well and reduced pool space would result in a reduced number of special events and associated revenue. Therefore, this alternative would meet Objective 8 to a lesser degree than the proposed Project.

Although Alternative 5 would redevelop and replace the former Belmont Pool with a more modern facility that better meets the needs of recreational and competitive swimmers, divers, and aquatic sports participants, (Objectives 1, and 2), and increases programmable water space to minimize scheduling conflicts (Objective 5), it does not meet these objectives to the same degree as the proposed Project. Alternative 5 provides only 200 sf more pool area than the former Belmont Pool facility, and is 49 percent less pool area than the proposed Project. The small increase in pool area would not alleviate the overcrowding and schedule conflicts of the former Belmont Pool as compared to the proposed Project. Therefore, Alternative 5 would not better meet the needs of aquatic community. This alternative would, therefore, be inconsistent with Objectives 2 and 5.

The proposed Project would include a total of 4,250 seats (Objective 4) through the combination of 3,000 temporary outdoor seats for special events and 1,250 permanent indoor seats. By removing the outdoor pool, Objective 4 would not be met because Alternative 5 would eliminate the 3,000 outdoor seats, leaving only 1,250 permanent indoor seats. Although the indoor diving well would be removed, the structure would still remain at a height that exceeds the limitations provided for the PD-2, similar to the proposed Project, which would require a variance for the structure to comply with the land use goals of Planned Development PD-2 (Objective 9). Therefore, the elimination of the outdoor pools under Alternative 5 would not maximize the potential of the site as an aquatic recreational complex. Although Alternative 5 would meet Project Objectives 1, 7, 11, 12, 14, and 15, it would not meet them or the remaining Project Objectives to the same degree as the proposed Project.

5.8.4 Conclusion

Alternative 5 would eliminate the outdoor pools and diving well component, and, as a result, reduce the pool surface area by approximately 49 percent. The Plinth and structural footprint would also be reduced and would result in an increase in open space. Although the outdoor pools and diving well component would be eliminated with Alternative 5, impacts related to biological resources, cultural resources, geology and soils, hazardous materials, and land use would be similar to the proposed Project for this alternative.

Construction-related hydrology and water quality, air quality, global climate change, noise, and traffic impacts would be fewer than those under the proposed Project because construction activities would be reduced.

Operational-related impacts associated with aesthetics, air quality, global climate change, hydrology and water quality, noise, traffic and circulation, and utilities and service systems impacts would be reduced when compared to the proposed Project. These impacts were determined to be less than significant for the proposed Project, and would remain less than significant for this alternative.

Compared to the proposed Project, recreational impacts are greater for Alternative 5 due to the reduction in available recreational opportunities as compared to the proposed Project.

Similar to the proposed Project, Alternative 5 would not result in any significant unavoidable impacts. However, due to the elimination of the outdoor pools and diving well component under the reduced Project Alternative, overall impacts would be incrementally less than the proposed Project with the exception of recreational impacts, which would be greater.

5.9 IDENTIFICATION OF ENVIRONMENTALLY SUPERIOR ALTERNATIVE

CEQA requires the identification of an Environmentally Superior Alternative. The *State CEQA Guidelines* Section 15126.6(e)(2) states that if the No Project Alternative is the Environmentally Superior Alternative, then the EIR shall also identify an Environmentally Superior Alternative among the other alternatives. Table 5.B provides, in summary format, a comparison of the level of impacts for each alternative to the proposed Project.

The No Project/No Development Alternative would be environmentally superior to the proposed Project on the basis of the lack of physical impacts that would occur with the No Project/No Development Alternative. While the No Project Alternative would lessen or avoid the impacts of the proposed Project, the beneficial impacts of the proposed Project—including the provisions of an aquatic recreational complex not currently provided by the City—would not occur, and none of the Project objectives would be met. Overall, however, the No Project/No Development Alternative is considered environmentally superior because the physical impacts associated with this alternative are significantly less than the proposed Project and other as alternatives.

The *State CEQA Guidelines* require that if the environmentally superior alternative is the No Project Alternative, "the EIR also identify an environmentally superior alternative among the other alternatives" (*State CEQA Guidelines* Section 15126.6(e)(20)). The Environmentally Superior Alternative, in terms of direct physical effects on the environment, is Alternative 5, No Diving Well and No Outdoor Pool Component/ Reduced Project.

Alternative 5 would eliminate the outdoor pool component and reduce the overall footprint and height of the pool structure, thereby reducing construction-related hydrology and water quality, air quality, global climate change, noise, and traffic impacts. Therefore, direct physical effects on the environment as a result of construction would be reduced as compared to the proposed Project.

Compared to the proposed Project, recreational impacts are greater for Alternative 5 due to the reduction in available recreational opportunities as compared to the proposed Project. However, operational-related impacts associated with aesthetics, air quality, global climate change, hydrology and water quality, noise, traffic and circulation, and utilities and service systems impacts would be reduced when compared to the proposed Project. Alterative 5 includes the reduction of aquatic opportunities that would subsequently lead to a reduction in visitors and operational requirements, thereby resulting in an overall lessening of environmental impacts compared to the proposed Project. Although Alternative 5 would be considered environmentally superior, the reduction of recreational facilities would not achieve the goals and objectives of the proposed Project, and would not be consistent with the primary objective of the City, which is to replace the former Belmont Pool with a more modern facility that better meets the needs of the local community, region and State's recreational and competitive swimmers, divers, aquatic sports participants, and additional pool users due to the tremendous demand for these services in the local community, region and State.

Table 5.B: Comparison of the Environmental Impacts of the Proposed Project to the Project Alternatives

Environmental Topic	Proposed Project: Level of Impacts After Mitigation	Alternative 1: No Project/ No New Development Alternative	Alternative 2: Maintain Temporary Pool with Ancillary Uses	Alternative 3: Outdoor Diving Well/Revised Site Plan	Alternative 4: No Outdoor Components/ Reduced Project	Alternative 5: No Diving Well and No Outdoor Components/ Reduced Project
Aesthetics	Less Than Significant	L	L	L	L	L
Air Quality	Less Than Significant	L	L	S	L	L
Biological Resources	Less Than Significant	L	L	S	S	S
Cultural and Paleontological Resources	Less Than Significant	L	S	S	S	S
Geology and Soils	Less Than Significant	L	S	S	S	S
Global Climate Change	Less Than Significant	L	L	S	L	L
Hazards and Hazardous Materials	Less Than Significant	L	S	S	S	S
Hydrology and Water Quality	Less Than Significant	G	L	S	L	L
Land Use	Less Than Significant	G	G	S	S	S
Noise	Less Than Significant	L	S	G	L	L
Recreation	Less Than Significant	G	G	S	G	G
Transportation and Circulation	Less Than Significant	L	L	S	L	L
Utilities and Service Systems	Less Than Significant	L	L	S	L	L
Attainment of Project Objectives	Meets all of the Project objectives	Meets only two of the Project objectives	Meets a few of the Project objectives but not to the same degree as the proposed Project	Meets most of the Project objectives, but not to the same degree as the proposed Project	Meets some of the Project objectives but not to the same degree as the proposed Project	Meets some of the Project objectives but not to the same degree as the proposed Project

Source: LSA Associates, Inc. (February 2016).
Legend:
L = Less impacts than the proposed Project; reduces or eliminates significant and adverse impacts
S = Similar impacts as the proposed Project; does not eliminate significant and adverse impacts
G = Greater impacts than the proposed Project

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6.0 LONG-TERM IMPLICATIONS

6.1 SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES

Section 15126.2 (c) of the Guidelines for the California Environmental Quality Act (CEQA) requires that an Environmental Impact Report (EIR) consider and discuss significant irreversible changes that would be caused by implementation of the Belmont Pool Revitalization Project (proposed Project). The *State CEQA Guidelines* specify that the use of nonrenewable resources during the initial and continued phases of the Project should be discussed because a large commitment of such resources makes removal or nonuse thereafter unlikely. Primary and secondary impacts (such as a highway improvement that provides access to a previously inaccessible area) should also be discussed because such changes generally commit future generations to similar uses. Irreversible damage can also result from environmental accidents associated with the Project and should be discussed.

The former indoor pool was closed to the public on January 13, 2013, as a result of substandard seismic and structural conditions. The Belmont Pool building was demolished to alleviate an imminent public safety threat in February 2015. The demolition of the structure was conducted under an emergency permit and this Environmental Impact Report (EIR) does not include analysis of the demolition of the former Belmont Pool structure. The proposed Project addressed in this Draft EIR is the replacement of the former Belmont Pool complex with a more modern pool complex. The proposed Project would be larger and would provide opportunities for public swimming, as well as a venue for swimming, diving and aquatic sports training, and competitive meets. These activities are very similar to the activities that have occurred over the past 45 years at the former pool complex.

To determine whether the proposed Project may result in significant irreversible effects requires a determination of whether key resources would be degraded or destroyed in such a way that there would be little possibility of restoring them. Construction of the proposed Project would result in a commitment of limited, slowly renewable, and nonrenewable resources. Such resources may include certain types of lumber and other forest products; raw materials such as steel; aggregate materials used in concrete and asphalt such as sand and stone; water; petrochemical construction materials such as plastic; and petroleum-based construction materials. In addition, fossil fuels used by construction equipment would also be consumed. Project construction will also result in an increased commitment of public maintenance services such as waste disposal and waste water treatment

Similarly, operation of the proposed Project would result in the commitment of limited, nonrenewable resources and slowly renewable resources such as natural gas, electricity, petroleum-based fuels, fossil fuels, and water. Natural gas and electricity will be used for lighting, heating, and cooling of the building and operation of Project facilities. As discussed in Section 4.13, Utilities and Service Systems, the Project is expected to result in an annual electricity demand of 895,215 kilowatt hours per year (kWh/yr) and an annual demand for approximately 0.00229 billion cubic feet (bcf) of natural gas. Although this represents an increase in demand for both resources when compared to existing site conditions, the increases are within the existing delivery capacity of service providers. The Project would not result in a significant adverse impact related to the provision of electricity or natural gas. In addition, Title 24 of the California Code of Regulations (CCR) requires conservation practices that would limit the amount of energy consumed by the proposed Project. The proposed Project would reduce natural gas and electricity consumption through the installation of high-efficiency direct fire heating, and pool blankets. Nevertheless, the use of such resources would continue to represent a long-term commitment of essentially nonrenewable resources.

Operation of the proposed Project would also result in an increase in water demand. The annual Project demand for water is estimated to be 39.37af/year. Sufficient water supplies are available to service the Project, and Project impacts would be less than significant. As required of all new development in California, the proposed Project would comply with California State law regarding water conservation measures, including pertinent provisions of Title 24 of the California Government Code (Title 24) regarding the use of water-efficient appliances. In addition to complying with applicable Title 24 provisions, the proposed Project would incorporate additional water conservation measures. The increase in water demand generated by operations associated by the proposed project would be partially offset by the reduction in water consumption resulting from adherence to Leadership in Energy and Environmental Design (LEED) Gold standards, which includes features that would greatly enhance water conservation (see Section 3.0, Project Description). Therefore, with implementation of water conservation measures and incorporation of conservation features as part of LEED design, impacts associated with the increase in water demand as a result of the proposed Project would be further reduced. However, the increase in water use would continue to represent a long-term commitment of this essentially nonrenewable resource.

The proposed Project would change on-site drainage patterns; however, it would result in a permanent decrease in impervious surface area of approximately 0.5 ac, resulting in a decrease in the volume of runoff during a storm as described in Section 4.8, Hydrology and Water Quality. Project hydrology would meet drainage system standards set forth by the City's Municipal Separate Storm Sewer Systems (MS4) permit, and pollutants of concern would be controlled through implementation of structural and nonstructural best management practices (BMPs), including infiltration, capture and use, and biofiltration techniques.

In addition, site topography would be modified per the conceptual grading plan for the site; however, on-site topography would not be substantially different after Project implementation.

The commitment of limited, slowly renewable, and nonrenewable resources required for construction and operation of the proposed Project would limit the availability of these resources for future generations or for other uses during the life of the Project. However, the use of such resources for the Project would be consistent with regional and local plans and projected growth in the area.

6.2 GROWTH-INDUCING IMPACTS

Sections 15126(d) and 15126.2(d) of the State *CEQA Guidelines* require that an EIR analyze growth-inducing impacts and state that an EIR should discuss the ways in which the Project could foster economic or population growth or construction of additional housing, either directly or indirectly, in the surrounding environment. This section examines ways in which the proposed Project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. An assessment of other projects that could affect the environment, individually or cumulatively, is also required. To address this issue, potential growth-inducing effects were examined through analysis of the following questions:

- Would the Project remove obstacles to growth (e.g., through the construction or extension of major infrastructure facilities that do not presently exist in the Project area, or through changes in existing regulations pertaining to land development)?
- Would this Project result in the need to expand one or more public services to maintain desired levels of service?
- Would this Project encourage or facilitate economic effects that could result in other activities that could significantly affect the environment?
- Would approval of this Project involve some precedent-setting action that could encourage and facilitate other activities that could significantly affect the environment?

It should be noted that growth-inducing effects are not to be construed as necessarily beneficial, detrimental, or of little significance to the environment (*State CEQA Guidelines*, Section 15126.2(d)). This issue is presented to provide additional information on ways in which this Project could contribute to significant changes in the environment beyond the direct consequences of developing the proposed land uses as described in earlier sections of this Draft EIR.

6.2.1 Removal of Obstacles to Growth

The proposed Project site was previously developed and is surrounded by a variety of urban uses. As discussed in Section 4.13, Utilities, implementation of the Project would not require infrastructure expansions except for improvements necessary to connect to existing surrounding infrastructure. Therefore, the proposed Project is not considered to be growth-inducing with respect to utilities.

As discussed in Section 4.12, Transportation/Traffic, the proposed Project does not require the extension of any roadways or additional roadway capacity, and no new off-site traffic improvements are required. Therefore, the proposed Project is not considered to be growth-inducing with respect to traffic or circulation conditions. Because the proposed Project is located in a built-up urban area and does not include any new major infrastructure improvements, it would not remove any obstacle to growth

6.2.2 Expansion of Public Services

The proposed Project site is currently served by all public service providers, including police protection services, fire prevention services, and public transit. Existing and planned facilities are sufficient to accommodate demand for services generated by the proposed Project. Expansion of public services beyond what is currently planned for, and encouragement of other new growth, would not result from implementation of the Project.

6.2.3 Encouragement/Facilitation of Economic Effects

During Project construction, a limited number of design, engineering, and construction-related jobs would be created, increasing economic activity. This would be a temporary situation, lasting until the proposed Project is completed. The proposed Project would increase the pool facilities from those of the former Belmont Pool and subsequently require an increase in staff over previous levels. However, because the uses under the proposed Project would be the same as to those associated with the former Belmont Pool, the increase in employment is not anticipated to result in an increase in employment at a level that would create substantial new economic activity or require new housing. Therefore, the proposed Project would not facilitate economic effects that could result in other activities that could significantly affect the environment.

6.2.4 Precedent-Setting Action

The proposed Project is the replacement of the former Belmont Pool with a larger state-of-the-art aquatic facility on the same site designated as LUD No. 7, Mixed Use, and LUD No.11, Open Space and Parks, in an urban area. The proposed Project does not require a General Plan Amendment. Therefore, the proposed Project does not propose any precedent-setting actions that, if approved, would specifically allow or encourage other projects and resultant growth to occur.

6.3 SIGNIFICANT EFFECTS THAT CANNOT BE AVOIDED

Section 15126.2(b) of the State *CEQA Guidelines* requires that an EIR describe significant environmental impacts that cannot be avoided, including those effects that can be mitigated but not reduced to a less than significant level. Chapter 1.0, Executive Summary, of this document contains a detailed summary table that identifies the Project's environmental impacts, the proposed mitigation measures, and the level of significance of those impacts after mitigation. The following is a summary of the impacts that are considered significant, adverse, and unavoidable after all mitigation is applied. These impacts are also described in detail in Chapter 4.0, Existing Environmental Setting, Environmental Analysis, Impacts, and Mitigation Measures.

6.3.1 Inventory of Significant Unavoidable Adverse Impacts

As determined in the contents of this Draft EIR, implementation of the proposed project would not result in any significant and unavoidable adverse impacts. All potentially significant impacts have been effectively mitigated to a less than significant level.

7.0 MITIGATION, MONITORING, AND REPORTING PROGRAM

7.1 MITIGATION MONITORING REQUIREMENTS

Public Resources Code (PRC) Section 21081.6 (enacted by the passage of Assembly Bill 3180) mandates that the following requirements shall apply to all reporting or mitigation monitoring programs:

- The public agency shall adopt a reporting or monitoring program for the changes made to the project or conditions of project approval in order to mitigate or avoid significant effects on the environment. The reporting or monitoring program shall be designed to ensure compliance during project implementation. For those changes which have been required or incorporated into the project at the request of a responsible agency or a public agency having jurisdiction by law over natural resources affected by the project, that agency shall, if so requested by the lead agency or a responsible agency, prepare and submit a proposed reporting or monitoring program.
- The lead agency shall specify the location and custodian of the documents or other material which constitute the record of proceedings upon which its decision is based.
- A public agency shall provide the measures to mitigate or avoid significant effects on the environment that are fully enforceable through permit conditions, agreements, or other measures. Conditions of project approval may be set forth in referenced documents which address required mitigation measures or in the case of the adoption of a plan, policy, regulation, or other project, by incorporating the mitigation measures into the plan, policy, regulation, or project design.
- Prior to the close of the public review period for a draft environmental impact report (EIR) or mitigated negative declaration (MND), a responsible agency, or a public agency having jurisdiction over natural resources affected by the project, shall either submit to the lead agency complete and detailed performance objectives for mitigation measures which would address the significant effects on the environment identified by the responsible agency or agency having jurisdiction over natural resources affected by the project, or refer the lead agency to appropriate, readily available guidelines or reference documents. Any mitigation measures submitted to a lead agency by a responsible agency or an agency having jurisdiction over natural resources affected by the project shall be limited to measures which mitigate impacts to resources which are subject to the statutory authority of, and definitions applicable to, that agency. Compliance or noncompliance by a responsible agency or agency having jurisdiction over natural resources affected by a project with that requirement shall not limit that authority of the responsible agency or agency having jurisdiction over natural resources affected by a project, or the authority of the lead agency, to approve, condition, or deny projects as provided by this division or any other provision of law.

7.2 MITIGATION MONITORING PROCEDURES

The mitigation monitoring and reporting program has been prepared in compliance with PRC Section 21081.6. It describes the requirements and procedures to be followed by the City of Long Beach (City) to ensure that all mitigation measures adopted as part of the proposed Belmont Pool Revitalization Project (proposed Project) will be carried out as described in this EIR.

Table 7.A lists each of the mitigation measures specified in this EIR and identifies the party or parties responsible for implementation and monitoring of each measure.

Table 7.A: Mitigation and Monitoring Reporting Program

Mitigation Measures		Responsible Party	Timing for Mitigation Measure
4.1 Aesthetics			
Mitigation Measure 4.1.1:	**Maintenance of Construction Barriers.** Prior to issuance of any construction permits, the City of Long Beach Development Services Director, or designee, shall verify that construction plans include the following note: During construction, the Construction Contractor shall ensure, through appropriate postings and daily visual inspections, that no unauthorized materials are posted on any temporary construction barriers or temporary pedestrian walkways, and that any such temporary barriers and walkways are maintained in a visually attractive manner. In the event that unauthorized materials or markings are discovered on any temporary construction barrier or temporary pedestrian walkway, the Construction Contractor shall remove such items within 48 hours.	Construction Contractor/ City of Long Beach Development Services Director, or designee	Prior to issuance of any construction permits and ongoing during construction
4.2 Air Quality			
The proposed Project would not result in any potentially significant impacts to air quality. No mitigation is required.			
4.3 Biology			
Mitigation Measure 4.3.1:	**Migratory Bird Treaty Act.** Tree and vegetation removal shall be restricted to outside the likely active nesting season (January 15 through September 1) for those bird species present or potentially occurring within the proposed Project area. That time period is inclusive of most other birds' nesting periods, thus maximizing avoidance of impacts to any nesting birds. If construction is proposed between January 15 and September 1, a qualified biologist familiar with local avian species and the requirements of the Migratory Bird Treaty Act (MBTA) and the California Fish and Game Code shall conduct a preconstruction survey for nesting birds no more than 3 days prior to construction. The survey shall include the entire area that will be disturbed. The results of the survey shall be recorded in a memorandum and submitted to the City of Long Beach (City) Parks, Recreation, and Marine Director within 48 hours. If the survey is positive, and the nesting species are subject to the MBTA or the California Fish and Game Code, the	City of Long Beach Parks, Recreation, and Marine Director or designee	No more than 3 days prior to commencement of grading activities, if construction is proposed between January 15 and August 31.

Table 7.A: Mitigation and Monitoring Reporting Program

Mitigation Measures		Responsible Party	Timing for Mitigation Measure
	memorandum shall be submitted to the California Department of Fish and Wildlife (CDFW) to determine appropriate action. If nesting birds are present, a qualified biologist shall be retained to monitor the site during initial vegetation clearing and grading, as well as during other activities that would have the potential to disrupt nesting behavior. The monitor shall be empowered by the City to halt construction work in the vicinity of the nesting birds if the monitor believes the nest is at risk of failure or the birds are excessively disturbed.		
Mitigation Measure 4.3.2:	**Local Tree Removal Ordinances.** Prior to the start of any demolition or construction activities, the City of Long Beach (City) Parks, Recreation, and Marine Director, or designee, shall obtain a tree removal permit from the City's Director of Public Works. A City-approved Construction Plan shall be submitted with the permit to remove tree(s). The City approved Plan shall show that the existing City (parkway) tree has a direct impact on the design and function of the proposed Project. The City shall incur all removal costs, including site cleanup, make any necessary repair of hardscape damage, and replace the tree. The removed tree shall be replaced with an approved 15-gallon tree and payment of a fee that is equivalent to a City-approved 15-gallon tree.	City of Long Beach Parks, Recreation, and Marine Director, or designee	Prior to the start of any demolition or construction activities
4.4 Cultural Resources			
Mitigation Measure 4.4.1:	**Paleontological Resources Impact Mitigation Program**. Prior to commencement of any grading or excavation activity on site, the City of Long Beach (City) Development Services Director, or designee, shall verify that a paleontologist has been retained on an on-call basis for all excavation from the surface to depths of 23 feet (ft) below the surface. Once a depth of 23 ft is reached, the paleontologist shall visit the site and determine if there is a potential for the sediments at this depth to contain paleontological resources. A paleontologist shall not be required on site if excavation is only	City of Long Beach Development Services Director, or designee	Prior to commencement of any grading or excavation activity on site

Table 7.A: Mitigation and Monitoring Reporting Program

Mitigation Measures		Responsible Party	Timing for Mitigation Measure
	occurring in depths of less than 23 ft, unless there are discoveries at shallower depths that warrant the presence of a paleontological monitor. In the event that there are any unanticipated discoveries, the on-call paleontologist shall be called to the site to assess the find for significance, and if necessary, prepare a Paleontological Resources Impact Mitigation Program (PRIMP) as outlined below. If excavation will extend deeper than 23 ft, exclusive of pile-driving and vibro-replacement soil stabilization techniques, the paleontologist shall prepare a PRIMP for the proposed Project. The PRIMP should be consistent with the guidelines of the Society of Vertebrate Paleontologists (SVP, 1995 and 2010) and shall include but not be limited to the following: • Attendance at the pre-grade conference or weekly tailgate meeting if the PRIMP is initiated after the commencement of grading, in order to explain the mitigation measures associated with the Project. • During construction excavation, a qualified vertebrate paleontological monitor shall initially be present on a full-time basis whenever excavation shall occur within the sediments that have a high paleontological sensitivity rating. Based on the significance of any recovered specimens, the qualified paleontologist may set up conditions that shall allow for monitoring to be scaled back to part-time as the Project progresses. However, if significant fossils begin to be recovered after monitoring has been scaled back, conditions shall also be specified that would allow increased monitoring as necessary. The monitor shall be equipped to salvage fossils and/or matrix samples as they are unearthed in order to avoid construction delays. The monitor shall be empowered to temporarily halt or divert equipment in the area of the find in		

Table 7.A: Mitigation and Monitoring Reporting Program

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
order to allow removal of abundant or large specimens. • The underlying sediments may contain abundant fossil remains that can only be recovered by a screening and picking matrix; therefore, these sediments shall occasionally be spot-screened through 1/8 to 1/20-inch mesh screens to determine whether microfossils exist. If microfossils are encountered, additional sediment samples (up to 6,000 pounds) shall be collected and processed through 1/20-inch mesh screens to recover additional fossils. Processing of large bulk samples is best accomplished at a designated location within the Project that shall be accessible throughout the Project duration but shall also be away from any proposed cut or fill areas. Processing is usually completed concurrently with construction, with the intent to have all processing completed before, or just after, Project completion. A small corner of a staging or equipment parking area is an ideal location. If water is not available, the location should be accessible for a water truck to occasionally fill containers with water. • Preparation of recovered specimens to a point of identification and permanent preservation. This includes the washing and picking of mass samples to recover small invertebrate and vertebrate fossils and the removal of surplus sediment from around larger specimens to reduce the volume of storage for the repository and the storage cost. • Identification and curation of specimens into a museum repository with permanent retrievable storage, such as the Natural History Museum of Los Angeles County (LACM). • Preparation of a report of findings with an appended itemized inventory of specimens. When submitted to the City Development Services Director, or designee, the report and		

Table 7.A: Mitigation and Monitoring Reporting Program

Mitigation Measures		Responsible Party	Timing for Mitigation Measure
	inventory would signify completion of the program to mitigate impacts to paleontological resources.		
4.5 Geology and Soils			
Mitigation Measure 4.5.1:	**Conformance with the Project Geotechnical Studies.** All grading operations and construction shall be conducted in conformance with the recommendations included in the *Report of Preliminary Geotechnical Investigation for the Proposed Belmont Plaza Olympic Pool Revitalization Project,* prepared by MACTEC (April 14, 2009); the *Geotechnical Investigation for the Temporary Myrtha Pool and Associated Improvements, Belmont Plaza Revitalization,* prepared by GMU Geotechnical, Inc. (April 3, 2013); the *Preliminary Geotechnical Report for the Belmont Plaza Pool Rebuild-Revitalization* prepared by AESCO (April 24, 2014); and *Soil Corrosivity Evaluation for the Belmont Plaza Pool Facility Rebuild/Revitalization Project*, prepared by HDR Schiff (April 23, 2014), which together are referred to as the *Geotechnical Evaluations*. Design, grading, and construction shall be performed in accordance with the requirements of the City of Long Beach (City) Municipal Code (Title 18) and the California Building Code (CBC) applicable at the time of grading, appropriate local grading regulations, and the requirements of the Project geotechnical consultant as summarized in a final written report, subject to review and approval by the City's Development Services Director, or designee, prior to commencement of grading activities. Specific requirements in the Final Geotechnical Report shall address: 1. Seismic design considerations and requirements for structures and nonstructural components permanently attached to structures	City of Long Beach Development Services Director, or designee	Prior to commencement of grading activities

Table 7.A: Mitigation and Monitoring Reporting Program

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
2. Foundations including ground improvements (deep soil mixing and stone columns) and shallow foundation design 3. Earthwork, including site preparation for structural areas (building pad) and sidewalks, pavements, and other flatwork areas; fill material; temporary excavations; and trench backfill 4. Liquefaction 5. Site drainage 6. Slabs-on-grade and pavements 7. Retaining walls Additional site testing and final design evaluation shall be conducted by the Project geotechnical consultant to refine and enhance these requirements, if necessary. The City shall require the Project geotechnical consultant to assess whether the requirements in that report need to be modified or refined to address any changes in the Project features that occur prior to the start of grading. If the Project geotechnical consultant identifies modifications or refinements to the requirements, the City shall require appropriate changes to the final Project design and specifications. Grading plan review shall also be conducted by the City's Development Services Director, or designee, prior to the start of grading to verify that the requirements developed during the geotechnical design evaluation have been appropriately incorporated into the Project plans. Design, grading, and construction shall be conducted in accordance with the specifications of the Project geotechnical consultant as summarized in a final report based on the CBC applicable at the time of grading and building and the City Building Code. On-site inspection during		

Table 7.A: Mitigation and Monitoring Reporting Program

Mitigation Measures		Responsible Party	Timing for Mitigation Measure
	grading shall be conducted by the Project geotechnical consultant and the City Building Official to ensure compliance with geotechnical specifications as incorporated into Project plans.		
Mitigation Measure 4.5.2:	**Corrosive Soils.** Prior to issuance of any building permits, the City of Long Beach Development Services Director, or designee, shall verify that structural design conforms to the requirements of the geotechnical study with regard to the protection of ferrous metals and copper that will come into contact with on-site soil. In addition, on-site inspections shall be conducted during construction by the Project geotechnical consultant and/or City Building Official to ensure compliance with geotechnical specifications as incorporated into Project plans. The measures specified in the geotechnical study for steel pipes, iron pipes, copper tubing, plastic and vitrified clay pipe, other pipes, concrete, post tensioning slabs, concrete piles, and steel piles shall be incorporated into the structural design and Project plans where ferrous metals (e.g., iron or steel) and/or copper may come into contact with on-site soils.	City of Long Beach Development Services Director, or designee/Geotechnical Consultant or City Building Official	Prior to issuance of any building permits; inspections during project construction
4.6 Global Climate Change and Greenhouse Gas Emissions			
The proposed Project would not result in potentially significant impacts related to Greenhouse Gases. No mitigation is required.			
4.7 Hazards and Hazardous Resources			
Mitigation Measure 4.7.1:	**Contingency Plan.** Prior to issuance of any excavation or grading permits or activities, the City of Long Beach (City) Fire Department (LBFD), or designee, shall review and approve a contingency plan that addresses the potential to encounter on-site unknown hazards or hazardous substances during construction activities. The plan shall require that if construction workers encounter underground tanks, gases, odors, uncontained spills, or other unidentified substances, the contractor shall stop work, cordon off the affected area, and notify the LBFD. The LBFD responder shall determine the next steps regarding possible site evacuation, sampling, and disposal of	City of Long Beach Fire Department, or designee	Prior to issuance of any excavation or grading permits or activities

Table 7.A: Mitigation and Monitoring Reporting Program

Mitigation Measures		Responsible Party	Timing for Mitigation Measure
	the substance consistent with local, State, and federal regulations.		
Mitigation Measure 4.7.2:	**Predemolition Surveys.** Prior to commencement of demolition and/or construction activities, the City LBFD, or designee, shall verify that predemolition surveys for asbestos-containing materials (ACMs) and lead (including sampling and analysis of all suspected building materials) shall be performed. All inspections, surveys, and analyses shall be performed by appropriately licensed and qualified individuals in accordance with applicable regulations (i.e., American Society for Testing and Materials E 1527-05, and 40 Code of Federal Regulations [CFR], Subchapter R, Toxic Substances Control Act [TSCA], Part 716). If the predemolition surveys do not find ACMs or lead-based pipes (LBPs), the inspectors shall provide documentation of the inspection and its results to the City LBFD, or designee, to confirm that no further abatement actions are required. If the predemolition surveys find evidence of ACMs or lead, all such materials shall be removed, handled, and properly disposed of by appropriately licensed contractors according to all applicable regulations during demolition of structures (40 CFR, Subchapter R, TSCA, Parts 745, 761, and 763). Air monitoring shall be completed by appropriately licensed and qualified individuals in accordance with applicable regulations both to ensure adherence to applicable regulations (e.g., South Coast Air Quality Management District [SCAQMD]) and to provide safety to workers. The City shall provide documentation (e.g., all required waste manifests, sampling, and air monitoring analytical results) to the LBFD showing that abatement of any ACMs or lead identified in these structures has been completed in full compliance with all applicable regulations and approved by the appropriate regulatory agencies (40 CFR, Subchapter R, TSCA, Parts 716, 745, 761, 763, and 795 and California Code of Regulations Title 8, Article 2.6). An Operating	City of Long Beach Fire Department, or designee	Prior to commencement of demolition and/or construction activities

Table 7.A: Mitigation and Monitoring Reporting Program

Mitigation Measures		Responsible Party	Timing for Mitigation Measure
	and Maintenance Plan shall be prepared for any ACM or lead to remain in place and shall be reviewed and approved by the LBFD.		
4.8 Hydrology and Water Quality			
Mitigation Measure 4.8.1:	**Construction General Permit.** Prior to issuance of a grading permit, the City of Long Beach (City) shall obtain coverage for the proposed Project under the State Water Resources Control Board National Pollutant Discharge Elimination System *General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities* (Order No. 2009-0009-DWQ, Permit No. CAS000002), as amended by Order Nos. 2010-0004-DWQ and 2012-0006-DWQ (Construction General Permit), or subsequent issuance. For projects with a disturbed area of 5 or more acres, a Storm Water Pollution Prevention Plan (SWPPP) with construction Best Management Plans (BMPs) is required to be submitted to both the Los Angeles Regional Water Quality Control Board (RWQCB) and the City. The City shall provide the Waste Discharge Identification Numbers to the Development Services Director to demonstrate proof of coverage under the Construction General Permit. A SWPPP shall be prepared and implemented for the proposed Project in compliance with the requirements of the Construction General Permit. The SWPPP shall identify construction BMPs to be implemented to ensure that the potential for soil erosion and sedimentation is minimized and to control the discharge of pollutants in storm water runoff as a result of construction activities.	City of Long Beach Development Services Director, or designee	Prior to issuance of a grading permit
Mitigation Measure 4.8.2:	**Dewatering During Construction Activities.** During project construction, the City of Long Beach Development Services Director, or designee, shall ensure that any dewatering activities during construction shall comply with the requirements of the *Waste Discharge Requirements for Discharges of Groundwater from Construction and Project Dewatering to Surface Waters in*	City of Long Beach Development Services Director, or designee	Ongoing during any dewatering activities during project construction

Table 7.A: Mitigation and Monitoring Reporting Program

Mitigation Measures		Responsible Party	Timing for Mitigation Measure
	Coastal Watersheds of Los Angeles and Ventura Counties (Order No. R4-2013-0095, Permit No. CAG994004) (Groundwater Discharge Permit) or subsequent permit. This Groundwater Discharge Permit shall include submission of a Notice of Intent (NOI) for coverage under the permit to the Los Angeles RWQCB at least 45 days prior to the start of dewatering and compliance with all applicable provisions in the permit, including water sampling, analysis, and reporting of dewatering-related discharges. If dewatered groundwater cannot meet the discharge limitations specified in the Groundwater Discharge Permit, a permit shall be obtained from the Los Angeles County Sanitation District (LACSD) to discharge groundwater to the sewer per LACSD's Wastewater Ordinance.		
Mitigation Measure 4.8.3:	**Standard Urban Stormwater Mitigation Plan.** Prior to issuance of grading permits, the City shall submit a Final Standard Urban Stormwater Mitigation Plan (SUSMP) for the proposed Project to the Development Services Director for review and approval. Project-specific site Design, Source Control, and Treatment Control BMPs contained in the Final SUSMP shall be incorporated into final design. The BMPs shall be consistent with the requirements of the *Low Impact Development (LID) Best Management Practices (BMP) Design Manual*. Additionally, the BMPS shall be designed and maintained to target pollutants of concern and reduce runoff from the Project site. The SUSMP shall include an operations and maintenance plan for the prescribed Treatment Control BMPs to ensure their long-term performance.	City of Long Beach Development Services Director, or designee	Prior to issuance of grading permits
Mitigation Measure 4.8.4:	**Hydrology Reports.** Prior to issuance of grading permits, the City shall submit a final hydrology report for the proposed Project to the Development Services Director, or designee, for review and approval. The hydrology report shall demonstrate, based on hydrologic calculations, that the proposed Project's on-site storm conveyance and detention and infiltration facilities are designed in	City of Long Beach Development Services Director, or designee	Prior to issuance of grading permits

Table 7.A: Mitigation and Monitoring Reporting Program

	Mitigation Measures	Responsible Party	Timing for Mitigation Measure
	accordance with the requirement of the Los Angeles County Department of Public Works Hydrology Manual.		
Mitigation Measure 4.8.5:	**Floodplain Report.** During final design, the Project engineer shall prepare and submit a floodplain/hydrology report to the City Development Services Director, or designee, to address any potential impacts to the floodplain and, if required, reduce those impacts. The report shall comply with City and Federal Emergency Management Agency (FEMA) regulations and shall not increase the base flood elevation by more than 1 foot. Detailed analysis shall be conducted to ensure that the Project design specifically addresses floodplain issues so that the proposed Project complies with local and FEMA regulations on floodplains.	Project Engineer/City of Long Beach Development Services Director, or designee	During final design
4.9 Land Use			
The proposed Project would not result in potentially significant impacts related to land use. No mitigation is required.			
4.10 Noise			
Mitigation Measure 4.10.1:	Prior to issuance of the occupancy permit, the City of Long Beach's (City) Development Services Director, or designee, shall verify that a sound engineer has designed the permanent and temporary sound systems such that the City's exterior noise standards (daytime exterior noise level of 50 dBA L_{50}) are not exceeded at the surrounding sensitive land uses. Measures capable of reducing the noise levels include, but are not limited to: • Reducing the source levels; • Reducing the speaker elevations; • Directing the speakers away from adjacent noise-sensitive land uses; and • Using highly directional speakers.	City of Long Beach Development Services Director, or designee	Prior to issuance of the occupancy permit
Mitigation Measure 4.10.2:	Prior to issuance of demolition or grading permits, the City of Long Beach's (City) Development Services Director, or designee, shall verify that construction and grading plans include the following conditions to reduce potential construction noise impacts on nearby sensitive receptors:	City of Long Beach Development Services Director, or designee	Prior to issuance of demolition or grading permits

Table 7.A: Mitigation and Monitoring Reporting Program

	Mitigation Measures	Responsible Party	Timing for Mitigation Measure
	• During all site excavation and grading, the construction contractors shall equip all construction equipment, fixed or mobile, with properly operating and maintained mufflers consistent with manufacturers' standards; • The construction contractor shall place all stationary construction equipment so that emitted noise is directed away from sensitive receptors nearest the Project site; • The construction contractor shall locate equipment staging to create the greatest distance between construction-related noise sources and noise-sensitive receptors nearest the Project site during all Project construction; • The construction contractor shall ensure that engine idling from construction equipment (i.e., bulldozers and haul trucks) is limited to a maximum of 5 minutes at any given time; and • The construction contractor shall ensure that all construction activities are scheduled to avoid operating several pieces of heavy equipment simultaneously. • Construction, drilling, repair, remodeling, alteration, or demolition work shall be limited to the hours of 7:00 a.m. to 7:00 p.m. Monday through Friday, and 9:00 a.m. to 6:00 p.m. on Saturday. In accordance with City standards, no construction activities are permitted outside of these hours.		
Mitigation Measure 4.10.3:	Prior to issuance of a grading permit, the City of Long Beach Tidelands Capital Improvement Division shall hold a community preconstruction meeting in concert with the construction contractor to provide information to the public regarding the construction schedule. The construction schedule information shall include the duration of each construction activity and the specific location, days, frequency, and duration of the pile driving that will occur	City of Long Beach Tidelands Capital Improvement Division	Prior to issuance of a grading permit

Table 7.A: Mitigation and Monitoring Reporting Program

Mitigation Measures		Responsible Party	Timing for Mitigation Measure
	during each phase of the Project construction. Public notification of this meeting shall be undertaken in the same manner as the Notice of Availability mailings for this Draft Environmental Impact Report.		
4.11 Recreation			
With implementation of Mitigation Measure 4.12.2, as identified in the Transportation and Traffic section, short-term construction-related impacts on recreational resources would be less than significant.			
4.12 Transportation and Traffic			
Mitigation Measure 4.12.1:	**Event Traffic Management Plan.** In the event that a large special event (defined as more than 450 spectators) is held at Belmont Pool, the City of Long Beach (City) Parks and Recreation Director, or designee, shall develop an Event Traffic Management Plan for review and approval by the City Traffic Engineer. The plan shall be designed by a registered Traffic Engineer and shall address potential impacts to traffic circulation and the steps necessary to minimize potential impacts (e.g., active traffic management and/or off-site parking and shuttles) during the large special event.	City of Long Beach Parks and Recreation Department Director, or designee/City Traffic Engineer	Prior to any large special event (defined as more than 450 spectators)
Mitigation Measure 4.12.2:	**Construction Traffic Management Plan.** Prior to the issuance of any demolition permits, the City of Long Beach (City) Parks and Recreation Director, or designee, shall develop a Construction Traffic Management Plan for review and approval by the City Traffic Engineer. The plan shall be designed by a registered Traffic Engineer and shall address traffic control for any street closure, detour, or other disruption to traffic circulation and public transit routes and shall ensure that emergency vehicle access is maintained. The plan shall identify the routes that construction vehicles shall use to access the site, the hours of construction traffic, traffic controls and detours, and off-site staging areas. The plan shall also require that a minimum of one travel lane in each direction on Ocean Boulevard be kept open during construction activities. Access to Belmont Veterans' Memorial Pier, the Shoreline Beach Bike Path, and the beach shall be maintained at all times. The	City of Long Beach Parks and Recreation Director, or designee/ City Traffic Engineer	Prior to the issuance of any demolition permits

Table 7.A: Mitigation and Monitoring Reporting Program

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
Construction Traffic Management Plan shall also require that access to the pier, the bike path, and the beach be kept open during construction activities. The plan shall also require the City to keep all haul routes clean and free of debris including, but not limited to, gravel and dirt		
4.13 Utilities and Service Systems		
With implementation of Mitigation Measures 4.8.2 and 4.8.4, as identified in the Hydrology and Water Quality Section, impacts with respect to hydrology and water quality would be less than significant.		

8.0 LIST OF PREPARERS

8.1 CITY OF LONG BEACH

Tom Modica, Assistant City Manager

Amy Bodek, Director of Development Services

Eric Lopez, Tidelands Capital Improvement Program Officer

Craig Chalfant, Senior Planner, Development Services Department

Eric Widstrand, Traffic Engineer

8.2 CONSULTANT TEAM

The following individuals were involved in the preparation of the EIR and/or technical reports in support of the EIR. The nature of their involvement is summarized below.

8.2.1 LSA Associates, Inc.

Preparation of the EIR and Air Quality, Archaeological, Biologic Resources, Cultural Resources, Greenhouse Gas Emissions, Noise, Paleontological, and Traffic Analyses

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Brent Miller, AIA, LEED AP BD + C, Principal | Studio Leader

9.0 REFERENCES

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APPENDIX A

NOTICE OF PREPARATION, INITIAL STUDY, & COMMENT LETTERS

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NOTICE OF PREPARATION

CITY OF LONG BEACH

DEPARTMENT OF DEVELOPMENT SERVICES
333 W. Ocean Blvd. Long Beach, CA 90802 (562) 570- 6194 - FAX (562) 570-6068

RE-ISSUED NOTICE OF PREPARATION

TO: Agencies, Organizations and Interested Parties

SUBJECT: Re-Issued Notice of Preparation of a Focused Environmental Impact Report for the proposed Belmont Pool Revitalization Project

In compliance with the Guidelines for the California Environmental Quality Act (CEQA) Section 15050, the City of Long Beach is the Lead Agency responsible for preparation of a Focused Environmental Impact Report (EIR) addressing potential impacts associated with the Belmont Pool Project (project) below.

AGENCIES: The purpose of this notice is to serve as a re-issued Notice of Preparation (NOP) of an EIR pursuant to the State CEQA Guidelines Section 15082, and solicit comments and suggestions regarding the scope and content of the EIR to be prepared for the proposed project. The original NOP was circulated April 18th, 2013 to May 17th, 2013. Due to revisions in the Project Description, this NOP is being re-issued. Specifically, the indoor component of the pool is increasing from 17,000 square feet (sf) to 18,500 sf and the proposed building would increase from approximately 60,000 gross sf to 110,000 gross sf. Additionally, the proposed outdoor pool surface area would be reduced from approximately 20,000 sf to 17,200 sf. The City of Long Beach requests input on the environmental information that is germane to your agency's statutory responsibility in connection with the proposed project. Your agency may rely on the Draft EIR prepared by the City when considering permits or other approvals for this project.

ORGANIZATIONS AND INTERESTED PARTIES: The City of Long Beach requests your comments and concerns regarding the proposed scope and content of the environmental information to be included in the EIR.

PROJECT TITLE: Belmont Pool Revitalization Project

PROJECT LOCATION: 4000 E Olympic Plaza, Long Beach, CA, 90803

PROJECT DESCRIPTION: The project proposes the replacement of the Belmont Pool Facility with a new pool facility in the same approximate location of the existing Belmont Pool Plaza. The new pool facility would include a new natatorium with diving facilities and new outdoor pool facilities.

PROBABLE ENVIRONMENTAL EFFECTS OF THE PROJECT: The proposed project could have potentially significant impacts on the following environmental factors: **Aesthetics, Air Quality, Biological Resources, Cultural Resources, Geology and Soils, Greenhouse Gas Emissions/Climate Change, Hazards and Hazardous Materials, Hydrology and Water Quality, Land Use/Planning, Noise, Recreation, Traffic and Circulation and Utilities/Service Systems.**

PUBLIC REVIEW PERIOD: This re-issued NOP is available for public review and comment pursuant to California Code of Regulations, Title 14, Section 15082(b). The public review and comment period during which the City of Long Beach will receive comments on the NOP for this proposed project is:

Beginning: Wednesday, April 9, 2014 **Ending:** Thursday, May 8, 2014 at 4:30 pm

THE NOP AND INITIAL STUDY ARE AVAILABLE FOR PUBLIC REVIEW AT THE FOLLOWING LOCATIONS:

City Hall, 333 W. Ocean Boulevard, 5th Floor, Long Beach, CA 90802
Long Beach Main Library, 101 Pacific Avenue, Long Beach, CA
Online at: www.lbds.info/planning/environmental_planning/environmental_reports.asp

RESPONSES AND COMMENTS: Please list a contact person for your agency or organization, include U.S. mail and email addresses, and send your comments to:

Craig Chalfant
Planning Bureau, Development Services Department
City of Long Beach
333 W. Ocean Boulevard, 5th Floor
Long Beach, CA 90802

Or via email to: craig.chalfant@longbeach.gov

LSA

LEGEND

Project Site

FIGURE 1

0 100 200
FEET

SOURCE: Bing (c. 2010)

Belmont Pool Revitalization Project

Project Location

I:\CLB1302\GIS\Project_Location.mxd (4/16/2013)

LSA

FIGURE 2

- Project Boundary

N

0 120 240
FEET

SOURCE: Hastings+Chivetta

Belmont Pool Revitalization Project

Conceptual Site Plan

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INITIAL STUDY

INITIAL STUDY

BELMONT POOL REVITALIZATION PROJECT

LONG BEACH, CALIFORNIA

Submitted to:

City of Long Beach
Development Services/Planning Bureau
333 West Ocean Blvd., 5th Floor
Long Beach, California 90802

Prepared by:

LSA Associates, Inc.
20 Executive Park, Suite 200
Irvine, California 92614
(949) 553-0666

Project No. CLB1302

LSA

April 2014

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FIGURES

1.0 PROJECT BACKGROUND

1.1 Project Title:

Belmont Pool Revitalization Project

1.2 Lead Agency Name and Address:

City of Long Beach
Development Services/Planning Bureau
333 West Ocean Blvd., 5th Floor
Long Beach, California 90802

1.3 Contact Person:

Craig Chalfant, City Planner
(562) 570-6368
craig.chalfant@longbeach.gov

1.4 Project Location:

4000 East Olympic Plaza, Long Beach, CA 90803

Belmont Pool is located in Belmont Shore Beach Park in southeast Long Beach. The existing pool complex is bounded by the beach and the Pacific Ocean to the south, the City's Beach Maintenance Yard and a large parking lot that provides parking for the beach, Belmont Pool, beach volleyball, Rosie's Dog Beach, and a boat launch to the southeast, East Olympic Plaza to the north, and the Belmont Veterans Memorial Pier parking lot to the northwest. Refer to Figure 1 for the project location map.

1.5 General Plan Designation:

Land Use Area 11 – Open Space and Parks/Land Use Area 7 – Mixed Use

The project site is also located in the Coastal Zone.

1.6 Zoning:

P (Park)/PD-2 (Belmont Pier), Subarea 1

1.7 Existing Land Use:

The project site is currently developed with an enclosed swimming pool, two outdoor pools (swimming and wading), restaurant, locker room area, and a landscaped area on the north side of the pool building. The pool building has 45,595 square feet (sf) of space and is approximately 60 feet (ft) in height. The three pools provide a total of 18,150 sf of water surface area.

LSA

LEGEND

Project Site

FIGURE 1

N

0 100 200

FEET

SOURCE: Bing (c. 2010)

Belmont Pool Revitalization Project

Project Location

I:\CLB1302\GIS\Project_Location.mxd (4/16/2013)

The Belmont Plaza Pool was once a state-of-the-art facility that served as a critical recreational and competitive venue for the State, City, and region, but it has severely degraded over time. As a result, the existing indoor pool was closed to the public on January 13, 2013, due to substandard seismic and structural conditions. Due to continuing safety concerns, the building appears to be in need of demolition in the near future.

In order to provide aquatic services during the construction of the proposed replacement pool complex, the City had previously permitted and installed a temporary outdoor pool. Approval of the temporary pool was conducted separately from the proposed revitalization project. The temporary pool was opened in December of 2013 and is expected to remain open until completion of the new Belmont Aquatics Center.

1.8 Surrounding Land Uses:

The land uses surrounding the site shown on Figure 1 are:

- Belmont Shore neighborhood to the northeast; this neighborhood includes predominantly single-family and duplex residential uses with some retail/restaurant uses.
- Belmont Veterans Memorial Pier, Belmont Beach, and beach and pier parking to the northwest.
- Pacific Ocean, beaches, and parking lots to the west and east.

1.9 Description of Project:

The objectives of the project are to:

- Replace the existing pool with a more modern facility that better meets the needs of recreational and competitive swimmers, divers, aquatic sports participants, and other pool users
- Provide a facility that supports recreation, training, and all competitive events for up to 3,500 spectators
- Increase programmable water space to relieve overcrowding
- Provide a new pool complex that is compatible with the neighborhood
- Accommodate swim, diving, and water polo national/international events by meeting revised pool standards

The project proposes the construction and operation of a replacement pool complex that includes indoor and outdoor pool components. Spectator seating will be provided for up to approximately 3,500 people through a combination of permanent and portable seating in the indoor and outdoor areas.

LSA

FIGURE 2

- Project Boundary

N

0 120 240
FEET

SOURCE: Hastings+Chivetta

Belmont Pool Revitalization Project

Conceptual Site Plan

I:\CLB1302\G\Conceptual Site Plan.cdr (4/8/14)

Indoor Component: The proposed indoor pool component would include an enclosed pool with an approximate surface area of up to18,500 sf. The pool would be usable year round because it would be inside a building approximately 68 ft in height and approximately 110,000 gross sf, designed so as to minimize the footprint of the facility. The proposed replacement pool structure is in the Park Zone, which has a height limitation of 30 ft; however, the existing facility is approximately 60 ft in height. A height variance would be required for project approval.

The proposed indoor pool configuration would allow for recreational and instructional uses and would comply with the preferred rules standards for all aquatic sports except long course swimming. The pool would include multiple springboards and diving platforms. The indoor component includes a second warm-water pool (approximately 30 x 30 ft) with a surface area of approximately 900 sf. The pool will provide shallow and deep water. Both pools will include pool decks and other user amenities.

The pool building would also include the following facilities to support both the indoor and outdoor pools: men's and women's locker rooms and restroom facilities, storage for equipment and furnishings, mechanical spaces for the pool systems, food concession areas (to be operated by nonprofit groups or outside vendors), a lobby/reception area, and staff administrative areas for existing full-time and temporary staff. The building will include a special event/restaurant/multi-use space of approximately the same size or smaller as the existing special event/restaurant/ multi-use space.

Outdoor Component: The proposed outdoor pool component would include two separate pools with an approximate total of 17,200 sf of water surface. One pool will be a deep water competition pool designed to be 50 meter by 25 yard and will comply with the preferred rules and standards for swimming and water polo. The pool can also be used for numerous recreational activities. The second pool will be a warm water, shallow pool for recreational use.

The outdoor pool is proposed to be located directly adjacent to the indoor pool for utilization of common support facilities in the pool building. The existing bicycle and pedestrian paths in the park will be rerouted to a redesigned East Olympic Plaza. The redesigned East Olympic Plaza will include bicycle and pedestrian enhancements. Existing on-street parking along Olympic Plaza will be removed. Street closure/vacation is being considered as an option to allow for additional open space.

Construction Schedule: Construction of the project is anticipated to take 1–2 years. The new Belmont Pool is expected to be open by 2017.

Discretionary Actions: Entitlements required for the proposed project include:

- Site Plan Review/Approval
- Conditional Use Permit (Food and Beverage Concession)
- Variance (Height)
- Certification of a Focused Environmental Impact Report (EIR)
- Coastal Development Permit (CDP)
- Redesign of Olympic Plaza (street) and possible right of way (ROW) vacation

1.10 Other Public Agencies Whose Approval May Be Required (e.g., permits, financing approval, or participation agreement)

Responsible Agency	Action
State Water Resources Control Board	Applicant must submit a Notice of Intent (NOI) to comply with the General Activity Construction National Pollution Discharge Elimination System (NPDES) Permit

2.0 ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

☒ Aesthetics	☐ Agriculture Resources	☒ Air Quality
☒ Biological Resources	☒ Cultural Resources	☒ Geology/Soils
☒ Hazards & Hazardous Materials	☒ Hydrology/Water Quality	☒ Land Use/Planning
☐ Mineral Resources	☒ Noise	☐ Population/Housing
☐ Public Services	☒ Recreation	☒ Transportation/Traffic
☒ Utilities/Service Systems	☒ Greenhouse Gas Emissions/Climate Change	
☒ Mandatory Findings of Significance		

2.1 DETERMINATION

On the basis of this initial evaluation:

1. I find that the project **could not** have a significant effect on the environment, and a **NEGATIVE DECLARATION** will be prepared. ☐

2. I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A **MITIGATED NEGATIVE DECLARATION** will be prepared. ☐

3. I find the proposed project **may have a significant effect** on the environment, and an **ENVIRONMENTAL IMPACT REPORT** is required. ☒

4. I find that the proposed project **may have a "potentially significant impact" or "potentially significant unless mitigated impact"** on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An **ENVIRONMENTAL IMPACT REPORT** is required, but it must analyze only the effects that remain to be addressed. ☐

5. I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or Negative Declaration pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or Negative Declaration, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required. ☐

4/9/14

Craig Chalfant
Project Planner

Date

2.2 EVALUATION OF ENVIRONMENTAL IMPACTS

1) A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a Lead Agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors, as well as general standards (e.g., the project would not expose sensitive receptors to pollutants, based on a project-specific screening analysis).

2) All answers must take account of the whole action involved, including off site as well as on site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.

3) Once the Lead Agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.

4) "Negative Declaration: Less Than Significant With Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The Lead Agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level.

5) Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:

   a) **Earlier Analysis Used.** Identify and state where they are available for review.

   b) **Impacts Adequately Addressed.** Identify which effects from the above checklist were within the scope of an impact adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.

   c) **Mitigation Measures.** For effects that are "Less than Significant with Mitigation Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.

6) Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated. A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.

7) Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.

8) This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.

9) The explanation of each issue should identify:

   a) the significance criteria or threshold, if any, used to evaluate each question; and

   b) the mitigation measure identified, if any, to reduce the impact to less than significant.

3.0 ANALYSIS OF ENVIRONMENTAL IMPACT ISSUES

This section provides a checklist of environmental impacts and an evaluation of the impact categories and questions contained in the checklist.

1.	**AESTHETICS.** *Would the project:*	**Potentially Significant Impact**	**Less Than Significant with Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
(a)	Have a substantial adverse effect on a scenic vista?	☒	☐	☐	☐
(b)	Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway?	☐	☐	☐	☒
(c)	Substantially degrade the existing visual character or quality of the site and its surroundings?	☒	☐	☐	☐
(d)	Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☒	☐	☐	☐

Impact Analysis

a) Potentially Significant Impact. The project site is adjacent to the Pacific Ocean, the Belmont Shore neighborhood, Belmont Memorial Veterans Pier, and Belmont Beach. Views of the project site from the surrounding areas currently show the existing Belmont Pool complex buildings, outdoor amenities, and parking. Potential changes to the views of area vistas could result from an increase in the pool building size necessary to meet revised code requirements and the addition of outdoor amenities. The proposed project may result in adverse effects on views of the ocean, beach, and the pier from the pool complex and the surrounding area. **This topic will be analyzed in the Environmental Impact Report (EIR), and mitigation will be developed and included, if necessary, to address potentially significant aesthetic impacts.**

b) No Impact. There are no State scenic highways located within the City of Long Beach. **This topic will not be analyzed further in the EIR unless related issues not covered here are identified during the scoping process.**

c) **Potentially Significant Impact.** Views of the proposed project from surrounding locations would be similar to the existing character and quality because the proposed project would replace the existing structures with similar uses. Potential changes would result from an increase in the pool building size to meet revised code requirements, increase in building height, and the location of the proposed outdoor pool north of the pool structure near Olympic Plaza. As a result, the project could result in changes to existing visual character of the site but are not anticipated to substantially degrade the existing visual character of the site and its surroundings. It is anticipated that implementation of project design features and/or mitigation would reduce these impacts to less than significant. **This topic will be analyzed in the EIR, and mitigation will be developed and included, if necessary, to address potentially significant aesthetic impacts.**

d) **Potentially Significant Impact.** The proposed outdoor pool would include a lighting component that could result in light and glare effects to adjacent land uses if not addressed through project design and/or mitigation. However, it is anticipated that compliance with the existing City Municipal Code and implementation of project design features and/or mitigation would reduce these impacts to less than significant by shielding glare and directing lighting on site. **This topic will be analyzed in the EIR, and mitigation will be developed and included, if necessary, to address aesthetic impacts.**

2.	**AGRICULTURAL RESOURCES.** *Would the project:*	**Potentially Significant Impact**	**Less Than Significant with Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
(a)	Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to nonagricultural use?	☐	☐	☐	☒
(b)	Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
(c)	Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code [PRC] Section 12220(g)), timberland (as defined by PRC Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?	☐	☐	☐	☒
(d)	Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
(e)	Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to nonagricultural use?	☐	☐	☐	☒

Impact Analysis

a) **No Impact.** The site has not been and is not currently used for agricultural uses and is not designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. As a result, the proposed project will not impact designated farmlands. **This topic will not be analyzed further in the EIR unless new information identifying it as a potential impact is presented during the scoping process.**

b) **No Impact.** The site is not zoned for agricultural uses and has not been and is not currently used for agricultural purposes, and there are no Williamson Act contracts in effect for the site. As a result, the proposed project will not conflict with existing zoning for agricultural uses or Williamson Act contracts. **This topic will not be analyzed further in the EIR unless new information identifying it as a potential impact is presented during the scoping process**.

c) **No Impact.** The project site and the surrounding areas are not designated or zoned as forest land or timberland, or for timberland production. As a result, the proposed project would not result in impacts on timberland resources. **This topic will not be analyzed further in the EIR unless new information identifying it as a potential impact is presented during the scoping process**.

d) **No Impact.** The project site is in a developed urban setting adjacent to the Pacific Ocean. There are no forest or timberland resources on or in the vicinity of the project site. Therefore, the proposed project would not result in impacts related to the loss of forest land or the conversion of forest land to nonforest uses. **This topic will not be analyzed further in the EIR unless new information identifying it as a potential impact is presented during the scoping process**.

e) **No Impact.** The project site is currently developed as the Belmont Pool complex, and there are no agricultural uses or designated farmlands on or in the vicinity of the project site. The proposed project would not result in the conversion of farmland on or off the project site to nonagricultural use because there are no agricultural uses on or in the immediate vicinity of the project site. As a result, the proposed project will not result in impacts related to the conversion of agricultural land to nonagricultural uses. **This topic will not be analyzed further in the EIR unless new information identifying it as a potential impact is presented during the scoping process.**

3.	**AIR QUALITY.** (Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations.) *Would the project:*	**Potentially Significant Impact**	**Less Than Significant with Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
(a)	Conflict with or obstruct implementation of the applicable air quality plan?	☒	☐	☐	☐
(b)	Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☒	☐	☐	☐
(c)	Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or State ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	☒	☐	☐	☐
(d)	Expose sensitive receptors to substantial pollutant concentrations?	☒	☐	☐	☐
(e)	Create objectionable odors affecting a substantial number of people?	☐	☐	☒	☐

Impact Analysis

a) Potentially Significant Impact. An Air Quality Management Plan (AQMP) describes air pollution control strategies to be undertaken by a city or county in a region classified as a nonattainment area to meet the requirements of the federal Clean Air Act. The main purpose of an AQMP is to bring an area into compliance with the requirements of federal and State ambient air quality standards (AAQSs). For a project to be consistent with the AQMP adopted by the South Coast Air Quality Management District (SCAQMD), the pollutants emitted from operation of the project should not exceed SCAQMD daily thresholds or cause a significant impact on air quality, or the project must already have been included in the AQMP projections. Because the AQMP is based on local General Plans, projects that are deemed consistent with a specific General Plan are usually found to be consistent with the AQMP. While the proposed project is consistent with the City's General Plan Open Space/Park and Mixed Use designations for the project site, analysis is needed to determine whether the effects of the proposed pools and the spectator seating would exceed SCAQMD daily thresholds or result in a significant adverse impact on air quality. **This topic will be analyzed in the EIR, and mitigation, if needed, will be developed and included to address potentially significant impacts related to consistency with AQMP.**

b) Potentially Significant Impact. The proposed project would result in short-term emissions during construction of the new facilities and long-term emissions during project operations. An air quality analysis will be conducted to assess: (1) potential short-term air quality impacts during clearing, grading and construction, including comparison of the project effects to the federal and State AAQSs for criteria pollutants, including particulates and toxic air contaminants (TOCs), and development of mitigation to address any project-related potentially significant short-term air quality impacts; and (2) potential long-term air quality impacts associated with project-related vehicular traffic, including comparison of the project effects to the federal and State AAQSs for criteria pollutants, including particulates and TOCs, and development of mitigation to address project-related potentially significant long-term air quality impacts, if any. The findings of the air quality analysis and recommended mitigation will be described in the EIR. **This topic will be analyzed in the EIR, and mitigation will be included, if necessary, to address potentially significant short- and/or long-term project related air quality impacts.**

c) Potentially Significant Impact. The proposed project would result in the construction and operation of a pool complex with more floor space, water surface space, and spectator seating than the existing facilities. The project-related operations emissions will be estimated to assess whether the proposed project will result in a cumulatively considerable net increase of any criteria pollutant when considered with other cumulative projects. **This topic will be analyzed in the EIR, and mitigation will be developed and included, if necessary, to address potentially significant impacts related to cumulative increases in criteria pollutants.**

d) Potentially Significant Impact. Sensitive receptors are persons defined as more sensitive to the potential unhealthful effects of air emissions. Sensitive receptors can include children and the elderly. There are residential uses in Belmont Shore northeast of the project site, and there are beaches south and southeast of the project site. Construction and operation of the proposed project could expose sensitive receptors in the residential area northeast of the site and beach visitors to project-related air emissions. Further evaluation of the project-related short- and long-term air emissions will be conducted as part of the air quality analysis to determine whether the proposed project would expose sensitive receptors to substantial pollutant concentrations. **This topic will be analyzed in the EIR, and mitigation will be developed and included, if necessary, to address potentially significant air quality impacts on sensitive receptors.**

e) Less than Significant Impact. Objectionable odors may be generated during operation of diesel-powered construction equipment during project construction. Those odors would be temporary and would not result in long-term odor impacts. The project is required to comply with Chapter 8.64 (Air Pollution) of the City's Municipal Code which prohibits the discharge or fumes, gases, odors, smells, and/or acids which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public or which endanger the comfort, repose, health or safety or any such persons or the public or which cause or have a natural tendency to cause injury or damage to business or property. Operation of the proposed pool complex is not expected to result in new or additional odors compared to the existing pool facility and, therefore, would not result in permanent impacts related to odors on adjacent sensitive receptors. **This topic will not be analyzed further in the EIR unless new information identifying it as a potential impact is presented during the scoping process.**

4.	**BIOLOGICAL RESOURCES.** *Would the project:*	**Potentially Significant Impact**	**Less Than Significant with Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
(a)	Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife (CDFW) or United States Fish and Wildlife Service (USFWS)?	☒	☐	☐	☐
(b)	Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the CDFW or USFWS?	☐	☐	☒	☐
(c)	Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☒	☐
(d)	Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☒	☐	☐	☐
(e)	Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☒	☐	☐	☐
(f)	Conflict with the provisions of an adopted Habitat Conservation Plan (HCP), Natural Community Conservation Plan (NCCP), or other approved local, regional, or State habitat conservation plan?	☐	☐	☐	☒

Impact Analysis

a) Potentially Significant Impact. The project site is immediately adjacent to a beach and the Pacific Ocean. A preliminary biological survey will be conducted to identify any potential bird nesting and roosting locations including in trees located in the landscaped areas on the project site. The United States Army Corps of Engineers (Corps) jurisdictional limits of waters of the United States on the beach between the project site and the Pacific Ocean will be measured and mapped. The project site appears to lie above the elevation of tidal influence. The EIR will include the findings from the biological survey and the maps of the Corps jurisdictional limits south of the project site, including a list of plant and animal species present on the project site and a general description of the plant materials on the project site, including the suitability of any trees for nesting/roosting. If necessary, mitigation measures will be identified to ensure that short- and/or long-term project impacts on biological resources, if any, are reduced to the extent feasible. **This topic will be analyzed in the EIR, and mitigation will be included, if necessary, to address potentially significant impacts related to biological resources.**

b) and c) Less than Significant Impact. The project site is a previously developed property in a heavily urbanized coastal area. Based on a preliminary evaluation, it has been concluded that the project site is not within a riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife (CDFW) or the United States Fish and Wildlife Service (USFWS). Therefore, implementation of the proposed project would result in a less than significant impact. **These topics will not be analyzed further in the EIR unless new information identifying it as a potential impact is presented during the scoping process.**

d) Potentially Significant Impact. The proposed project site is previously developed and is located in a heavily urbanized coastal area. It is not likely that established native resident or migratory wildlife corridors or native wildlife nursery sites are present. However, because of the presence of several mature ornamental trees, implementation of the proposed project may interfere with native resident or migratory fish or wildlife species. Additionally, the Migratory Bird Treaty Act (MBTA) and Fish and Game Code 3503 protect most native bird species from destruction or harm. This protection extends to individuals as well as any part, nest, or eggs of any bird listed as migratory. Most native North American bird species are on the MBTA list. The MBTA applies to the project site given the number and likelihood of nesting migratory birds in the trees located on the project site. Full compliance of the MBTA and Fish and Game Code 3503 would be taken as well as mitigation measures, if required to reduce the level of impact to less than significant. **This topic will be analyzed in the EIR, and mitigation will be included, if necessary, to address potentially significant impacts related to biological resources.**

e) Potentially Significant Impact. The intent of Section 14.28 of the City of Long Beach (City) Municipal Code is to preserve and protect the community's urban forest and to promote the health and safety of City trees. The project site is owned by the City. It is possible that some or all of the existing trees in the landscaped area on the north side of the project site may be removed to accommodate the proposed project. The removal of any trees would be mitigated in compliance with the tree replacement requirements in the City's Municipal Code. **This topic will be analyzed in the EIR, and mitigation will be included, if necessary, to address potentially significant impacts.**

f) No Impact. There are no adopted HCP, NCCP, or other similar plans in the City. Therefore, the project would not conflict with any plan related to the protection of biological resources. No mitigation is required. **This topic will not be analyzed further in the EIR unless new information identifying them as a potential impact is presented during the scoping process.**

5.	**CULTURAL RESOURCES.** *Would the project:*	**Potentially Significant Impact**	**Less Than Significant with Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
(a)	Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?	☐	☐	☐	☒
(b)	Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	☐	☐	☒	☐
(c)	Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☒	☐	☐	☐
(d)	Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☐	☒

Impact Analysis

a) **No Impact.** Potential historic resources in the City are evaluated under one or more of three established sets of criteria of significance, corresponding to federal, State, and local designation programs. To be eligible for inclusion in the National Register of Historic Places (National Register) or the California Register of Historical Resources (California Register) or for listing as a landmark or landmark district of the City, a property must satisfy one or more of the appropriate registration criteria. In addition, the property must retain sufficient integrity to convey the reasons for its significance. The City has determined that, due to the age of the existing Belmont Pool structures and facilities (approximately 44 years old), this complex is not considered a historic structure, and no further historic resource evaluation is required. As a result, the project will not cause a substantial change in the significance of a historical resource as defined in Section 15064.5. **This topic will not be analyzed further in the EIR unless new information identifying a potential impact on historic resources as defined in Section 15064.5 is presented during the scoping process.**

b) **Less Than Significant Impact.** An archaeological and historical records review and literature search was conducted on April 4, 2013, through the South Central Coastal Information Center (SCCIC) of the California Historical Resources Information System at California State University, Fullerton. The results of the records search indicate that there are no sites within 0.25 mile (mi) of the project area. Two cultural resource surveys have been previously completed that include the entire project area. Because the project site is fully developed with structures, parking, landscaping, roadway, and other features, no on-site survey for archeological resources will be conducted. **Based on the results of the records review and literature search and evaluation conducted for the project, the potential for on-site archeological resources is minimal. This topic will not be analyzed further in the EIR unless new information identifying it as a potential impact is presented during the scoping process.**

c) **Potentially Significant Impact.** A paleontological records review and literature search of the locality records maintained by the local clearinghouse will be conducted to obtain locality and survey information pertinent to the project site and the surrounding areas. Because the project site is currently fully developed, no on-site survey for paleontological resources will be conducted. The archival research will establish the status and extent of previous surveys in the project area and note what types of fossils might be expected to occur in the project area based on existing data from fossils recovered within 0.25 mi of the project site. The proposed project is located in an area characterized by beach deposits and the potential exists for sensitive paleontological resources to be encountered during construction if excavation reach depths greater than 10 ft. **Therefore, this topic will be analyzed in the EIR, and mitigation will be included, if necessary, to address potentially significant impacts related to paleontological resources.**

d) **No Impact.** Based on the results of records searches performed for the site, there are no known human remains interred on the project site. In the unlikely event that human remains are encountered during grading/excavation for the project, the proper authorities would be notified, and standard procedures for the respectful handling of the human remains activities would be adhered to in compliance with State Health and Safety Code Section 7050.5 and Public Resources Code (PRC) Section 5097.98. **This topic will not be analyzed further in the EIR unless new information identifying it as a potential impact is presented during the scoping process.**

6.	**GEOLOGY AND SOILS.** *Would the project:*	**Potentially Significant Impact**	**Less Than Significant with Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
(a)	Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving: i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☒	☐	☐	☐
	ii) Strong seismic ground shaking?	☒	☐	☐	☐
	iii) Seismic-related ground failure, including liquefaction?	☒	☐	☐	☐
	iv) Landslides?	☐	☐	☐	☒
(b)	Result in substantial soil erosion or the loss of topsoil?	☒	☐	☐	☐
(c)	Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☒	☐	☐	☐
(d)	Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☒	☐	☐	☐
(e)	Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒

Impact Analysis

a) (i-–iii), c), and d) Potentially Significant Impact. Construction and operation of the proposed project has the potential to expose people and structures to substantial adverse effects related to the site and regional geology, including those associated with earthquakes on faults and fault systems, seismic shaking, liquefaction, expansive or compressible soils, and tsunami. A Preliminary Geotechnical Report will be summarized in the EIR, including recommendations from that report to address project effects related to or as a result of geologic conditions. The project structures and features will be designed and constructed consistent with the relevant Uniform Building Code (UBC) and California Building Code seismic standards and will comply with the City’s Earthquake Hazard Regulations in Chapter 18.68 of the City’s Municipal Code. **These topics will be analyzed in the EIR, and mitigation will be developed, if necessary, to address potentially significant adverse impacts related to geologic conditions.**

a) (iv) **No Impact.** The project site is relative flat, and there are no substantial hillsides or unstable slopes immediately adjacent to the site boundary. As a result, there is no potential for landslide hazards at the project site, and no mitigation is required. **This topic will not be analyzed further in the EIR unless new information identifying it as a potential impact is presented during the scoping process.**

b) **Potentially Significant Impact.** During site preparation, grading, and construction of the proposed project, soil on the project site would be exposed, and there would be an increased potential for soil erosion compared to existing conditions. The potential for erosion during project operations would be minimal because the site would be paved, covered with a building and pools, or landscaped and there would not be areas of exposed/disturbed soil on the site. **This topic will be analyzed in the EIR, and mitigation will be included, if necessary, to address potentially significant impacts related to erosion during project construction activities.**

e) **No Impact.** The project will not use of septic tanks or alternative methods for disposal of wastewater into subsurface soils. The proposed project would connect to existing public wastewater infrastructure. Therefore, the project would not result in any impacts related to septic tanks or alternative wastewater disposal methods. No mitigation is required. **This topic will not be analyzed further in the EIR unless new information identifying it as a potential impact is presented during the scoping process.**

7.	**GREENHOUSE GAS EMISSIONS.** *Would the project:*	**Potentially Significant Impact**	**Less Than Significant with Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
(a)	Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☒	☐	☐	☐
(b)	Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☒	☐	☐	☐

Impact Analysis

a) and b) Potentially Significant Impact. Greenhouse gas (GHG) emissions would be generated during project construction and operation. GHG emissions associated with project construction would consist primarily of emissions from equipment exhaust. There would also be long-term regional emissions associated with project-related vehicular trips. A discussion of GHGs and their potential effects on global climate change (GCC) will be included. The GHG analysis will follow procedures and methodologies considered "state-of-the-art" at the time the analysis is conducted. If necessary, mitigation measures will be identified to ensure that both short- and long-term GHG impacts will be reduced to the extent possible. **These topics will be analyzed in the EIR, and mitigation will be included, if necessary, to address potentially significant impacts related to GHG emissions.**

8.	**HAZARDS AND HAZARDOUS MATERIALS.** *Would the project:*	**Potentially Significant Impact**	**Less Than Significant with Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
(a)	Create a significant hazard to the public or the environment through the routine transport, use or disposal of hazardous materials?	☒	☐	☐	☐
(b)	Create a significant hazard to the public or the environment through reasonable foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☒	☐	☐	☐
(c)	Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☒	☐	☐	☐
(d)	Be located on a site which is included on a list of hazardous materials sites complied pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☒	☐	☐	☐
(e)	For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☒	☐
(f)	For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
(g)	Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
(h)	Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☐	☒

Impact Analysis

a), b), c), and d) Potentially Significant Impact. The EIR will summarize the information and conclusions of a site-specific hazardous materials studies, such as a Phase 1 Environmental Site Assessment Report. Potential land use safety and hazard conflicts related to existing land uses near the project site will also be addressed, and mitigation measures will be identified to reduce any potential impacts, if necessary. **These topics will be analyzed in the EIR, and mitigation**

will be included, if necessary, to address potentially significant impacts related to hazards and hazardous materials.

e) **Less than Significant Impact.** The project site is approximately 3 mi southeast of Long Beach Municipal Airport. The proposed project would not result in safety hazards for people living or working in the area different than would occur under existing conditions. Although the project would result in development of increased pool water surface area that may attract more people to the Belmont Pool complex, the risk of safety hazards associated with the Long Beach Municipal Airport would not be substantively different in this part of the City with or without the project. No mitigation is required. **This topic will not be covered in the EIR unless related issues not covered here are identified during the scoping process.**

f) **No Impact**. There are no private airports or airstrips in the vicinity of the project site. As a result, the project will not affect or be affected by aviation activities associated with private airports or airstrips. No mitigation is required. **This topic will not be covered in the EIR unless related issues not covered here are identified during the scoping process.**

g) **Less than Significant Impact**. The City of Long Beach Fire Department (LBFD) is responsible for providing prevention, education, and preparedness services and coordinating the City's disaster management and Homeland Security efforts. The proposed project may increase the number of people attracted to the site and the number of events held at the site. However, the proposed project would not result in changes in access to/from the project site and in the vicinity of the project site. Roads used as response corridors/evacuation routes usually follow the most direct path to or from various parts of a community. For the project site and the surrounding areas, the main corridor anticipated to be used by emergency services providers is Ocean Boulevard. East Olympic Plaza, South Termino Avenue, and streets in the Belmont Shore residential area northeast of the project site are not major arterials and do not provide direct paths of travel across or out of the City. As a result, the project would not result in changes in the circulation system that would adversely affect the ability of the LBFD to implement an emergency response plan or emergency evacuation plan in this part of the City. No mitigation is required. **This topic will not be analyzed further in the EIR unless new information identifying it as a potential impact is presented during the scoping process.**

h) **No Impact**. Wildland fires occur in geographic areas that contain the types and conditions of vegetation, topography, weather, and structure density susceptible to risks associated with uncontrolled fires that can be started by lightning, improperly managed camp fires, cigarettes, sparks from automobiles, and other ignition sources. The project site and the surrounding areas are developed in urban and suburban uses and do not include brush- and grass-covered areas typically found in areas susceptible to wildfires. As a result, the project would not expose people or structures to a significant risk of loss, injury, or death associated with wildland fires. No mitigation is required. **This topic will not be analyzed further in the EIR unless new information identifying it as a potential impact is presented during the scoping process.**

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
9.	**HYDROLOGY AND WATER QUALITY.** *Would the project:*				
(a)	Violate any water quality standards or waste discharge requirements?	☒	☐	☐	☐
(b)	Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of preexisting nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☒	☐	☐	☐
(c)	Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in a substantial erosion or siltation on- or off-site.	☒	☐	☐	☐
(d)	Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	☒	☐	☐	☐
(e)	Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?	☒	☐	☐	☐
(f)	Otherwise substantially degrade water quality?	☒	☐	☐	☐
(g)	Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	☒
(h)	Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	☒	☐	☐	☐
(i)	Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☒	☐	☐	☐
(j)	Inundation by seiche, tsunami, or mudflow?	☒	☐	☐	☐

Impact Analysis

a), b), c), d), e), f), h), i), and j) Potentially Significant Impact. The proposed project will result in changes to existing conditions on the project site with introduction of more impervious surfaces than with existing uses. The preliminary hydrology studies, preliminary drainage plan, Storm Water Management Plan, and water quality treatments included in the project improvements will be reviewed and summarized in the EIR. That information will be used to assess the potential for the project to result in short- and/or long-term impacts related to water quality, water quality standards, and waste discharge requirements; surface and ground waters; alterations in drainage, surface runoff, and erosion; flood zones and flood hazards; and inundation by seiche, tsunami, or mudflow. **These topics will be analyzed in the EIR, and mitigation will be included, if necessary, to address potentially significant impacts related to hydrology and water quality.**

g) No Impact. The project does not include the construction of any housing. Therefore, the proposed project would not result in the placement of housing or structures within the limits of the 100-year flood. No mitigation is required. **This topic will not be analyzed further in the EIR unless new information identifying it as a potential impact is presented during the scoping process.**

10.	**LAND USE/PLANNING.** *Would the project:*	**Potentially Significant Impact**	**Less Than Significant with Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
(a)	Physically divide an established community?	☐	☐	☐	☒
(b)	Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☒	☐	☐	☐
(c)	Conflict with any applicable habitat conservation plan (HCP) or natural community conservation plan (NCCP)?	☐	☐	☐	☒

Impact Analysis

a) **No Impact.** The project includes construction and operation of the new Belmont Pool complex on the same site (including the open space area north of the existing pool structure). The project would not result in changes or modifications to any adjacent land uses and would not physically divide an established community. In addition, the project would not result in physical divisions within any established community. No mitigation is needed. **This topic will not be analyzed further in the EIR unless new information identifying it as a potential impact is presented during the scoping process.**

b) **Potentially Significant Impact.** Locally adopted land use plans, policies, and regulations that would be applicable to the proposed project include the City of Long Beach General Plan, Zoning Code, and Ordinance, and the City's Local Coastal Program. The project site is designated Open Space and Parks/Mixed Use in the City's General Plan, and is zoned P-Park and PD-2 (Subarea 1). The EIR will address the consistency or potential conflicts between the proposed project and applicable land use plans, policies, and regulations for the project site and the immediately adjacent areas. Consistency and any permitting requirements under the Local Coastal Program will also be identified. **This topic will be analyzed in the EIR, and mitigation will be included, if necessary, to address potentially significant impacts related to the project's consistency with applicable land use plans, policies, and regulations.**

c) **No Impact.** The project site and the surrounding areas are not subject to any Habitat Conservation Plan (HCP) or Natural Community Conservation Plan (NCCP). Therefore, the proposed project would not conflict with any HCP or NCCP relating to the protection of biological resources. No mitigation is required. **This topic will not be analyzed further in the EIR unless new information identifying it as a potential impact is presented during the scoping process.**

11.	**MINERAL RESOURCES.** *Would the project:*	**Potentially Significant Impact**	**Less Than Significant with Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
(a)	Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State?	☐	☐	☐	☒
(b)	Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒

Impact Analysis

a) and b) No Impact. According to the City's General Plan Conservation Element (1973), the primary mineral resources within the City have historically been oil and natural gas. However, over the last century, oil and natural gas extractions have been diminished as the resources have become increasingly depleted. The proposed project site does not contain oil extraction operations and has no other known mineral resources. In addition, implementation of the proposed project is not anticipated to interfere with resource recovery from other sites that are identified in any general, specific, or land use plan. Therefore, project implementation would have no impact on mineral resources, and no mitigation is required. **These topics will not be analyzed further in the EIR unless new information identifying it as a potential impact is presented during the scoping process.**

12.	**NOISE.** *Would the project result in:*	**Potentially Significant Impact**	**Less Than Significant with Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
(a)	Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☒	☐	☐	☐
(b)	Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☒	☐	☐	☐
(c)	A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☒	☐	☐	☐
(d)	A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☒	☐	☐	☐
(e)	For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒
(f)	For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

Impact Analysis

a), c), and d) Potentially Significant Impact. The EIR will incorporate the findings of a technical noise analysis that will identify potential project-related short- and long-term noise impacts on sensitive land uses in the vicinity of the project site, including the residential uses northeast of the site and visitors to the beaches north, south, and southeast of the project site. The short-term noise impacts of project-related construction activities will also be assessed. Calculated noise levels at adjacent noise-sensitive uses from project-related stationary and mobile sources during construction and project-related traffic during operations will be compared to applicable City of Long Beach noise criteria. The EIR will discuss the applicable City noise and land use compatibility criteria for the project site and adjacent areas. **The potential for short- and long-term noise impacts will be analyzed in the EIR, and mitigation will be included, if necessary, to address potentially significant noise impacts.**

b) Potentially Significant Impact. Vibration refers to groundborne noise and perceptible motion. Typical sources of groundborne vibration are construction activities (e.g., pavement breaking and operating heavy-duty earthmoving equipment) and occasional traffic on rough roads. The EIR will evaluate potential vibration impacts associated with project construction and operation. **This**

topic will be analyzed in the EIR, and mitigation will be included, if necessary, to address potentially significant groundborne vibration impacts.

e) and f) No Impact. The project site is approximately 3 mi southeast of Long Beach Municipal Airport. There are no private airfields in the vicinity of the project site. The project would not expose employees or patrons of the Belmont Pool complex to aviation-related noise levels different than would occur under existing conditions. Although the project would result in the construction and operation of a larger pool complex, the levels of aviation-related noise from the airport would not be substantively different in that part of the City of Long Beach with or without the project. No mitigation is required. **These topics will not be covered in the EIR unless related issues not covered here are identified during the scoping process.**

13.	**POPULATION AND HOUSING.** *Would the project:*	**Potentially Significant Impact**	**Less Than Significant with Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
(a)	Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☒
(b)	Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
(c)	Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

Impact Analysis

a), b), and c) No Impact. The proposed project would not induce substantial population growth because it would not provide new homes or businesses. Furthermore, the proposed project would not generate a substantial number of new jobs. The project would not result in the removal of any existing housing and, therefore, would not require the construction of replacement housing elsewhere. Because the project will not displace any existing housing units, it would not displace any residents. As a result, the project would not result in growth-inducing impacts, displacement of housing or residents, or impacts resulting from the construction of replacement housing. **These topics will not be further analyzed in the EIR unless related issues not covered here are identified during the scoping process.**

14.	**PUBLIC SERVICES.** *Would the project:*	**Potentially Significant Impact**	**Less Than Significant with Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
(a)	Would the project result in substantial adverse physical impacts associated with the provision of or need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
	i) Fire Protection?	☐	☐	☒	☐
	ii) Police Protection?	☐	☐	☒	☐
	iii) Schools?	☐	☐	☐	☒
	iv) Other public facilities?	☐	☐	☒	☐

Impact Analysis

a) (i) and (ii) Less Than Significant Impact. The proposed project would result in an increase in the size and capacity of the Belmont Pool complex. However, as a City facility, it will be staffed by the appropriate number of appropriately trained staff, and any incremental increase in staffing compared to the existing facility's demands would not warrant new public facilities beyond the existing government facilities. **These topics will not be further analyzed in the EIR unless related issues not covered here are identified during the scoping process.**

a) iii) No Impact. The proposed project would not provide any residential uses and, therefore, would not result in increases for or other effects on public school services in this part of the City of Long Beach. **This topic will not be further analyzed in the EIR unless related issues not covered here are identified during the scoping process.**

a) iv) Less than Significant Impact. The proposed project would not provide any residential uses and would not result in population growth that would generate an increased demand for public facilities such as libraries. The proposed project would not result in a significant increase in staff time for the City's Parks, Recreation and Marine Departments either during construction or operation. Any increases in staff time would be less than significant because they would represent only a minor part of the total Department staffing needs. Therefore, the proposed project would have a less than significant impact on other public facilities (e.g., libraries, City staff), and no mitigation is required. **This topic will not be further analyzed in the EIR unless related issues not covered here are identified during the scoping process.**

15.	**RECREATION.** *Would the project:*	**Potentially Significant Impact**	**Less Than Significant with Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
(a)	Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒
(b)	Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☒	☐	☐	☐

Impact Analysis

a) **No Impact.** The project proposes replacing the currently closed Belmont Pool complex with a new complex that would be able to serve Long Beach residents as well as accommodate a wider range of national and international water sports events. The increased capacity of the Belmont Pool complex as a result of the proposed project would not result in increased demand at other parks and recreational resources in the City. The project would not provide any new housing and would not increase the population in the City. Therefore, the proposed project would not result in substantial deterioration of other parks or recreation resources. **This topic will not be further analyzed in the EIR unless related issues not covered here are identified during the scoping process.**

b) **Potentially Significant Impact.** As described elsewhere in this Initial Study, the proposed project may result in impacts that are potentially significant or are less than significant with mitigation as a result of the construction and operation of the improvements at the Belmont Pool complex. The proposed revitalization of the Belmont Pool recreational facility is the subject of the EIR. **This topic will be analyzed in the EIR, and mitigation will be included, if necessary, to address potentially significant project impacts.**

16.	**TRANSPORTATION/TRAFFIC.** *Would the project:*	**Potentially Significant Impact**	**Less Than Significant with Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
(a)	Conflict with an applicable plan, ordnance, or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	☒	☐	☐	☐
(b)	Conflict with an applicable congestion management program, including but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads and highways?	☒	☐	☐	☐
(c)	Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	☒
(d)	Substantially increase hazards due to a design feature (e. g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☒
(e)	Result in inadequate emergency access?	☒	☐	☐	☐
(f)	Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	☒	☐	☐	☐

Impact Analysis

a) and b) Potentially Significant Impact. The proposed Belmont Pool complex replaces an existing facility. Proposed activity programming will be studied to determine whether the project may generate more vehicle trips to/from the site than under existing (preclosure) conditions, which could potentially affect the levels of service (LOS) on street segments and at street intersections adjacent to and in the vicinity of the site. A traffic analysis will be prepared to address the potential short- and long-term impacts of the project related to local traffic and circulation, access to/from the site, and pedestrian and bicycle access and safety on and in the vicinity of the project site. The analysis will be prepared consistent with the City's requirements and will also discuss the County Congestion Management Program. **These topics will be analyzed in the EIR, and mitigation will be included, if necessary, to address potentially significant transportation and circulation impacts.**

c) **No Impact.** The project site is approximately 3 mi southeast of Long Beach Municipal Airport. The heights of the pool building, light standards, and other project features on the site would not be sufficient to require modifications to the existing air traffic patterns at the airport and, therefore, would not affect aviation traffic levels or otherwise result in substantial aviation-related safety risks. No mitigation is required. **This topic will not be covered in the EIR unless related issues not covered here are identified during the scoping process.**

d) **No Impact.** The proposed project would not result in hazards due to a design feature (e. g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment). **This topic will not be covered in the EIR unless related issues not covered here are identified during the scoping process.**

e) **Potentially Significant Impact.** The proposed project involves changes to the existing Olympic Plaza. The emergency services' access to/from the project site will be assessed based on the conceptual site plan. The access to/from the site must be designed to City standards and would be subject to review by the City Fire and Police Departments for compliance with fire and emergency access standards and requirements. **This topic will be analyzed in the EIR, and mitigation will be included, if necessary, to address potentially significant impacts related to emergency access.**

f) **Potentially Significant Impact.** Pedestrian and bicycle access to/from the project site, such as from the residential uses northeast of the project site or the adjacent beaches, would be available via public sidewalks and walkways along the beaches and adjacent to the project site. Bicycle access to/from the project site is also available via the adjacent local streets (East Ocean Boulevard, East Olympic Plaza, South Termino Avenue). Long Beach Transit currently operates bus routes on East Ocean Boulevard and South Termino Avenue in the vicinity of the project site. The EIR will evaluate the potential effects of the project related to access to/from the site for pedestrians, bicyclists, and transit patrons and will describe project features such as bus turnouts, marked pedestrian paths across/through the site, and bicycle racks that support alternative modes of transportation. **This topic will be analyzed in the EIR, and mitigation will be included, if necessary, to address potentially significant impacts related to alternative transportation modes.**

17.	**UTILITIES/SERVICE SYSTEMS.** *Would the project:*	**Potentially Significant Impact**	**Less Than Significant with Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
(a)	Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☒	☐	☐	☐
(b)	Require or result in the construction of new water or wastewater treatment or collection facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☒	☐	☐	☐
(c)	Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☒	☐	☐	☐
(d)	Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☒	☐	☐	☐
(e)	Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☒	☐	☐	☐
(f)	Be served by a landfill with insufficient permitted capacity to accommodate the project's solid waste disposal needs?	☒	☐	☐	☐
(g)	Comply with federal, State, and local statutes and regulations related to solid wastes.	☒	☐	☐	☐
(h)	Include a new or retrofitted storm water treatment control Best Management Practice (BMP), (e.g., water quality treatment basin, constructed treatment wetland), the operation of which could result in significant environmental effects (e.g., increased vectors and odors)?	☒	☐	☐	☐

Impact Analysis

a), b), c), d), e), f), g), and h) Potentially Significant Impact. The proposed Belmont Pool complex replaces an existing facility in a developed, urbanized setting. The EIR will identify the utility and service companies/agencies that would provide services to the proposed project.. The analysis will assess the ability of the existing infrastructure and utility and service providers to meet the project demand. Potential project-related impacts to wastewater treatment capacity, water supply, storm water drainage facilities, potable water, solid waste, solid waste disposal capacity, and storm water treatment will be discussed in the EIR. **These topics will be analyzed in the EIR,**

and mitigation will be included, if necessary, to address potentially significant impacts related to utilities and services.

18.	MANDATORY FINDINGS OF SIGNIFICANCE	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
(a)	Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☒	☐	☐	☐
(b)	Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects?)	☒	☐	☐	☐
(c)	Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☒	☐	☐	☐

Impact Analysis

a) Potentially Significant Impact. The project site has been developed for several decades and is located in a highly urbanized coastal area. In the unlikely event that significant biological resources are found to be present, any potential impacts associated with the implementation of the proposed project would be able to be mitigated to a level of less than significant.

b) and c) Potentially Significant Impact. CEQA specifies that certain findings, if found to be affirmative, require that a determination of significant impact be made. The EIR for the proposed project will address the following mandatory findings of significance:

- Potential to degrade the quality of the environment as described in the Initial Study checklist responses.
- Impacts that are individually limited but potentially cumulatively considerable.
- Environmental effects that could cause substantial direct or indirect adverse impacts to human beings, as described in the checklist responses.

4.0 SOURCE LIST

The following references were used in the preparation of this Initial Study:

City of Long Beach General Plan Open Space and Recreation Element (July 18, 2002) (City of Long Beach website accessed March 26, 2013).

City of Long Beach Municipal Code Chapter 8.64, Air Pollution (City of Long Beach website accessed March 26, 2013).

Long Beach Transit Route Map (Long Beach Transit website accessed March 27, 2013).

COMMENT LETTERS

STATE OF CALIFORNIA
GOVERNOR'S OFFICE *of* PLANNING AND RESEARCH
STATE CLEARINGHOUSE AND PLANNING UNIT

EDMUND G. BROWN JR.
GOVERNOR

KEN ALEX
DIRECTOR

Notice of Preparation

April 9, 2014

To: Reviewing Agencies

Re: Belmont Pool Revitalization Project
SCH# 2013041063

Attached for your review and comment is the Notice of Preparation (NOP) for the Belmont Pool Revitalization Project draft Environmental Impact Report (EIR).

Responsible agencies must transmit their comments on the scope and content of the NOP, focusing on specific information related to their own statutory responsibility, within 30 days of receipt of the NOP from the Lead Agency. This is a courtesy notice provided by the State Clearinghouse with a reminder for you to comment in a timely manner. We encourage other agencies to also respond to this notice and express their concerns early in the environmental review process.

Please direct your comments to:

Craig Chalfant
City of Long Beach
333 W. Ocean Boulevard, 5th Floor
Long Beach, CA 90802

with a copy to the State Clearinghouse in the Office of Planning and Research. Please refer to the SCH number noted above in all correspondence concerning this project.

If you have any questions about the environmental document review process, please call the State Clearinghouse at (916) 445-0613.

Sincerely,

Scott Morgan
Director, State Clearinghouse

Attachments
cc: Lead Agency

Document Details Report
State Clearinghouse Data Base

SCH# **2013041063**
Project Title Belmont Pool Revitalization Project
Lead Agency Long Beach, City of

Type **NOP** Notice of Preparation

Description The project proposes the demolition of the existing Belmont Pool complex (the indoor and outdoor features) and the construction and operation of a replacement pool complex that includes indoor and outdoor pool components. Spectator seating will be provided for approximately 3,500 people through a combination of permanent and portable seating in the indoor and outdoor areas.

Lead Agency Contact

Name Craig Chalfant
Agency City of Long Beach
Phone 562 570 6368 ***Fax***
email
Address 333 W. Ocean Boulevard, 5th Floor
City Long Beach ***State*** CA ***Zip*** 90802

Project Location

County Los Angeles
City Long Beach
Region
Cross Streets E Olympic Plaza and S Termino Ave.
Lat / Long
Parcel No. 725-603-9903
Township ***Range*** ***Section*** ***Base***

Proximity to:

Highways SR-1
Airports
Railways
Waterways Alamitos Bay
Schools Various
Land Use Land Use District No. 7 - Mixed Use District
Z: P (Park)/PD-2 (Belmont Pier), Subarea 1

Project Issues Agricultural Land; Archaeologic-Historic; Biological Resources; Coastal Zone; Drainage/Absorption; Fiscal Impacts; Geologic/Seismic; Minerals; Noise; Population/Housing Balance; Public Services; Recreation/Parks; Schools/Universities; Septic System; Sewer Capacity; Soil Erosion/Compaction/Grading; Solid Waste; Toxic/Hazardous; Traffic/Circulation; Vegetation; Water Quality; Water Supply; Wetland/Riparian; Wildlife; Growth Inducing; Landuse

---

Reviewing Agencies Resources Agency; California Coastal Commission; Office of Historic Preservation; Department of Parks and Recreation; Department of Water Resources; Department of Fish and Wildlife, Region 5; Native American Heritage Commission; State Lands Commission; California Highway Patrol; Caltrans, District 7; Air Resources Board; Department of Toxic Substances Control; Regional Water Quality Control Board, Region 4

Date Received 04/09/2014 ***Start of Review*** 04/09/2014 ***End of Review*** 05/08/2014

NOP Distribution List PJH

County: Los Angeles

SCH# 2013041063

Resources Agency

- [x] **Resources Agency**
  Nadell Gayou
- [ ] **Dept. of Boating & Waterways**
  Nicole Wong
- [x] **California Coastal Commission**
  Elizabeth A. Fuchs
- [ ] **Colorado River Board**
  Tamya Trujillo
- [ ] **Dept. of Conservation**
  Elizabeth Carpenter
- [ ] **California Energy Commission**
  Eric Knight
- [ ] **Cal Fire**
  Dan Foster
- [ ] **Central Valley Flood Protection Board**
  James Herota
- [x] **Office of Historic Preservation**
  Ron Parsons
- [x] **Dept of Parks & Recreation**
  Environmental Stewardship Section
- [ ] **California Department of Resources, Recycling & Recovery**
  Sue O'Leary
- [ ] **S.F. Bay Conservation & Dev't. Comm.**
  Steve McAdam
- [x] **Dept. of Water Resources** Resources Agency
  Nadell Gayou

Fish and Game

- [ ] **Depart. of Fish & Wildlife**
  Scott Flint
  Environmental Services Division
- [ ] **Fish & Wildlife Region 1**
  Donald Koch
- [ ] **Fish & Wildlife Region 1E**
  Laurie Harnsberger
- [ ] **Fish & Wildlife Region 2**
  Jeff Drongesen
- [ ] **Fish & Wildlife Region 3**
  Charles Armor
- [ ] **Fish & Wildlife Region 4**
  Julie Vance
- [x] **Fish & Wildlife Region 5**
  Leslie Newton-Reed
  Habitat Conservation Program
- [ ] **Fish & Wildlife Region 6**
  Gabrina Gatchel
  Habitat Conservation Program
- [ ] **Fish & Wildlife Region 6 I/M**
  Heidi Sickler
  Inyo/Mono, Habitat Conservation Program
- [ ] **Dept. of Fish & Wildlife M**
  George Isaac
  Marine Region

Other Departments

- [ ] **Food & Agriculture**
  Sandra Schubert
  Dept. of Food and Agriculture
- [ ] **Depart. of General Services**
  Public School Construction
- [ ] **Dept. of General Services**
  Anna Garbeff
  Environmental Services Section
- [ ] **Dept. of Public Health**
  Jeffery Worth
  Dept. of Health/Drinking Water
- [ ] **Delta Stewardship Council**
  Kevan Samsam

Independent Commissions, Boards

- [ ] **Delta Protection Commission**
  Michael Machado
- [ ] **OES (Office of Emergency Services)**
  Dennis Castrillo
- [x] **Native American Heritage Comm.**
  Debbie Treadway
- [ ] **Public Utilities Commission**
  Leo Wong
- [ ] **Santa Monica Bay Restoration**
  Guangyu Wang
- [x] **State Lands Commission**
  Jennifer Deleong
- [ ] **Tahoe Regional Planning Agency (TRPA)**
  Cherry Jacques

Business, Trans & Housing

- [ ] **Caltrans - Division of Aeronautics**
  Philip Crimmins
- [ ] **Caltrans - Planning**
  Terri Pencovic
- [x] **California Highway Patrol**
  Suzann Ikeuchi
  Office of Special Projects
- [ ] **Housing & Community Development**
  CEQA Coordinator
  Housing Policy Division

Dept. of Transportation

- [ ] **Caltrans, District 1**
  Rex Jackman
- [ ] **Caltrans, District 2**
  Marcelino Gonzalez
- [ ] **Caltrans, District 3**
  Gary Arnold
- [ ] **Caltrans, District 4**
  Erik Alm
- [ ] **Caltrans, District 5**
  David Murray
- [ ] **Caltrans, District 6**
  Michael Navarro
- [x] **Caltrans, District 7**
  Dianna Watson
- [ ] **Caltrans, District 8**
  Dan Kopulsky
- [ ] **Caltrans, District 9**
  Gayle Rosander
- [ ] **Caltrans, District 10**
  Tom Dumas
- [ ] **Caltrans, District 11**
  Jacob Armstrong
- [ ] **Caltrans, District 12**
  Maureen El Harake

Cal EPA

Air Resources Board

- [x] All Projects
  CEQA Coordinator
- [ ] Transportation Projects
  Nesamani Kalandiyur
- [ ] Industrial Projects
  Mike Tollstrup
- [ ] **State Water Resources Control Board**
  Regional Programs Unit
  Division of Financial Assistance
- [ ] **State Water Resources Control Board**
  Student Intern, 401 Water Quality Certification Unit
  Division of Water Quality
- [ ] **State Water Resouces Control Board**
  Phil Crader
  Division of Water Rights
- [x] **Dept. of Toxic Substances Control**
  CEQA Tracking Center
- [ ] **Department of Pesticide Regulation**
  CEQA Coordinator

Regional Water Quality Control Board (RWQCB)

- [ ] **RWQCB 1**
  Cathleen Hudson
  North Coast Region (1)
- [ ] **RWQCB 2**
  Environmental Document Coordinator
  San Francisco Bay Region (2)
- [ ] **RWQCB 3**
  Central Coast Region (3)
- [x] **RWQCB 4**
  Teresa Rodgers
  Los Angeles Region (4)
- [ ] **RWQCB 5S**
  Central Valley Region (5)
- [ ] **RWQCB 5F**
  Central Valley Region (5)
  Fresno Branch Office
- [ ] **RWQCB 5R**
  Central Valley Region (5)
  Redding Branch Office
- [ ] **RWQCB 6**
  Lahontan Region (6)
- [ ] **RWQCB 6V**
  Lahontan Region (6)
  Victorville Branch Office
- [ ] **RWQCB 7**
  Colorado River Basin Region (7)
- [ ] **RWQCB 8**
  Santa Ana Region (8)
- [ ] **RWQCB 9**
  San Diego Region (9)
- [ ] **Other** ____________
- [ ] ____________ Conservancy

Last Updated 1 /29/2014

Notice of Completion & Environmental Document Transmittal

SCH# 2013041063

Mail to: State Clearinghouse, P.O. Box 3044, Sacramento, CA 95812-3044 916/445-0613
For Hand Delivery/Street Address: 1400 Tenth Street, Sacramento, CA 95814

Project Title: Belmont Pool Revitalization Project
Lead Agency: City of Long Beach Contact Person: Craig Chalfant, Planner
Street Address: 333 West Ocean Boulevard, 5th Floor Phone: (562) 570-6368
City: Long Beach Zip: 90802 County: Los Angeles

Project Location:

County: Los Angeles City/Nearest Community: Long Beach
Cross Streets: E Olympic Plaza and S Termino Ave. Zip Code: 90803
Assessor's Parcel No. 725-603-9903 Section:___ Twp.___ Range:___ Base:___
Within 2 Miles: State Hwy #: SR-I Waterways: Alamitos Bay
Airports: --- Railways: Schools: Woodrow Wilson Classical High School, Mann Elementary School, Fremont Elementary School, Naples Elementary School

RECEIVED
APR 09 2014
STATE CLEARING HOUSE

Document Type:

CEQA: ☒ NOP (Re-issued) ☐ Early Cons ☐ Neg Dec ☐ Mit Neg Dec ☐ Draft EIR ☐ Supplement/Subsequent EIR (Prior SCH No.)___ ☐ Other___
NEPA: ☐ NOI ☐ EA ☐ Draft EIS ☐ FONSI
Other: ☐ Joint Document ☐ Final Document ☐ Other___

Local Action Type:

☐ General Plan Update
☐ General Plan Amendment
☐ General Plan Element
☐ Community Plan
☐ Specific Plan
☐ Master Plan
☐ Planned Unit Development
☒ Site Plan
☐ Rezone
☐ Prezone
☒ Use Permit
☐ Land Division (Subdivision, etc.)
☐ Annexation
☐ Redevelopment
☒ Coastal Permit
☐ Other___

Development Type

☐ Residential: Units ___ Acres ___
☐ Office: Sq.ft. ___ Acres ___ Employees ___
☐ Commercial: Sq.ft. ___ Acres ___ Employees ___
☐ Industrial: Sq.ft. ___ Acres ___ Employees ___
☐ Educational: ___
☒ Recreational: Redevelopment of pool/park facilities on existing pool/park site
☐ Water Facilities: Type ___ MGD ___
☐ Transportation: Type ___
☐ Mining: Mineral ___
☐ Power: Type ___ Watts ___
☐ Waste Treatment: Type ___
☐ Hazardous Waste: Type ___
☐ Other ___

Total Acres (approx.) 5.6

Project Issues Discussed in Document:

☒ Aesthetic/Visual
☒ Agricultural Land
☒ Air Quality
☒ Archaeological/Historical
☒ Biological Resources
☒ Coastal Zone
☒ Drainage/Absorption
☐ Economic/Jobs
☐ Fiscal
☒ Flood Plain/Flooding
☒ Forest Land/Fire Hazard
☒ Geologic/Seismic
☒ Minerals
☒ Noise
☒ Population/Housing Balance
☒ Public Services/Facilities
☒ Recreation/Parks
☒ Schools/Universities
☒ Septic Systems
☒ Sewer Capacity
☒ Soil Erosion/Compaction/Grading
☒ Solid Waste
☒ Toxic/Hazardous
☒ Traffic/Circulation
☒ Vegetation
☒ Water Quality
☒ Water Supply/Groundwater
☒ Wetland/Riparian
☒ Wildlife
☒ Growth-Inducing
☒ Land Use
☐ Cumulative Effects
☐ Other ___

Present Land Use/Zoning/General Plan Designation:
Present Land Use: General Plan designation: Land Use District No. 7 - Mixed Use District . Zoning: P (Park)/PD-2 (Belmont Pier), Subarea 1

Project Description: *(please use a separate page if necessary)* The NOP is being re-issued due to revisions in the project description. The project proposes the construction and operation of a replacement pool complex that includes indoor and outdoor pool components. Spectator seating will be provided for approximately 3,500 people through a combination of permanent and portable seating in the indoor and outdoor areas. See Initial Study for further details of the project components.

Reviewing Agencies Checklist

Lead Agencies may recommend State Clearinghouse distribution by marking agencies below with an **"X."**
If you have already sent your document to the agency, please denote that with an **"S."**

S Air Resources Board	S Office of Historic Preservation
___ Boating & Waterways, Department of	___ Office of Public School Construction
___ California Highway Patrol	S Parks & Recreation
___ Caltrans District #	___ Pesticide Regulation, Department of
___ Caltrans Division of Aeronautics	___ Public Utilities Commission
___ Caltrans Planning (Headquarters)	___ Reclamation Board
___ Coachella Valley Mountains Conservancy	X Regional WQCB # 4 Los Angeles Region
X Coastal Commission	___ Resources Agency
___ Colorado River Board	___ S.F. Bay Conservation & Development Commission
___ Conservation, Department of	___ San Gabriel & Lower L.A. Rivers & Mtns Conservancy
___ Corrections, Department of	___ San Joaquin River Conservancy
___ Delta Protection Commission	___ Santa Monica Mountains Conservancy
___ Education, Department of	S State Lands Commission
___ Energy Commission	___ SWRCB: Clean Water Grants
X Fish & Wildlife Region # 5	___ SWRCB: Water Quality
___ Food & Agriculture, Department of	___ SWRCB: Water Rights
___ Forestry & Fire Protection	___ Tahoe Regional Planning Agency
___ General Services, Department of	___ Toxic Substances Control, Department of
___ Health Services, Department of	X Water Resources, Department of
___ Housing & Community Development	
___ Integrated Waste Management Board	___ Other ___
X Native American Heritage Commission	___ Other ___
___ Office of Emergency Services	

Local Public Review Period (to be filled in by lead agency)

Starting Date: April 9, 2014 Ending Date: May 9, 2014

Lead Agency (Complete if applicable):

Consulting Firm: LSA Associates, Inc.	Applicant: City of Long Beach
Address: 20 Executive Park, Suite 200	Address: 333 W. Ocean Boulevard, 5th Floor
City/State/Zip: Irvine, CA 92614	City/State/Zip: Long Beach, CA, 90802
Contact: Ashley Davis	Contact: Craig Chalfant, Planner
Phone: (949) 553-0666	Phone: (562) 570-6368

Signature of Lead Agency Representative: C. Chalfant **Date:** 4/9/14

STATE OF CALIFORNIA Edmund G. Brown, Jr., Governor

NATIVE AMERICAN HERITAGE COMMISSION
1550 Harbor Boulevard, Suite 100
West Sacramento, CA 95691
(916) 373-3715
Fax (916) 373-5471
Web Site www.nahc.ca.gov
Ds_nahc@pacbell.net
e-mail: ds_nahc@pacbell.net

April 15, 2014

Mr. Craig Chalfant, Planner
City of Long Beach
333 West Ocean Boulevard, 5th Floor
Long Beach, CA 90802

Sent by U.S. Mail
No. of Pages: 4

RE: SCH#2013041063 CEQA Notice of Preparation (NOP)n; draft Environmental Impact Report (DEIR) for the **"Belmont Pool Revitalization Project;"** located in the City of Long Beach; Los Angeles County, California

Dear Mr. Chalfant

The Native American Heritage Commission (NAHC) has reviewed the above-referenced environmental document.

The California Environmental Quality Act (CEQA) states that any project which includes archeological resources, is a significant effect requiring the preparation of an EIR (CEQA guidelines 15064.5(b).. To adequately comply with this provision and mitigate project-related impacts on archaeological resources, the Commission recommends the following actions be required:

Lead agencies should include in their mitigation plan provisions for the identification and evaluation of accidentally discovered archeological resources, pursuant to California Environmental Quality Act (CEQA) §15064.5(f). In areas of identified archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American, with knowledge in cultural resources, should monitor all ground-disturbing activities. Also, California Public Resources Code Section 21083.2 require documentation and analysis of archaeological items that meet the standard in Section 15064.5 (a)(b)(f).

If there is federal jurisdiction of this project due to funding or regulatory provisions; then the following may apply: the National Environmental Policy Act (NEPA 42 U.S.C 4321-43351) and Section 106 of the National Historic Preservation Act (16 U.S.C 470 *et seq.*) and 36 CFR Part 800.14(b) require consultation with culturally affiliated Native American tribes to determine if the proposed project may have an adverse impact on cultural resources

We suggest that this (additional archaeological activity) be coordinated with the NAHC, if possible. The final report containing site forms, site significance, and mitigation measurers should be submitted immediately to the planning department. Any information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum, and not be made available for pubic disclosure pursuant to California Government Code Section 6254.10.

A list of appropriate Native American Contacts for consultation concerning the project site has been provided and is attached to this letter to determine if the proposed active might impinge on any cultural resources.

California Government Code Section 65040.12(e) defines "environmental justice" to provide "fair treatment of People...with respect to the development, adoption, implementation, and enforcement of environmental laws, regulations and policies." (The California Code is consistent with the Federal Executive Order 12898 regarding 'environmental justice.' Also, applicable to state agencies is Executive Order B-10-11 requires consultation with Native American tribes their elected officials and other representatives of tribal governments to provide meaningful input into the development of legislation, regulations, rules, and policies on matters that may affect tribal communities.

Lead agencies should consider first, avoidance for sacred and/or historical sites, pursuant to CEQA Guidelines 15370(a). Then if the project goes ahead then, lead agencies include in their mitigation and monitoring plan provisions for the analysis and disposition of recovered artifacts, pursuant to California Public Resources Code Section 21083.2 in consultation with culturally affiliated Native Americans.

Lead agencies should include provisions for discovery of Native American human remains in their mitigation plan. Health and Safety Code §7050.5, CEQA §15064.5(e), and Public Resources Code §5097.98 mandates the process to be followed in the event of an accidental discovery of any human remains in a location other than a dedicated cemetery.

Sincerely,

Dave Singleton
Program Analyst

CC: State Clearinghouse

Attachment: Native American Contacts list

Native American Contacts
Los Angeles County California
April 15, 2014

LA City/County Native American Indian Comm
Ron Andrade, Director
3175 West 6th St, Rm. 403
Los Angeles , CA 90020
randrade@css.lacounty.gov
(213) 351-5324
(213) 386-3995 FAX

Gabrielino Tongva Indians of California Tribal Council
Robert F. Dorame, Tribal Chair/Cultural Resources
P.O. Box 490 Gabrielino Tongva
Bellflower , CA 90707
gtongva@verizon.net
562-761-6417 - voice
562-761-6417- fax

Tongva Ancestral Territorial Tribal Nation
John Tommy Rosas, Tribal Admin.
Private Address Gabrielino Tongva
,
tattnlaw@gmail.com
310-570-6567

Gabrielino-Tongva Tribe
Bernie Acuna, Co-Chairperson
P.O. Box 180 Gabrielino
Bonsall , CA 92003
(619) 294-6660-work
(310) 428-5690 - cell
(760) 636-0854- FAX
bacuna1@gabrielinotribe.org

Gabrieleno/Tongva San Gabriel Band of Mission
Anthony Morales, Chairperson
PO Box 693 Gabrielino Tongva
San Gabriel , CA 91778
GTTribalcouncil@aol.com
(626) 286-1232 - FAX
(626) 286-1758 - Home
(626) 286-1262 -FAX

Gabrielino-Tongva Tribe
Linda Candelaria, Co-Chairperson
P.O. Box 180 Gabrielino
Bonsall , CA 92003
palmsprings9@yahoo.com
626-676-1184- cell
(760) 636-0854 - FAX

Gabrielino /Tongva Nation
Sandonne Goad, Chairperson
P.O. Box 86908 Gabrielino Tongva
Los Angeles , CA 90086
sgoad@gabrielino-tongva.com
951-845-0443

Gabrieleno Band of Mission Indians
Andrew Salas, Chairperson
P.O. Box 393 Gabrielino
Covina , CA 91723
gabrielenoindians@yahoo.
(626) 926-4131

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of the statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list s only applicable for contacting locative Americans with regard to cultural resources for the proposed SCH#2013041063; CEQA Notice of Preparation (NOP); draft Environmental Impact Report (DEIR) for the Belmont Pool Revitalization Project; located in the City of Long Beach; Los Angeles County, California.

Native American Contacts
Los Angeles County California
April 15, 2014

Gabrielino-Tongva Tribe
Conrad Acuna,
P.O. Box 180 Gabrielino
Bonsall , CA 92003

760-636-0854 - FAX

Gabrielino /Tongva Nation
Sam Dunlap, Cultural Resorces Director
P.O. Box 86908 Gabrielino Tongva
Los Angeles , CA 90086
samdunlap@earthlink.net
909-262-9351

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of the statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list s only applicable for contacting locative Americans with regard to cultural resources for the proposed SCH#2013041063; CEQA Notice of Preparation (NOP); draft Environmental Impact Report (DEIR) for the Belmont Pool Revitalization Project; located in the City of Long Beach; Los Angeles County, California.

South Coast
Air Quality Management District
21865 Copley Drive, Diamond Bar, CA 91765-4178
(909) 396-2000 • www.aqmd.gov

April 18, 2014

Craig Chalfant
Planning Bureau, Development Services Department
City of Long Beach
333 W. Ocean Boulevard, 5th Floor
Long Beach, CA 90802

Notice of Preparation of a CEQA Document for the
Belmont Pool Revitalization Project

The South Coast Air Quality Management District (SCAQMD) staff appreciates the opportunity to comment on the above-mentioned document. The SCAQMD staff's comments are recommendations regarding the analysis of potential air quality impacts from the proposed project that should be included in the draft CEQA document. Please send the SCAQMD a copy of the Draft EIR upon its completion. Note that copies of the Draft EIR that are submitted to the State Clearinghouse are not forwarded to the SCAQMD. Please forward a copy of the Draft EIR directly to SCAQMD at the address in our letterhead. **In addition, please send with the draft EIR all appendices or technical documents related to the air quality and greenhouse gas analyses and electronic versions of all air quality modeling and health risk assessment files. These include original emission calculation spreadsheets and modeling files (not Adobe PDF files). Without all files and supporting air quality documentation, the SCAQMD will be unable to complete its review of the air quality analysis in a timely manner. Any delays in providing all supporting air quality documentation will require additional time for review beyond the end of the comment period.**

Air Quality Analysis

The SCAQMD adopted its California Environmental Quality Act (CEQA) Air Quality Handbook in 1993 to assist other public agencies with the preparation of air quality analyses. The SCAQMD recommends that the Lead Agency use this Handbook as guidance when preparing its air quality analysis. Copies of the Handbook are available from the SCAQMD's Subscription Services Department by calling (909) 396-3720. More recent guidance developed since this Handbook was published is also available on SCAQMD's website here: www.aqmd.gov/ceqa/hdbk.html. SCAQMD staff also recommends that the lead agency use the CalEEMod land use emissions software. This software has recently been updated to incorporate up-to-date state and locally approved emission factors and methodologies for estimating pollutant emissions from typical land use development. CalEEMod is the only software model maintained by the California Air Pollution Control Officers Association (CAPCOA) and replaces the now outdated URBEMIS. This model is available free of charge at: www.caleemod.com.

The Lead Agency should identify any potential adverse air quality impacts that could occur from all phases of the project and all air pollutant sources related to the project. Air quality impacts from both construction (including demolition, if any) and operations should be calculated. Construction-related air quality impacts typically include, but are not limited to, emissions from the use of heavy-duty equipment from grading, earth-loading/unloading, paving, architectural coatings, off-road mobile sources (e.g., heavy-duty construction equipment) and on-road mobile sources (e.g., construction worker vehicle trips, material transport trips). Operation-related air quality impacts may include, but are not limited to, emissions from stationary sources (e.g., boilers), area sources (e.g., solvents and coatings), and vehicular trips (e.g., on- and off-road tailpipe emissions and entrained dust). Air quality impacts from indirect sources, that is, sources that generate or attract vehicular trips should be included in the analysis.

The SCAQMD has also developed both regional and localized significance thresholds. The SCAQMD staff requests that the lead agency quantify criteria pollutant emissions and compare the results to the recommended regional significance thresholds found here: http://www.aqmd.gov/ceqa/handbook/signthres.pdf. In addition to analyzing regional air quality impacts, the SCAQMD staff recommends calculating localized air quality impacts and comparing the results to localized significance thresholds (LSTs). LST's can be used in addition to the recommended regional significance thresholds as a second indication of air quality impacts when preparing a CEQA document. Therefore, when preparing the air quality analysis for the proposed project, it is recommended that the lead agency perform a localized analysis by either using the LSTs developed by the SCAQMD or performing dispersion modeling as necessary. Guidance for performing a localized air quality analysis can be found at: http://www.aqmd.gov/ceqa/handbook/LST/LST.html.

In the event that the proposed project generates or attracts vehicular trips, especially heavy-duty diesel-fueled vehicles, it is recommended that the lead agency perform a mobile source health risk assessment. Guidance for performing a mobile source health risk assessment ("*Health Risk Assessment Guidance for Analyzing Cancer Risk from Mobile Source Diesel Idling Emissions for CEQA Air Quality Analysis*") can be found at: http://www.aqmd.gov/ceqa/handbook/mobile_toxic/mobile_toxic.html. An analysis of all toxic air contaminant impacts due to the use of equipment potentially generating such air pollutants should also be included.

In addition, guidance on siting incompatible land uses (such as placing homes near freeways) can be found in the California Air Resources Board's *Air Quality and Land Use Handbook: A Community Perspective*, which can be found at the following internet address: http://www.arb.ca.gov/ch/handbook.pdf. CARB's Land Use Handbook is a general reference guide for evaluating and reducing air pollution impacts associated with new projects that go through the land use decision-making process.

Mitigation Measures

In the event that the project generates significant adverse air quality impacts, CEQA requires that all feasible mitigation measures that go beyond what is required by law be utilized during project construction and operation to minimize or eliminate these impacts. Pursuant to state CEQA Guidelines §15126.4 (a)(1)(D), any impacts resulting from mitigation measures must also be discussed. Several resources are available to assist the Lead Agency with identifying possible mitigation measures for the project, including:

- Chapter 11 of the SCAQMD *CEQA Air Quality Handbook*
- SCAQMD's CEQA web pages at: www.aqmd.gov/ceqa/handbook/mitigation/MM_intro.html
- CAPCOA's *Quantifying Greenhouse Gas Mitigation Measures* available here: http://www.capcoa.org/wp-content/uploads/2010/11/CAPCOA-Quantification-Report-9-14-Final.pdf.
- SCAQMD's Rule 403 – Fugitive Dust, and the Implementation Handbook for controlling construction-related emissions
- Other measures to reduce air quality impacts from land use projects can be found in the SCAQMD's Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning. This document can be found at the following internet address: http://www.aqmd.gov/prdas/aqguide/aqguide.html.

Data Sources

SCAQMD rules and relevant air quality reports and data are available by calling the SCAQMD's Public Information Center at (909) 396-2039. Much of the information available through the Public Information Center is also available via the SCAQMD's webpage (http://www.aqmd.gov).

The SCAQMD staff is available to work with the Lead Agency to ensure that project emissions are accurately evaluated and mitigated where feasible. If you have any questions regarding this letter, please contact me at imacmillan@aqmd.gov or call me at (909) 396-3244.

Sincerely,

Ian V. MacMillan

Ian MacMillan
Program Supervisor, CEQA Inter-Governmental Review
Planning, Rule Development & Area Sources

LAC140409-03
Control Number

Alyssa Helper

From:	Ashley Davis
Sent:	Thursday, April 07, 2016 4:46 PM
To:	Alyssa Helper
Subject:	FW: Conceptual Design Suggestion for New Pool

From: Craig Chalfant [mailto:Craig.Chalfant@longbeach.gov]
Sent: Thursday, January 29, 2015 1:24 PM
To: Ashley Davis; Patrick Zabrocki
Subject: FW: Conceptual Design Suggestion for New Pool

Include in project Mailing List.

From: Neva Alderson [mailto:aldersonneva@yahoo.com]
Sent: Wednesday, April 30, 2014 4:21 PM
To: Craig Chalfant
Subject: Conceptual Design Suggestion for New Pool

Congratulations Long Beach, at the opportunity to create the Ideal Public Swimming Pool!

At the Southeast Long Beach Planning Forum participant consensus concerning aesthetic standard in urban organization was impressive.

Of this standard is the Ideal Public Pool. Long Beach as Aquatic Capital of the Universe exemplifies swimming in social, recreational, and competitive bounty.

Fulfilling the concept of the Pool Ideal integrating social as well as performance value is an obtainable challenge in peak democracy; for example, the idea of the deck chair. I notice that at the smaller outdoor pool at Belmont, there are also round tables.

The swimming pool aesthetically reaching the picture I want to convey is the Palos Verdes Pool in Malaga Cove. I long for the hamburger shack.

A scene where people can see each other attractively garbed in appealing as well as strictly competitive swim wear, having fun swimming socially in a deep outdoor pool, is a positive social element in a maturely balanced society.

The challenge is to integrate competitive athleticism with the mutually beneficial appreciation of the social spectator.

Long Beach as culturally Leading Edge carries the motivation to exemplify. Leading Edge American society expands the "industrial motif" into comfortable, artistically harmonious, pleasurable renaissance impressionist experience; intrinsically functional within the luxury of beauty and encompassing the pool party.

Sincerely,

Neva Pauline Alderson
3204 E. 2nd Street
Long Beach, CA 90803
.

WATER RECLAMATION
SOLID WASTE MANAGEMENT

COUNTY SANITATION DISTRICTS
OF LOS ANGELES COUNTY

1955 Workman Mill Road, Whittier, CA 90601-1400
Mailing Address: P.O. Box 4998, Whittier, CA 90607-4998
Telephone: (562) 699-7411, FAX: (562) 699-5422
www.lacsd.org

GRACE ROBINSON HYDE
Chief Engineer and General Manager

May 6, 2014

Ref File No.: 2942490

Mr. Craig Chalfant
Planning Bureau
Development Services Department
City of Long Beach
333 West Ocean Boulevard, 5th Floor
Long Beach, CA 90802

Dear Mr. Chalfant:

Belmont Pool Revitalization Project

The County Sanitation Districts of Los Angeles County (Districts) received a Notice of Preparation of a Draft Environmental Impact Report for the subject project on April 9, 2014. The proposed development is located within the jurisdictional boundaries of District No. 3. We offer the following comments regarding sewerage service:

1. The proposed project may require a Districts' permit for Industrial Wastewater Discharge. Project developers should contact the Districts' Industrial Waste Section at extension 2900, in order to reach a determination on this matter. If this permit is necessary, project developers will be required to forward copies of final plans and supporting information for the proposed project to the Districts for review and approval before beginning project construction. For additional Industrial Wastewater Discharge Permit information, go to http://www.lacsd.org/wastewater/industrial_waste/permit.asp.

2. The wastewater flow originating from the proposed project will discharge to a local sewer line, which is not maintained by the Districts, for conveyance to either or both the Districts' Anaheim Street Trunk Sewer, located in 11th Street at Orange Avenue, or the Joint Outfall C Unit 3D Trunk Sewer, located in 11th Street at Belmont Avenue. The 36–inch diameter Anaheim Street Trunk Sewer has a design capacity of 19.7 million gallons per day (mgd) and conveyed a peak flow of 5.7 mgd when last measured in 2012. The 51–inch diameter Joint Outfall C Unit 3D Trunk Sewer has a design capacity of 29.2 mgd and conveyed a peak flow of 12.2 mgd when last measured in 2013.

3. The wastewater generated by the proposed project will be treated at the Joint Water Pollution Control Plant located in the City of Carson, which has a design capacity of 400 mgd and currently processes an average flow of 263.7 mgd.

4. The expected increase in average wastewater flow from the project site is 19,322 gallons per day. For a copy of the Districts' average wastewater generation factors, go to www.lacsd.org,

Wastewater & Sewer Systems, click on Will Serve Program, and click on the Table 1, Loadings for Each Class of Land Use link.

5. The Districts are empowered by the California Health and Safety Code to charge a fee for the privilege of connecting (directly or indirectly) to the Districts' Sewerage System for increasing the strength or quantity of wastewater attributable to a particular parcel or operation already connected. This connection fee is a capital facilities fee that is imposed in an amount sufficient to construct an incremental expansion of the Sewerage System to accommodate the proposed project. Payment of a connection fee will be required before a permit to connect to the sewer is issued. For more information and a copy of the Connection Fee Information Sheet, go to www.lacsd.org, Wastewater & Sewer Systems, click on Will Serve Program, and search for the appropriate link. For more specific information regarding the connection fee application procedure and fees, please contact the Connection Fee Counter at extension 2727.

6. In order for the Districts to conform to the requirements of the Federal Clean Air Act (CAA), the design capacities of the Districts' wastewater treatment facilities are based on the regional growth forecast adopted by the Southern California Association of Governments (SCAG). Specific policies included in the development of the SCAG regional growth forecast are incorporated into clean air plans, which are prepared by the South Coast and Antelope Valley Air Quality Management Districts in order to improve air quality in the South Coast and Mojave Desert Air Basins as mandated by the CCA. All expansions of Districts' facilities must be sized and service phased in a manner that will be consistent with the SCAG regional growth forecast for the counties of Los Angeles, Orange, San Bernardino, Riverside, Ventura, and Imperial. The available capacity of the Districts' treatment facilities will, therefore, be limited to levels associated with the approved growth identified by SCAG. As such, this letter does not constitute a guarantee of wastewater service, but is to advise you that the Districts intend to provide this service up to the levels that are legally permitted and to inform you of the currently existing capacity and any proposed expansion of the Districts' facilities.

If you have any questions, please contact the undersigned at (562) 908-4288, extension 2717.

Very truly yours,

Grace Robinson Hyde

Adriana R

Adriana Raza
Customer Service Specialist
Facilities Planning Department

AR:ar

cc: L. Shadler
M. Tremblay
J. Ganz

DOC: #2966582.D03

Los Angeles County
Metropolitan Transportation Authority

One Gateway Plaza
Los Angeles, CA 90012-2952

213.922.2000 Tel
metro.net

Metro

May 13, 2014

Craig Chalfant
Planning Bureau, Development Services Department
City of Long Beach
333 W. Ocean Boulevard, 5th Floor
Long Beach, CA 90802

RE: Belmont Pool Revitalization

Dear Mr. Chalfant:

The Los Angeles County Metropolitan Transportation Authority (LACMTA) appreciates the opportunity to comment on the proposed Belmont Pool Revitalization at 4000 East Olympic Plaza**.** In fulfillment of our statutory obligation, this letter conveys recommendations pertaining to the proposed project and potential impacts it may have on our facilities and services.

LACMTA must notify the applicant of state requirements. A Transportation Impact Analysis (TIA), with roadway and transit components, is required under the State of California Congestion Management Program (CMP) statute. The CMP TIA Guidelines are published in the "2010 Congestion Management Program for Los Angeles County", Appendix D (attached). The geographic area examined in the TIA must include the following, at a minimum:

1. All CMP arterial monitoring intersections, including monitored freeway on/off-ramp intersections, where the proposed project will add 50 or more trips during either the a.m. or p.m. weekday peak hour (of adjacent street traffic).

2. If CMP arterial segments are being analyzed rather than intersections, the study area must include all segments where the proposed project will add 50 or more peak hour trips (total of both directions). Within the study area, the TIA must analyze at least one segment between monitored CMP intersections.

3. Mainline freeway-monitoring locations where the project will add 150 or more trips, in either direction, during either the a.m. or p.m. weekday peak hour.

4. Caltrans must also be consulted through the NOP process to identify other specific locations to be analyzed on the state highway system.

The CMP TIA requirement also contains two separate impact studies covering roadways and transit, as outlined in Sections D.8.1 – D.9.4. If the TIA identifies no facilities for study based on the criteria above, no further traffic analysis is required. However, projects must still consider transit impacts. For all CMP TIA requirements please see the attached guidelines.

LACMTA looks forward to reviewing the Draft EIR. If you have any questions regarding this response, please contact Marie Sullivan at 213-922-5667 or by email at SullivanMa@metro.net. Please send the Draft EIR to the following address:

LACMTA Development Review
One Gateway Plaza MS 99-23-4
Los Angeles, CA 90012-2952

Sincerely,

Nick Saponara
Development Review Manager, Countywide Planning

Attachment: CMP Appendix D: Guidelines for CMP Transportation Impact Analysis

Alyssa Helper

From: Ashley Davis
Sent: Thursday, April 07, 2016 4:58 PM
To: Alyssa Helper
Subject: FW: Fw: Belmont Pool project

NOP comment letter

From: Craig Chalfant [mailto:Craig.Chalfant@longbeach.gov]
Sent: Thursday, January 29, 2015 1:24 PM
To: Ashley Davis; Patrick Zabrocki
Subject: FW: Fw: Belmont Pool project

Include in project Mailing List.

From: Lucy Johnson [mailto:lucyjohnson1@gmail.com]
Sent: Wednesday, April 16, 2014 8:51 PM
To: Amy Bodek
Cc: Patrick Zabrocki; Craig Chalfant; Dino D'Emilia; Brent Miller; Paul Graves; Gary Delong; Patrick O'Donnell
Subject: Re: Fw: Belmont Pool project

Ms. Bodek:

Thank you for your comments in response to my email, and for your explanation that the next step is the preparation of the EIR.

As to the proposed project components, what I outlined in my email below has been discussed by members of the aquatics community with members of the Council, the design team, and City staff (primarily Suzanne Frick and Eric Lopez) on several occasions. We have been encouraged by the verbal responses from the first two groups; nonetheless, staff continues to put forth documents and design features that were proposed by them over a year ago, and which we had thought had been amended based on the subsequent meetings and discussions.

This project is being closely watched as it progresses, not only by the Long Beach and Southern California communities, but also throughout the country and internationally. Because of the interest in the project, it is vital that the project contain components such as those I outlined. It is my hope that the EIR will reflect the dimensions of the pools (including the separate diving tank) necessary for the project to be a world class, state of the art aquatics facility.

If the optimum design is approved by staff and Council, I assume it could be scaled down if necessary. However, if the EIR goes forth as you apparently envision it now, and enhancements to the project are agreed upon later by the interested parties, would I be incorrect in assuming that it will be much more difficult to then add those enhancements to the CEQA and EIR documentation?

With the now closed Belmont pool having lasted 45 years, the opportunity to do this project correctly will not come this way again for another one ot two generations. Let's all work together to end up with a fabulous project!

Thank you for your consideration.

Lucy Johnson
lucyjohnson1@gmail.com
562-431-0052
www,facebook.com/RebuildBelmontPlazaOlympicPool

On 4/15/2014 7:41 PM, Amy Bodek wrote:

> Ms. Jones,
> Your email was forwarded to me for a response. Thank you for your comments related to the reissue of the NOP and Initial Study. They will be considered during the preparation of the EIR, as with all public comments. We do not anticipate making further revisions to the NOP or Initial Study and hope to move on to the preparation of the EIR shortly. Thank you also for your comments on proposed project components the community wishes to see included. The EIR will be prepared based on the official direction from the City Council and those components that they have identified. If those components vary from what the community desires, I would suggest you register your comments as part of the official EIR process. Thank you for your interest in this project.

Amy J. Bodek, AICP
Director

Long Beach Development Services
T 562.570.6428
333 West Ocean Blvd., 3rd Fl | Long Beach, CA 90802
amy.bodek@longbeach.gov | lbds.longbeach.gov

From: Lucy Johnson [mailto:lucyjohnson1@gmail.com]
Sent: Tuesday, April 15, 2014 4:19 PM
To: Patrick Zabrocki
Cc: Craig Chalfant; Dino D'Emilia; Brent Miller; Paul Graves
Subject: Re: Belmont Pool project

Mr. Zabrocki:

Thank you for sending copies of the re-issued NOP and Initial Statement. I appreciate it very much.

With a title of "Initial Statement," is it likely there will be further revisions before the final document is approved? If so, please take my comments below into consideration for any revisions. I would prefer to see that the optimum design is discussed and approved, as it could be scaled down if necessary, but if there are enhancements to the project that are agreed upon later by the interested parties, it seems likely it will be much more difficult to then add those enhancements to the CEQA and EIR documentation. For example, the dimensions of the primary indoor and primary outdoor pools are shown in the Initial Statement at 50 meters by 25 yards, yet there have been a number of discussions (and, we thought, agreement) regarding the need for those two pools to be 54 meters by 25 meters for greater flexibility.

I have some concerns with a few of the statements in Section 1.9, on page 5. In particular, the project descriptions for the Indoor pool component have some discrepancies compared to what I and a number of other interested parties have said are essential to the project.

1) Indoor component:
A) The first sentence of the first paragraph states, "The proposed indoor pool component would include an enclosed pool with an approximate surface area of up to 18,500 sf."
That sentence is written in the singular, but the third and fifth sentences in the second paragraph discuss a second pool and "Both pools..." If my math is correct, then I come up with the following square footage for the indoor complex (based on having three pools - see my comments in B) below):

54-meter by 25-meter main pool*	14,530.93	sqft
60-foot by 30-foot warm-water pool	1,800.00	sqft
25-meter by 25-meter diving tank	6,727.28	sqft
TOTAL	23,058.21	sqft

* These dimensions are based on discussions among Councilmember DeLong and representatives from USA Swimming just prior to the February 12, 2013 Council Meeting. The 54-meter length will allow for the installation of two bulkheads, which together with a 25-meter width, will optimize that pool's flexibility by offering numerous configurations for various and

multiple users.
B) The second paragraph says:
"The proposed indoor pool configuration would allow for recreational and instructional uses and would comply with the preferred rules standards for all aquatic sports except long course swimming. The pool would include multiple springboards and diving platforms. The indoor component includes a second warm-water pool (approximately 30 x 30 ft) with a surface area of approximately 900 sf. The pool will provide shallow and deep water. Both pools will include pool decks and other user amenities."
On many occasions, the aquatics community has expressed to the City officials and the design team that there should be three (3) pools in the indoor complex. The original drawings presented by City staff in early 2013 showed two (2) pools, one of 50 meters by 25 yards, and a second, smaller, shallow pool of approximately 60 x 30 feet, ranging from 3 feet to 5 feet in depth for warmer water activities such as hydro-therapy and lessons. At that time, there was no provision made for any diving activities other than a plan to construct a couple of recreational springboards. (See page 4 in the attached drawings.)
First sentence: It is necessary that you strike the last four (4) words of that sentence. The indoor pool must continue to be the primary competitive facility, with the capability of accommodating all configurations for competition.
Second sentence: The diving community has been adamant that the complex **must** have a third indoor pool, known either as a diving tank or diving well, which would allow for the multiple springboards and diving platforms. That pool ideally would have dimensions of 25 meters by 25 meters, to provide maximum safety margins for diving, as well as maximum flexibility for several uses when divers are not in attendance.

Third sentence: I believe most if not all interested parties agree with the need for a small indoor warm-water pool for teaching and water therapy, especially during inclement weather conditions.

Fourth sentence: To which pool are you referring - the main, large pool, or the small warm-water pool? If you are referring to the large 50-meter (actually 54-meters to accommodate two (2) bulkheads), I have no problem with that sentence as long as you agree that as currently written the reference to "shallow" water does not preclude the use of either a movable floor or removable "pens" that would float or sit on the floor. There is a need for the primary indoor pool to have a permanent uniform depth of 8 feet at a minimum in order to meet current and potentially future standards for major competitions.
Fifth (last) sentence: Please change the first word of the sentence, "Both" to "The."

C) I believe the footprint for the length of the existing structure could accommodate all three pools in a straight line. This configuration is similar to that of a number of other major aquatic complexes in the country.
2) Outdoor component:
A) First sentence: This is the first time I've have heard the concept of two outdoor pools, rather than one pool with an extension beyond the competition area for decreasing the depth to zero at the end of the extension. I personally like this idea better, as it will be easier to manage different programs without overlap. Having a fixed wall at the end of the competition pool separating it from the shallow recreational and teaching pool will improve the safety of the recreational/beginning swimmers, as there will not be a temptation to swim under the bulkhead into the larger area.

b) Second sentence: See the footnote for 1) A) above. The dimensions should again be 54 meters by 25 meters.
Over the next day or two I will be going through the remainder of the Initial Statement, and will

likely have additional comments, Also, I will be sharing the documents with those on my email list as parties interested in this project, and on our Facebook page, and asking for their comments as well. Again, I thank you for sharing the documents with me.

Regards,

Lucy Johnson
lucyjohnson1@gmail.com
562-431-0052
www.facebook.com/RebuildBelmontPlazaOlympicPool

On 4/14/2014 4:19 PM, Patrick Zabrocki wrote:
Ms. Johnson,

My name is Patrick Zabrocki from LSA Associates, the environmental firm that will be preparing the Environmental Impact Report (EIR) for the Belmont Pool Revitalization Project. I wanted to reach out to you because last week (April 9) the City re-issued the Notice of Preparation (NOP) and public review period (April 9 – May 8) for the Initial Study for the project. Because you reached out to the City, I wanted to make sure you were notified and were able to obtain a copy of the document for review and comment. As a courtesy, I have attached the electronic version of the NOP and Initial Study to this email but could provide a hard copy as well if you like. Please let me know.

If you have any questions or comments about the project, please contact Craig Chalfant at craig.chalfant@longbeach.gov or at 562.570.6368 .

Thank you for your continued invovlement in your community and have a great day.

Patrick Zabrocki, LEED Green Associate
Senior Environmental Planner
LSA Associates, Inc.
20 Executive Park, Suite 200
Irvine, CA 92614-4713
Phone: (949) 553-0666
Fax: (949) 553-8076
Patrick.Zabrocki@lsa-assoc.com

From: Lucy Johnson <lucyjohnson1@gmail.com>
To: Craig Chalfant <craig.chalfant@longbeach.gov>
Date: 09/16/2013 11:22 PM
Subject: Belmont Pool project

Mr. Chalfant,

I am extremely interested in the permanent aquatics facilities to be built as replacements for the now-closed Belmont Plaza Olympic Pool. Because of my passion for seeing that the permanent facilities are state-of-the-art, capable of once again attracting the best aquatics athletes in the world, in early January I established www.facebook.com/RebuildBelmontPlazaOlympicPool, where I attempt to keep our now 994 followers updated on plans and correspondence regarding the facilities.

One of our Facebook followers sent me the links from Development Services to your documents titled "Notice of Preparation of a Focused Environmental Impact Report for the proposed Belmont Pool Project" and the "Initial Statement."

While the documents state where they can be found, how do you notify the public that the documents exist? If there is a mailing list for the posting of CEQA and EIR documentation, please add my name and email address to that list. By the time these documents became known to us earlier this month, the time frame you had established for public comments had long since passed.

I look forward to your response. Thank you.

Sincerely,

Lucy Johnson
562-431-0052
lucyjohnson1@gmail.com
www.facebook.com/RebuildBelmontPlazaOlympicPool

APPENDIX B

AIR QUALITY MODELING RESULTS, GREENHOUSE GAS CALCULATIONS, & WAVE UPRUSH STUDY

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AIR QUALITY MODELING OUTPUTS

CalEEMod Calculations

Existing (No Build) Conditions

Belmont Pool - Existing

South Coast Air Basin, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Recreational Swimming Pool	18.15	1000sqft	0.42	18,150.00	0
Health Club	45.60	1000sqft	1.05	45,600.00	0
Other Non-Asphalt Surfaces	4.14	Acre	4.14	180,338.40	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	8			**Operational Year**	2015
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	1227.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - Existing scenario, no construction

Vehicle Trips - Trip rates from traffic study

Construction Off-road Equipment Mitigation - Dust control measures as required by SCAQMD Rule 403.

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	10.00	0.00
tblProjectCharacteristics	OperationalYear	2014	2015
tblVehicleTrips	ST_TR	20.87	8.82

tblVehicleTrips	ST_TR	20.87	8.82
tblVehicleTrips	SU_TR	26.73	11.30
tblVehicleTrips	SU_TR	26.73	11.30
tblVehicleTrips	WD_TR	32.93	13.92
tblVehicleTrips	WD_TR	32.93	13.92

2.0 Emissions Summary

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	6.3835	7.0000e-005	7.1700e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005		0.0149	0.0149	4.0000e-005		0.0158
Energy	0.0292	0.2651	0.2226	1.5900e-003		0.0201	0.0201		0.0201	0.0201		318.0609	318.0609	6.1000e-003	5.8300e-003	319.9966
Mobile	3.2085	7.4169	31.6578	0.0630	4.1818	0.1056	4.2874	1.1171	0.0970	1.2141		5,680.2122	5,680.2122	0.2447		5,685.3510
Total	**9.6211**	**7.6820**	**31.8876**	**0.0646**	**4.1818**	**0.1258**	**4.3075**	**1.1171**	**0.1172**	**1.2343**		**5,998.2880**	**5,998.2880**	**0.2508**	**5.8300e-003**	**6,005.3633**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e

Category	lb/day										lb/day					
Area	6.3835	7.0000e-005	7.1700e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005		0.0149	0.0149	4.0000e-005		0.0158
Energy	0.0292	0.2651	0.2226	1.5900e-003		0.0201	0.0201		0.0201	0.0201		318.0609	318.0609	6.1000e-003	5.8300e-003	319.9966
Mobile	3.2085	7.4169	31.6578	0.0630	4.1818	0.1056	4.2874	1.1171	0.0970	1.2141		5,680.2122	5,680.2122	0.2447		5,685.3510
Total	**9.6211**	**7.6820**	**31.8876**	**0.0646**	**4.1818**	**0.1258**	**4.3075**	**1.1171**	**0.1172**	**1.2343**		**5,998.2880**	**5,998.2880**	**0.2508**	**5.8300e-003**	**6,005.3633**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/1/2015	12/31/2014	5	0	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	3	8.00	255	0.40

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Unmitigated	3.2085	7.4169	31.6578	0.0630	4.1818	0.1056	4.2874	1.1171	0.0970	1.2141		5,680.2122	5,680.2122	0.2447		5,685.3510
Mitigated	3.2085	7.4169	31.6578	0.0630	4.1818	0.1056	4.2874	1.1171	0.0970	1.2141		5,680.2122	5,680.2122	0.2447		5,685.3510

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Health Club	634.75	402.19	515.28	1,250,030	1,250,030
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Recreational Swimming Pool	252.65	160.08	205.10	566,576	566,576
Total	887.40	562.28	720.38	1,816,606	1,816,606

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Health Club	16.60	8.40	6.90	16.90	64.10	19.00	52	39	9
Other Non-Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Recreational Swimming Pool	16.60	8.40	6.90	33.00	48.00	19.00	52	39	9

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.515437	0.060435	0.179988	0.139880	0.041945	0.006639	0.015487	0.028746	0.001918	0.002517	0.004333	0.000596	0.002079

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0292	0.2651	0.2226	1.5900e-003		0.0201	0.0201		0.0201	0.0201		318.0609	318.0609	6.1000e-003	5.8300e-003	319.9966
NaturalGas Unmitigated	0.0292	0.2651	0.2226	1.5900e-003		0.0201	0.0201		0.0201	0.0201		318.0609	318.0609	6.1000e-003	5.8300e-003	319.9966

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e

Land Use	kBTU/yr	lb/day										lb/day					
Health Club	2703.52	0.0292	0.2651	0.2226	1.5900e-003		0.0201	0.0201		0.0201	0.0201		318.0609	318.0609	6.1000e-003	5.8300e-003	319.9966
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0292**	**0.2651**	**0.2226**	**1.5900e-003**		**0.0201**	**0.0201**		**0.0201**	**0.0201**		**318.0609**	**318.0609**	**6.1000e-003**	**5.8300e-003**	**319.9966**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Health Club	2.70352	0.0292	0.2651	0.2226	1.5900e-003		0.0201	0.0201		0.0201	0.0201		318.0609	318.0609	6.1000e-003	5.8300e-003	319.9966
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0292**	**0.2651**	**0.2226**	**1.5900e-003**		**0.0201**	**0.0201**		**0.0201**	**0.0201**		**318.0609**	**318.0609**	**6.1000e-003**	**5.8300e-003**	**319.9966**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					

Unmitigated	6.3835	7.0000e-005	7.1700e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005		0.0149	0.0149	4.0000e-005		0.0158
Mitigated	6.3835	7.0000e-005	7.1700e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005		0.0149	0.0149	4.0000e-005		0.0158

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	1.5498					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	4.8330					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	7.1000e-004	7.0000e-005	7.1700e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005		0.0149	0.0149	4.0000e-005		0.0158
Total	**6.3835**	**7.0000e-005**	**7.1700e-003**	**0.0000**		**3.0000e-005**	**3.0000e-005**		**3.0000e-005**	**3.0000e-005**		**0.0149**	**0.0149**	**4.0000e-005**		**0.0158**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	1.5498					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	4.8330					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	7.1000e-004	7.0000e-005	7.1700e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005		0.0149	0.0149	4.0000e-005		0.0158
Total	**6.3835**	**7.0000e-005**	**7.1700e-003**	**0.0000**		**3.0000e-005**	**3.0000e-005**		**3.0000e-005**	**3.0000e-005**		**0.0149**	**0.0149**	**4.0000e-005**		**0.0158**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

Belmont Pool - Existing

South Coast Air Basin, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Recreational Swimming Pool	18.15	1000sqft	0.42	18,150.00	0
Health Club	45.60	1000sqft	1.05	45,600.00	0
Other Non-Asphalt Surfaces	4.14	Acre	4.14	180,338.40	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	8			**Operational Year**	2015
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	1227.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - Existing scenario, no construction

Vehicle Trips - Trip rates from traffic study

Construction Off-road Equipment Mitigation - Dust control measures as required by SCAQMD Rule 403.

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	10.00	0.00
tblProjectCharacteristics	OperationalYear	2014	2015
tblVehicleTrips	ST_TR	20.87	8.82

tblVehicleTrips	ST_TR	20.87	8.82
tblVehicleTrips	SU_TR	26.73	11.30
tblVehicleTrips	SU_TR	26.73	11.30
tblVehicleTrips	WD_TR	32.93	13.92
tblVehicleTrips	WD_TR	32.93	13.92

2.0 Emissions Summary

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	6.3835	7.0000e-005	7.1700e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005		0.0149	0.0149	4.0000e-005		0.0158
Energy	0.0292	0.2651	0.2226	1.5900e-003		0.0201	0.0201		0.0201	0.0201		318.0609	318.0609	6.1000e-003	5.8300e-003	319.9966
Mobile	3.3507	7.7897	31.8552	0.0598	4.1818	0.1064	4.2882	1.1171	0.0978	1.2149		5,402.5671	5,402.5671	0.2449		5,407.7107
Total	**9.7633**	**8.0548**	**32.0850**	**0.0614**	**4.1818**	**0.1266**	**4.3084**	**1.1171**	**0.1179**	**1.2351**		**5,720.6429**	**5,720.6429**	**0.2511**	**5.8300e-003**	**5,727.7231**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e

Category	lb/day										lb/day					
Area	6.3835	7.0000e-005	7.1700e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005		0.0149	0.0149	4.0000e-005		0.0158
Energy	0.0292	0.2651	0.2226	1.5900e-003		0.0201	0.0201		0.0201	0.0201		318.0609	318.0609	6.1000e-003	5.8300e-003	319.9966
Mobile	3.3507	7.7897	31.8552	0.0598	4.1818	0.1064	4.2882	1.1171	0.0978	1.2149		5,402.5671	5,402.5671	0.2449		5,407.7107
Total	**9.7633**	**8.0548**	**32.0850**	**0.0614**	**4.1818**	**0.1266**	**4.3084**	**1.1171**	**0.1179**	**1.2351**		**5,720.6429**	**5,720.6429**	**0.2511**	**5.8300e-003**	**5,727.7231**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/1/2015	12/31/2014	5	0	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	3	8.00	255	0.40

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Unmitigated	3.3507	7.7897	31.8552	0.0598	4.1818	0.1064	4.2882	1.1171	0.0978	1.2149		5,402.5671	5,402.5671	0.2449		5,407.7107
Mitigated	3.3507	7.7897	31.8552	0.0598	4.1818	0.1064	4.2882	1.1171	0.0978	1.2149		5,402.5671	5,402.5671	0.2449		5,407.7107

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Health Club	634.75	402.19	515.28	1,250,030	1,250,030
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Recreational Swimming Pool	252.65	160.08	205.10	566,576	566,576
Total	887.40	562.28	720.38	1,816,606	1,816,606

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Health Club	16.60	8.40	6.90	16.90	64.10	19.00	52	39	9
Other Non-Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Recreational Swimming Pool	16.60	8.40	6.90	33.00	48.00	19.00	52	39	9

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.515437	0.060435	0.179988	0.139880	0.041945	0.006639	0.015487	0.028746	0.001918	0.002517	0.004333	0.000596	0.002079

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0292	0.2651	0.2226	1.5900e-003		0.0201	0.0201		0.0201	0.0201		318.0609	318.0609	6.1000e-003	5.8300e-003	319.9966
NaturalGas Unmitigated	0.0292	0.2651	0.2226	1.5900e-003		0.0201	0.0201		0.0201	0.0201		318.0609	318.0609	6.1000e-003	5.8300e-003	319.9966

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e

Land Use	kBTU/yr	lb/day										lb/day					
Health Club	2703.52	0.0292	0.2651	0.2226	1.5900e-003		0.0201	0.0201		0.0201	0.0201		318.0609	318.0609	6.1000e-003	5.8300e-003	319.9966
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0292**	**0.2651**	**0.2226**	**1.5900e-003**		**0.0201**	**0.0201**		**0.0201**	**0.0201**		**318.0609**	**318.0609**	**6.1000e-003**	**5.8300e-003**	**319.9966**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Health Club	2.70352	0.0292	0.2651	0.2226	1.5900e-003		0.0201	0.0201		0.0201	0.0201		318.0609	318.0609	6.1000e-003	5.8300e-003	319.9966
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0292**	**0.2651**	**0.2226**	**1.5900e-003**		**0.0201**	**0.0201**		**0.0201**	**0.0201**		**318.0609**	**318.0609**	**6.1000e-003**	**5.8300e-003**	**319.9966**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					

Unmitigated	6.3835	7.0000e-005	7.1700e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005		0.0149	0.0149	4.0000e-005		0.0158
Mitigated	6.3835	7.0000e-005	7.1700e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005		0.0149	0.0149	4.0000e-005		0.0158

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	1.5498					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	4.8330					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	7.1000e-004	7.0000e-005	7.1700e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005		0.0149	0.0149	4.0000e-005		0.0158
Total	**6.3835**	**7.0000e-005**	**7.1700e-003**	**0.0000**		**3.0000e-005**	**3.0000e-005**		**3.0000e-005**	**3.0000e-005**		**0.0149**	**0.0149**	**4.0000e-005**		**0.0158**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	1.5498					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	4.8330					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	7.1000e-004	7.0000e-005	7.1700e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005		0.0149	0.0149	4.0000e-005		0.0158
Total	**6.3835**	**7.0000e-005**	**7.1700e-003**	**0.0000**		**3.0000e-005**	**3.0000e-005**		**3.0000e-005**	**3.0000e-005**		**0.0149**	**0.0149**	**4.0000e-005**		**0.0158**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

Belmont Pool - Existing

South Coast Air Basin, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Recreational Swimming Pool	18.15	1000sqft	0.42	18,150.00	0
Health Club	45.60	1000sqft	1.05	45,600.00	0
Other Non-Asphalt Surfaces	4.14	Acre	4.14	180,338.40	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	8			**Operational Year**	2015
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	1227.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - Existing scenario, no construction

Vehicle Trips - Trip rates from traffic study

Construction Off-road Equipment Mitigation - Dust control measures as required by SCAQMD Rule 403.

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	10.00	0.00
tblProjectCharacteristics	OperationalYear	2014	2015
tblVehicleTrips	ST_TR	20.87	8.82

tblVehicleTrips	ST_TR	20.87	8.82
tblVehicleTrips	SU_TR	26.73	11.30
tblVehicleTrips	SU_TR	26.73	11.30
tblVehicleTrips	WD_TR	32.93	13.92
tblVehicleTrips	WD_TR	32.93	13.92

2.0 Emissions Summary

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.1649	1.0000e-005	9.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.6800e-003	1.6800e-003	0.0000	0.0000	1.7900e-003
Energy	5.3200e-003	0.0484	0.0406	2.9000e-004		3.6800e-003	3.6800e-003		3.6800e-003	3.6800e-003	0.0000	287.3310	287.3310	6.5500e-003	2.1100e-003	288.1233
Mobile	0.5297	1.3306	5.3709	0.0101	0.6880	0.0177	0.7058	0.1841	0.0163	0.2004	0.0000	830.6509	830.6509	0.0372	0.0000	831.4315
Waste						0.0000	0.0000		0.0000	0.0000	73.7608	0.0000	73.7608	4.3591	0.0000	165.3028
Water						0.0000	0.0000		0.0000	0.0000	1.1962	41.6428	42.8390	0.1238	3.1000e-003	46.4020
Total	**1.6999**	**1.3790**	**5.4124**	**0.0104**	**0.6880**	**0.0214**	**0.7095**	**0.1841**	**0.0200**	**0.2041**	**74.9570**	**1,159.6264**	**1,234.5834**	**4.5267**	**5.2100e-003**	**1,331.2614**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.1649	1.0000e-005	9.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.6800e-003	1.6800e-003	0.0000	0.0000	1.7900e-003
Energy	5.3200e-003	0.0484	0.0406	2.9000e-004		3.6800e-003	3.6800e-003		3.6800e-003	3.6800e-003	0.0000	287.3310	287.3310	6.5500e-003	2.1100e-003	288.1233
Mobile	0.5297	1.3306	5.3709	0.0101	0.6880	0.0177	0.7058	0.1841	0.0163	0.2004	0.0000	830.6509	830.6509	0.0372	0.0000	831.4315
Waste						0.0000	0.0000		0.0000	0.0000	73.7608	0.0000	73.7608	4.3591	0.0000	165.3028
Water						0.0000	0.0000		0.0000	0.0000	1.1962	41.6428	42.8390	0.1238	3.1000e-003	46.4001
Total	**1.6999**	**1.3790**	**5.4124**	**0.0104**	**0.6880**	**0.0214**	**0.7095**	**0.1841**	**0.0200**	**0.2041**	**74.9570**	**1,159.6264**	**1,234.5834**	**4.5267**	**5.2100e-003**	**1,331.2595**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

<u>Construction Phase</u>

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/1/2015	12/31/2014	5	0	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0 (Architectural Coating – sqft)

<u>OffRoad Equipment</u>

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	3	8.00	255	0.40

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.5297	1.3306	5.3709	0.0101	0.6880	0.0177	0.7058	0.1841	0.0163	0.2004	0.0000	830.6509	830.6509	0.0372	0.0000	831.4315
Unmitigated	0.5297	1.3306	5.3709	0.0101	0.6880	0.0177	0.7058	0.1841	0.0163	0.2004	0.0000	830.6509	830.6509	0.0372	0.0000	831.4315

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Health Club	634.75	402.19	515.28	1,250,030	1,250,030
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Recreational Swimming Pool	252.65	160.08	205.10	566,576	566,576
Total	887.40	562.28	720.38	1,816,606	1,816,606

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Health Club	16.60	8.40	6.90	16.90	64.10	19.00	52	39	9
Other Non-Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Recreational Swimming Pool	16.60	8.40	6.90	33.00	48.00	19.00	52	39	9

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.515437	0.060435	0.179988	0.139880	0.041945	0.006639	0.015487	0.028746	0.001918	0.002517	0.004333	0.000596	0.002079

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
NaturalGas Mitigated	5.3200e-003	0.0484	0.0406	2.9000e-004		3.6800e-003	3.6800e-003		3.6800e-003	3.6800e-003	0.0000	52.6586	52.6586	1.0100e-003	9.7000e-004	52.9790
NaturalGas Unmitigated	5.3200e-003	0.0484	0.0406	2.9000e-004		3.6800e-003	3.6800e-003		3.6800e-003	3.6800e-003	0.0000	52.6586	52.6586	1.0100e-003	9.7000e-004	52.9790
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	234.6724	234.6724	5.5400e-003	1.1500e-003	235.1443

Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	234.6724	234.6724	5.5400e-003	1.1500e-003	235.1443

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Health Club	986784	5.3200e-003	0.0484	0.0406	2.9000e-004		3.6800e-003	3.6800e-003		3.6800e-003	3.6800e-003	0.0000	52.6586	52.6586	1.0100e-003	9.7000e-004	52.9790
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**5.3200e-003**	**0.0484**	**0.0406**	**2.9000e-004**		**3.6800e-003**	**3.6800e-003**		**3.6800e-003**	**3.6800e-003**	**0.0000**	**52.6586**	**52.6586**	**1.0100e-003**	**9.7000e-004**	**52.9790**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Health Club	986784	5.3200e-003	0.0484	0.0406	2.9000e-004		3.6800e-003	3.6800e-003		3.6800e-003	3.6800e-003	0.0000	52.6586	52.6586	1.0100e-003	9.7000e-004	52.9790
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**5.3200e-003**	**0.0484**	**0.0406**	**2.9000e-004**		**3.6800e-003**	**3.6800e-003**		**3.6800e-003**	**3.6800e-003**	**0.0000**	**52.6586**	**52.6586**	**1.0100e-003**	**9.7000e-004**	**52.9790**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Health Club	421344	234.6724	5.5400e-003	1.1500e-003	235.1443
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000
Total		**234.6724**	**5.5400e-003**	**1.1500e-003**	**235.1443**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Health Club	421344	234.6724	5.5400e-003	1.1500e-003	235.1443
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000
Total		**234.6724**	**5.5400e-003**	**1.1500e-003**	**235.1443**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.1649	1.0000e-005	9.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.6800e-003	1.6800e-003	0.0000	0.0000	1.7900e-003
Unmitigated	1.1649	1.0000e-005	9.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.6800e-003	1.6800e-003	0.0000	0.0000	1.7900e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.2828					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.8820					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	9.0000e-005	1.0000e-005	9.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.6800e-003	1.6800e-003	0.0000	0.0000	1.7900e-003
Total	**1.1649**	**1.0000e-005**	**9.0000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.6800e-003**	**1.6800e-003**	**0.0000**	**0.0000**	**1.7900e-003**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					

Architectural Coating	0.2828					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.8820					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	9.0000e-005	1.0000e-005	9.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.6800e-003	1.6800e-003	0.0000	0.0000	1.7900e-003
Total	**1.1649**	**1.0000e-005**	**9.0000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.6800e-003**	**1.6800e-003**	**0.0000**	**0.0000**	**1.7900e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Unmitigated	42.8390	0.1238	3.1000e-003	46.4020
Mitigated	42.8390	0.1238	3.1000e-003	46.4001

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Health Club	2.69693 / 1.65296	30.6425	0.0886	2.2200e-003	33.1911
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	1.07345 / 0.65792	12.1965	0.0353	8.8000e-004	13.2209

Total		**42.8390**	**0.1238**	**3.1000e-003**	**46.4020**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Health Club	2.69693 / 1.65296	30.6425	0.0886	2.2200e-003	33.1897
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	1.07345 / 0.65792	12.1965	0.0353	8.8000e-004	13.2104
Total		**42.8390**	**0.1238**	**3.1000e-003**	**46.4001**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	73.7608	4.3591	0.0000	165.3028
Unmitigated	73.7608	4.3591	0.0000	165.3028

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Health Club	259.92	52.7614	3.1181	0.0000	118.2417
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	103.45	20.9994	1.2410	0.0000	47.0610
Total		**73.7608**	**4.3591**	**0.0000**	**165.3028**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Health Club	259.92	52.7614	3.1181	0.0000	118.2417
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	103.45	20.9994	1.2410	0.0000	47.0610
Total		**73.7608**	**4.3591**	**0.0000**	**165.3028**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

CalEEMod Calculations

Proposed Project Conditions

Belmont Pool

South Coast Air Basin, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	4.20	Acre	4.20	0.00	0
Health Club	90.50	1000sqft	2.08	90,500.00	0
Recreational Swimming Pool	35.00	1000sqft	0.80	35,000.00	0
Other Asphalt Surfaces	1.60	Acre	1.60	0.00	0
Fast Food Restaurant w/o Drive Thru	1.50	1000sqft	0.03	1,500.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	8			**Operational Year**	2019
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	630.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - From project description

Construction Phase - Construction to start in 2017 and last 18 months. Assume architectural coating applied during building construction phase.

Demolition -

Vehicle Trips - Trip rates from traffic study

Construction Off-road Equipment Mitigation - Dust control measures as required by SCAQMD Rule 403.

Grading -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	80.00
tblConstructionPhase	NumDays	230.00	330.00
tblConstructionPhase	PhaseEndDate	10/5/2018	6/15/2018
tblConstructionPhase	PhaseStartDate	6/16/2018	2/24/2018
tblGrading	MaterialExported	0.00	1,500.00
tblLandUse	LandUseSquareFeet	182,952.00	0.00
tblLandUse	LandUseSquareFeet	69,696.00	0.00
tblProjectCharacteristics	OperationalYear	2014	2019
tblVehicleTrips	ST_TR	20.87	12.74
tblVehicleTrips	ST_TR	20.87	12.74
tblVehicleTrips	ST_TR	696.00	0.00
tblVehicleTrips	SU_TR	26.73	16.32
tblVehicleTrips	SU_TR	26.73	16.32
tblVehicleTrips	SU_TR	500.00	0.00
tblVehicleTrips	WD_TR	32.93	20.10
tblVehicleTrips	WD_TR	32.93	20.10
tblVehicleTrips	WD_TR	716.00	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2017	4.9056	51.8381	40.4537	0.0497	18.2675	2.7558	21.0233	9.9840	2.5354	12.5194	0.0000	4,965.5479	4,965.5479	1.2367	0.0000	4,991.5180
2018	40.1244	27.0645	24.6774	0.0434	0.8467	1.6753	2.5220	0.2271	1.5834	1.8105	0.0000	4,039.5810	4,039.5810	0.7068	0.0000	4,054.4242

Total	**45.0300**	**78.9026**	**65.1311**	**0.0931**	**19.1141**	**4.4312**	**23.5453**	**10.2112**	**4.1188**	**14.3300**	**0.0000**	**9,005.1290**	**9,005.1290**	**1.9435**	**0.0000**	**9,045.9422**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2017	4.9056	51.8381	40.4537	0.0497	7.2470	2.7558	10.0029	3.9263	2.5354	6.4617	0.0000	4,965.5479	4,965.5479	1.2367	0.0000	4,991.5180
2018	40.1244	27.0645	24.6774	0.0434	0.8467	1.6753	2.5220	0.2271	1.5834	1.8105	0.0000	4,039.5810	4,039.5810	0.7068	0.0000	4,054.4242
Total	**45.0300**	**78.9026**	**65.1311**	**0.0931**	**8.0937**	**4.4312**	**12.5249**	**4.1534**	**4.1188**	**8.2722**	**0.0000**	**9,005.1290**	**9,005.1290**	**1.9435**	**0.0000**	**9,045.9422**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**57.66**	**0.00**	**46.81**	**59.32**	**0.00**	**42.27**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	3.3223	1.3000e-004	0.0137	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005		0.0291	0.0291	8.0000e-005		0.0307
Energy	0.0695	0.6322	0.5310	3.7900e-003		0.0480	0.0480		0.0480	0.0480		758.6027	758.6027	0.0145	0.0139	763.2195
Mobile	6.8524	15.8223	65.9982	0.1799	11.8858	0.2433	12.1291	3.1759	0.2244	3.4002		14,391.1094	14,391.1094	0.5181		14,401.9893
Total	**10.2442**	**16.4546**	**66.5429**	**0.1837**	**11.8858**	**0.2914**	**12.1772**	**3.1759**	**0.2725**	**3.4483**		**15,149.7412**	**15,149.7412**	**0.5327**	**0.0139**	**15,165.2395**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	3.3223	1.3000e-004	0.0137	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005		0.0291	0.0291	8.0000e-005		0.0307
Energy	0.0695	0.6322	0.5310	3.7900e-003		0.0480	0.0480		0.0480	0.0480		758.6027	758.6027	0.0145	0.0139	763.2195
Mobile	6.8524	15.8223	65.9982	0.1799	11.8858	0.2433	12.1291	3.1759	0.2244	3.4002		14,391.1094	14,391.1094	0.5181		14,401.9893
Total	**10.2442**	**16.4546**	**66.5429**	**0.1837**	**11.8858**	**0.2914**	**12.1772**	**3.1759**	**0.2725**	**3.4483**		**15,149.7412**	**15,149.7412**	**0.5327**	**0.0139**	**15,165.2395**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2017	1/27/2017	5	20	
2	Site Preparation	Site Preparation	1/28/2017	2/10/2017	5	10	
3	Grading	Grading	2/11/2017	3/10/2017	5	20	
4	Building Construction	Building Construction	3/11/2017	6/15/2018	5	330	
5	Architectural Coating	Architectural Coating	2/24/2018	6/15/2018	5	80	
6	Paving	Paving	6/16/2018	7/13/2018	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 10

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 190,500; Non-Residential Outdoor: 63,500 (Architectural Coating –

<u>OffRoad Equipment</u>

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	162	0.38
Demolition	Rubber Tired Dozers	2	8.00	255	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	255	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	162	0.38
Grading	Graders	1	8.00	174	0.41
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	226	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Pavers	2	8.00	125	0.42
Paving	Paving Equipment	2	8.00	130	0.36
Paving	Rollers	2	8.00	80	0.38

<u>Trips and VMT</u>

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	207.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

Grading	6	15.00	0.00	188.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	53.00	21.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	11.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Demolition - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.2441	0.0000	2.2441	0.3398	0.0000	0.3398			0.0000			0.0000
Off-Road	4.0482	42.6971	33.8934	0.0399		2.1252	2.1252		1.9797	1.9797		4,036.4674	4,036.4674	1.1073		4,059.7211
Total	**4.0482**	**42.6971**	**33.8934**	**0.0399**	**2.2441**	**2.1252**	**4.3693**	**0.3398**	**1.9797**	**2.3195**		**4,036.4674**	**4,036.4674**	**1.1073**		**4,059.7211**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1687	2.6288	1.9318	7.6300e-003	0.1803	0.0406	0.2209	0.0494	0.0373	0.0867		757.4719	757.4719	5.4100e-003		757.5855

Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0561	0.0705	0.8806	2.1200e-003	0.1677	1.3500e-003	0.1690	0.0445	1.2400e-003	0.0457		171.6086	171.6086	8.4400e-003		171.7859
Total	**0.2248**	**2.6993**	**2.8123**	**9.7500e-003**	**0.3480**	**0.0419**	**0.3899**	**0.0939**	**0.0386**	**0.1324**		**929.0806**	**929.0806**	**0.0139**		**929.3714**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.8752	0.0000	0.8752	0.1325	0.0000	0.1325			0.0000			0.0000
Off-Road	4.0482	42.6971	33.8934	0.0399		2.1252	2.1252		1.9797	1.9797	0.0000	4,036.4674	4,036.4674	1.1073		4,059.7211
Total	**4.0482**	**42.6971**	**33.8934**	**0.0399**	**0.8752**	**2.1252**	**3.0004**	**0.1325**	**1.9797**	**2.1122**	**0.0000**	**4,036.4674**	**4,036.4674**	**1.1073**		**4,059.7211**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1687	2.6288	1.9318	7.6300e-003	0.1803	0.0406	0.2209	0.0494	0.0373	0.0867		757.4719	757.4719	5.4100e-003		757.5855
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0561	0.0705	0.8806	2.1200e-003	0.1677	1.3500e-003	0.1690	0.0445	1.2400e-003	0.0457		171.6086	171.6086	8.4400e-003		171.7859
Total	**0.2248**	**2.6993**	**2.8123**	**9.7500e-003**	**0.3480**	**0.0419**	**0.3899**	**0.0939**	**0.0386**	**0.1324**		**929.0806**	**929.0806**	**0.0139**		**929.3714**

3.3 Site Preparation - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.8382	51.7535	39.3970	0.0391		2.7542	2.7542		2.5339	2.5339		4,003.0859	4,003.0859	1.2265		4,028.8432
Total	**4.8382**	**51.7535**	**39.3970**	**0.0391**	**18.0663**	**2.7542**	**20.8205**	**9.9307**	**2.5339**	**12.4646**		**4,003.0859**	**4,003.0859**	**1.2265**		**4,028.8432**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0674	0.0846	1.0567	2.5500e-003	0.2012	1.6200e-003	0.2028	0.0534	1.4900e-003	0.0549		205.9304	205.9304	0.0101		206.1431
Total	**0.0674**	**0.0846**	**1.0567**	**2.5500e-003**	**0.2012**	**1.6200e-003**	**0.2028**	**0.0534**	**1.4900e-003**	**0.0549**		**205.9304**	**205.9304**	**0.0101**		**206.1431**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e

Category	lb/day										lb/day					
Fugitive Dust					7.0458	0.0000	7.0458	3.8730	0.0000	3.8730			0.0000			0.0000
Off-Road	4.8382	51.7535	39.3970	0.0391		2.7542	2.7542		2.5339	2.5339	0.0000	4,003.0859	4,003.0859	1.2265		4,028.8432
Total	**4.8382**	**51.7535**	**39.3970**	**0.0391**	**7.0458**	**2.7542**	**9.8001**	**3.8730**	**2.5339**	**6.4069**	**0.0000**	**4,003.0859**	**4,003.0859**	**1.2265**		**4,028.8432**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0674	0.0846	1.0567	2.5500e-003	0.2012	1.6200e-003	0.2028	0.0534	1.4900e-003	0.0549		205.9304	205.9304	0.0101		206.1431
Total	**0.0674**	**0.0846**	**1.0567**	**2.5500e-003**	**0.2012**	**1.6200e-003**	**0.2028**	**0.0534**	**1.4900e-003**	**0.0549**		**205.9304**	**205.9304**	**0.0101**		**206.1431**

3.4 Grading - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.5608	0.0000	6.5608	3.3688	0.0000	3.3688			0.0000			0.0000
Off-Road	3.4555	35.9825	25.3812	0.0297		2.0388	2.0388		1.8757	1.8757		3,043.6667	3,043.6667	0.9326		3,063.2507

Total	3.4555	35.9825	25.3812	0.0297	6.5608	2.0388	8.5996	3.3688	1.8757	5.2445		3,043.666 7	3,043.6667	0.9326		3,063.2507

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1532	2.3875	1.7544	6.9300e-003	0.1638	0.0368	0.2006	0.0449	0.0339	0.0787		687.9455	687.9455	4.9100e-003		688.0487
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0561	0.0705	0.8806	2.1200e-003	0.1677	1.3500e-003	0.1690	0.0445	1.2400e-003	0.0457		171.6086	171.6086	8.4400e-003		171.7859
Total	**0.2093**	**2.4580**	**2.6350**	**9.0500e-003**	**0.3314**	**0.0382**	**0.3696**	**0.0893**	**0.0351**	**0.1244**		**859.5542**	**859.5542**	**0.0134**		**859.8346**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.5587	0.0000	2.5587	1.3138	0.0000	1.3138			0.0000			0.0000
Off-Road	3.4555	35.9825	25.3812	0.0297		2.0388	2.0388		1.8757	1.8757	0.0000	3,043.666 7	3,043.6667	0.9326		3,063.2507
Total	**3.4555**	**35.9825**	**25.3812**	**0.0297**	**2.5587**	**2.0388**	**4.5975**	**1.3138**	**1.8757**	**3.1895**	**0.0000**	**3,043.666 7**	**3,043.6667**	**0.9326**		**3,063.2507**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1532	2.3875	1.7544	6.9300e-003	0.1638	0.0368	0.2006	0.0449	0.0339	0.0787		687.9455	687.9455	4.9100e-003		688.0487
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0561	0.0705	0.8806	2.1200e-003	0.1677	1.3500e-003	0.1690	0.0445	1.2400e-003	0.0457		171.6086	171.6086	8.4400e-003		171.7859
Total	**0.2093**	**2.4580**	**2.6350**	**9.0500e-003**	**0.3314**	**0.0382**	**0.3696**	**0.0893**	**0.0351**	**0.1244**		**859.5542**	**859.5542**	**0.0134**		**859.8346**

3.5 Building Construction - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.1024	26.4057	18.1291	0.0268		1.7812	1.7812		1.6730	1.6730		2,639.8053	2,639.8053	0.6497		2,653.4490
Total	**3.1024**	**26.4057**	**18.1291**	**0.0268**		**1.7812**	**1.7812**		**1.6730**	**1.6730**		**2,639.8053**	**2,639.8053**	**0.6497**		**2,653.4490**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1608	1.6606	1.9700	4.5700e-003	0.1313	0.0264	0.1577	0.0374	0.0243	0.0617		450.8010	450.8010	3.1800e-003		450.8678
Worker	0.1984	0.2492	3.1113	7.5000e-003	0.5924	4.7600e-003	0.5972	0.1571	4.4000e-003	0.1615		606.3505	606.3505	0.0298		606.9769
Total	**0.3592**	**1.9098**	**5.0813**	**0.0121**	**0.7237**	**0.0312**	**0.7549**	**0.1945**	**0.0287**	**0.2232**		**1,057.1515**	**1,057.1515**	**0.0330**		**1,057.8447**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.1024	26.4057	18.1291	0.0268		1.7812	1.7812		1.6730	1.6730	0.0000	2,639.8053	2,639.8053	0.6497		2,653.4490
Total	**3.1024**	**26.4057**	**18.1291**	**0.0268**		**1.7812**	**1.7812**		**1.6730**	**1.6730**	**0.0000**	**2,639.8053**	**2,639.8053**	**0.6497**		**2,653.4490**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1608	1.6606	1.9700	4.5700e-003	0.1313	0.0264	0.1577	0.0374	0.0243	0.0617		450.8010	450.8010	3.1800e-003		450.8678
Worker	0.1984	0.2492	3.1113	7.5000e-003	0.5924	4.7600e-003	0.5972	0.1571	4.4000e-003	0.1615		606.3505	606.3505	0.0298		606.9769
Total	**0.3592**	**1.9098**	**5.0813**	**0.0121**	**0.7237**	**0.0312**	**0.7549**	**0.1945**	**0.0287**	**0.2232**		**1,057.1515**	**1,057.1515**	**0.0330**		**1,057.8447**

3.5 Building Construction - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.6687	23.2608	17.5327	0.0268		1.4943	1.4943		1.4048	1.4048		2,609.9390	2,609.9390	0.6387		2,623.3517
Total	**2.6687**	**23.2608**	**17.5327**	**0.0268**		**1.4943**	**1.4943**		**1.4048**	**1.4048**		**2,609.9390**	**2,609.9390**	**0.6387**		**2,623.3517**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1508	1.5249	1.8769	4.5600e-003	0.1313	0.0249	0.1562	0.0374	0.0229	0.0603		443.2415	443.2415	3.1600e-003		443.3079
Worker	0.1788	0.2261	2.8269	7.5000e-003	0.5924	4.6400e-003	0.5971	0.1571	4.2900e-003	0.1614		583.7884	583.7884	0.0277		584.3698
Total	**0.3297**	**1.7510**	**4.7038**	**0.0121**	**0.7237**	**0.0296**	**0.7532**	**0.1945**	**0.0272**	**0.2217**		**1,027.0299**	**1,027.0299**	**0.0309**		**1,027.6777**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.6687	23.2608	17.5327	0.0268		1.4943	1.4943		1.4048	1.4048	0.0000	2,609.9389	2,609.9389	0.6387		2,623.3517
Total	**2.6687**	**23.2608**	**17.5327**	**0.0268**		**1.4943**	**1.4943**		**1.4048**	**1.4048**	**0.0000**	**2,609.9389**	**2,609.9389**	**0.6387**		**2,623.3517**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1508	1.5249	1.8769	4.5600e-003	0.1313	0.0249	0.1562	0.0374	0.0229	0.0603		443.2415	443.2415	3.1600e-003		443.3079
Worker	0.1788	0.2261	2.8269	7.5000e-003	0.5924	4.6400e-003	0.5971	0.1571	4.2900e-003	0.1614		583.7884	583.7884	0.0277		584.3698
Total	**0.3297**	**1.7510**	**4.7038**	**0.0121**	**0.7237**	**0.0296**	**0.7532**	**0.1945**	**0.0272**	**0.2217**		**1,027.0299**	**1,027.0299**	**0.0309**		**1,027.6777**

3.6 Architectural Coating - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	36.7903					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Off-Road	0.2986	2.0058	1.8542	2.9700e-003		0.1506	0.1506		0.1506	0.1506		281.4485	281.4485	0.0267		282.0102
Total	**37.0889**	**2.0058**	**1.8542**	**2.9700e-003**		**0.1506**	**0.1506**		**0.1506**	**0.1506**		**281.4485**	**281.4485**	**0.0267**		**282.0102**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0371	0.0469	0.5867	1.5600e-003	0.1230	9.6000e-004	0.1239	0.0326	8.9000e-004	0.0335		121.1636	121.1636	5.7500e-003		121.2843
Total	**0.0371**	**0.0469**	**0.5867**	**1.5600e-003**	**0.1230**	**9.6000e-004**	**0.1239**	**0.0326**	**8.9000e-004**	**0.0335**		**121.1636**	**121.1636**	**5.7500e-003**		**121.2843**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	36.7903					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2986	2.0058	1.8542	2.9700e-003		0.1506	0.1506		0.1506	0.1506	0.0000	281.4485	281.4485	0.0267		282.0102
Total	**37.0889**	**2.0058**	**1.8542**	**2.9700e-003**		**0.1506**	**0.1506**		**0.1506**	**0.1506**	**0.0000**	**281.4485**	**281.4485**	**0.0267**		**282.0102**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0371	0.0469	0.5867	1.5600e-003	0.1230	9.6000e-004	0.1239	0.0326	8.9000e-004	0.0335		121.1636	121.1636	5.7500e-003		121.2843
Total	**0.0371**	**0.0469**	**0.5867**	**1.5600e-003**	**0.1230**	**9.6000e-004**	**0.1239**	**0.0326**	**8.9000e-004**	**0.0335**		**121.1636**	**121.1636**	**5.7500e-003**		**121.2843**

3.7 Paving - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6114	17.1628	14.4944	0.0223		0.9386	0.9386		0.8635	0.8635		2,245.2695	2,245.2695	0.6990		2,259.9481
Paving	0.2096					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.8210**	**17.1628**	**14.4944**	**0.0223**		**0.9386**	**0.9386**		**0.8635**	**0.8635**		**2,245.2695**	**2,245.2695**	**0.6990**		**2,259.9481**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0506	0.0640	0.8001	2.1200e-003	0.1677	1.3100e-003	0.1690	0.0445	1.2100e-003	0.0457		165.2231	165.2231	7.8400e-003		165.3877
Total	**0.0506**	**0.0640**	**0.8001**	**2.1200e-003**	**0.1677**	**1.3100e-003**	**0.1690**	**0.0445**	**1.2100e-003**	**0.0457**		**165.2231**	**165.2231**	**7.8400e-003**		**165.3877**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6114	17.1628	14.4944	0.0223		0.9386	0.9386		0.8635	0.8635	0.0000	2,245.2695	2,245.2695	0.6990		2,259.9481
Paving	0.2096					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.8210**	**17.1628**	**14.4944**	**0.0223**		**0.9386**	**0.9386**		**0.8635**	**0.8635**	**0.0000**	**2,245.2695**	**2,245.2695**	**0.6990**		**2,259.9481**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0506	0.0640	0.8001	2.1200e-003	0.1677	1.3100e-003	0.1690	0.0445	1.2100e-003	0.0457		165.2231	165.2231	7.8400e-003		165.3877
Total	**0.0506**	**0.0640**	**0.8001**	**2.1200e-003**	**0.1677**	**1.3100e-003**	**0.1690**	**0.0445**	**1.2100e-003**	**0.0457**		**165.2231**	**165.2231**	**7.8400e-003**		**165.3877**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day										lb/day					
Mitigated	6.8524	15.8223	65.9982	0.1799	11.8858	0.2433	12.1291	3.1759	0.2244	3.4002		14,391.1094	14,391.1094	0.5181		14,401.9893
Unmitigated	6.8524	15.8223	65.9982	0.1799	11.8858	0.2433	12.1291	3.1759	0.2244	3.4002		14,391.1094	14,391.1094	0.5181		14,401.9893

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Health Club	1,819.05	1,152.97	1476.96	3,582,496	3,582,496
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Recreational Swimming Pool	703.50	445.90	571.20	1,577,725	1,577,725
Fast Food Restaurant w/o Drive Thru	0.00	0.00	0.00		
Other Asphalt Surfaces	0.00	0.00	0.00		
Total	2,522.55	1,598.87	2,048.16	5,160,221	5,160,221

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Health Club	16.60	8.40	6.90	16.90	64.10	19.00	52	39	9
Other Non-Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Recreational Swimming Pool	16.60	8.40	6.90	33.00	48.00	19.00	52	39	9
Fast Food Restaurant w/o Drive Thru	16.60	8.40	6.90	1.50	79.50	19.00	51	37	12
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.511108	0.059746	0.180859	0.139188	0.042462	0.006666	0.016153	0.032295	0.001940	0.002496	0.004377	0.000582	0.002128

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0695	0.6322	0.5310	3.7900e-003		0.0480	0.0480		0.0480	0.0480		758.6027	758.6027	0.0145	0.0139	763.2195
NaturalGas Unmitigated	0.0695	0.6322	0.5310	3.7900e-003		0.0480	0.0480		0.0480	0.0480		758.6027	758.6027	0.0145	0.0139	763.2195

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Health Club	5365.53	0.0579	0.5260	0.4419	3.1600e-003		0.0400	0.0400		0.0400	0.0400		631.2393	631.2393	0.0121	0.0116	635.0809
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Fast Food Restaurant w/o Drive Thru	1082.59	0.0117	0.1061	0.0892	6.4000e-004		8.0700e-003	8.0700e-003		8.0700e-003	8.0700e-003		127.3634	127.3634	2.4400e-003	2.3300e-003	128.1385
Total		**0.0695**	**0.6322**	**0.5310**	**3.8000e-003**		**0.0481**	**0.0481**		**0.0481**	**0.0481**		**758.6027**	**758.6027**	**0.0145**	**0.0139**	**763.2195**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Fast Food Restaurant w/o Drive Thru	1.08259	0.0117	0.1061	0.0892	6.4000e-004		8.0700e-003	8.0700e-003		8.0700e-003	8.0700e-003		127.3634	127.3634	2.4400e-003	2.3300e-003	128.1385
Health Club	5.36553	0.0579	0.5260	0.4419	3.1600e-003		0.0400	0.0400		0.0400	0.0400		631.2393	631.2393	0.0121	0.0116	635.0809
Total		**0.0695**	**0.6322**	**0.5310**	**3.8000e-003**		**0.0481**	**0.0481**		**0.0481**	**0.0481**		**758.6027**	**758.6027**	**0.0145**	**0.0139**	**763.2195**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Mitigated	3.3223	1.3000e-004	0.0137	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005		0.0291	0.0291	8.0000e-005		0.0307
Unmitigated	3.3223	1.3000e-004	0.0137	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005		0.0291	0.0291	8.0000e-005		0.0307

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.8064					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.5146					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.3000e-003	1.3000e-004	0.0137	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005		0.0291	0.0291	8.0000e-005		0.0307
Total	**3.3223**	**1.3000e-004**	**0.0137**	**0.0000**		**5.0000e-005**	**5.0000e-005**		**5.0000e-005**	**5.0000e-005**		**0.0291**	**0.0291**	**8.0000e-005**		**0.0307**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.8064					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.5146					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.3000e-003	1.3000e-004	0.0137	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005		0.0291	0.0291	8.0000e-005		0.0307
Total	**3.3223**	**1.3000e-004**	**0.0137**	**0.0000**		**5.0000e-005**	**5.0000e-005**		**5.0000e-005**	**5.0000e-005**		**0.0291**	**0.0291**	**8.0000e-005**		**0.0307**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

Belmont Pool

South Coast Air Basin, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	4.20	Acre	4.20	0.00	0
Health Club	90.50	1000sqft	2.08	90,500.00	0
Recreational Swimming Pool	35.00	1000sqft	0.80	35,000.00	0
Other Asphalt Surfaces	1.60	Acre	1.60	0.00	0
Fast Food Restaurant w/o Drive Thru	1.50	1000sqft	0.03	1,500.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	8			**Operational Year**	2019
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	630.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - From project description

Construction Phase - Construction to start in 2017 and last 18 months. Assume architectural coating applied during building construction phase.

Demolition -

Vehicle Trips - Trip rates from traffic study

Construction Off-road Equipment Mitigation - Dust control measures as required by SCAQMD Rule 403.

Grading -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	80.00
tblConstructionPhase	NumDays	230.00	330.00
tblConstructionPhase	PhaseEndDate	10/5/2018	6/15/2018
tblConstructionPhase	PhaseStartDate	6/16/2018	2/24/2018
tblGrading	MaterialExported	0.00	1,500.00
tblLandUse	LandUseSquareFeet	182,952.00	0.00
tblLandUse	LandUseSquareFeet	69,696.00	0.00
tblProjectCharacteristics	OperationalYear	2014	2019
tblVehicleTrips	ST_TR	20.87	12.74
tblVehicleTrips	ST_TR	20.87	12.74
tblVehicleTrips	ST_TR	696.00	0.00
tblVehicleTrips	SU_TR	26.73	16.32
tblVehicleTrips	SU_TR	26.73	16.32
tblVehicleTrips	SU_TR	500.00	0.00
tblVehicleTrips	WD_TR	32.93	20.10
tblVehicleTrips	WD_TR	32.93	20.10
tblVehicleTrips	WD_TR	716.00	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2017	4.9069	51.8464	40.3676	0.0495	18.2675	2.7558	21.0233	9.9840	2.5354	12.5194	0.0000	4,953.0658	4,953.0658	1.2367	0.0000	4,979.0359
2018	40.1416	27.1281	24.8004	0.0428	0.8467	1.6756	2.5222	0.2271	1.5837	1.8108	0.0000	3,991.8802	3,991.8802	0.7068	0.0000	4,006.7234

Total	**45.0485**	**78.9745**	**65.1681**	**0.0923**	**19.1141**	**4.4314**	**23.5455**	**10.2112**	**4.1190**	**14.3302**	**0.0000**	**8,944.9460**	**8,944.9460**	**1.9435**	**0.0000**	**8,985.7592**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2017	4.9069	51.8464	40.3676	0.0495	7.2470	2.7558	10.0029	3.9263	2.5354	6.4617	0.0000	4,953.0658	4,953.0658	1.2367	0.0000	4,979.0359
2018	40.1416	27.1281	24.8004	0.0428	0.8467	1.6756	2.5222	0.2271	1.5837	1.8108	0.0000	3,991.8802	3,991.8802	0.7068	0.0000	4,006.7234
Total	**45.0485**	**78.9745**	**65.1681**	**0.0923**	**8.0937**	**4.4314**	**12.5251**	**4.1534**	**4.1190**	**8.2725**	**0.0000**	**8,944.9460**	**8,944.9460**	**1.9435**	**0.0000**	**8,985.7592**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**57.66**	**0.00**	**46.80**	**59.32**	**0.00**	**42.27**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	3.3223	1.3000e-004	0.0137	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005		0.0291	0.0291	8.0000e-005		0.0307
Energy	0.0695	0.6322	0.5310	3.7900e-003		0.0480	0.0480		0.0480	0.0480		758.6027	758.6027	0.0145	0.0139	763.2195
Mobile	7.1085	16.5745	67.0089	0.1709	11.8858	0.2446	12.1304	3.1759	0.2255	3.4014		13,704.0922	13,704.0922	0.5188		13,714.9878
Total	**10.5003**	**17.2068**	**67.5536**	**0.1747**	**11.8858**	**0.2926**	**12.1785**	**3.1759**	**0.2736**	**3.4495**		**14,462.7240**	**14,462.7240**	**0.5335**	**0.0139**	**14,478.2380**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	3.3223	1.3000e-004	0.0137	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005		0.0291	0.0291	8.0000e-005		0.0307
Energy	0.0695	0.6322	0.5310	3.7900e-003		0.0480	0.0480		0.0480	0.0480		758.6027	758.6027	0.0145	0.0139	763.2195
Mobile	7.1085	16.5745	67.0089	0.1709	11.8858	0.2446	12.1304	3.1759	0.2255	3.4014		13,704.0922	13,704.092 2	0.5188		13,714.987 8
Total	**10.5003**	**17.2068**	**67.5536**	**0.1747**	**11.8858**	**0.2926**	**12.1785**	**3.1759**	**0.2736**	**3.4495**		**14,462.7240**	**14,462.724 0**	**0.5335**	**0.0139**	**14,478.238 0**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2017	1/27/2017	5	20	
2	Site Preparation	Site Preparation	1/28/2017	2/10/2017	5	10	
3	Grading	Grading	2/11/2017	3/10/2017	5	20	
4	Building Construction	Building Construction	3/11/2017	6/15/2018	5	330	
5	Architectural Coating	Architectural Coating	2/24/2018	6/15/2018	5	80	
6	Paving	Paving	6/16/2018	7/13/2018	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 10

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 190,500; Non-Residential Outdoor: 63,500 (Architectural Coating –

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	162	0.38
Demolition	Rubber Tired Dozers	2	8.00	255	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	255	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	162	0.38
Grading	Graders	1	8.00	174	0.41
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	226	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Pavers	2	8.00	125	0.42
Paving	Paving Equipment	2	8.00	130	0.36
Paving	Rollers	2	8.00	80	0.38

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	207.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

Grading	6	15.00	0.00	188.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	53.00	21.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	11.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Demolition - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.2441	0.0000	2.2441	0.3398	0.0000	0.3398			0.0000			0.0000
Off-Road	4.0482	42.6971	33.8934	0.0399		2.1252	2.1252		1.9797	1.9797		4,036.4674	4,036.4674	1.1073		4,059.7211
Total	**4.0482**	**42.6971**	**33.8934**	**0.0399**	**2.2441**	**2.1252**	**4.3693**	**0.3398**	**1.9797**	**2.3195**		**4,036.4674**	**4,036.4674**	**1.1073**		**4,059.7211**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1774	2.7238	2.2275	7.6200e-003	0.1803	0.0407	0.2210	0.0494	0.0374	0.0868		755.6716	755.6716	5.4800e-003		755.7867

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0573	0.0775	0.8088	1.9900e-003	0.1677	1.3500e-003	0.1690	0.0445	1.2400e-003	0.0457		160.9269	160.9269	8.4400e-003		161.1042
Total	**0.2347**	**2.8012**	**3.0363**	**9.6100e-003**	**0.3480**	**0.0420**	**0.3900**	**0.0939**	**0.0386**	**0.1325**		**916.5985**	**916.5985**	**0.0139**		**916.8909**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.8752	0.0000	0.8752	0.1325	0.0000	0.1325			0.0000			0.0000
Off-Road	4.0482	42.6971	33.8934	0.0399		2.1252	2.1252		1.9797	1.9797	0.0000	4,036.4674	4,036.4674	1.1073		4,059.7211
Total	**4.0482**	**42.6971**	**33.8934**	**0.0399**	**0.8752**	**2.1252**	**3.0004**	**0.1325**	**1.9797**	**2.1122**	**0.0000**	**4,036.4674**	**4,036.4674**	**1.1073**		**4,059.7211**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1774	2.7238	2.2275	7.6200e-003	0.1803	0.0407	0.2210	0.0494	0.0374	0.0868		755.6716	755.6716	5.4800e-003		755.7867
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0573	0.0775	0.8088	1.9900e-003	0.1677	1.3500e-003	0.1690	0.0445	1.2400e-003	0.0457		160.9269	160.9269	8.4400e-003		161.1042
Total	**0.2347**	**2.8012**	**3.0363**	**9.6100e-003**	**0.3480**	**0.0420**	**0.3900**	**0.0939**	**0.0386**	**0.1325**		**916.5985**	**916.5985**	**0.0139**		**916.8909**

3.3 Site Preparation - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.8382	51.7535	39.3970	0.0391		2.7542	2.7542		2.5339	2.5339		4,003.0859	4,003.0859	1.2265		4,028.8432
Total	**4.8382**	**51.7535**	**39.3970**	**0.0391**	**18.0663**	**2.7542**	**20.8205**	**9.9307**	**2.5339**	**12.4646**		**4,003.0859**	**4,003.0859**	**1.2265**		**4,028.8432**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0687	0.0929	0.9706	2.3900e-003	0.2012	1.6200e-003	0.2028	0.0534	1.4900e-003	0.0549		193.1123	193.1123	0.0101		193.3250
Total	**0.0687**	**0.0929**	**0.9706**	**2.3900e-003**	**0.2012**	**1.6200e-003**	**0.2028**	**0.0534**	**1.4900e-003**	**0.0549**		**193.1123**	**193.1123**	**0.0101**		**193.3250**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e

Category	lb/day										lb/day					
Fugitive Dust					7.0458	0.0000	7.0458	3.8730	0.0000	3.8730			0.0000			0.0000
Off-Road	4.8382	51.7535	39.3970	0.0391		2.7542	2.7542		2.5339	2.5339	0.0000	4,003.0859	4,003.0859	1.2265		4,028.8432
Total	**4.8382**	**51.7535**	**39.3970**	**0.0391**	**7.0458**	**2.7542**	**9.8001**	**3.8730**	**2.5339**	**6.4069**	**0.0000**	**4,003.0859**	**4,003.0859**	**1.2265**		**4,028.8432**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0687	0.0929	0.9706	2.3900e-003	0.2012	1.6200e-003	0.2028	0.0534	1.4900e-003	0.0549		193.1123	193.1123	0.0101		193.3250
Total	**0.0687**	**0.0929**	**0.9706**	**2.3900e-003**	**0.2012**	**1.6200e-003**	**0.2028**	**0.0534**	**1.4900e-003**	**0.0549**		**193.1123**	**193.1123**	**0.0101**		**193.3250**

3.4 Grading - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.5608	0.0000	6.5608	3.3688	0.0000	3.3688			0.0000			0.0000
Off-Road	3.4555	35.9825	25.3812	0.0297		2.0388	2.0388		1.8757	1.8757		3,043.6667	3,043.6667	0.9326		3,063.2507

Total	**3.4555**	**35.9825**	**25.3812**	**0.0297**	**6.5608**	**2.0388**	**8.5996**	**3.3688**	**1.8757**	**5.2445**		**3,043.666 7**	**3,043.6667**	**0.9326**		**3,063.2507**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1611	2.4738	2.0230	6.9200e-003	0.1638	0.0369	0.2007	0.0449	0.0340	0.0788		686.3104	686.3104	4.9800e-003		686.4150
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0573	0.0775	0.8088	1.9900e-003	0.1677	1.3500e-003	0.1690	0.0445	1.2400e-003	0.0457		160.9269	160.9269	8.4400e-003		161.1042
Total	**0.2184**	**2.5512**	**2.8319**	**8.9100e-003**	**0.3314**	**0.0383**	**0.3697**	**0.0893**	**0.0352**	**0.1245**		**847.2373**	**847.2373**	**0.0134**		**847.5192**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.5587	0.0000	2.5587	1.3138	0.0000	1.3138			0.0000			0.0000
Off-Road	3.4555	35.9825	25.3812	0.0297		2.0388	2.0388		1.8757	1.8757	0.0000	3,043.666 7	3,043.6667	0.9326		3,063.2507
Total	**3.4555**	**35.9825**	**25.3812**	**0.0297**	**2.5587**	**2.0388**	**4.5975**	**1.3138**	**1.8757**	**3.1895**	**0.0000**	**3,043.666 7**	**3,043.6667**	**0.9326**		**3,063.2507**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1611	2.4738	2.0230	6.9200e-003	0.1638	0.0369	0.2007	0.0449	0.0340	0.0788		686.3104	686.3104	4.9800e-003		686.4150
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0573	0.0775	0.8088	1.9900e-003	0.1677	1.3500e-003	0.1690	0.0445	1.2400e-003	0.0457		160.9269	160.9269	8.4400e-003		161.1042
Total	**0.2184**	**2.5512**	**2.8319**	**8.9100e-003**	**0.3314**	**0.0383**	**0.3697**	**0.0893**	**0.0352**	**0.1245**		**847.2373**	**847.2373**	**0.0134**		**847.5192**

3.5 Building Construction - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.1024	26.4057	18.1291	0.0268		1.7812	1.7812		1.6730	1.6730		2,639.8053	2,639.8053	0.6497		2,653.4490
Total	**3.1024**	**26.4057**	**18.1291**	**0.0268**		**1.7812**	**1.7812**		**1.6730**	**1.6730**		**2,639.8053**	**2,639.8053**	**0.6497**		**2,653.4490**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1756	1.7016	2.3868	4.5300e-003	0.1313	0.0267	0.1580	0.0374	0.0245	0.0619		447.0141	447.0141	3.2800e-003		447.0830
Worker	0.2023	0.2737	2.8579	7.0300e-003	0.5924	4.7600e-003	0.5972	0.1571	4.4000e-003	0.1615		568.6083	568.6083	0.0298		569.2347
Total	**0.3780**	**1.9752**	**5.2447**	**0.0116**	**0.7237**	**0.0315**	**0.7552**	**0.1945**	**0.0289**	**0.2235**		**1,015.6224**	**1,015.6224**	**0.0331**		**1,016.3177**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.1024	26.4057	18.1291	0.0268		1.7812	1.7812		1.6730	1.6730	0.0000	2,639.8053	2,639.8053	0.6497		2,653.4490
Total	**3.1024**	**26.4057**	**18.1291**	**0.0268**		**1.7812**	**1.7812**		**1.6730**	**1.6730**	**0.0000**	**2,639.8053**	**2,639.8053**	**0.6497**		**2,653.4490**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1756	1.7016	2.3868	4.5300e-003	0.1313	0.0267	0.1580	0.0374	0.0245	0.0619		447.0141	447.0141	3.2800e-003		447.0830
Worker	0.2023	0.2737	2.8579	7.0300e-003	0.5924	4.7600e-003	0.5972	0.1571	4.4000e-003	0.1615		568.6083	568.6083	0.0298		569.2347
Total	**0.3780**	**1.9752**	**5.2447**	**0.0116**	**0.7237**	**0.0315**	**0.7552**	**0.1945**	**0.0289**	**0.2235**		**1,015.6224**	**1,015.6224**	**0.0331**		**1,016.3177**

3.5 Building Construction - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.6687	23.2608	17.5327	0.0268		1.4943	1.4943		1.4048	1.4048		2,609.9390	2,609.9390	0.6387		2,623.3517
Total	**2.6687**	**23.2608**	**17.5327**	**0.0268**		**1.4943**	**1.4943**		**1.4048**	**1.4048**		**2,609.9390**	**2,609.9390**	**0.6387**		**2,623.3517**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1642	1.5618	2.2904	4.5300e-003	0.1313	0.0251	0.1564	0.0374	0.0231	0.0605		439.5102	439.5102	3.2600e-003		439.5787
Worker	0.1820	0.2482	2.5864	7.0300e-003	0.5924	4.6400e-003	0.5971	0.1571	4.2900e-003	0.1614		547.3761	547.3761	0.0277		547.9575
Total	**0.3462**	**1.8100**	**4.8768**	**0.0116**	**0.7237**	**0.0298**	**0.7535**	**0.1945**	**0.0274**	**0.2219**		**986.8863**	**986.8863**	**0.0310**		**987.5362**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.6687	23.2608	17.5327	0.0268		1.4943	1.4943		1.4048	1.4048	0.0000	2,609.9389	2,609.9389	0.6387		2,623.3517
Total	**2.6687**	**23.2608**	**17.5327**	**0.0268**		**1.4943**	**1.4943**		**1.4048**	**1.4048**	**0.0000**	**2,609.9389**	**2,609.9389**	**0.6387**		**2,623.3517**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1642	1.5618	2.2904	4.5300e-003	0.1313	0.0251	0.1564	0.0374	0.0231	0.0605		439.5102	439.5102	3.2600e-003		439.5787
Worker	0.1820	0.2482	2.5864	7.0300e-003	0.5924	4.6400e-003	0.5971	0.1571	4.2900e-003	0.1614		547.3761	547.3761	0.0277		547.9575
Total	**0.3462**	**1.8100**	**4.8768**	**0.0116**	**0.7237**	**0.0298**	**0.7535**	**0.1945**	**0.0274**	**0.2219**		**986.8863**	**986.8863**	**0.0310**		**987.5362**

3.6 Architectural Coating - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	36.7903					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Off-Road	0.2986	2.0058	1.8542	2.9700e-003		0.1506	0.1506		0.1506	0.1506		281.4485	281.4485	0.0267		282.0102
Total	**37.0889**	**2.0058**	**1.8542**	**2.9700e-003**		**0.1506**	**0.1506**		**0.1506**	**0.1506**		**281.4485**	**281.4485**	**0.0267**		**282.0102**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0378	0.0515	0.5368	1.4600e-003	0.1230	9.6000e-004	0.1239	0.0326	8.9000e-004	0.0335		113.6064	113.6064	5.7500e-003		113.7270
Total	**0.0378**	**0.0515**	**0.5368**	**1.4600e-003**	**0.1230**	**9.6000e-004**	**0.1239**	**0.0326**	**8.9000e-004**	**0.0335**		**113.6064**	**113.6064**	**5.7500e-003**		**113.7270**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	36.7903					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2986	2.0058	1.8542	2.9700e-003		0.1506	0.1506		0.1506	0.1506	0.0000	281.4485	281.4485	0.0267		282.0102
Total	**37.0889**	**2.0058**	**1.8542**	**2.9700e-003**		**0.1506**	**0.1506**		**0.1506**	**0.1506**	**0.0000**	**281.4485**	**281.4485**	**0.0267**		**282.0102**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0378	0.0515	0.5368	1.4600e-003	0.1230	9.6000e-004	0.1239	0.0326	8.9000e-004	0.0335		113.6064	113.6064	5.7500e-003		113.7270
Total	**0.0378**	**0.0515**	**0.5368**	**1.4600e-003**	**0.1230**	**9.6000e-004**	**0.1239**	**0.0326**	**8.9000e-004**	**0.0335**		**113.6064**	**113.6064**	**5.7500e-003**		**113.7270**

3.7 Paving - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6114	17.1628	14.4944	0.0223		0.9386	0.9386		0.8635	0.8635		2,245.2695	2,245.2695	0.6990		2,259.9481
Paving	0.2096					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.8210**	**17.1628**	**14.4944**	**0.0223**		**0.9386**	**0.9386**		**0.8635**	**0.8635**		**2,245.2695**	**2,245.2695**	**0.6990**		**2,259.9481**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0515	0.0702	0.7320	1.9900e-003	0.1677	1.3100e-003	0.1690	0.0445	1.2100e-003	0.0457		154.9178	154.9178	7.8400e-003		155.0823
Total	**0.0515**	**0.0702**	**0.7320**	**1.9900e-003**	**0.1677**	**1.3100e-003**	**0.1690**	**0.0445**	**1.2100e-003**	**0.0457**		**154.9178**	**154.9178**	**7.8400e-003**		**155.0823**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6114	17.1628	14.4944	0.0223		0.9386	0.9386		0.8635	0.8635	0.0000	2,245.2695	2,245.2695	0.6990		2,259.9481
Paving	0.2096					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.8210**	**17.1628**	**14.4944**	**0.0223**		**0.9386**	**0.9386**		**0.8635**	**0.8635**	**0.0000**	**2,245.2695**	**2,245.2695**	**0.6990**		**2,259.9481**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0515	0.0702	0.7320	1.9900e-003	0.1677	1.3100e-003	0.1690	0.0445	1.2100e-003	0.0457		154.9178	154.9178	7.8400e-003		155.0823
Total	**0.0515**	**0.0702**	**0.7320**	**1.9900e-003**	**0.1677**	**1.3100e-003**	**0.1690**	**0.0445**	**1.2100e-003**	**0.0457**		**154.9178**	**154.9178**	**7.8400e-003**		**155.0823**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day										lb/day					
Mitigated	7.1085	16.5745	67.0089	0.1709	11.8858	0.2446	12.1304	3.1759	0.2255	3.4014		13,704.0922	13,704.0922	0.5188		13,714.9878
Unmitigated	7.1085	16.5745	67.0089	0.1709	11.8858	0.2446	12.1304	3.1759	0.2255	3.4014		13,704.0922	13,704.0922	0.5188		13,714.9878

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Health Club	1,819.05	1,152.97	1476.96	3,582,496	3,582,496
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Recreational Swimming Pool	703.50	445.90	571.20	1,577,725	1,577,725
Fast Food Restaurant w/o Drive Thru	0.00	0.00	0.00		
Other Asphalt Surfaces	0.00	0.00	0.00		
Total	2,522.55	1,598.87	2,048.16	5,160,221	5,160,221

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Health Club	16.60	8.40	6.90	16.90	64.10	19.00	52	39	9
Other Non-Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Recreational Swimming Pool	16.60	8.40	6.90	33.00	48.00	19.00	52	39	9
Fast Food Restaurant w/o Drive Thru	16.60	8.40	6.90	1.50	79.50	19.00	51	37	12
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.511108	0.059746	0.180859	0.139188	0.042462	0.006666	0.016153	0.032295	0.001940	0.002496	0.004377	0.000582	0.002128

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0695	0.6322	0.5310	3.7900e-003		0.0480	0.0480		0.0480	0.0480		758.6027	758.6027	0.0145	0.0139	763.2195
NaturalGas Unmitigated	0.0695	0.6322	0.5310	3.7900e-003		0.0480	0.0480		0.0480	0.0480		758.6027	758.6027	0.0145	0.0139	763.2195

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Health Club	5365.53	0.0579	0.5260	0.4419	3.1600e-003		0.0400	0.0400		0.0400	0.0400		631.2393	631.2393	0.0121	0.0116	635.0809
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Fast Food Restaurant w/o Drive Thru	1082.59	0.0117	0.1061	0.0892	6.4000e-004		8.0700e-003	8.0700e-003		8.0700e-003	8.0700e-003		127.3634	127.3634	2.4400e-003	2.3300e-003	128.1385
Total		**0.0695**	**0.6322**	**0.5310**	**3.8000e-003**		**0.0481**	**0.0481**		**0.0481**	**0.0481**		**758.6027**	**758.6027**	**0.0145**	**0.0139**	**763.2195**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Fast Food Restaurant w/o Drive Thru	1.08259	0.0117	0.1061	0.0892	6.4000e-004		8.0700e-003	8.0700e-003		8.0700e-003	8.0700e-003		127.3634	127.3634	2.4400e-003	2.3300e-003	128.1385
Health Club	5.36553	0.0579	0.5260	0.4419	3.1600e-003		0.0400	0.0400		0.0400	0.0400		631.2393	631.2393	0.0121	0.0116	635.0809
Total		**0.0695**	**0.6322**	**0.5310**	**3.8000e-003**		**0.0481**	**0.0481**		**0.0481**	**0.0481**		**758.6027**	**758.6027**	**0.0145**	**0.0139**	**763.2195**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					

Mitigated	3.3223	1.3000e-004	0.0137	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005		0.0291	0.0291	8.0000e-005		0.0307
Unmitigated	3.3223	1.3000e-004	0.0137	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005		0.0291	0.0291	8.0000e-005		0.0307

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.8064					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.5146					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.3000e-003	1.3000e-004	0.0137	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005		0.0291	0.0291	8.0000e-005		0.0307
Total	**3.3223**	**1.3000e-004**	**0.0137**	**0.0000**		**5.0000e-005**	**5.0000e-005**		**5.0000e-005**	**5.0000e-005**		**0.0291**	**0.0291**	**8.0000e-005**		**0.0307**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.8064					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.5146					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.3000e-003	1.3000e-004	0.0137	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005		0.0291	0.0291	8.0000e-005		0.0307
Total	**3.3223**	**1.3000e-004**	**0.0137**	**0.0000**		**5.0000e-005**	**5.0000e-005**		**5.0000e-005**	**5.0000e-005**		**0.0291**	**0.0291**	**8.0000e-005**		**0.0307**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

Belmont Pool

South Coast Air Basin, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	4.20	Acre	4.20	0.00	0
Health Club	90.50	1000sqft	2.08	90,500.00	0
Recreational Swimming Pool	35.00	1000sqft	0.80	35,000.00	0
Other Asphalt Surfaces	1.60	Acre	1.60	0.00	0
Fast Food Restaurant w/o Drive Thru	1.50	1000sqft	0.03	1,500.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	8			**Operational Year**	2019
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	630.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - From project description

Construction Phase - Construction to start in 2017 and last 18 months. Assume architectural coating applied during building construction phase.

Demolition -

Vehicle Trips - Trip rates from traffic study

Construction Off-road Equipment Mitigation - Dust control measures as required by SCAQMD Rule 403.

Grading -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	80.00
tblConstructionPhase	NumDays	230.00	330.00
tblConstructionPhase	PhaseEndDate	10/5/2018	6/15/2018
tblConstructionPhase	PhaseStartDate	6/16/2018	2/24/2018
tblGrading	MaterialExported	0.00	1,500.00
tblLandUse	LandUseSquareFeet	182,952.00	0.00
tblLandUse	LandUseSquareFeet	69,696.00	0.00
tblProjectCharacteristics	OperationalYear	2014	2019
tblVehicleTrips	ST_TR	20.87	12.74
tblVehicleTrips	ST_TR	20.87	12.74
tblVehicleTrips	ST_TR	696.00	0.00
tblVehicleTrips	SU_TR	26.73	16.32
tblVehicleTrips	SU_TR	26.73	16.32
tblVehicleTrips	SU_TR	500.00	0.00
tblVehicleTrips	WD_TR	32.93	20.10
tblVehicleTrips	WD_TR	32.93	20.10
tblVehicleTrips	WD_TR	716.00	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2017	0.4677	4.0849	3.3076	5.1300e-003	0.2607	0.2465	0.5072	0.1089	0.2307	0.3396	0.0000	448.5909	448.5909	0.0894	0.0000	450.4682
2018	1.6836	1.7612	1.5931	2.7300e-003	0.0491	0.1069	0.1560	0.0132	0.1006	0.1138	0.0000	232.5576	232.5576	0.0440	0.0000	233.4824

Total	**2.1513**	**5.8461**	**4.9007**	**7.8600e-003**	**0.3098**	**0.3534**	**0.6632**	**0.1221**	**0.3313**	**0.4534**	**0.0000**	**681.1484**	**681.1484**	**0.1334**	**0.0000**	**683.9506**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2017	0.4677	4.0849	3.3076	5.1300e-003	0.1519	0.2465	0.3984	0.0560	0.2307	0.2866	0.0000	448.5905	448.5905	0.0894	0.0000	450.4678
2018	1.6836	1.7612	1.5931	2.7300e-003	0.0491	0.1069	0.1560	0.0132	0.1006	0.1138	0.0000	232.5574	232.5574	0.0440	0.0000	233.4822
Total	**2.1513**	**5.8461**	**4.9007**	**7.8600e-003**	**0.2010**	**0.3534**	**0.5544**	**0.0692**	**0.3313**	**0.4005**	**0.0000**	**681.1478**	**681.1478**	**0.1334**	**0.0000**	**683.9500**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**35.12**	**0.00**	**16.41**	**43.34**	**0.00**	**11.67**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.6062	2.0000e-005	1.7100e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.3000e-003	3.3000e-003	1.0000e-005	0.0000	3.4800e-003
Energy	0.0127	0.1154	0.0969	6.9000e-004		8.7700e-003	8.7700e-003		8.7700e-003	8.7700e-003	0.0000	381.7761	381.7761	0.0142	4.7400e-003	383.5430
Mobile	1.1252	2.8310	11.2769	0.0290	1.9557	0.0408	1.9966	0.5234	0.0376	0.5610	0.0000	2,106.5429	2,106.5429	0.0787	0.0000	2,108.1960
Waste						0.0000	0.0000		0.0000	0.0000	148.7173	0.0000	148.7173	8.7889	0.0000	333.2850

Water						0.0000	0.0000		0.0000	0.0000	2.4993	43.9099	46.4091	0.2587	6.4800e-003	53.8506
Total	**1.7441**	**2.9464**	**11.3755**	**0.0297**	**1.9557**	**0.0496**	**2.0053**	**0.5234**	**0.0464**	**0.5698**	**151.2165**	**2,532.2321**	**2,683.4486**	**9.1406**	**0.0112**	**2,878.8780**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.6062	2.0000e-005	1.7100e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.3000e-003	3.3000e-003	1.0000e-005	0.0000	3.4800e-003
Energy	0.0127	0.1154	0.0969	6.9000e-004		8.7700e-003	8.7700e-003		8.7700e-003	8.7700e-003	0.0000	381.7761	381.7761	0.0142	4.7400e-003	383.5430
Mobile	1.1252	2.8310	11.2769	0.0290	1.9557	0.0408	1.9966	0.5234	0.0376	0.5610	0.0000	2,106.5429	2,106.5429	0.0787	0.0000	2,108.1960
Waste						0.0000	0.0000		0.0000	0.0000	148.7173	0.0000	148.7173	8.7889	0.0000	333.2850
Water						0.0000	0.0000		0.0000	0.0000	2.4993	43.9099	46.4091	0.2587	6.4700e-003	53.8466
Total	**1.7441**	**2.9464**	**11.3755**	**0.0297**	**1.9557**	**0.0496**	**2.0053**	**0.5234**	**0.0464**	**0.5698**	**151.2165**	**2,532.2321**	**2,683.4486**	**9.1405**	**0.0112**	**2,878.8740**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.09**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2017	1/27/2017	5	20	
2	Site Preparation	Site Preparation	1/28/2017	2/10/2017	5	10	

3	Grading	Grading	2/11/2017	3/10/2017	5	20	
4	Building Construction	Building Construction	3/11/2017	6/15/2018	5	330	
5	Architectural Coating	Architectural Coating	2/24/2018	6/15/2018	5	80	
6	Paving	Paving	6/16/2018	7/13/2018	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 10

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 190,500; Non-Residential Outdoor: 63,500 (Architectural Coating –

<u>OffRoad Equipment</u>

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	162	0.38
Demolition	Rubber Tired Dozers	2	8.00	255	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	255	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	162	0.38
Grading	Graders	1	8.00	174	0.41
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	226	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Pavers	2	8.00	125	0.42
Paving	Paving Equipment	2	8.00	130	0.36
Paving	Rollers	2	8.00	80	0.38

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	207.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	188.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	53.00	21.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	11.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Demolition - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0224	0.0000	0.0224	3.4000e-003	0.0000	3.4000e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0405	0.4270	0.3389	4.0000e-004		0.0213	0.0213		0.0198	0.0198	0.0000	36.6182	36.6182	0.0101	0.0000	36.8292
Total	**0.0405**	**0.4270**	**0.3389**	**4.0000e-004**	**0.0224**	**0.0213**	**0.0437**	**3.4000e-003**	**0.0198**	**0.0232**	**0.0000**	**36.6182**	**36.6182**	**0.0101**	**0.0000**	**36.8292**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.7500e-003	0.0277	0.0219	8.0000e-005	1.7700e-003	4.1000e-004	2.1800e-003	4.9000e-004	3.7000e-004	8.6000e-004	0.0000	6.8648	6.8648	5.0000e-005	0.0000	6.8659
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.4000e-004	8.0000e-004	8.2900e-003	2.0000e-005	1.6500e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.4827	1.4827	8.0000e-005	0.0000	1.4843
Total	**2.2900e-003**	**0.0285**	**0.0302**	**1.0000e-004**	**3.4200e-003**	**4.2000e-004**	**3.8400e-003**	**9.3000e-004**	**3.8000e-004**	**1.3100e-003**	**0.0000**	**8.3475**	**8.3475**	**1.3000e-004**	**0.0000**	**8.3501**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					8.7500e-003	0.0000	8.7500e-003	1.3300e-003	0.0000	1.3300e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0405	0.4270	0.3389	4.0000e-004		0.0213	0.0213		0.0198	0.0198	0.0000	36.6182	36.6182	0.0101	0.0000	36.8291
Total	**0.0405**	**0.4270**	**0.3389**	**4.0000e-004**	**8.7500e-003**	**0.0213**	**0.0300**	**1.3300e-003**	**0.0198**	**0.0211**	**0.0000**	**36.6182**	**36.6182**	**0.0101**	**0.0000**	**36.8291**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Hauling	1.7500e-003	0.0277	0.0219	8.0000e-005	1.7700e-003	4.1000e-004	2.1800e-003	4.9000e-004	3.7000e-004	8.6000e-004	0.0000	6.8648	6.8648	5.0000e-005	0.0000	6.8659
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.4000e-004	8.0000e-004	8.2900e-003	2.0000e-005	1.6500e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.4827	1.4827	8.0000e-005	0.0000	1.4843
Total	**2.2900e-003**	**0.0285**	**0.0302**	**1.0000e-004**	**3.4200e-003**	**4.2000e-004**	**3.8400e-003**	**9.3000e-004**	**3.8000e-004**	**1.3100e-003**	**0.0000**	**8.3475**	**8.3475**	**1.3000e-004**	**0.0000**	**8.3501**

3.3 Site Preparation - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0903	0.0000	0.0903	0.0497	0.0000	0.0497	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0242	0.2588	0.1970	2.0000e-004		0.0138	0.0138		0.0127	0.0127	0.0000	18.1577	18.1577	5.5600e-003	0.0000	18.2745
Total	**0.0242**	**0.2588**	**0.1970**	**2.0000e-004**	**0.0903**	**0.0138**	**0.1041**	**0.0497**	**0.0127**	**0.0623**	**0.0000**	**18.1577**	**18.1577**	**5.5600e-003**	**0.0000**	**18.2745**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.2000e-004	4.8000e-004	4.9700e-003	1.0000e-005	9.9000e-004	1.0000e-005	1.0000e-003	2.6000e-004	1.0000e-005	2.7000e-004	0.0000	0.8896	0.8896	5.0000e-005	0.0000	0.8906
Total	**3.2000e-004**	**4.8000e-004**	**4.9700e-003**	**1.0000e-005**	**9.9000e-004**	**1.0000e-005**	**1.0000e-003**	**2.6000e-004**	**1.0000e-005**	**2.7000e-004**	**0.0000**	**0.8896**	**0.8896**	**5.0000e-005**	**0.0000**	**0.8906**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0352	0.0000	0.0352	0.0194	0.0000	0.0194	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0242	0.2588	0.1970	2.0000e-004		0.0138	0.0138		0.0127	0.0127	0.0000	18.1577	18.1577	5.5600e-003	0.0000	18.2745
Total	**0.0242**	**0.2588**	**0.1970**	**2.0000e-004**	**0.0352**	**0.0138**	**0.0490**	**0.0194**	**0.0127**	**0.0320**	**0.0000**	**18.1577**	**18.1577**	**5.5600e-003**	**0.0000**	**18.2745**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.2000e-004	4.8000e-004	4.9700e-003	1.0000e-005	9.9000e-004	1.0000e-005	1.0000e-003	2.6000e-004	1.0000e-005	2.7000e-004	0.0000	0.8896	0.8896	5.0000e-005	0.0000	0.8906
Total	**3.2000e-004**	**4.8000e-004**	**4.9700e-003**	**1.0000e-005**	**9.9000e-004**	**1.0000e-005**	**1.0000e-003**	**2.6000e-004**	**1.0000e-005**	**2.7000e-004**	**0.0000**	**0.8896**	**0.8896**	**5.0000e-005**	**0.0000**	**0.8906**

3.4 Grading - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0656	0.0000	0.0656	0.0337	0.0000	0.0337	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0346	0.3598	0.2538	3.0000e-004		0.0204	0.0204		0.0188	0.0188	0.0000	27.6117	27.6117	8.4600e-003	0.0000	27.7893
Total	**0.0346**	**0.3598**	**0.2538**	**3.0000e-004**	**0.0656**	**0.0204**	**0.0860**	**0.0337**	**0.0188**	**0.0525**	**0.0000**	**27.6117**	**27.6117**	**8.4600e-003**	**0.0000**	**27.7893**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.5900e-003	0.0252	0.0199	7.0000e-005	1.6100e-003	3.7000e-004	1.9800e-003	4.4000e-004	3.4000e-004	7.8000e-004	0.0000	6.2347	6.2347	4.0000e-005	0.0000	6.2357
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.4000e-004	8.0000e-004	8.2900e-003	2.0000e-005	1.6500e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.4827	1.4827	8.0000e-005	0.0000	1.4843
Total	**2.1300e-003**	**0.0260**	**0.0281**	**9.0000e-005**	**3.2600e-003**	**3.8000e-004**	**3.6400e-003**	**8.8000e-004**	**3.5000e-004**	**1.2300e-003**	**0.0000**	**7.7174**	**7.7174**	**1.2000e-004**	**0.0000**	**7.7199**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0256	0.0000	0.0256	0.0131	0.0000	0.0131	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Off-Road	0.0346	0.3598	0.2538	3.0000e-004		0.0204	0.0204		0.0188	0.0188	0.0000	27.6117	27.6117	8.4600e-003	0.0000	27.7893
Total	**0.0346**	**0.3598**	**0.2538**	**3.0000e-004**	**0.0256**	**0.0204**	**0.0460**	**0.0131**	**0.0188**	**0.0319**	**0.0000**	**27.6117**	**27.6117**	**8.4600e-003**	**0.0000**	**27.7893**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.5900e-003	0.0252	0.0199	7.0000e-005	1.6100e-003	3.7000e-004	1.9800e-003	4.4000e-004	3.4000e-004	7.8000e-004	0.0000	6.2347	6.2347	4.0000e-005	0.0000	6.2357
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.4000e-004	8.0000e-004	8.2900e-003	2.0000e-005	1.6500e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.4827	1.4827	8.0000e-005	0.0000	1.4843
Total	**2.1300e-003**	**0.0260**	**0.0281**	**9.0000e-005**	**3.2600e-003**	**3.8000e-004**	**3.6400e-003**	**8.8000e-004**	**3.5000e-004**	**1.2300e-003**	**0.0000**	**7.7174**	**7.7174**	**1.2000e-004**	**0.0000**	**7.7199**

3.5 Building Construction - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.3258	2.7726	1.9036	2.8100e-003		0.1870	0.1870		0.1757	0.1757	0.0000	251.4531	251.4531	0.0619	0.0000	252.7527
Total	**0.3258**	**2.7726**	**1.9036**	**2.8100e-003**		**0.1870**	**0.1870**		**0.1757**	**0.1757**	**0.0000**	**251.4531**	**251.4531**	**0.0619**	**0.0000**	**252.7527**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0179	0.1822	0.2435	4.8000e-004	0.0136	2.7900e-003	0.0164	3.8700e-003	2.5600e-003	6.4400e-003	0.0000	42.7893	42.7893	3.1000e-004	0.0000	42.7957
Worker	0.0200	0.0296	0.3076	7.5000e-004	0.0611	5.0000e-004	0.0616	0.0162	4.6000e-004	0.0167	0.0000	55.0065	55.0065	2.8400e-003	0.0000	55.0662
Total	**0.0379**	**0.2118**	**0.5511**	**1.2300e-003**	**0.0746**	**3.2900e-003**	**0.0779**	**0.0201**	**3.0200e-003**	**0.0231**	**0.0000**	**97.7958**	**97.7958**	**3.1500e-003**	**0.0000**	**97.8619**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.3258	2.7726	1.9036	2.8100e-003		0.1870	0.1870		0.1757	0.1757	0.0000	251.4528	251.4528	0.0619	0.0000	252.7524
Total	**0.3258**	**2.7726**	**1.9036**	**2.8100e-003**		**0.1870**	**0.1870**		**0.1757**	**0.1757**	**0.0000**	**251.4528**	**251.4528**	**0.0619**	**0.0000**	**252.7524**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0179	0.1822	0.2435	4.8000e-004	0.0136	2.7900e-003	0.0164	3.8700e-003	2.5600e-003	6.4400e-003	0.0000	42.7893	42.7893	3.1000e-004	0.0000	42.7957
Worker	0.0200	0.0296	0.3076	7.5000e-004	0.0611	5.0000e-004	0.0616	0.0162	4.6000e-004	0.0167	0.0000	55.0065	55.0065	2.8400e-003	0.0000	55.0662
Total	**0.0379**	**0.2118**	**0.5511**	**1.2300e-003**	**0.0746**	**3.2900e-003**	**0.0779**	**0.0201**	**3.0200e-003**	**0.0231**	**0.0000**	**97.7958**	**97.7958**	**3.1500e-003**	**0.0000**	**97.8619**

3.5 Building Construction - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1601	1.3957	1.0520	1.6100e-003		0.0897	0.0897		0.0843	0.0843	0.0000	142.0618	142.0618	0.0348	0.0000	142.7919
Total	**0.1601**	**1.3957**	**1.0520**	**1.6100e-003**		**0.0897**	**0.0897**		**0.0843**	**0.0843**	**0.0000**	**142.0618**	**142.0618**	**0.0348**	**0.0000**	**142.7919**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	9.5900e-003	0.0956	0.1333	2.7000e-004	7.7600e-003	1.5000e-003	9.2600e-003	2.2100e-003	1.3800e-003	3.5900e-003	0.0000	24.0408	24.0408	1.7000e-004	0.0000	24.0445
Worker	0.0103	0.0153	0.1592	4.3000e-004	0.0349	2.8000e-004	0.0352	9.2700e-003	2.6000e-004	9.5200e-003	0.0000	30.2591	30.2591	1.5100e-003	0.0000	30.2907
Total	**0.0199**	**0.1109**	**0.2925**	**7.0000e-004**	**0.0427**	**1.7800e-003**	**0.0444**	**0.0115**	**1.6400e-003**	**0.0131**	**0.0000**	**54.2999**	**54.2999**	**1.6800e-003**	**0.0000**	**54.3352**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1601	1.3957	1.0520	1.6100e-003		0.0897	0.0897		0.0843	0.0843	0.0000	142.0616	142.0616	0.0348	0.0000	142.7917
Total	**0.1601**	**1.3957**	**1.0520**	**1.6100e-003**		**0.0897**	**0.0897**		**0.0843**	**0.0843**	**0.0000**	**142.0616**	**142.0616**	**0.0348**	**0.0000**	**142.7917**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	9.5900e-003	0.0956	0.1333	2.7000e-004	7.7600e-003	1.5000e-003	9.2600e-003	2.2100e-003	1.3800e-003	3.5900e-003	0.0000	24.0408	24.0408	1.7000e-004	0.0000	24.0445
Worker	0.0103	0.0153	0.1592	4.3000e-004	0.0349	2.8000e-004	0.0352	9.2700e-003	2.6000e-004	9.5200e-003	0.0000	30.2591	30.2591	1.5100e-003	0.0000	30.2907
Total	**0.0199**	**0.1109**	**0.2925**	**7.0000e-004**	**0.0427**	**1.7800e-003**	**0.0444**	**0.0115**	**1.6400e-003**	**0.0131**	**0.0000**	**54.2999**	**54.2999**	**1.6800e-003**	**0.0000**	**54.3352**

3.6 Architectural Coating - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.4716					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0120	0.0802	0.0742	1.2000e-004		6.0200e-003	6.0200e-003		6.0200e-003	6.0200e-003	0.0000	10.2130	10.2130	9.7000e-004	0.0000	10.2334
Total	**1.4836**	**0.0802**	**0.0742**	**1.2000e-004**		**6.0200e-003**	**6.0200e-003**		**6.0200e-003**	**6.0200e-003**	**0.0000**	**10.2130**	**10.2130**	**9.7000e-004**	**0.0000**	**10.2334**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.4200e-003	2.1200e-003	0.0220	6.0000e-005	4.8300e-003	4.0000e-005	4.8700e-003	1.2800e-003	4.0000e-005	1.3200e-003	0.0000	4.1868	4.1868	2.1000e-004	0.0000	4.1912
Total	**1.4200e-003**	**2.1200e-003**	**0.0220**	**6.0000e-005**	**4.8300e-003**	**4.0000e-005**	**4.8700e-003**	**1.2800e-003**	**4.0000e-005**	**1.3200e-003**	**0.0000**	**4.1868**	**4.1868**	**2.1000e-004**	**0.0000**	**4.1912**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.4716					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Off-Road	0.0120	0.0802	0.0742	1.2000e-004		6.0200e-003	6.0200e-003		6.0200e-003	6.0200e-003	0.0000	10.2130	10.2130	9.7000e-004	0.0000	10.2334
Total	**1.4836**	**0.0802**	**0.0742**	**1.2000e-004**		**6.0200e-003**	**6.0200e-003**		**6.0200e-003**	**6.0200e-003**	**0.0000**	**10.2130**	**10.2130**	**9.7000e-004**	**0.0000**	**10.2334**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.4200e-003	2.1200e-003	0.0220	6.0000e-005	4.8300e-003	4.0000e-005	4.8700e-003	1.2800e-003	4.0000e-005	1.3200e-003	0.0000	4.1868	4.1868	2.1000e-004	0.0000	4.1912
Total	**1.4200e-003**	**2.1200e-003**	**0.0220**	**6.0000e-005**	**4.8300e-003**	**4.0000e-005**	**4.8700e-003**	**1.2800e-003**	**4.0000e-005**	**1.3200e-003**	**0.0000**	**4.1868**	**4.1868**	**2.1000e-004**	**0.0000**	**4.1912**

3.7 Paving - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0161	0.1716	0.1449	2.2000e-004		9.3900e-003	9.3900e-003		8.6400e-003	8.6400e-003	0.0000	20.3687	20.3687	6.3400e-003	0.0000	20.5019
Paving	2.1000e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0182**	**0.1716**	**0.1449**	**2.2000e-004**		**9.3900e-003**	**9.3900e-003**		**8.6400e-003**	**8.6400e-003**	**0.0000**	**20.3687**	**20.3687**	**6.3400e-003**	**0.0000**	**20.5019**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.8000e-004	7.2000e-004	7.5100e-003	2.0000e-005	1.6500e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.4273	1.4273	7.0000e-005	0.0000	1.4288
Total	**4.8000e-004**	**7.2000e-004**	**7.5100e-003**	**2.0000e-005**	**1.6500e-003**	**1.0000e-005**	**1.6600e-003**	**4.4000e-004**	**1.0000e-005**	**4.5000e-004**	**0.0000**	**1.4273**	**1.4273**	**7.0000e-005**	**0.0000**	**1.4288**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0161	0.1716	0.1449	2.2000e-004		9.3900e-003	9.3900e-003		8.6400e-003	8.6400e-003	0.0000	20.3687	20.3687	6.3400e-003	0.0000	20.5019
Paving	2.1000e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0182**	**0.1716**	**0.1449**	**2.2000e-004**		**9.3900e-003**	**9.3900e-003**		**8.6400e-003**	**8.6400e-003**	**0.0000**	**20.3687**	**20.3687**	**6.3400e-003**	**0.0000**	**20.5019**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.8000e-004	7.2000e-004	7.5100e-003	2.0000e-005	1.6500e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.4273	1.4273	7.0000e-005	0.0000	1.4288
Total	**4.8000e-004**	**7.2000e-004**	**7.5100e-003**	**2.0000e-005**	**1.6500e-003**	**1.0000e-005**	**1.6600e-003**	**4.4000e-004**	**1.0000e-005**	**4.5000e-004**	**0.0000**	**1.4273**	**1.4273**	**7.0000e-005**	**0.0000**	**1.4288**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.1252	2.8310	11.2769	0.0290	1.9557	0.0408	1.9966	0.5234	0.0376	0.5610	0.0000	2,106.5429	2,106.5429	0.0787	0.0000	2,108.1960
Unmitigated	1.1252	2.8310	11.2769	0.0290	1.9557	0.0408	1.9966	0.5234	0.0376	0.5610	0.0000	2,106.5429	2,106.5429	0.0787	0.0000	2,108.1960

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Health Club	1,819.05	1,152.97	1476.96	3,582,496	3,582,496
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Recreational Swimming Pool	703.50	445.90	571.20	1,577,725	1,577,725
Fast Food Restaurant w/o Drive Thru	0.00	0.00	0.00		
Other Asphalt Surfaces	0.00	0.00	0.00		
Total	2,522.55	1,598.87	2,048.16	5,160,221	5,160,221

4.3 Trip Type Information

	Miles	Trip %	Trip Purpose %

Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Health Club	16.60	8.40	6.90	16.90	64.10	19.00	52	39	9
Other Non-Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Recreational Swimming Pool	16.60	8.40	6.90	33.00	48.00	19.00	52	39	9
Fast Food Restaurant w/o Drive Thru	16.60	8.40	6.90	1.50	79.50	19.00	51	37	12
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.511108	0.059746	0.180859	0.139188	0.042462	0.006666	0.016153	0.032295	0.001940	0.002496	0.004377	0.000582	0.002128

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	256.1809	256.1809	0.0118	2.4400e-003	257.1835
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	256.1809	256.1809	0.0118	2.4400e-003	257.1835
NaturalGas Mitigated	0.0127	0.1154	0.0969	6.9000e-004		8.7700e-003	8.7700e-003		8.7700e-003	8.7700e-003	0.0000	125.5952	125.5952	2.4100e-003	2.3000e-003	126.3595
NaturalGas Unmitigated	0.0127	0.1154	0.0969	6.9000e-004		8.7700e-003	8.7700e-003		8.7700e-003	8.7700e-003	0.0000	125.5952	125.5952	2.4100e-003	2.3000e-003	126.3595

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Health Club	1.95842e+006	0.0106	0.0960	0.0806	5.8000e-004		7.3000e-003	7.3000e-003		7.3000e-003	7.3000e-003	0.0000	104.5088	104.5088	2.0000e-003	1.9200e-003	105.1448
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Fast Food Restaurant w/o Drive Thru	395145	2.1300e-003	0.0194	0.0163	1.2000e-004		1.4700e-003	1.4700e-003		1.4700e-003	1.4700e-003	0.0000	21.0864	21.0864	4.0000e-004	3.9000e-004	21.2148
Total		**0.0127**	**0.1154**	**0.0969**	**7.0000e-004**		**8.7700e-003**	**8.7700e-003**		**8.7700e-003**	**8.7700e-003**	**0.0000**	**125.5952**	**125.5952**	**2.4000e-003**	**2.3100e-003**	**126.3595**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Fast Food Restaurant w/o Drive Thru	395145	2.1300e-003	0.0194	0.0163	1.2000e-004		1.4700e-003	1.4700e-003		1.4700e-003	1.4700e-003	0.0000	21.0864	21.0864	4.0000e-004	3.9000e-004	21.2148
Health Club	1.95842e+006	0.0106	0.0960	0.0806	5.8000e-004		7.3000e-003	7.3000e-003		7.3000e-003	7.3000e-003	0.0000	104.5088	104.5088	2.0000e-003	1.9200e-003	105.1448
Total		**0.0127**	**0.1154**	**0.0969**	**7.0000e-004**		**8.7700e-003**	**8.7700e-003**		**8.7700e-003**	**8.7700e-003**	**0.0000**	**125.5952**	**125.5952**	**2.4000e-003**	**2.3100e-003**	**126.3595**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Fast Food Restaurant w/o Drive Thru	58995	16.8824	7.8000e-004	1.6000e-004	16.9485
Health Club	836220	239.2985	0.0110	2.2800e-003	240.2350
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000
Total		**256.1809**	**0.0118**	**2.4400e-003**	**257.1835**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Fast Food Restaurant w/o Drive Thru	58995	16.8824	7.8000e-004	1.6000e-004	16.9485
Health Club	836220	239.2985	0.0110	2.2800e-003	240.2350
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000
Total		**256.1809**	**0.0118**	**2.4400e-003**	**257.1835**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.6062	2.0000e-005	1.7100e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.3000e-003	3.3000e-003	1.0000e-005	0.0000	3.4800e-003
Unmitigated	0.6062	2.0000e-005	1.7100e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.3000e-003	3.3000e-003	1.0000e-005	0.0000	3.4800e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1472					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.4589					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.6000e-004	2.0000e-005	1.7100e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.3000e-003	3.3000e-003	1.0000e-005	0.0000	3.4800e-003
Total	**0.6062**	**2.0000e-005**	**1.7100e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**3.3000e-003**	**3.3000e-003**	**1.0000e-005**	**0.0000**	**3.4800e-003**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1472					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.4589					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.6000e-004	2.0000e-005	1.7100e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.3000e-003	3.3000e-003	1.0000e-005	0.0000	3.4800e-003
Total	**0.6062**	**2.0000e-005**	**1.7100e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**3.3000e-003**	**3.3000e-003**	**1.0000e-005**	**0.0000**	**3.4800e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	46.4091	0.2587	6.4700e-003	53.8466
Unmitigated	46.4091	0.2587	6.4800e-003	53.8506

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Fast Food Restaurant w/o Drive Thru	0.455301 / 0.0290617	1.9334	0.0149	3.7000e-004	2.3605

Health Club	5.35245 / 3.28054	32.0722	0.1758	4.4100e-003	37.1303
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	2.07001 / 1.26872	12.4036	0.0680	1.7000e-003	14.3598
Total		**46.4091**	**0.2587**	**6.4800e-003**	**53.8506**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Fast Food Restaurant w/o Drive Thru	0.455301 / 0.0290617	1.9334	0.0149	3.7000e-004	2.3603
Health Club	5.35245 / 3.28054	32.0722	0.1758	4.4000e-003	37.1276
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	2.07001 / 1.26872	12.4036	0.0680	1.7000e-003	14.3587
Total		**46.4091**	**0.2587**	**6.4700e-003**	**53.8466**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	148.7173	8.7889	0.0000	333.2850
Unmitigated	148.7173	8.7889	0.0000	333.2850

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Fast Food Restaurant w/o Drive Thru	17.28	3.5077	0.2073	0.0000	7.8610
Health Club	515.85	104.7129	6.1884	0.0000	234.6683
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	199.5	40.4967	2.3933	0.0000	90.7557
Total		**148.7173**	**8.7889**	**0.0000**	**333.2850**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			

Fast Food Restaurant w/o Drive Thru	17.28	3.5077	0.2073	0.0000	7.8610
Health Club	515.85	104.7129	6.1884	0.0000	234.6683
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	199.5	40.4967	2.3933	0.0000	90.7557
Total		**148.7173**	**8.7889**	**0.0000**	**333.2850**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

GREENHOUSE GAS EMISSIONS MODELING OUTPUTS

CalEEMod Calculations

Existing (No Build) Conditions

Belmont Pool - Existing

South Coast Air Basin, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Recreational Swimming Pool	18.15	1000sqft	0.42	18,150.00	0
Health Club	45.60	1000sqft	1.05	45,600.00	0
Other Non-Asphalt Surfaces	4.14	Acre	4.14	180,338.40	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	8			**Operational Year**	2015
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	1227.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - Existing scenario, no construction

Vehicle Trips - Trip rates from traffic study

Construction Off-road Equipment Mitigation - Dust control measures as required by SCAQMD Rule 403.

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	10.00	0.00
tblProjectCharacteristics	OperationalYear	2014	2015
tblVehicleTrips	ST_TR	20.87	8.82

tblVehicleTrips	ST_TR	20.87	8.82
tblVehicleTrips	SU_TR	26.73	11.30
tblVehicleTrips	SU_TR	26.73	11.30
tblVehicleTrips	WD_TR	32.93	13.92
tblVehicleTrips	WD_TR	32.93	13.92

2.0 Emissions Summary

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	6.3835	7.0000e-005	7.1700e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005		0.0149	0.0149	4.0000e-005		0.0158
Energy	0.0292	0.2651	0.2226	1.5900e-003		0.0201	0.0201		0.0201	0.0201		318.0609	318.0609	6.1000e-003	5.8300e-003	319.9966
Mobile	3.2085	7.4169	31.6578	0.0630	4.1818	0.1056	4.2874	1.1171	0.0970	1.2141		5,680.2122	5,680.2122	0.2447		5,685.3510
Total	**9.6211**	**7.6820**	**31.8876**	**0.0646**	**4.1818**	**0.1258**	**4.3075**	**1.1171**	**0.1172**	**1.2343**		**5,998.2880**	**5,998.2880**	**0.2508**	**5.8300e-003**	**6,005.3633**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e

Category	lb/day										lb/day					
Area	6.3835	7.0000e-005	7.1700e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005		0.0149	0.0149	4.0000e-005		0.0158
Energy	0.0292	0.2651	0.2226	1.5900e-003		0.0201	0.0201		0.0201	0.0201		318.0609	318.0609	6.1000e-003	5.8300e-003	319.9966
Mobile	3.2085	7.4169	31.6578	0.0630	4.1818	0.1056	4.2874	1.1171	0.0970	1.2141		5,680.2122	5,680.2122	0.2447		5,685.3510
Total	**9.6211**	**7.6820**	**31.8876**	**0.0646**	**4.1818**	**0.1258**	**4.3075**	**1.1171**	**0.1172**	**1.2343**		**5,998.2880**	**5,998.2880**	**0.2508**	**5.8300e-003**	**6,005.3633**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/1/2015	12/31/2014	5	0	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	3	8.00	255	0.40

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Unmitigated	3.2085	7.4169	31.6578	0.0630	4.1818	0.1056	4.2874	1.1171	0.0970	1.2141		5,680.2122	5,680.2122	0.2447		5,685.3510
Mitigated	3.2085	7.4169	31.6578	0.0630	4.1818	0.1056	4.2874	1.1171	0.0970	1.2141		5,680.2122	5,680.2122	0.2447		5,685.3510

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Health Club	634.75	402.19	515.28	1,250,030	1,250,030
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Recreational Swimming Pool	252.65	160.08	205.10	566,576	566,576
Total	887.40	562.28	720.38	1,816,606	1,816,606

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Health Club	16.60	8.40	6.90	16.90	64.10	19.00	52	39	9
Other Non-Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Recreational Swimming Pool	16.60	8.40	6.90	33.00	48.00	19.00	52	39	9

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.515437	0.060435	0.179988	0.139880	0.041945	0.006639	0.015487	0.028746	0.001918	0.002517	0.004333	0.000596	0.002079

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0292	0.2651	0.2226	1.5900e-003		0.0201	0.0201		0.0201	0.0201		318.0609	318.0609	6.1000e-003	5.8300e-003	319.9966
NaturalGas Unmitigated	0.0292	0.2651	0.2226	1.5900e-003		0.0201	0.0201		0.0201	0.0201		318.0609	318.0609	6.1000e-003	5.8300e-003	319.9966

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e

Land Use	kBTU/yr	lb/day										lb/day					
Health Club	2703.52	0.0292	0.2651	0.2226	1.5900e-003		0.0201	0.0201		0.0201	0.0201		318.0609	318.0609	6.1000e-003	5.8300e-003	319.9966
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0292**	**0.2651**	**0.2226**	**1.5900e-003**		**0.0201**	**0.0201**		**0.0201**	**0.0201**		**318.0609**	**318.0609**	**6.1000e-003**	**5.8300e-003**	**319.9966**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Health Club	2.70352	0.0292	0.2651	0.2226	1.5900e-003		0.0201	0.0201		0.0201	0.0201		318.0609	318.0609	6.1000e-003	5.8300e-003	319.9966
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0292**	**0.2651**	**0.2226**	**1.5900e-003**		**0.0201**	**0.0201**		**0.0201**	**0.0201**		**318.0609**	**318.0609**	**6.1000e-003**	**5.8300e-003**	**319.9966**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					

Unmitigated	6.3835	7.0000e-005	7.1700e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005		0.0149	0.0149	4.0000e-005		0.0158
Mitigated	6.3835	7.0000e-005	7.1700e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005		0.0149	0.0149	4.0000e-005		0.0158

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	1.5498					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	4.8330					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	7.1000e-004	7.0000e-005	7.1700e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005		0.0149	0.0149	4.0000e-005		0.0158
Total	**6.3835**	**7.0000e-005**	**7.1700e-003**	**0.0000**		**3.0000e-005**	**3.0000e-005**		**3.0000e-005**	**3.0000e-005**		**0.0149**	**0.0149**	**4.0000e-005**		**0.0158**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	1.5498					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	4.8330					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	7.1000e-004	7.0000e-005	7.1700e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005		0.0149	0.0149	4.0000e-005		0.0158
Total	**6.3835**	**7.0000e-005**	**7.1700e-003**	**0.0000**		**3.0000e-005**	**3.0000e-005**		**3.0000e-005**	**3.0000e-005**		**0.0149**	**0.0149**	**4.0000e-005**		**0.0158**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

Belmont Pool - Existing

South Coast Air Basin, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Recreational Swimming Pool	18.15	1000sqft	0.42	18,150.00	0
Health Club	45.60	1000sqft	1.05	45,600.00	0
Other Non-Asphalt Surfaces	4.14	Acre	4.14	180,338.40	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	8			**Operational Year**	2015
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	1227.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - Existing scenario, no construction

Vehicle Trips - Trip rates from traffic study

Construction Off-road Equipment Mitigation - Dust control measures as required by SCAQMD Rule 403.

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	10.00	0.00
tblProjectCharacteristics	OperationalYear	2014	2015
tblVehicleTrips	ST_TR	20.87	8.82

tblVehicleTrips	ST_TR	20.87	8.82
tblVehicleTrips	SU_TR	26.73	11.30
tblVehicleTrips	SU_TR	26.73	11.30
tblVehicleTrips	WD_TR	32.93	13.92
tblVehicleTrips	WD_TR	32.93	13.92

2.0 Emissions Summary

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	6.3835	7.0000e-005	7.1700e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005		0.0149	0.0149	4.0000e-005		0.0158
Energy	0.0292	0.2651	0.2226	1.5900e-003		0.0201	0.0201		0.0201	0.0201		318.0609	318.0609	6.1000e-003	5.8300e-003	319.9966
Mobile	3.3507	7.7897	31.8552	0.0598	4.1818	0.1064	4.2882	1.1171	0.0978	1.2149		5,402.5671	5,402.5671	0.2449		5,407.7107
Total	**9.7633**	**8.0548**	**32.0850**	**0.0614**	**4.1818**	**0.1266**	**4.3084**	**1.1171**	**0.1179**	**1.2351**		**5,720.6429**	**5,720.6429**	**0.2511**	**5.8300e-003**	**5,727.7231**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e

Category	lb/day										lb/day					
Area	6.3835	7.0000e-005	7.1700e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005		0.0149	0.0149	4.0000e-005		0.0158
Energy	0.0292	0.2651	0.2226	1.5900e-003		0.0201	0.0201		0.0201	0.0201		318.0609	318.0609	6.1000e-003	5.8300e-003	319.9966
Mobile	3.3507	7.7897	31.8552	0.0598	4.1818	0.1064	4.2882	1.1171	0.0978	1.2149		5,402.5671	5,402.5671	0.2449		5,407.7107
Total	**9.7633**	**8.0548**	**32.0850**	**0.0614**	**4.1818**	**0.1266**	**4.3084**	**1.1171**	**0.1179**	**1.2351**		**5,720.6429**	**5,720.6429**	**0.2511**	**5.8300e-003**	**5,727.7231**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/1/2015	12/31/2014	5	0	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	3	8.00	255	0.40

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Unmitigated	3.3507	7.7897	31.8552	0.0598	4.1818	0.1064	4.2882	1.1171	0.0978	1.2149		5,402.5671	5,402.5671	0.2449		5,407.7107
Mitigated	3.3507	7.7897	31.8552	0.0598	4.1818	0.1064	4.2882	1.1171	0.0978	1.2149		5,402.5671	5,402.5671	0.2449		5,407.7107

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Health Club	634.75	402.19	515.28	1,250,030	1,250,030
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Recreational Swimming Pool	252.65	160.08	205.10	566,576	566,576
Total	887.40	562.28	720.38	1,816,606	1,816,606

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Health Club	16.60	8.40	6.90	16.90	64.10	19.00	52	39	9
Other Non-Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Recreational Swimming Pool	16.60	8.40	6.90	33.00	48.00	19.00	52	39	9

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.515437	0.060435	0.179988	0.139880	0.041945	0.006639	0.015487	0.028746	0.001918	0.002517	0.004333	0.000596	0.002079

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day										lb/day					
NaturalGas Mitigated	0.0292	0.2651	0.2226	1.5900e-003		0.0201	0.0201		0.0201	0.0201		318.0609	318.0609	6.1000e-003	5.8300e-003	319.9966
NaturalGas Unmitigated	0.0292	0.2651	0.2226	1.5900e-003		0.0201	0.0201		0.0201	0.0201		318.0609	318.0609	6.1000e-003	5.8300e-003	319.9966

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e

Land Use	kBTU/yr	lb/day										lb/day					
Health Club	2703.52	0.0292	0.2651	0.2226	1.5900e-003		0.0201	0.0201		0.0201	0.0201		318.0609	318.0609	6.1000e-003	5.8300e-003	319.9966
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0292**	**0.2651**	**0.2226**	**1.5900e-003**		**0.0201**	**0.0201**		**0.0201**	**0.0201**		**318.0609**	**318.0609**	**6.1000e-003**	**5.8300e-003**	**319.9966**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Health Club	2.70352	0.0292	0.2651	0.2226	1.5900e-003		0.0201	0.0201		0.0201	0.0201		318.0609	318.0609	6.1000e-003	5.8300e-003	319.9966
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0292**	**0.2651**	**0.2226**	**1.5900e-003**		**0.0201**	**0.0201**		**0.0201**	**0.0201**		**318.0609**	**318.0609**	**6.1000e-003**	**5.8300e-003**	**319.9966**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					

Unmitigated	6.3835	7.0000e-005	7.1700e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005		0.0149	0.0149	4.0000e-005		0.0158
Mitigated	6.3835	7.0000e-005	7.1700e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005		0.0149	0.0149	4.0000e-005		0.0158

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	1.5498					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	4.8330					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	7.1000e-004	7.0000e-005	7.1700e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005		0.0149	0.0149	4.0000e-005		0.0158
Total	**6.3835**	**7.0000e-005**	**7.1700e-003**	**0.0000**		**3.0000e-005**	**3.0000e-005**		**3.0000e-005**	**3.0000e-005**		**0.0149**	**0.0149**	**4.0000e-005**		**0.0158**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	1.5498					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	4.8330					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	7.1000e-004	7.0000e-005	7.1700e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005		0.0149	0.0149	4.0000e-005		0.0158
Total	**6.3835**	**7.0000e-005**	**7.1700e-003**	**0.0000**		**3.0000e-005**	**3.0000e-005**		**3.0000e-005**	**3.0000e-005**		**0.0149**	**0.0149**	**4.0000e-005**		**0.0158**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

Belmont Pool - Existing

South Coast Air Basin, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Recreational Swimming Pool	18.15	1000sqft	0.42	18,150.00	0
Health Club	45.60	1000sqft	1.05	45,600.00	0
Other Non-Asphalt Surfaces	4.14	Acre	4.14	180,338.40	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	8			**Operational Year**	2015
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	1227.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - Existing scenario, no construction

Vehicle Trips - Trip rates from traffic study

Construction Off-road Equipment Mitigation - Dust control measures as required by SCAQMD Rule 403.

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	10.00	0.00
tblProjectCharacteristics	OperationalYear	2014	2015
tblVehicleTrips	ST_TR	20.87	8.82

tblVehicleTrips	ST_TR	20.87	8.82
tblVehicleTrips	SU_TR	26.73	11.30
tblVehicleTrips	SU_TR	26.73	11.30
tblVehicleTrips	WD_TR	32.93	13.92
tblVehicleTrips	WD_TR	32.93	13.92

2.0 Emissions Summary

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.1649	1.0000e-005	9.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.6800e-003	1.6800e-003	0.0000	0.0000	1.7900e-003
Energy	5.3200e-003	0.0484	0.0406	2.9000e-004		3.6800e-003	3.6800e-003		3.6800e-003	3.6800e-003	0.0000	287.3310	287.3310	6.5500e-003	2.1100e-003	288.1233
Mobile	0.5297	1.3306	5.3709	0.0101	0.6880	0.0177	0.7058	0.1841	0.0163	0.2004	0.0000	830.6509	830.6509	0.0372	0.0000	831.4315
Waste						0.0000	0.0000		0.0000	0.0000	73.7608	0.0000	73.7608	4.3591	0.0000	165.3028
Water						0.0000	0.0000		0.0000	0.0000	1.1962	41.6428	42.8390	0.1238	3.1000e-003	46.4020
Total	**1.6999**	**1.3790**	**5.4124**	**0.0104**	**0.6880**	**0.0214**	**0.7095**	**0.1841**	**0.0200**	**0.2041**	**74.9570**	**1,159.6264**	**1,234.5834**	**4.5267**	**5.2100e-003**	**1,331.2614**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.1649	1.0000e-005	9.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.6800e-003	1.6800e-003	0.0000	0.0000	1.7900e-003
Energy	5.3200e-003	0.0484	0.0406	2.9000e-004		3.6800e-003	3.6800e-003		3.6800e-003	3.6800e-003	0.0000	287.3310	287.3310	6.5500e-003	2.1100e-003	288.1233
Mobile	0.5297	1.3306	5.3709	0.0101	0.6880	0.0177	0.7058	0.1841	0.0163	0.2004	0.0000	830.6509	830.6509	0.0372	0.0000	831.4315
Waste						0.0000	0.0000		0.0000	0.0000	73.7608	0.0000	73.7608	4.3591	0.0000	165.3028
Water						0.0000	0.0000		0.0000	0.0000	1.1962	41.6428	42.8390	0.1238	3.1000e-003	46.4001
Total	**1.6999**	**1.3790**	**5.4124**	**0.0104**	**0.6880**	**0.0214**	**0.7095**	**0.1841**	**0.0200**	**0.2041**	**74.9570**	**1,159.6264**	**1,234.5834**	**4.5267**	**5.2100e-003**	**1,331.2595**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/1/2015	12/31/2014	5	0	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	3	8.00	255	0.40

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.5297	1.3306	5.3709	0.0101	0.6880	0.0177	0.7058	0.1841	0.0163	0.2004	0.0000	830.6509	830.6509	0.0372	0.0000	831.4315
Unmitigated	0.5297	1.3306	5.3709	0.0101	0.6880	0.0177	0.7058	0.1841	0.0163	0.2004	0.0000	830.6509	830.6509	0.0372	0.0000	831.4315

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Health Club	634.75	402.19	515.28	1,250,030	1,250,030
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Recreational Swimming Pool	252.65	160.08	205.10	566,576	566,576
Total	887.40	562.28	720.38	1,816,606	1,816,606

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Health Club	16.60	8.40	6.90	16.90	64.10	19.00	52	39	9
Other Non-Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Recreational Swimming Pool	16.60	8.40	6.90	33.00	48.00	19.00	52	39	9

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.515437	0.060435	0.179988	0.139880	0.041945	0.006639	0.015487	0.028746	0.001918	0.002517	0.004333	0.000596	0.002079

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
NaturalGas Mitigated	5.3200e-003	0.0484	0.0406	2.9000e-004		3.6800e-003	3.6800e-003		3.6800e-003	3.6800e-003	0.0000	52.6586	52.6586	1.0100e-003	9.7000e-004	52.9790
NaturalGas Unmitigated	5.3200e-003	0.0484	0.0406	2.9000e-004		3.6800e-003	3.6800e-003		3.6800e-003	3.6800e-003	0.0000	52.6586	52.6586	1.0100e-003	9.7000e-004	52.9790
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	234.6724	234.6724	5.5400e-003	1.1500e-003	235.1443

Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	234.6724	234.6724	5.5400e-003	1.1500e-003	235.1443

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Health Club	986784	5.3200e-003	0.0484	0.0406	2.9000e-004		3.6800e-003	3.6800e-003		3.6800e-003	3.6800e-003	0.0000	52.6586	52.6586	1.0100e-003	9.7000e-004	52.9790
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**5.3200e-003**	**0.0484**	**0.0406**	**2.9000e-004**		**3.6800e-003**	**3.6800e-003**		**3.6800e-003**	**3.6800e-003**	**0.0000**	**52.6586**	**52.6586**	**1.0100e-003**	**9.7000e-004**	**52.9790**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Health Club	986784	5.3200e-003	0.0484	0.0406	2.9000e-004		3.6800e-003	3.6800e-003		3.6800e-003	3.6800e-003	0.0000	52.6586	52.6586	1.0100e-003	9.7000e-004	52.9790
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**5.3200e-003**	**0.0484**	**0.0406**	**2.9000e-004**		**3.6800e-003**	**3.6800e-003**		**3.6800e-003**	**3.6800e-003**	**0.0000**	**52.6586**	**52.6586**	**1.0100e-003**	**9.7000e-004**	**52.9790**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Health Club	421344	234.6724	5.5400e-003	1.1500e-003	235.1443
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000
Total		**234.6724**	**5.5400e-003**	**1.1500e-003**	**235.1443**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Health Club	421344	234.6724	5.5400e-003	1.1500e-003	235.1443
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000
Total		**234.6724**	**5.5400e-003**	**1.1500e-003**	**235.1443**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.1649	1.0000e-005	9.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.6800e-003	1.6800e-003	0.0000	0.0000	1.7900e-003
Unmitigated	1.1649	1.0000e-005	9.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.6800e-003	1.6800e-003	0.0000	0.0000	1.7900e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.2828					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.8820					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	9.0000e-005	1.0000e-005	9.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.6800e-003	1.6800e-003	0.0000	0.0000	1.7900e-003
Total	**1.1649**	**1.0000e-005**	**9.0000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.6800e-003**	**1.6800e-003**	**0.0000**	**0.0000**	**1.7900e-003**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					

Architectural Coating	0.2828					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.8820					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	9.0000e-005	1.0000e-005	9.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.6800e-003	1.6800e-003	0.0000	0.0000	1.7900e-003
Total	**1.1649**	**1.0000e-005**	**9.0000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.6800e-003**	**1.6800e-003**	**0.0000**	**0.0000**	**1.7900e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Unmitigated	42.8390	0.1238	3.1000e-003	46.4020
Mitigated	42.8390	0.1238	3.1000e-003	46.4001

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Health Club	2.69693 / 1.65296	30.6425	0.0886	2.2200e-003	33.1911
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	1.07345 / 0.65792	12.1965	0.0353	8.8000e-004	13.2109

Total		42.8390	0.1238	3.1000e-003	46.4020

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Health Club	2.69693 / 1.65296	30.6425	0.0886	2.2200e-003	33.1897
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	1.07345 / 0.65792	12.1965	0.0353	8.8000e-004	13.2104
Total		**42.8390**	**0.1238**	**3.1000e-003**	**46.4001**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	73.7608	4.3591	0.0000	165.3028
Unmitigated	73.7608	4.3591	0.0000	165.3028

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Health Club	259.92	52.7614	3.1181	0.0000	118.2417
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	103.45	20.9994	1.2410	0.0000	47.0610
Total		**73.7608**	**4.3591**	**0.0000**	**165.3028**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Health Club	259.92	52.7614	3.1181	0.0000	118.2417
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	103.45	20.9994	1.2410	0.0000	47.0610
Total		**73.7608**	**4.3591**	**0.0000**	**165.3028**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

CalEEMod Calculations

Proposed Project Conditions

Belmont Pool

South Coast Air Basin, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	4.20	Acre	4.20	0.00	0
Health Club	90.50	1000sqft	2.08	90,500.00	0
Recreational Swimming Pool	35.00	1000sqft	0.80	35,000.00	0
Other Asphalt Surfaces	1.60	Acre	1.60	0.00	0
Fast Food Restaurant w/o Drive Thru	1.50	1000sqft	0.03	1,500.00	0

1.2 Other Project Characteristics

Urbanization Urban **Wind Speed (m/s)** 2.2 **Precipitation Freq (Days)** 31

Climate Zone 8 **Operational Year** 2019

Utility Company Southern California Edison

CO2 Intensity (lb/MWhr) 630.89 **CH4 Intensity (lb/MWhr)** 0.029 **N2O Intensity (lb/MWhr)** 0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - From project description

Construction Phase - Construction to start in 2017 and last 18 months. Assume architectural coating applied during building construction phase.

Demolition -

Vehicle Trips - Trip rates from traffic study

Construction Off-road Equipment Mitigation - Dust control measures as required by SCAQMD Rule 403.

Grading -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	80.00
tblConstructionPhase	NumDays	230.00	330.00
tblConstructionPhase	PhaseEndDate	10/5/2018	6/15/2018
tblConstructionPhase	PhaseStartDate	6/16/2018	2/24/2018
tblGrading	MaterialExported	0.00	1,500.00
tblLandUse	LandUseSquareFeet	182,952.00	0.00
tblLandUse	LandUseSquareFeet	69,696.00	0.00
tblProjectCharacteristics	OperationalYear	2014	2019
tblVehicleTrips	ST_TR	20.87	12.74
tblVehicleTrips	ST_TR	20.87	12.74
tblVehicleTrips	ST_TR	696.00	0.00
tblVehicleTrips	SU_TR	26.73	16.32
tblVehicleTrips	SU_TR	26.73	16.32
tblVehicleTrips	SU_TR	500.00	0.00
tblVehicleTrips	WD_TR	32.93	20.10
tblVehicleTrips	WD_TR	32.93	20.10
tblVehicleTrips	WD_TR	716.00	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2017	4.9056	51.8381	40.4537	0.0497	18.2675	2.7558	21.0233	9.9840	2.5354	12.5194	0.0000	4,965.5479	4,965.5479	1.2367	0.0000	4,991.5180
2018	40.1244	27.0645	24.6774	0.0434	0.8467	1.6753	2.5220	0.2271	1.5834	1.8105	0.0000	4,039.5810	4,039.5810	0.7068	0.0000	4,054.4242

Total	**45.0300**	**78.9026**	**65.1311**	**0.0931**	**19.1141**	**4.4312**	**23.5453**	**10.2112**	**4.1188**	**14.3300**	**0.0000**	**9,005.1290**	**9,005.1290**	**1.9435**	**0.0000**	**9,045.9422**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2017	4.9056	51.8381	40.4537	0.0497	7.2470	2.7558	10.0029	3.9263	2.5354	6.4617	0.0000	4,965.5479	4,965.5479	1.2367	0.0000	4,991.5180
2018	40.1244	27.0645	24.6774	0.0434	0.8467	1.6753	2.5220	0.2271	1.5834	1.8105	0.0000	4,039.5810	4,039.5810	0.7068	0.0000	4,054.4242
Total	**45.0300**	**78.9026**	**65.1311**	**0.0931**	**8.0937**	**4.4312**	**12.5249**	**4.1534**	**4.1188**	**8.2722**	**0.0000**	**9,005.1290**	**9,005.1290**	**1.9435**	**0.0000**	**9,045.9422**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**57.66**	**0.00**	**46.81**	**59.32**	**0.00**	**42.27**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	3.3223	1.3000e-004	0.0137	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005		0.0291	0.0291	8.0000e-005		0.0307
Energy	0.0695	0.6322	0.5310	3.7900e-003		0.0480	0.0480		0.0480	0.0480		758.6027	758.6027	0.0145	0.0139	763.2195
Mobile	6.8524	15.8223	65.9982	0.1799	11.8858	0.2433	12.1291	3.1759	0.2244	3.4002		14,391.1094	14,391.1094	0.5181		14,401.9893
Total	**10.2442**	**16.4546**	**66.5429**	**0.1837**	**11.8858**	**0.2914**	**12.1772**	**3.1759**	**0.2725**	**3.4483**		**15,149.7412**	**15,149.7412**	**0.5327**	**0.0139**	**15,165.2395**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	3.3223	1.3000e-004	0.0137	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005		0.0291	0.0291	8.0000e-005		0.0307
Energy	0.0695	0.6322	0.5310	3.7900e-003		0.0480	0.0480		0.0480	0.0480		758.6027	758.6027	0.0145	0.0139	763.2195
Mobile	6.8524	15.8223	65.9982	0.1799	11.8858	0.2433	12.1291	3.1759	0.2244	3.4002		14,391.1094	14,391.1094	0.5181		14,401.9893
Total	**10.2442**	**16.4546**	**66.5429**	**0.1837**	**11.8858**	**0.2914**	**12.1772**	**3.1759**	**0.2725**	**3.4483**		**15,149.7412**	**15,149.7412**	**0.5327**	**0.0139**	**15,165.2395**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2017	1/27/2017	5	20	
2	Site Preparation	Site Preparation	1/28/2017	2/10/2017	5	10	
3	Grading	Grading	2/11/2017	3/10/2017	5	20	
4	Building Construction	Building Construction	3/11/2017	6/15/2018	5	330	
5	Architectural Coating	Architectural Coating	2/24/2018	6/15/2018	5	80	
6	Paving	Paving	6/16/2018	7/13/2018	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 10

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 190,500; Non-Residential Outdoor: 63,500 (Architectural Coating –

<u>OffRoad Equipment</u>

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	162	0.38
Demolition	Rubber Tired Dozers	2	8.00	255	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	255	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	162	0.38
Grading	Graders	1	8.00	174	0.41
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	226	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Pavers	2	8.00	125	0.42
Paving	Paving Equipment	2	8.00	130	0.36
Paving	Rollers	2	8.00	80	0.38

<u>Trips and VMT</u>

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	207.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

Grading	6	15.00	0.00	188.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	53.00	21.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	11.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Demolition - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					lb/day								lb/day			
Fugitive Dust					2.2441	0.0000	2.2441	0.3398	0.0000	0.3398			0.0000			0.0000
Off-Road	4.0482	42.6971	33.8934	0.0399		2.1252	2.1252		1.9797	1.9797		4,036.4674	4,036.4674	1.1073		4,059.7211
Total	**4.0482**	**42.6971**	**33.8934**	**0.0399**	**2.2441**	**2.1252**	**4.3693**	**0.3398**	**1.9797**	**2.3195**		**4,036.4674**	**4,036.4674**	**1.1073**		**4,059.7211**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					lb/day								lb/day			
Hauling	0.1687	2.6288	1.9318	7.6300e-003	0.1803	0.0406	0.2209	0.0494	0.0373	0.0867		757.4719	757.4719	5.4100e-003		757.5855

Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0561	0.0705	0.8806	2.1200e-003	0.1677	1.3500e-003	0.1690	0.0445	1.2400e-003	0.0457		171.6086	171.6086	8.4400e-003		171.7859
Total	**0.2248**	**2.6993**	**2.8123**	**9.7500e-003**	**0.3480**	**0.0419**	**0.3899**	**0.0939**	**0.0386**	**0.1324**		**929.0806**	**929.0806**	**0.0139**		**929.3714**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.8752	0.0000	0.8752	0.1325	0.0000	0.1325			0.0000			0.0000
Off-Road	4.0482	42.6971	33.8934	0.0399		2.1252	2.1252		1.9797	1.9797	0.0000	4,036.4674	4,036.4674	1.1073		4,059.7211
Total	**4.0482**	**42.6971**	**33.8934**	**0.0399**	**0.8752**	**2.1252**	**3.0004**	**0.1325**	**1.9797**	**2.1122**	**0.0000**	**4,036.4674**	**4,036.4674**	**1.1073**		**4,059.7211**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1687	2.6288	1.9318	7.6300e-003	0.1803	0.0406	0.2209	0.0494	0.0373	0.0867		757.4719	757.4719	5.4100e-003		757.5855
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0561	0.0705	0.8806	2.1200e-003	0.1677	1.3500e-003	0.1690	0.0445	1.2400e-003	0.0457		171.6086	171.6086	8.4400e-003		171.7859
Total	**0.2248**	**2.6993**	**2.8123**	**9.7500e-003**	**0.3480**	**0.0419**	**0.3899**	**0.0939**	**0.0386**	**0.1324**		**929.0806**	**929.0806**	**0.0139**		**929.3714**

3.3 Site Preparation - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.8382	51.7535	39.3970	0.0391		2.7542	2.7542		2.5339	2.5339		4,003.0859	4,003.0859	1.2265		4,028.8432
Total	**4.8382**	**51.7535**	**39.3970**	**0.0391**	**18.0663**	**2.7542**	**20.8205**	**9.9307**	**2.5339**	**12.4646**		**4,003.0859**	**4,003.0859**	**1.2265**		**4,028.8432**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0674	0.0846	1.0567	2.5500e-003	0.2012	1.6200e-003	0.2028	0.0534	1.4900e-003	0.0549		205.9304	205.9304	0.0101		206.1431
Total	**0.0674**	**0.0846**	**1.0567**	**2.5500e-003**	**0.2012**	**1.6200e-003**	**0.2028**	**0.0534**	**1.4900e-003**	**0.0549**		**205.9304**	**205.9304**	**0.0101**		**206.1431**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e

Category	lb/day										lb/day					
Fugitive Dust					7.0458	0.0000	7.0458	3.8730	0.0000	3.8730			0.0000			0.0000
Off-Road	4.8382	51.7535	39.3970	0.0391		2.7542	2.7542		2.5339	2.5339	0.0000	4,003.0859	4,003.0859	1.2265		4,028.8432
Total	**4.8382**	**51.7535**	**39.3970**	**0.0391**	**7.0458**	**2.7542**	**9.8001**	**3.8730**	**2.5339**	**6.4069**	**0.0000**	**4,003.0859**	**4,003.0859**	**1.2265**		**4,028.8432**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0674	0.0846	1.0567	2.5500e-003	0.2012	1.6200e-003	0.2028	0.0534	1.4900e-003	0.0549		205.9304	205.9304	0.0101		206.1431
Total	**0.0674**	**0.0846**	**1.0567**	**2.5500e-003**	**0.2012**	**1.6200e-003**	**0.2028**	**0.0534**	**1.4900e-003**	**0.0549**		**205.9304**	**205.9304**	**0.0101**		**206.1431**

3.4 Grading - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.5608	0.0000	6.5608	3.3688	0.0000	3.3688			0.0000			0.0000
Off-Road	3.4555	35.9825	25.3812	0.0297		2.0388	2.0388		1.8757	1.8757		3,043.6667	3,043.6667	0.9326		3,063.2507

Total	**3.4555**	**35.9825**	**25.3812**	**0.0297**	**6.5608**	**2.0388**	**8.5996**	**3.3688**	**1.8757**	**5.2445**		**3,043.6667**	**3,043.6667**	**0.9326**		**3,063.2507**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1532	2.3875	1.7544	6.9300e-003	0.1638	0.0368	0.2006	0.0449	0.0339	0.0787		687.9455	687.9455	4.9100e-003		688.0487
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0561	0.0705	0.8806	2.1200e-003	0.1677	1.3500e-003	0.1690	0.0445	1.2400e-003	0.0457		171.6086	171.6086	8.4400e-003		171.7859
Total	**0.2093**	**2.4580**	**2.6350**	**9.0500e-003**	**0.3314**	**0.0382**	**0.3696**	**0.0893**	**0.0351**	**0.1244**		**859.5542**	**859.5542**	**0.0134**		**859.8346**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.5587	0.0000	2.5587	1.3138	0.0000	1.3138			0.0000			0.0000
Off-Road	3.4555	35.9825	25.3812	0.0297		2.0388	2.0388		1.8757	1.8757	0.0000	3,043.6667	3,043.6667	0.9326		3,063.2507
Total	**3.4555**	**35.9825**	**25.3812**	**0.0297**	**2.5587**	**2.0388**	**4.5975**	**1.3138**	**1.8757**	**3.1895**	**0.0000**	**3,043.6667**	**3,043.6667**	**0.9326**		**3,063.2507**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1532	2.3875	1.7544	6.9300e-003	0.1638	0.0368	0.2006	0.0449	0.0339	0.0787		687.9455	687.9455	4.9100e-003		688.0487
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0561	0.0705	0.8806	2.1200e-003	0.1677	1.3500e-003	0.1690	0.0445	1.2400e-003	0.0457		171.6086	171.6086	8.4400e-003		171.7859
Total	**0.2093**	**2.4580**	**2.6350**	**9.0500e-003**	**0.3314**	**0.0382**	**0.3696**	**0.0893**	**0.0351**	**0.1244**		**859.5542**	**859.5542**	**0.0134**		**859.8346**

3.5 Building Construction - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.1024	26.4057	18.1291	0.0268		1.7812	1.7812		1.6730	1.6730		2,639.8053	2,639.8053	0.6497		2,653.4490
Total	**3.1024**	**26.4057**	**18.1291**	**0.0268**		**1.7812**	**1.7812**		**1.6730**	**1.6730**		**2,639.8053**	**2,639.8053**	**0.6497**		**2,653.4490**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1608	1.6606	1.9700	4.5700e-003	0.1313	0.0264	0.1577	0.0374	0.0243	0.0617		450.8010	450.8010	3.1800e-003		450.8678
Worker	0.1984	0.2492	3.1113	7.5000e-003	0.5924	4.7600e-003	0.5972	0.1571	4.4000e-003	0.1615		606.3505	606.3505	0.0298		606.9769
Total	**0.3592**	**1.9098**	**5.0813**	**0.0121**	**0.7237**	**0.0312**	**0.7549**	**0.1945**	**0.0287**	**0.2232**		**1,057.1515**	**1,057.1515**	**0.0330**		**1,057.8447**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.1024	26.4057	18.1291	0.0268		1.7812	1.7812		1.6730	1.6730	0.0000	2,639.8053	2,639.8053	0.6497		2,653.4490
Total	**3.1024**	**26.4057**	**18.1291**	**0.0268**		**1.7812**	**1.7812**		**1.6730**	**1.6730**	**0.0000**	**2,639.8053**	**2,639.8053**	**0.6497**		**2,653.4490**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1608	1.6606	1.9700	4.5700e-003	0.1313	0.0264	0.1577	0.0374	0.0243	0.0617		450.8010	450.8010	3.1800e-003		450.8678
Worker	0.1984	0.2492	3.1113	7.5000e-003	0.5924	4.7600e-003	0.5972	0.1571	4.4000e-003	0.1615		606.3505	606.3505	0.0298		606.9769
Total	**0.3592**	**1.9098**	**5.0813**	**0.0121**	**0.7237**	**0.0312**	**0.7549**	**0.1945**	**0.0287**	**0.2232**		**1,057.1515**	**1,057.1515**	**0.0330**		**1,057.8447**

3.5 Building Construction - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.6687	23.2608	17.5327	0.0268		1.4943	1.4943		1.4048	1.4048		2,609.9390	2,609.9390	0.6387		2,623.3517
Total	**2.6687**	**23.2608**	**17.5327**	**0.0268**		**1.4943**	**1.4943**		**1.4048**	**1.4048**		**2,609.9390**	**2,609.9390**	**0.6387**		**2,623.3517**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1508	1.5249	1.8769	4.5600e-003	0.1313	0.0249	0.1562	0.0374	0.0229	0.0603		443.2415	443.2415	3.1600e-003		443.3079
Worker	0.1788	0.2261	2.8269	7.5000e-003	0.5924	4.6400e-003	0.5971	0.1571	4.2900e-003	0.1614		583.7884	583.7884	0.0277		584.3698
Total	**0.3297**	**1.7510**	**4.7038**	**0.0121**	**0.7237**	**0.0296**	**0.7532**	**0.1945**	**0.0272**	**0.2217**		**1,027.0299**	**1,027.0299**	**0.0309**		**1,027.6777**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.6687	23.2608	17.5327	0.0268		1.4943	1.4943		1.4048	1.4048	0.0000	2,609.9389	2,609.9389	0.6387		2,623.3517
Total	**2.6687**	**23.2608**	**17.5327**	**0.0268**		**1.4943**	**1.4943**		**1.4048**	**1.4048**	**0.0000**	**2,609.9389**	**2,609.9389**	**0.6387**		**2,623.3517**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1508	1.5249	1.8769	4.5600e-003	0.1313	0.0249	0.1562	0.0374	0.0229	0.0603		443.2415	443.2415	3.1600e-003		443.3079
Worker	0.1788	0.2261	2.8269	7.5000e-003	0.5924	4.6400e-003	0.5971	0.1571	4.2900e-003	0.1614		583.7884	583.7884	0.0277		584.3698
Total	**0.3297**	**1.7510**	**4.7038**	**0.0121**	**0.7237**	**0.0296**	**0.7532**	**0.1945**	**0.0272**	**0.2217**		**1,027.0299**	**1,027.0299**	**0.0309**		**1,027.6777**

3.6 Architectural Coating - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	36.7903					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000

Off-Road	0.2986	2.0058	1.8542	2.9700e-003		0.1506	0.1506		0.1506	0.1506		281.4485	281.4485	0.0267		282.0102
Total	**37.0889**	**2.0058**	**1.8542**	**2.9700e-003**		**0.1506**	**0.1506**		**0.1506**	**0.1506**		**281.4485**	**281.4485**	**0.0267**		**282.0102**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0371	0.0469	0.5867	1.5600e-003	0.1230	9.6000e-004	0.1239	0.0326	8.9000e-004	0.0335		121.1636	121.1636	5.7500e-003		121.2843
Total	**0.0371**	**0.0469**	**0.5867**	**1.5600e-003**	**0.1230**	**9.6000e-004**	**0.1239**	**0.0326**	**8.9000e-004**	**0.0335**		**121.1636**	**121.1636**	**5.7500e-003**		**121.2843**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	36.7903					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2986	2.0058	1.8542	2.9700e-003		0.1506	0.1506		0.1506	0.1506	0.0000	281.4485	281.4485	0.0267		282.0102
Total	**37.0889**	**2.0058**	**1.8542**	**2.9700e-003**		**0.1506**	**0.1506**		**0.1506**	**0.1506**	**0.0000**	**281.4485**	**281.4485**	**0.0267**		**282.0102**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					lb/day									lb/day		
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0371	0.0469	0.5867	1.5600e-003	0.1230	9.6000e-004	0.1239	0.0326	8.9000e-004	0.0335		121.1636	121.1636	5.7500e-003		121.2843
Total	**0.0371**	**0.0469**	**0.5867**	**1.5600e-003**	**0.1230**	**9.6000e-004**	**0.1239**	**0.0326**	**8.9000e-004**	**0.0335**		**121.1636**	**121.1636**	**5.7500e-003**		**121.2843**

3.7 Paving - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					lb/day									lb/day		
Off-Road	1.6114	17.1628	14.4944	0.0223		0.9386	0.9386		0.8635	0.8635		2,245.2695	2,245.2695	0.6990		2,259.9481
Paving	0.2096					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.8210**	**17.1628**	**14.4944**	**0.0223**		**0.9386**	**0.9386**		**0.8635**	**0.8635**		**2,245.2695**	**2,245.2695**	**0.6990**		**2,259.9481**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					lb/day									lb/day		

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0506	0.0640	0.8001	2.1200e-003	0.1677	1.3100e-003	0.1690	0.0445	1.2100e-003	0.0457		165.2231	165.2231	7.8400e-003		165.3877
Total	**0.0506**	**0.0640**	**0.8001**	**2.1200e-003**	**0.1677**	**1.3100e-003**	**0.1690**	**0.0445**	**1.2100e-003**	**0.0457**		**165.2231**	**165.2231**	**7.8400e-003**		**165.3877**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6114	17.1628	14.4944	0.0223		0.9386	0.9386		0.8635	0.8635	0.0000	2,245.2695	2,245.2695	0.6990		2,259.9481
Paving	0.2096					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.8210**	**17.1628**	**14.4944**	**0.0223**		**0.9386**	**0.9386**		**0.8635**	**0.8635**	**0.0000**	**2,245.2695**	**2,245.2695**	**0.6990**		**2,259.9481**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0506	0.0640	0.8001	2.1200e-003	0.1677	1.3100e-003	0.1690	0.0445	1.2100e-003	0.0457		165.2231	165.2231	7.8400e-003		165.3877
Total	**0.0506**	**0.0640**	**0.8001**	**2.1200e-003**	**0.1677**	**1.3100e-003**	**0.1690**	**0.0445**	**1.2100e-003**	**0.0457**		**165.2231**	**165.2231**	**7.8400e-003**		**165.3877**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day										lb/day					
Mitigated	6.8524	15.8223	65.9982	0.1799	11.8858	0.2433	12.1291	3.1759	0.2244	3.4002		14,391.1094	14,391.1094	0.5181		14,401.9893
Unmitigated	6.8524	15.8223	65.9982	0.1799	11.8858	0.2433	12.1291	3.1759	0.2244	3.4002		14,391.1094	14,391.1094	0.5181		14,401.9893

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Health Club	1,819.05	1,152.97	1476.96	3,582,496	3,582,496
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Recreational Swimming Pool	703.50	445.90	571.20	1,577,725	1,577,725
Fast Food Restaurant w/o Drive Thru	0.00	0.00	0.00		
Other Asphalt Surfaces	0.00	0.00	0.00		
Total	2,522.55	1,598.87	2,048.16	5,160,221	5,160,221

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Health Club	16.60	8.40	6.90	16.90	64.10	19.00	52	39	9
Other Non-Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Recreational Swimming Pool	16.60	8.40	6.90	33.00	48.00	19.00	52	39	9
Fast Food Restaurant w/o Drive Thru	16.60	8.40	6.90	1.50	79.50	19.00	51	37	12
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.511108	0.059746	0.180859	0.139188	0.042462	0.006666	0.016153	0.032295	0.001940	0.002496	0.004377	0.000582	0.002128

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0695	0.6322	0.5310	3.7900e-003		0.0480	0.0480		0.0480	0.0480		758.6027	758.6027	0.0145	0.0139	763.2195
NaturalGas Unmitigated	0.0695	0.6322	0.5310	3.7900e-003		0.0480	0.0480		0.0480	0.0480		758.6027	758.6027	0.0145	0.0139	763.2195

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Health Club	5365.53	0.0579	0.5260	0.4419	3.1600e-003		0.0400	0.0400		0.0400	0.0400		631.2393	631.2393	0.0121	0.0116	635.0809
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Fast Food Restaurant w/o Drive Thru	1082.59	0.0117	0.1061	0.0892	6.4000e-004		8.0700e-003	8.0700e-003		8.0700e-003	8.0700e-003		127.3634	127.3634	2.4400e-003	2.3300e-003	128.1385
Total		**0.0695**	**0.6322**	**0.5310**	**3.8000e-003**		**0.0481**	**0.0481**		**0.0481**	**0.0481**		**758.6027**	**758.6027**	**0.0145**	**0.0139**	**763.2195**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Fast Food Restaurant w/o Drive Thru	1.08259	0.0117	0.1061	0.0892	6.4000e-004		8.0700e-003	8.0700e-003		8.0700e-003	8.0700e-003		127.3634	127.3634	2.4400e-003	2.3300e-003	128.1385
Health Club	5.36553	0.0579	0.5260	0.4419	3.1600e-003		0.0400	0.0400		0.0400	0.0400		631.2393	631.2393	0.0121	0.0116	635.0809
Total		**0.0695**	**0.6322**	**0.5310**	**3.8000e-003**		**0.0481**	**0.0481**		**0.0481**	**0.0481**		**758.6027**	**758.6027**	**0.0145**	**0.0139**	**763.2195**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					

Mitigated	3.3223	1.3000e-004	0.0137	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005		0.0291	0.0291	8.0000e-005		0.0307
Unmitigated	3.3223	1.3000e-004	0.0137	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005		0.0291	0.0291	8.0000e-005		0.0307

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.8064					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.5146					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.3000e-003	1.3000e-004	0.0137	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005		0.0291	0.0291	8.0000e-005		0.0307
Total	**3.3223**	**1.3000e-004**	**0.0137**	**0.0000**		**5.0000e-005**	**5.0000e-005**		**5.0000e-005**	**5.0000e-005**		**0.0291**	**0.0291**	**8.0000e-005**		**0.0307**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.8064					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.5146					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.3000e-003	1.3000e-004	0.0137	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005		0.0291	0.0291	8.0000e-005		0.0307
Total	**3.3223**	**1.3000e-004**	**0.0137**	**0.0000**		**5.0000e-005**	**5.0000e-005**		**5.0000e-005**	**5.0000e-005**		**0.0291**	**0.0291**	**8.0000e-005**		**0.0307**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

Belmont Pool

South Coast Air Basin, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	4.20	Acre	4.20	0.00	0
Health Club	90.50	1000sqft	2.08	90,500.00	0
Recreational Swimming Pool	35.00	1000sqft	0.80	35,000.00	0
Other Asphalt Surfaces	1.60	Acre	1.60	0.00	0
Fast Food Restaurant w/o Drive Thru	1.50	1000sqft	0.03	1,500.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	8			**Operational Year**	2019
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	630.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - From project description

Construction Phase - Construction to start in 2017 and last 18 months. Assume architectural coating applied during building construction phase.

Demolition -

Vehicle Trips - Trip rates from traffic study

Construction Off-road Equipment Mitigation - Dust control measures as required by SCAQMD Rule 403.

Grading -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	80.00
tblConstructionPhase	NumDays	230.00	330.00
tblConstructionPhase	PhaseEndDate	10/5/2018	6/15/2018
tblConstructionPhase	PhaseStartDate	6/16/2018	2/24/2018
tblGrading	MaterialExported	0.00	1,500.00
tblLandUse	LandUseSquareFeet	182,952.00	0.00
tblLandUse	LandUseSquareFeet	69,696.00	0.00
tblProjectCharacteristics	OperationalYear	2014	2019
tblVehicleTrips	ST_TR	20.87	12.74
tblVehicleTrips	ST_TR	20.87	12.74
tblVehicleTrips	ST_TR	696.00	0.00
tblVehicleTrips	SU_TR	26.73	16.32
tblVehicleTrips	SU_TR	26.73	16.32
tblVehicleTrips	SU_TR	500.00	0.00
tblVehicleTrips	WD_TR	32.93	20.10
tblVehicleTrips	WD_TR	32.93	20.10
tblVehicleTrips	WD_TR	716.00	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2017	4.9069	51.8464	40.3676	0.0495	18.2675	2.7558	21.0233	9.9840	2.5354	12.5194	0.0000	4,953.065 8	4,953.0658	1.2367	0.0000	4,979.0359
2018	40.1416	27.1281	24.8004	0.0428	0.8467	1.6756	2.5222	0.2271	1.5837	1.8108	0.0000	3,991.880 2	3,991.8802	0.7068	0.0000	4,006.7234

Total	**45.0485**	**78.9745**	**65.1681**	**0.0923**	**19.1141**	**4.4314**	**23.5455**	**10.2112**	**4.1190**	**14.3302**	**0.0000**	**8,944.9460**	**8,944.9460**	**1.9435**	**0.0000**	**8,985.7592**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2017	4.9069	51.8464	40.3676	0.0495	7.2470	2.7558	10.0029	3.9263	2.5354	6.4617	0.0000	4,953.0658	4,953.0658	1.2367	0.0000	4,979.0359
2018	40.1416	27.1281	24.8004	0.0428	0.8467	1.6756	2.5222	0.2271	1.5837	1.8108	0.0000	3,991.8802	3,991.8802	0.7068	0.0000	4,006.7234
Total	**45.0485**	**78.9745**	**65.1681**	**0.0923**	**8.0937**	**4.4314**	**12.5251**	**4.1534**	**4.1190**	**8.2725**	**0.0000**	**8,944.9460**	**8,944.9460**	**1.9435**	**0.0000**	**8,985.7592**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**57.66**	**0.00**	**46.80**	**59.32**	**0.00**	**42.27**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	3.3223	1.3000e-004	0.0137	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005		0.0291	0.0291	8.0000e-005		0.0307
Energy	0.0695	0.6322	0.5310	3.7900e-003		0.0480	0.0480		0.0480	0.0480		758.6027	758.6027	0.0145	0.0139	763.2195
Mobile	7.1085	16.5745	67.0089	0.1709	11.8858	0.2446	12.1304	3.1759	0.2255	3.4014		13,704.0922	13,704.0922	0.5188		13,714.9878
Total	**10.5003**	**17.2068**	**67.5536**	**0.1747**	**11.8858**	**0.2926**	**12.1785**	**3.1759**	**0.2736**	**3.4495**		**14,462.7240**	**14,462.7240**	**0.5335**	**0.0139**	**14,478.2380**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	3.3223	1.3000e-004	0.0137	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005		0.0291	0.0291	8.0000e-005		0.0307
Energy	0.0695	0.6322	0.5310	3.7900e-003		0.0480	0.0480		0.0480	0.0480		758.6027	758.6027	0.0145	0.0139	763.2195
Mobile	7.1085	16.5745	67.0089	0.1709	11.8858	0.2446	12.1304	3.1759	0.2255	3.4014		13,704.0922	13,704.0922	0.5188		13,714.9878
Total	**10.5003**	**17.2068**	**67.5536**	**0.1747**	**11.8858**	**0.2926**	**12.1785**	**3.1759**	**0.2736**	**3.4495**		**14,462.7240**	**14,462.7240**	**0.5335**	**0.0139**	**14,478.2380**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2017	1/27/2017	5	20	
2	Site Preparation	Site Preparation	1/28/2017	2/10/2017	5	10	
3	Grading	Grading	2/11/2017	3/10/2017	5	20	
4	Building Construction	Building Construction	3/11/2017	6/15/2018	5	330	
5	Architectural Coating	Architectural Coating	2/24/2018	6/15/2018	5	80	
6	Paving	Paving	6/16/2018	7/13/2018	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 10

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 190,500; Non-Residential Outdoor: 63,500 (Architectural Coating –

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	162	0.38
Demolition	Rubber Tired Dozers	2	8.00	255	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	255	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	162	0.38
Grading	Graders	1	8.00	174	0.41
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	226	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Pavers	2	8.00	125	0.42
Paving	Paving Equipment	2	8.00	130	0.36
Paving	Rollers	2	8.00	80	0.38

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	207.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

Grading	6	15.00	0.00	188.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	53.00	21.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	11.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Demolition - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.2441	0.0000	2.2441	0.3398	0.0000	0.3398			0.0000			0.0000
Off-Road	4.0482	42.6971	33.8934	0.0399		2.1252	2.1252		1.9797	1.9797		4,036.4674	4,036.4674	1.1073		4,059.7211
Total	**4.0482**	**42.6971**	**33.8934**	**0.0399**	**2.2441**	**2.1252**	**4.3693**	**0.3398**	**1.9797**	**2.3195**		**4,036.4674**	**4,036.4674**	**1.1073**		**4,059.7211**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1774	2.7238	2.2275	7.6200e-003	0.1803	0.0407	0.2210	0.0494	0.0374	0.0868		755.6716	755.6716	5.4800e-003		755.7867

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0573	0.0775	0.8088	1.9900e-003	0.1677	1.3500e-003	0.1690	0.0445	1.2400e-003	0.0457		160.9269	160.9269	8.4400e-003		161.1042
Total	**0.2347**	**2.8012**	**3.0363**	**9.6100e-003**	**0.3480**	**0.0420**	**0.3900**	**0.0939**	**0.0386**	**0.1325**		**916.5985**	**916.5985**	**0.0139**		**916.8909**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.8752	0.0000	0.8752	0.1325	0.0000	0.1325			0.0000			0.0000
Off-Road	4.0482	42.6971	33.8934	0.0399		2.1252	2.1252		1.9797	1.9797	0.0000	4,036.4674	4,036.4674	1.1073		4,059.7211
Total	**4.0482**	**42.6971**	**33.8934**	**0.0399**	**0.8752**	**2.1252**	**3.0004**	**0.1325**	**1.9797**	**2.1122**	**0.0000**	**4,036.4674**	**4,036.4674**	**1.1073**		**4,059.7211**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1774	2.7238	2.2275	7.6200e-003	0.1803	0.0407	0.2210	0.0494	0.0374	0.0868		755.6716	755.6716	5.4800e-003		755.7867
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0573	0.0775	0.8088	1.9900e-003	0.1677	1.3500e-003	0.1690	0.0445	1.2400e-003	0.0457		160.9269	160.9269	8.4400e-003		161.1042
Total	**0.2347**	**2.8012**	**3.0363**	**9.6100e-003**	**0.3480**	**0.0420**	**0.3900**	**0.0939**	**0.0386**	**0.1325**		**916.5985**	**916.5985**	**0.0139**		**916.8909**

3.3 Site Preparation - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.8382	51.7535	39.3970	0.0391		2.7542	2.7542		2.5339	2.5339		4,003.0859	4,003.0859	1.2265		4,028.8432
Total	**4.8382**	**51.7535**	**39.3970**	**0.0391**	**18.0663**	**2.7542**	**20.8205**	**9.9307**	**2.5339**	**12.4646**		**4,003.0859**	**4,003.0859**	**1.2265**		**4,028.8432**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0687	0.0929	0.9706	2.3900e-003	0.2012	1.6200e-003	0.2028	0.0534	1.4900e-003	0.0549		193.1123	193.1123	0.0101		193.3250
Total	**0.0687**	**0.0929**	**0.9706**	**2.3900e-003**	**0.2012**	**1.6200e-003**	**0.2028**	**0.0534**	**1.4900e-003**	**0.0549**		**193.1123**	**193.1123**	**0.0101**		**193.3250**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e

Category	lb/day										lb/day					
Fugitive Dust					7.0458	0.0000	7.0458	3.8730	0.0000	3.8730			0.0000			0.0000
Off-Road	4.8382	51.7535	39.3970	0.0391		2.7542	2.7542		2.5339	2.5339	0.0000	4,003.0859	4,003.0859	1.2265		4,028.8432
Total	**4.8382**	**51.7535**	**39.3970**	**0.0391**	**7.0458**	**2.7542**	**9.8001**	**3.8730**	**2.5339**	**6.4069**	**0.0000**	**4,003.0859**	**4,003.0859**	**1.2265**		**4,028.8432**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0687	0.0929	0.9706	2.3900e-003	0.2012	1.6200e-003	0.2028	0.0534	1.4900e-003	0.0549		193.1123	193.1123	0.0101		193.3250
Total	**0.0687**	**0.0929**	**0.9706**	**2.3900e-003**	**0.2012**	**1.6200e-003**	**0.2028**	**0.0534**	**1.4900e-003**	**0.0549**		**193.1123**	**193.1123**	**0.0101**		**193.3250**

3.4 Grading - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.5608	0.0000	6.5608	3.3688	0.0000	3.3688			0.0000			0.0000
Off-Road	3.4555	35.9825	25.3812	0.0297		2.0388	2.0388		1.8757	1.8757		3,043.6667	3,043.6667	0.9326		3,063.2507

Total	**3.4555**	**35.9825**	**25.3812**	**0.0297**	**6.5608**	**2.0388**	**8.5996**	**3.3688**	**1.8757**	**5.2445**		**3,043.6667**	**3,043.6667**	**0.9326**		**3,063.2507**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1611	2.4738	2.0230	6.9200e-003	0.1638	0.0369	0.2007	0.0449	0.0340	0.0788		686.3104	686.3104	4.9800e-003		686.4150
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0573	0.0775	0.8088	1.9900e-003	0.1677	1.3500e-003	0.1690	0.0445	1.2400e-003	0.0457		160.9269	160.9269	8.4400e-003		161.1042
Total	**0.2184**	**2.5512**	**2.8319**	**8.9100e-003**	**0.3314**	**0.0383**	**0.3697**	**0.0893**	**0.0352**	**0.1245**		**847.2373**	**847.2373**	**0.0134**		**847.5192**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.5587	0.0000	2.5587	1.3138	0.0000	1.3138			0.0000			0.0000
Off-Road	3.4555	35.9825	25.3812	0.0297		2.0388	2.0388		1.8757	1.8757	0.0000	3,043.6667	3,043.6667	0.9326		3,063.2507
Total	**3.4555**	**35.9825**	**25.3812**	**0.0297**	**2.5587**	**2.0388**	**4.5975**	**1.3138**	**1.8757**	**3.1895**	**0.0000**	**3,043.6667**	**3,043.6667**	**0.9326**		**3,063.2507**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1611	2.4738	2.0230	6.9200e-003	0.1638	0.0369	0.2007	0.0449	0.0340	0.0788		686.3104	686.3104	4.9800e-003		686.4150
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0573	0.0775	0.8088	1.9900e-003	0.1677	1.3500e-003	0.1690	0.0445	1.2400e-003	0.0457		160.9269	160.9269	8.4400e-003		161.1042
Total	**0.2184**	**2.5512**	**2.8319**	**8.9100e-003**	**0.3314**	**0.0383**	**0.3697**	**0.0893**	**0.0352**	**0.1245**		**847.2373**	**847.2373**	**0.0134**		**847.5192**

3.5 Building Construction - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.1024	26.4057	18.1291	0.0268		1.7812	1.7812		1.6730	1.6730		2,639.8053	2,639.8053	0.6497		2,653.4490
Total	**3.1024**	**26.4057**	**18.1291**	**0.0268**		**1.7812**	**1.7812**		**1.6730**	**1.6730**		**2,639.8053**	**2,639.8053**	**0.6497**		**2,653.4490**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1756	1.7016	2.3868	4.5300e-003	0.1313	0.0267	0.1580	0.0374	0.0245	0.0619		447.0141	447.0141	3.2800e-003		447.0830
Worker	0.2023	0.2737	2.8579	7.0300e-003	0.5924	4.7600e-003	0.5972	0.1571	4.4000e-003	0.1615		568.6083	568.6083	0.0298		569.2347
Total	**0.3780**	**1.9752**	**5.2447**	**0.0116**	**0.7237**	**0.0315**	**0.7552**	**0.1945**	**0.0289**	**0.2235**		**1,015.6224**	**1,015.6224**	**0.0331**		**1,016.3177**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.1024	26.4057	18.1291	0.0268		1.7812	1.7812		1.6730	1.6730	0.0000	2,639.8053	2,639.8053	0.6497		2,653.4490
Total	**3.1024**	**26.4057**	**18.1291**	**0.0268**		**1.7812**	**1.7812**		**1.6730**	**1.6730**	**0.0000**	**2,639.8053**	**2,639.8053**	**0.6497**		**2,653.4490**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1756	1.7016	2.3868	4.5300e-003	0.1313	0.0267	0.1580	0.0374	0.0245	0.0619		447.0141	447.0141	3.2800e-003		447.0830
Worker	0.2023	0.2737	2.8579	7.0300e-003	0.5924	4.7600e-003	0.5972	0.1571	4.4000e-003	0.1615		568.6083	568.6083	0.0298		569.2347
Total	**0.3780**	**1.9752**	**5.2447**	**0.0116**	**0.7237**	**0.0315**	**0.7552**	**0.1945**	**0.0289**	**0.2235**		**1,015.6224**	**1,015.6224**	**0.0331**		**1,016.3177**

3.5 Building Construction - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.6687	23.2608	17.5327	0.0268		1.4943	1.4943		1.4048	1.4048		2,609.9390	2,609.9390	0.6387		2,623.3517
Total	**2.6687**	**23.2608**	**17.5327**	**0.0268**		**1.4943**	**1.4943**		**1.4048**	**1.4048**		**2,609.9390**	**2,609.9390**	**0.6387**		**2,623.3517**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1642	1.5618	2.2904	4.5300e-003	0.1313	0.0251	0.1564	0.0374	0.0231	0.0605		439.5102	439.5102	3.2600e-003		439.5787
Worker	0.1820	0.2482	2.5864	7.0300e-003	0.5924	4.6400e-003	0.5971	0.1571	4.2900e-003	0.1614		547.3761	547.3761	0.0277		547.9575
Total	**0.3462**	**1.8100**	**4.8768**	**0.0116**	**0.7237**	**0.0298**	**0.7535**	**0.1945**	**0.0274**	**0.2219**		**986.8863**	**986.8863**	**0.0310**		**987.5362**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.6687	23.2608	17.5327	0.0268		1.4943	1.4943		1.4048	1.4048	0.0000	2,609.9389	2,609.9389	0.6387		2,623.3517
Total	**2.6687**	**23.2608**	**17.5327**	**0.0268**		**1.4943**	**1.4943**		**1.4048**	**1.4048**	**0.0000**	**2,609.9389**	**2,609.9389**	**0.6387**		**2,623.3517**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1642	1.5618	2.2904	4.5300e-003	0.1313	0.0251	0.1564	0.0374	0.0231	0.0605		439.5102	439.5102	3.2600e-003		439.5787
Worker	0.1820	0.2482	2.5864	7.0300e-003	0.5924	4.6400e-003	0.5971	0.1571	4.2900e-003	0.1614		547.3761	547.3761	0.0277		547.9575
Total	**0.3462**	**1.8100**	**4.8768**	**0.0116**	**0.7237**	**0.0298**	**0.7535**	**0.1945**	**0.0274**	**0.2219**		**986.8863**	**986.8863**	**0.0310**		**987.5362**

3.6 Architectural Coating - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	36.7903					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Off-Road	0.2986	2.0058	1.8542	2.9700e-003		0.1506	0.1506		0.1506	0.1506		281.4485	281.4485	0.0267		282.0102
Total	**37.0889**	**2.0058**	**1.8542**	**2.9700e-003**		**0.1506**	**0.1506**		**0.1506**	**0.1506**		**281.4485**	**281.4485**	**0.0267**		**282.0102**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0378	0.0515	0.5368	1.4600e-003	0.1230	9.6000e-004	0.1239	0.0326	8.9000e-004	0.0335		113.6064	113.6064	5.7500e-003		113.7270
Total	**0.0378**	**0.0515**	**0.5368**	**1.4600e-003**	**0.1230**	**9.6000e-004**	**0.1239**	**0.0326**	**8.9000e-004**	**0.0335**		**113.6064**	**113.6064**	**5.7500e-003**		**113.7270**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	36.7903					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2986	2.0058	1.8542	2.9700e-003		0.1506	0.1506		0.1506	0.1506	0.0000	281.4485	281.4485	0.0267		282.0102
Total	**37.0889**	**2.0058**	**1.8542**	**2.9700e-003**		**0.1506**	**0.1506**		**0.1506**	**0.1506**	**0.0000**	**281.4485**	**281.4485**	**0.0267**		**282.0102**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0378	0.0515	0.5368	1.4600e-003	0.1230	9.6000e-004	0.1239	0.0326	8.9000e-004	0.0335		113.6064	113.6064	5.7500e-003		113.7270
Total	**0.0378**	**0.0515**	**0.5368**	**1.4600e-003**	**0.1230**	**9.6000e-004**	**0.1239**	**0.0326**	**8.9000e-004**	**0.0335**		**113.6064**	**113.6064**	**5.7500e-003**		**113.7270**

3.7 Paving - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6114	17.1628	14.4944	0.0223		0.9386	0.9386		0.8635	0.8635		2,245.2695	2,245.2695	0.6990		2,259.9481
Paving	0.2096					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.8210**	**17.1628**	**14.4944**	**0.0223**		**0.9386**	**0.9386**		**0.8635**	**0.8635**		**2,245.2695**	**2,245.2695**	**0.6990**		**2,259.9481**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0515	0.0702	0.7320	1.9900e-003	0.1677	1.3100e-003	0.1690	0.0445	1.2100e-003	0.0457		154.9178	154.9178	7.8400e-003		155.0823
Total	**0.0515**	**0.0702**	**0.7320**	**1.9900e-003**	**0.1677**	**1.3100e-003**	**0.1690**	**0.0445**	**1.2100e-003**	**0.0457**		**154.9178**	**154.9178**	**7.8400e-003**		**155.0823**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6114	17.1628	14.4944	0.0223		0.9386	0.9386		0.8635	0.8635	0.0000	2,245.2695	2,245.2695	0.6990		2,259.9481
Paving	0.2096					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.8210**	**17.1628**	**14.4944**	**0.0223**		**0.9386**	**0.9386**		**0.8635**	**0.8635**	**0.0000**	**2,245.2695**	**2,245.2695**	**0.6990**		**2,259.9481**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0515	0.0702	0.7320	1.9900e-003	0.1677	1.3100e-003	0.1690	0.0445	1.2100e-003	0.0457		154.9178	154.9178	7.8400e-003		155.0823
Total	**0.0515**	**0.0702**	**0.7320**	**1.9900e-003**	**0.1677**	**1.3100e-003**	**0.1690**	**0.0445**	**1.2100e-003**	**0.0457**		**154.9178**	**154.9178**	**7.8400e-003**		**155.0823**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day										lb/day					
Mitigated	7.1085	16.5745	67.0089	0.1709	11.8858	0.2446	12.1304	3.1759	0.2255	3.4014		13,704.0922	13,704.0922	0.5188		13,714.9878
Unmitigated	7.1085	16.5745	67.0089	0.1709	11.8858	0.2446	12.1304	3.1759	0.2255	3.4014		13,704.0922	13,704.0922	0.5188		13,714.9878

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Health Club	1,819.05	1,152.97	1476.96	3,582,496	3,582,496
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Recreational Swimming Pool	703.50	445.90	571.20	1,577,725	1,577,725
Fast Food Restaurant w/o Drive Thru	0.00	0.00	0.00		
Other Asphalt Surfaces	0.00	0.00	0.00		
Total	2,522.55	1,598.87	2,048.16	5,160,221	5,160,221

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Health Club	16.60	8.40	6.90	16.90	64.10	19.00	52	39	9
Other Non-Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Recreational Swimming Pool	16.60	8.40	6.90	33.00	48.00	19.00	52	39	9
Fast Food Restaurant w/o Drive Thru	16.60	8.40	6.90	1.50	79.50	19.00	51	37	12
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.511108	0.059746	0.180859	0.139188	0.042462	0.006666	0.016153	0.032295	0.001940	0.002496	0.004377	0.000582	0.002128

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0695	0.6322	0.5310	3.7900e-003		0.0480	0.0480		0.0480	0.0480		758.6027	758.6027	0.0145	0.0139	763.2195
NaturalGas Unmitigated	0.0695	0.6322	0.5310	3.7900e-003		0.0480	0.0480		0.0480	0.0480		758.6027	758.6027	0.0145	0.0139	763.2195

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Health Club	5365.53	0.0579	0.5260	0.4419	3.1600e-003		0.0400	0.0400		0.0400	0.0400		631.2393	631.2393	0.0121	0.0116	635.0809
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Fast Food Restaurant w/o Drive Thru	1082.59	0.0117	0.1061	0.0892	6.4000e-004		8.0700e-003	8.0700e-003		8.0700e-003	8.0700e-003		127.3634	127.3634	2.4400e-003	2.3300e-003	128.1385
Total		**0.0695**	**0.6322**	**0.5310**	**3.8000e-003**		**0.0481**	**0.0481**		**0.0481**	**0.0481**		**758.6027**	**758.6027**	**0.0145**	**0.0139**	**763.2195**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Fast Food Restaurant w/o Drive Thru	1.08259	0.0117	0.1061	0.0892	6.4000e-004		8.0700e-003	8.0700e-003		8.0700e-003	8.0700e-003		127.3634	127.3634	2.4400e-003	2.3300e-003	128.1385
Health Club	5.36553	0.0579	0.5260	0.4419	3.1600e-003		0.0400	0.0400		0.0400	0.0400		631.2393	631.2393	0.0121	0.0116	635.0809
Total		**0.0695**	**0.6322**	**0.5310**	**3.8000e-003**		**0.0481**	**0.0481**		**0.0481**	**0.0481**		**758.6027**	**758.6027**	**0.0145**	**0.0139**	**763.2195**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					

Mitigated	3.3223	1.3000e-004	0.0137	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005		0.0291	0.0291	8.0000e-005		0.0307
Unmitigated	3.3223	1.3000e-004	0.0137	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005		0.0291	0.0291	8.0000e-005		0.0307

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.8064					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.5146					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.3000e-003	1.3000e-004	0.0137	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005		0.0291	0.0291	8.0000e-005		0.0307
Total	**3.3223**	**1.3000e-004**	**0.0137**	**0.0000**		**5.0000e-005**	**5.0000e-005**		**5.0000e-005**	**5.0000e-005**		**0.0291**	**0.0291**	**8.0000e-005**		**0.0307**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.8064					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.5146					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.3000e-003	1.3000e-004	0.0137	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005		0.0291	0.0291	8.0000e-005		0.0307
Total	**3.3223**	**1.3000e-004**	**0.0137**	**0.0000**		**5.0000e-005**	**5.0000e-005**		**5.0000e-005**	**5.0000e-005**		**0.0291**	**0.0291**	**8.0000e-005**		**0.0307**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

Belmont Pool

South Coast Air Basin, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	4.20	Acre	4.20	0.00	0
Health Club	90.50	1000sqft	2.08	90,500.00	0
Recreational Swimming Pool	35.00	1000sqft	0.80	35,000.00	0
Other Asphalt Surfaces	1.60	Acre	1.60	0.00	0
Fast Food Restaurant w/o Drive Thru	1.50	1000sqft	0.03	1,500.00	0

1.2 Other Project Characteristics

Urbanization Urban **Wind Speed (m/s)** 2.2 **Precipitation Freq (Days)** 31

Climate Zone 8 **Operational Year** 2019

Utility Company Southern California Edison

CO2 Intensity (lb/MWhr) 630.89 **CH4 Intensity (lb/MWhr)** 0.029 **N2O Intensity (lb/MWhr)** 0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - From project description

Construction Phase - Construction to start in 2017 and last 18 months. Assume architectural coating applied during building construction phase.

Demolition -

Vehicle Trips - Trip rates from traffic study

Construction Off-road Equipment Mitigation - Dust control measures as required by SCAQMD Rule 403.

Grading -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	80.00
tblConstructionPhase	NumDays	230.00	330.00
tblConstructionPhase	PhaseEndDate	10/5/2018	6/15/2018
tblConstructionPhase	PhaseStartDate	6/16/2018	2/24/2018
tblGrading	MaterialExported	0.00	1,500.00
tblLandUse	LandUseSquareFeet	182,952.00	0.00
tblLandUse	LandUseSquareFeet	69,696.00	0.00
tblProjectCharacteristics	OperationalYear	2014	2019
tblVehicleTrips	ST_TR	20.87	12.74
tblVehicleTrips	ST_TR	20.87	12.74
tblVehicleTrips	ST_TR	696.00	0.00
tblVehicleTrips	SU_TR	26.73	16.32
tblVehicleTrips	SU_TR	26.73	16.32
tblVehicleTrips	SU_TR	500.00	0.00
tblVehicleTrips	WD_TR	32.93	20.10
tblVehicleTrips	WD_TR	32.93	20.10
tblVehicleTrips	WD_TR	716.00	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2017	0.4677	4.0849	3.3076	5.1300e-003	0.2607	0.2465	0.5072	0.1089	0.2307	0.3396	0.0000	448.5909	448.5909	0.0894	0.0000	450.4682
2018	1.6836	1.7612	1.5931	2.7300e-003	0.0491	0.1069	0.1560	0.0132	0.1006	0.1138	0.0000	232.5576	232.5576	0.0440	0.0000	233.4824

Total	2.1513	5.8461	4.9007	7.8600e-003	0.3098	0.3534	0.6632	0.1221	0.3313	0.4534	0.0000	681.1484	681.1484	0.1334	0.0000	683.9506

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2017	0.4677	4.0849	3.3076	5.1300e-003	0.1519	0.2465	0.3984	0.0560	0.2307	0.2866	0.0000	448.5905	448.5905	0.0894	0.0000	450.4678
2018	1.6836	1.7612	1.5931	2.7300e-003	0.0491	0.1069	0.1560	0.0132	0.1006	0.1138	0.0000	232.5574	232.5574	0.0440	0.0000	233.4822
Total	**2.1513**	**5.8461**	**4.9007**	**7.8600e-003**	**0.2010**	**0.3534**	**0.5544**	**0.0692**	**0.3313**	**0.4005**	**0.0000**	**681.1478**	**681.1478**	**0.1334**	**0.0000**	**683.9500**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**35.12**	**0.00**	**16.41**	**43.34**	**0.00**	**11.67**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.6062	2.0000e-005	1.7100e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.3000e-003	3.3000e-003	1.0000e-005	0.0000	3.4800e-003
Energy	0.0127	0.1154	0.0969	6.9000e-004		8.7700e-003	8.7700e-003		8.7700e-003	8.7700e-003	0.0000	381.7761	381.7761	0.0142	4.7400e-003	383.5430
Mobile	1.1252	2.8310	11.2769	0.0290	1.9557	0.0408	1.9966	0.5234	0.0376	0.5610	0.0000	2,106.5429	2,106.5429	0.0787	0.0000	2,108.1960
Waste						0.0000	0.0000		0.0000	0.0000	148.7173	0.0000	148.7173	8.7889	0.0000	333.2850

Water						0.0000	0.0000		0.0000	0.0000	2.4993	43.9099	46.4091	0.2587	6.4800e-003	53.8506
Total	**1.7441**	**2.9464**	**11.3755**	**0.0297**	**1.9557**	**0.0496**	**2.0053**	**0.5234**	**0.0464**	**0.5698**	**151.2165**	**2,532.2321**	**2,683.4486**	**9.1406**	**0.0112**	**2,878.8780**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.6062	2.0000e-005	1.7100e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.3000e-003	3.3000e-003	1.0000e-005	0.0000	3.4800e-003
Energy	0.0127	0.1154	0.0969	6.9000e-004		8.7700e-003	8.7700e-003		8.7700e-003	8.7700e-003	0.0000	381.7761	381.7761	0.0142	4.7400e-003	383.5430
Mobile	1.1252	2.8310	11.2769	0.0290	1.9557	0.0408	1.9966	0.5234	0.0376	0.5610	0.0000	2,106.5429	2,106.5429	0.0787	0.0000	2,108.1960
Waste						0.0000	0.0000		0.0000	0.0000	148.7173	0.0000	148.7173	8.7889	0.0000	333.2850
Water						0.0000	0.0000		0.0000	0.0000	2.4993	43.9099	46.4091	0.2587	6.4700e-003	53.8466
Total	**1.7441**	**2.9464**	**11.3755**	**0.0297**	**1.9557**	**0.0496**	**2.0053**	**0.5234**	**0.0464**	**0.5698**	**151.2165**	**2,532.2321**	**2,683.4486**	**9.1405**	**0.0112**	**2,878.8740**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.09**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2017	1/27/2017	5	20	
2	Site Preparation	Site Preparation	1/28/2017	2/10/2017	5	10	

3	Grading	Grading	2/11/2017	3/10/2017	5	20	
4	Building Construction	Building Construction	3/11/2017	6/15/2018	5	330	
5	Architectural Coating	Architectural Coating	2/24/2018	6/15/2018	5	80	
6	Paving	Paving	6/16/2018	7/13/2018	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 10

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 190,500; Non-Residential Outdoor: 63,500 (Architectural Coating –

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	162	0.38
Demolition	Rubber Tired Dozers	2	8.00	255	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	255	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	162	0.38
Grading	Graders	1	8.00	174	0.41
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	226	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Pavers	2	8.00	125	0.42
Paving	Paving Equipment	2	8.00	130	0.36
Paving	Rollers	2	8.00	80	0.38

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	207.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	188.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	53.00	21.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	11.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Demolition - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0224	0.0000	0.0224	3.4000e-003	0.0000	3.4000e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0405	0.4270	0.3389	4.0000e-004		0.0213	0.0213		0.0198	0.0198	0.0000	36.6182	36.6182	0.0101	0.0000	36.8292
Total	**0.0405**	**0.4270**	**0.3389**	**4.0000e-004**	**0.0224**	**0.0213**	**0.0437**	**3.4000e-003**	**0.0198**	**0.0232**	**0.0000**	**36.6182**	**36.6182**	**0.0101**	**0.0000**	**36.8292**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.7500e-003	0.0277	0.0219	8.0000e-005	1.7700e-003	4.1000e-004	2.1800e-003	4.9000e-004	3.7000e-004	8.6000e-004	0.0000	6.8648	6.8648	5.0000e-005	0.0000	6.8659
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.4000e-004	8.0000e-004	8.2900e-003	2.0000e-005	1.6500e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.4827	1.4827	8.0000e-005	0.0000	1.4843
Total	**2.2900e-003**	**0.0285**	**0.0302**	**1.0000e-004**	**3.4200e-003**	**4.2000e-004**	**3.8400e-003**	**9.3000e-004**	**3.8000e-004**	**1.3100e-003**	**0.0000**	**8.3475**	**8.3475**	**1.3000e-004**	**0.0000**	**8.3501**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					8.7500e-003	0.0000	8.7500e-003	1.3300e-003	0.0000	1.3300e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0405	0.4270	0.3389	4.0000e-004		0.0213	0.0213		0.0198	0.0198	0.0000	36.6182	36.6182	0.0101	0.0000	36.8291
Total	**0.0405**	**0.4270**	**0.3389**	**4.0000e-004**	**8.7500e-003**	**0.0213**	**0.0300**	**1.3300e-003**	**0.0198**	**0.0211**	**0.0000**	**36.6182**	**36.6182**	**0.0101**	**0.0000**	**36.8291**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					

Hauling	1.7500e-003	0.0277	0.0219	8.0000e-005	1.7700e-003	4.1000e-004	2.1800e-003	4.9000e-004	3.7000e-004	8.6000e-004	0.0000	6.8648	6.8648	5.0000e-005	0.0000	6.8659
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.4000e-004	8.0000e-004	8.2900e-003	2.0000e-005	1.6500e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.4827	1.4827	8.0000e-005	0.0000	1.4843
Total	**2.2900e-003**	**0.0285**	**0.0302**	**1.0000e-004**	**3.4200e-003**	**4.2000e-004**	**3.8400e-003**	**9.3000e-004**	**3.8000e-004**	**1.3100e-003**	**0.0000**	**8.3475**	**8.3475**	**1.3000e-004**	**0.0000**	**8.3501**

3.3 Site Preparation - 2017

<u>Unmitigated Construction On-Site</u>

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0903	0.0000	0.0903	0.0497	0.0000	0.0497	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0242	0.2588	0.1970	2.0000e-004		0.0138	0.0138		0.0127	0.0127	0.0000	18.1577	18.1577	5.5600e-003	0.0000	18.2745
Total	**0.0242**	**0.2588**	**0.1970**	**2.0000e-004**	**0.0903**	**0.0138**	**0.1041**	**0.0497**	**0.0127**	**0.0623**	**0.0000**	**18.1577**	**18.1577**	**5.5600e-003**	**0.0000**	**18.2745**

<u>Unmitigated Construction Off-Site</u>

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.2000e-004	4.8000e-004	4.9700e-003	1.0000e-005	9.9000e-004	1.0000e-005	1.0000e-003	2.6000e-004	1.0000e-005	2.7000e-004	0.0000	0.8896	0.8896	5.0000e-005	0.0000	0.8906
Total	**3.2000e-004**	**4.8000e-004**	**4.9700e-003**	**1.0000e-005**	**9.9000e-004**	**1.0000e-005**	**1.0000e-003**	**2.6000e-004**	**1.0000e-005**	**2.7000e-004**	**0.0000**	**0.8896**	**0.8896**	**5.0000e-005**	**0.0000**	**0.8906**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0352	0.0000	0.0352	0.0194	0.0000	0.0194	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0242	0.2588	0.1970	2.0000e-004		0.0138	0.0138		0.0127	0.0127	0.0000	18.1577	18.1577	5.5600e-003	0.0000	18.2745
Total	**0.0242**	**0.2588**	**0.1970**	**2.0000e-004**	**0.0352**	**0.0138**	**0.0490**	**0.0194**	**0.0127**	**0.0320**	**0.0000**	**18.1577**	**18.1577**	**5.5600e-003**	**0.0000**	**18.2745**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.2000e-004	4.8000e-004	4.9700e-003	1.0000e-005	9.9000e-004	1.0000e-005	1.0000e-003	2.6000e-004	1.0000e-005	2.7000e-004	0.0000	0.8896	0.8896	5.0000e-005	0.0000	0.8906
Total	**3.2000e-004**	**4.8000e-004**	**4.9700e-003**	**1.0000e-005**	**9.9000e-004**	**1.0000e-005**	**1.0000e-003**	**2.6000e-004**	**1.0000e-005**	**2.7000e-004**	**0.0000**	**0.8896**	**0.8896**	**5.0000e-005**	**0.0000**	**0.8906**

3.4 Grading - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0656	0.0000	0.0656	0.0337	0.0000	0.0337	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0346	0.3598	0.2538	3.0000e-004		0.0204	0.0204		0.0188	0.0188	0.0000	27.6117	27.6117	8.4600e-003	0.0000	27.7893
Total	**0.0346**	**0.3598**	**0.2538**	**3.0000e-004**	**0.0656**	**0.0204**	**0.0860**	**0.0337**	**0.0188**	**0.0525**	**0.0000**	**27.6117**	**27.6117**	**8.4600e-003**	**0.0000**	**27.7893**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.5900e-003	0.0252	0.0199	7.0000e-005	1.6100e-003	3.7000e-004	1.9800e-003	4.4000e-004	3.4000e-004	7.8000e-004	0.0000	6.2347	6.2347	4.0000e-005	0.0000	6.2357
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.4000e-004	8.0000e-004	8.2900e-003	2.0000e-005	1.6500e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.4827	1.4827	8.0000e-005	0.0000	1.4843
Total	**2.1300e-003**	**0.0260**	**0.0281**	**9.0000e-005**	**3.2600e-003**	**3.8000e-004**	**3.6400e-003**	**8.8000e-004**	**3.5000e-004**	**1.2300e-003**	**0.0000**	**7.7174**	**7.7174**	**1.2000e-004**	**0.0000**	**7.7199**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0256	0.0000	0.0256	0.0131	0.0000	0.0131	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Off-Road	0.0346	0.3598	0.2538	3.0000e-004		0.0204	0.0204		0.0188	0.0188	0.0000	27.6117	27.6117	8.4600e-003	0.0000	27.7893
Total	**0.0346**	**0.3598**	**0.2538**	**3.0000e-004**	**0.0256**	**0.0204**	**0.0460**	**0.0131**	**0.0188**	**0.0319**	**0.0000**	**27.6117**	**27.6117**	**8.4600e-003**	**0.0000**	**27.7893**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.5900e-003	0.0252	0.0199	7.0000e-005	1.6100e-003	3.7000e-004	1.9800e-003	4.4000e-004	3.4000e-004	7.8000e-004	0.0000	6.2347	6.2347	4.0000e-005	0.0000	6.2357
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.4000e-004	8.0000e-004	8.2900e-003	2.0000e-005	1.6500e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.4827	1.4827	8.0000e-005	0.0000	1.4843
Total	**2.1300e-003**	**0.0260**	**0.0281**	**9.0000e-005**	**3.2600e-003**	**3.8000e-004**	**3.6400e-003**	**8.8000e-004**	**3.5000e-004**	**1.2300e-003**	**0.0000**	**7.7174**	**7.7174**	**1.2000e-004**	**0.0000**	**7.7199**

3.5 Building Construction - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.3258	2.7726	1.9036	2.8100e-003		0.1870	0.1870		0.1757	0.1757	0.0000	251.4531	251.4531	0.0619	0.0000	252.7527
Total	**0.3258**	**2.7726**	**1.9036**	**2.8100e-003**		**0.1870**	**0.1870**		**0.1757**	**0.1757**	**0.0000**	**251.4531**	**251.4531**	**0.0619**	**0.0000**	**252.7527**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0179	0.1822	0.2435	4.8000e-004	0.0136	2.7900e-003	0.0164	3.8700e-003	2.5600e-003	6.4400e-003	0.0000	42.7893	42.7893	3.1000e-004	0.0000	42.7957
Worker	0.0200	0.0296	0.3076	7.5000e-004	0.0611	5.0000e-004	0.0616	0.0162	4.6000e-004	0.0167	0.0000	55.0065	55.0065	2.8400e-003	0.0000	55.0662
Total	**0.0379**	**0.2118**	**0.5511**	**1.2300e-003**	**0.0746**	**3.2900e-003**	**0.0779**	**0.0201**	**3.0200e-003**	**0.0231**	**0.0000**	**97.7958**	**97.7958**	**3.1500e-003**	**0.0000**	**97.8619**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.3258	2.7726	1.9036	2.8100e-003		0.1870	0.1870		0.1757	0.1757	0.0000	251.4528	251.4528	0.0619	0.0000	252.7524
Total	**0.3258**	**2.7726**	**1.9036**	**2.8100e-003**		**0.1870**	**0.1870**		**0.1757**	**0.1757**	**0.0000**	**251.4528**	**251.4528**	**0.0619**	**0.0000**	**252.7524**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0179	0.1822	0.2435	4.8000e-004	0.0136	2.7900e-003	0.0164	3.8700e-003	2.5600e-003	6.4400e-003	0.0000	42.7893	42.7893	3.1000e-004	0.0000	42.7957
Worker	0.0200	0.0296	0.3076	7.5000e-004	0.0611	5.0000e-004	0.0616	0.0162	4.6000e-004	0.0167	0.0000	55.0065	55.0065	2.8400e-003	0.0000	55.0662
Total	**0.0379**	**0.2118**	**0.5511**	**1.2300e-003**	**0.0746**	**3.2900e-003**	**0.0779**	**0.0201**	**3.0200e-003**	**0.0231**	**0.0000**	**97.7958**	**97.7958**	**3.1500e-003**	**0.0000**	**97.8619**

3.5 Building Construction - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1601	1.3957	1.0520	1.6100e-003		0.0897	0.0897		0.0843	0.0843	0.0000	142.0618	142.0618	0.0348	0.0000	142.7919
Total	**0.1601**	**1.3957**	**1.0520**	**1.6100e-003**		**0.0897**	**0.0897**		**0.0843**	**0.0843**	**0.0000**	**142.0618**	**142.0618**	**0.0348**	**0.0000**	**142.7919**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	9.5900e-003	0.0956	0.1333	2.7000e-004	7.7600e-003	1.5000e-003	9.2600e-003	2.2100e-003	1.3800e-003	3.5900e-003	0.0000	24.0408	24.0408	1.7000e-004	0.0000	24.0445
Worker	0.0103	0.0153	0.1592	4.3000e-004	0.0349	2.8000e-004	0.0352	9.2700e-003	2.6000e-004	9.5200e-003	0.0000	30.2591	30.2591	1.5100e-003	0.0000	30.2907
Total	**0.0199**	**0.1109**	**0.2925**	**7.0000e-004**	**0.0427**	**1.7800e-003**	**0.0444**	**0.0115**	**1.6400e-003**	**0.0131**	**0.0000**	**54.2999**	**54.2999**	**1.6800e-003**	**0.0000**	**54.3352**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1601	1.3957	1.0520	1.6100e-003		0.0897	0.0897		0.0843	0.0843	0.0000	142.0616	142.0616	0.0348	0.0000	142.7917
Total	**0.1601**	**1.3957**	**1.0520**	**1.6100e-003**		**0.0897**	**0.0897**		**0.0843**	**0.0843**	**0.0000**	**142.0616**	**142.0616**	**0.0348**	**0.0000**	**142.7917**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	9.5900e-003	0.0956	0.1333	2.7000e-004	7.7600e-003	1.5000e-003	9.2600e-003	2.2100e-003	1.3800e-003	3.5900e-003	0.0000	24.0408	24.0408	1.7000e-004	0.0000	24.0445
Worker	0.0103	0.0153	0.1592	4.3000e-004	0.0349	2.8000e-004	0.0352	9.2700e-003	2.6000e-004	9.5200e-003	0.0000	30.2591	30.2591	1.5100e-003	0.0000	30.2907
Total	**0.0199**	**0.1109**	**0.2925**	**7.0000e-004**	**0.0427**	**1.7800e-003**	**0.0444**	**0.0115**	**1.6400e-003**	**0.0131**	**0.0000**	**54.2999**	**54.2999**	**1.6800e-003**	**0.0000**	**54.3352**

3.6 Architectural Coating - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.4716					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0120	0.0802	0.0742	1.2000e-004		6.0200e-003	6.0200e-003		6.0200e-003	6.0200e-003	0.0000	10.2130	10.2130	9.7000e-004	0.0000	10.2334
Total	**1.4836**	**0.0802**	**0.0742**	**1.2000e-004**		**6.0200e-003**	**6.0200e-003**		**6.0200e-003**	**6.0200e-003**	**0.0000**	**10.2130**	**10.2130**	**9.7000e-004**	**0.0000**	**10.2334**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.4200e-003	2.1200e-003	0.0220	6.0000e-005	4.8300e-003	4.0000e-005	4.8700e-003	1.2800e-003	4.0000e-005	1.3200e-003	0.0000	4.1868	4.1868	2.1000e-004	0.0000	4.1912
Total	**1.4200e-003**	**2.1200e-003**	**0.0220**	**6.0000e-005**	**4.8300e-003**	**4.0000e-005**	**4.8700e-003**	**1.2800e-003**	**4.0000e-005**	**1.3200e-003**	**0.0000**	**4.1868**	**4.1868**	**2.1000e-004**	**0.0000**	**4.1912**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.4716					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Off-Road	0.0120	0.0802	0.0742	1.2000e-004		6.0200e-003	6.0200e-003		6.0200e-003	6.0200e-003	0.0000	10.2130	10.2130	9.7000e-004	0.0000	10.2334
Total	**1.4836**	**0.0802**	**0.0742**	**1.2000e-004**		**6.0200e-003**	**6.0200e-003**		**6.0200e-003**	**6.0200e-003**	**0.0000**	**10.2130**	**10.2130**	**9.7000e-004**	**0.0000**	**10.2334**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.4200e-003	2.1200e-003	0.0220	6.0000e-005	4.8300e-003	4.0000e-005	4.8700e-003	1.2800e-003	4.0000e-005	1.3200e-003	0.0000	4.1868	4.1868	2.1000e-004	0.0000	4.1912
Total	**1.4200e-003**	**2.1200e-003**	**0.0220**	**6.0000e-005**	**4.8300e-003**	**4.0000e-005**	**4.8700e-003**	**1.2800e-003**	**4.0000e-005**	**1.3200e-003**	**0.0000**	**4.1868**	**4.1868**	**2.1000e-004**	**0.0000**	**4.1912**

3.7 Paving - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0161	0.1716	0.1449	2.2000e-004		9.3900e-003	9.3900e-003		8.6400e-003	8.6400e-003	0.0000	20.3687	20.3687	6.3400e-003	0.0000	20.5019
Paving	2.1000e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0182**	**0.1716**	**0.1449**	**2.2000e-004**		**9.3900e-003**	**9.3900e-003**		**8.6400e-003**	**8.6400e-003**	**0.0000**	**20.3687**	**20.3687**	**6.3400e-003**	**0.0000**	**20.5019**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.8000e-004	7.2000e-004	7.5100e-003	2.0000e-005	1.6500e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.4273	1.4273	7.0000e-005	0.0000	1.4288
Total	**4.8000e-004**	**7.2000e-004**	**7.5100e-003**	**2.0000e-005**	**1.6500e-003**	**1.0000e-005**	**1.6600e-003**	**4.4000e-004**	**1.0000e-005**	**4.5000e-004**	**0.0000**	**1.4273**	**1.4273**	**7.0000e-005**	**0.0000**	**1.4288**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0161	0.1716	0.1449	2.2000e-004		9.3900e-003	9.3900e-003		8.6400e-003	8.6400e-003	0.0000	20.3687	20.3687	6.3400e-003	0.0000	20.5019
Paving	2.1000e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0182**	**0.1716**	**0.1449**	**2.2000e-004**		**9.3900e-003**	**9.3900e-003**		**8.6400e-003**	**8.6400e-003**	**0.0000**	**20.3687**	**20.3687**	**6.3400e-003**	**0.0000**	**20.5019**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.8000e-004	7.2000e-004	7.5100e-003	2.0000e-005	1.6500e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.4273	1.4273	7.0000e-005	0.0000	1.4288
Total	**4.8000e-004**	**7.2000e-004**	**7.5100e-003**	**2.0000e-005**	**1.6500e-003**	**1.0000e-005**	**1.6600e-003**	**4.4000e-004**	**1.0000e-005**	**4.5000e-004**	**0.0000**	**1.4273**	**1.4273**	**7.0000e-005**	**0.0000**	**1.4288**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.1252	2.8310	11.2769	0.0290	1.9557	0.0408	1.9966	0.5234	0.0376	0.5610	0.0000	2,106.5429	2,106.5429	0.0787	0.0000	2,108.1960
Unmitigated	1.1252	2.8310	11.2769	0.0290	1.9557	0.0408	1.9966	0.5234	0.0376	0.5610	0.0000	2,106.5429	2,106.5429	0.0787	0.0000	2,108.1960

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Health Club	1,819.05	1,152.97	1476.96	3,582,496	3,582,496
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Recreational Swimming Pool	703.50	445.90	571.20	1,577,725	1,577,725
Fast Food Restaurant w/o Drive Thru	0.00	0.00	0.00		
Other Asphalt Surfaces	0.00	0.00	0.00		
Total	2,522.55	1,598.87	2,048.16	5,160,221	5,160,221

4.3 Trip Type Information

	Miles	Trip %	Trip Purpose %

Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Health Club	16.60	8.40	6.90	16.90	64.10	19.00	52	39	9
Other Non-Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Recreational Swimming Pool	16.60	8.40	6.90	33.00	48.00	19.00	52	39	9
Fast Food Restaurant w/o Drive	16.60	8.40	6.90	1.50	79.50	19.00	51	37	12
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.511108	0.059746	0.180859	0.139188	0.042462	0.006666	0.016153	0.032295	0.001940	0.002496	0.004377	0.000582	0.002128

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	256.1809	256.1809	0.0118	2.4400e-003	257.1835
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	256.1809	256.1809	0.0118	2.4400e-003	257.1835
NaturalGas Mitigated	0.0127	0.1154	0.0969	6.9000e-004		8.7700e-003	8.7700e-003		8.7700e-003	8.7700e-003	0.0000	125.5952	125.5952	2.4100e-003	2.3000e-003	126.3595
NaturalGas Unmitigated	0.0127	0.1154	0.0969	6.9000e-004		8.7700e-003	8.7700e-003		8.7700e-003	8.7700e-003	0.0000	125.5952	125.5952	2.4100e-003	2.3000e-003	126.3595

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Health Club	1.95842e+006	0.0106	0.0960	0.0806	5.8000e-004		7.3000e-003	7.3000e-003		7.3000e-003	7.3000e-003	0.0000	104.5088	104.5088	2.0000e-003	1.9200e-003	105.1448
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Fast Food Restaurant w/o Drive Thru	395145	2.1300e-003	0.0194	0.0163	1.2000e-004		1.4700e-003	1.4700e-003		1.4700e-003	1.4700e-003	0.0000	21.0864	21.0864	4.0000e-004	3.9000e-004	21.2148
Total		**0.0127**	**0.1154**	**0.0969**	**7.0000e-004**		**8.7700e-003**	**8.7700e-003**		**8.7700e-003**	**8.7700e-003**	**0.0000**	**125.5952**	**125.5952**	**2.4000e-003**	**2.3100e-003**	**126.3595**

<u>**Mitigated**</u>

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Fast Food Restaurant w/o Drive Thru	395145	2.1300e-003	0.0194	0.0163	1.2000e-004		1.4700e-003	1.4700e-003		1.4700e-003	1.4700e-003	0.0000	21.0864	21.0864	4.0000e-004	3.9000e-004	21.2148
Health Club	1.95842e+006	0.0106	0.0960	0.0806	5.8000e-004		7.3000e-003	7.3000e-003		7.3000e-003	7.3000e-003	0.0000	104.5088	104.5088	2.0000e-003	1.9200e-003	105.1448
Total		**0.0127**	**0.1154**	**0.0969**	**7.0000e-004**		**8.7700e-003**	**8.7700e-003**		**8.7700e-003**	**8.7700e-003**	**0.0000**	**125.5952**	**125.5952**	**2.4000e-003**	**2.3100e-003**	**126.3595**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Fast Food Restaurant w/o Drive Thru	58995	16.8824	7.8000e-004	1.6000e-004	16.9485
Health Club	836220	239.2985	0.0110	2.2800e-003	240.2350
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000
Total		**256.1809**	**0.0118**	**2.4400e-003**	**257.1835**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Fast Food Restaurant w/o Drive Thru	58995	16.8824	7.8000e-004	1.6000e-004	16.9485
Health Club	836220	239.2985	0.0110	2.2800e-003	240.2350
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000
Total		**256.1809**	**0.0118**	**2.4400e-003**	**257.1835**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.6062	2.0000e-005	1.7100e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.3000e-003	3.3000e-003	1.0000e-005	0.0000	3.4800e-003
Unmitigated	0.6062	2.0000e-005	1.7100e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.3000e-003	3.3000e-003	1.0000e-005	0.0000	3.4800e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1472					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.4589					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.6000e-004	2.0000e-005	1.7100e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.3000e-003	3.3000e-003	1.0000e-005	0.0000	3.4800e-003
Total	**0.6062**	**2.0000e-005**	**1.7100e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**3.3000e-003**	**3.3000e-003**	**1.0000e-005**	**0.0000**	**3.4800e-003**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1472					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.4589					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.6000e-004	2.0000e-005	1.7100e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.3000e-003	3.3000e-003	1.0000e-005	0.0000	3.4800e-003
Total	**0.6062**	**2.0000e-005**	**1.7100e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**3.3000e-003**	**3.3000e-003**	**1.0000e-005**	**0.0000**	**3.4800e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	46.4091	0.2587	6.4700e-003	53.8466
Unmitigated	46.4091	0.2587	6.4800e-003	53.8506

7.2 Water by Land Use

<u>Unmitigated</u>

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Fast Food Restaurant w/o Drive Thru	0.455301 / 0.0290617	1.9334	0.0149	3.7000e-004	2.3605

Health Club	5.35245 / 3.28054	32.0722	0.1758	4.4100e-003	37.1303
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	2.07001 / 1.26872	12.4036	0.0680	1.7000e-003	14.3598
Total		**46.4091**	**0.2587**	**6.4800e-003**	**53.8506**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Fast Food Restaurant w/o Drive Thru	0.455301 / 0.0290617	1.9334	0.0149	3.7000e-004	2.3603
Health Club	5.35245 / 3.28054	32.0722	0.1758	4.4000e-003	37.1276
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	2.07001 / 1.26872	12.4036	0.0680	1.7000e-003	14.3587
Total		**46.4091**	**0.2587**	**6.4700e-003**	**53.8466**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	148.7173	8.7889	0.0000	333.2850
Unmitigated	148.7173	8.7889	0.0000	333.2850

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Fast Food Restaurant w/o Drive Thru	17.28	3.5077	0.2073	0.0000	7.8610
Health Club	515.85	104.7129	6.1884	0.0000	234.6683
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	199.5	40.4967	2.3933	0.0000	90.7557
Total		**148.7173**	**8.7889**	**0.0000**	**333.2850**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			

Fast Food Restaurant w/o Drive Thru	17.28	3.5077	0.2073	0.0000	7.8610
Health Club	515.85	104.7129	6.1884	0.0000	234.6683
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	199.5	40.4967	2.3933	0.0000	90.7557
Total		**148.7173**	**8.7889**	**0.0000**	**333.2850**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

WAVE UPRUSH STUDY

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October 10, 2014

Mr. Dino D'Emilia
Project Manager
Anderson Penna Partners
5106 Steveann Street
Torrance, CA 90503

Subject: **Belmont Beach and Aquatic Center – Wave Uprush Study DRAFT**
HED Project No. 2014-00006-000

Dear Dino:

Enclosed is the final draft of the Wave Uprush Study prepared by Moffat & Nichol for this project. The report evaluates the impact of sea level rise projections and wave action at the project site under three scenarios relative to the existing breakwater: no change (***EX BW***), removal of the West one third of the breakwater (***BW2***) and removal of the East two thirds of the breakwater (***BW3***). The analysis utilizes low and high sea level rise projections for 2060 and 2100.

Following is a summary of the study's findings and conclusions:

1. ***Under both scenarios EX BW and BW2*** (no change to the existing breakwater and removal of the West one third of this structure), wave action in addition to low/high sea level rise projections for 2060 and low sea level rise projection for 2100 are unlikely to impact the proposed facility. The proposed design sets the main pool deck elevation at +17' well above the maximum run up elevation of +8.2' (BW2 and high SLR 2060). Note that all elevations indicated in this memo and the enclosed study are based on NGVD29. For reference, current Mean Sea Level is at +0.01' (NGVD29) as noted in the study.
2. ***Under both scenarios EX BW and BW2***, the high sea level rise projection for 2060 could expose the Southwest corner of the facility (closest to the shoreline) to the changing beach conditions. Both facility design and implementation of additional measurements such as nourishment, winter sand dikes or protective coastal structures can be employed to counteract erosion and safeguard this portion of the facility.
3. ***Under scenario BW3*** (removal of the East two thirds of the existing breakwater) and without appropriate preventive measures, wave action in addition to low/high sea level rise projections for 2060 and low sea level rise projection for 2100 would have an impact on the facility. It is anticipated, however, that any modifications to the existing breakwater would include measures to mitigate the effects of the increased wave action at the shoreline. Such measures are not included in this analysis.

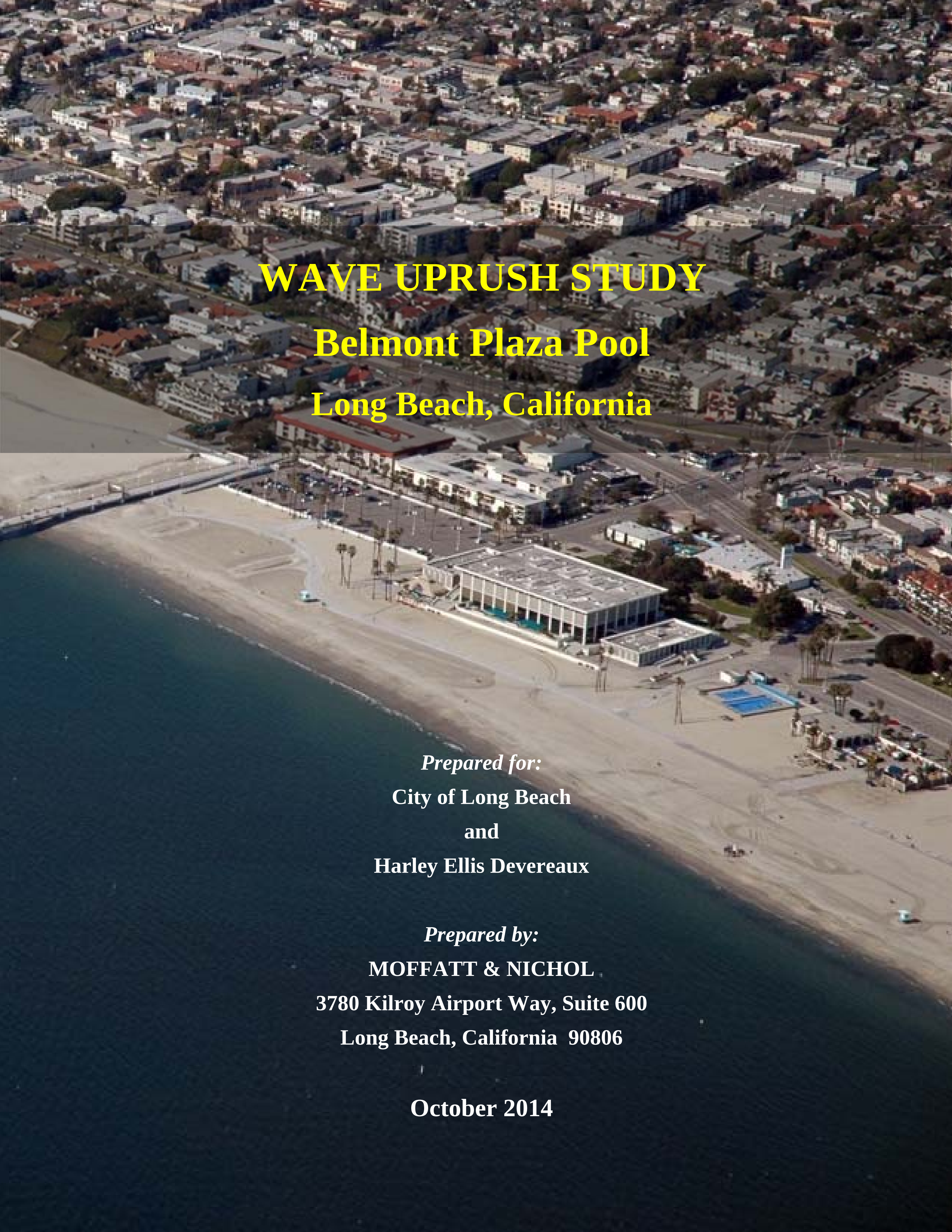
HARLEY ELLIS DEVEREAUX

4. ***Under all scenarios*** and without appropriate preventive measures, the high sea level rise projections for 2100 would have a significant impact on the facility. Both the project site as well as much of the Long Beach Peninsula and Belmont Shore would be exposed to coastal flooding. Although the proposed design sets the main pool deck elevation at +17' (above the projected run-up/still water elevation of +10.4'), the lower level of the building (pool equipment and storage) as well as the entire site, parking and vicinity would be below the projected water line.

The enclosed report includes assumptions, analysis and graphics outlining the process and conclusions. We look forward to discussing the contents of this document with you and City staff and its impact to the proposed project.

Sincerely,

Diego Matzkin, AIA
Project Manager



WAVE UPRUSH STUDY

Belmont Plaza Pool

Long Beach, California

Prepared for:

City of Long Beach

and

Harley Ellis Devereaux

Prepared by:

MOFFATT & NICHOL

3780 Kilroy Airport Way, Suite 600

Long Beach, California 90806

October 2014

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October 2014

M&N File: 8434

Cover photo credit: Bruce Perry, Department of Geological Sciences, CSU Long Beach

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EXECUTIVE SUMMARY

Planning for the reconstruction and revitalization of the Belmont Plaza Pool in Long Beach is currently underway. A key consideration is the potential vulnerability of the project site to rising sea levels. The wide and stable fronting beach may also be impacted by the potential reconfiguration of the Long Beach Breakwater, currently under consideration to be investigated in a federal feasibility study. An important part of the planning process is to assess the vulnerability of the project site to erosion and wave uprush, under various scenarios of future sea level rise and possible breakwater reconfigurations, including the breakwater remaining in its present configuration. Adaptation measures are then proposed which would mitigate any existing as well as potential future vulnerabilities.

An analysis was performed to assess the response of the beach fronting the Belmont Pool to sea level rise and a 100-year storm for a range of scenarios. The scenarios with the existing breakwater and a moderate breakwater reconfiguration yielded manageable amounts of erosion and flooding, with the exception of the upper-range 2100 sea levels. However, significant amounts of erosion and coastal flooding were predicted for: a) the upper range of 2100 sea levels (5.5 ft rise) with all breakwater configurations and b) the most significant breakwater reconfiguration alternative for all future sea level rise scenarios. None of the modeled scenarios accounted for potential future coastal protection responses that may be employed along the length of the Long Beach shoreline to address the effects of high sea level rise and breakwater modifications. The high 2100 SLR scenarios would present an especially challenging circumstance to all the Southern California coastal communities. For the remaining modeled scenarios, coastal management practices such as beach nourishment, storm berm construction, and beach grooming would mitigate the effects of SLR and the 100-year storm.

This analysis is intended to address California Coastal Commission requirements, including their *Beach Erosion and Response Guidance Document* (1999) and *Draft Sea-Level Rise Policy Guidance* (2013), as well as to serve as a basis of design.

1.0 INTRODUCTION

The Belmont Plaza Pool is located in Long Beach, California, two miles northwest of the Alamitos Bay Jetties and within the Long Beach Outer Harbor (Figure 1). The pool originally opened in 1968 but closed in 2013 due to structural deficiencies. To aid in the development of a replacement facility, an analysis of beach erosion and maximum wave run-up during storm and sea level rise events was conducted. The analysis approach was developed to be in general conformance with the California Coastal Commission (CCC) guidance on preparation of wave uprush studies for Coastal Development Permits, including CCC recommendations within their Draft Sea-Level Rise Policy Guidance released on October 14, 2013.

Wave run-up is the condition of waves breaking on the beach and water “running up” the beach face and/or beachfront structure. Wave run-up extends farther landward than the “still water” level. Wave run-up is a function of wave conditions which in turn are based on storm events, shoreline geometry, and still water level. The landward extents of the still water and run-up elevations (i.e. the intersection of these elevations onto the beach) are based on the “profile” of the beach face.

A two-phase approach was used to assess the profile response to sea level rise and storm events. In the first phase, the long-term shoreline response to rising sea levels was modeled using a “profile shift” method, otherwise called the Bruun rule. This accounts for a realistic assessment of beach response, i.e. narrowing, as a direct result of rising sea levels. The second phase, the long term shifted profiles were combined with numerical modeling of storm events to inform the analysis of coastal processes and erosion potential of beaches in the vicinity of the project site. The numerical model, XBeach, is a one-or two- dimensional model for wave propagation, long waves and mean flow, sediment transport and morphological changes of the nearshore area, beaches, dunes and back barrier during storms (Deltares 2012).

One-dimensional (cross-shore) XBeach simulations were performed for a section running through the center of the Belmont Pool site. The section originates at Ocean Blvd heading approximately 3,100 feet at 200° into Long Beach Harbor to about 30 feet of depth (Figure 2).

The beach profile was modeled for 15 scenarios involving the existing and two alternative breakwater configurations and various sea level rise projections. Breakwater reconfiguration alternatives were identified from the initial Long Beach Breakwater reconfiguration reconnaissance study, "East San Pedro Bay Ecosystem Restoration Study", (Moffatt & Nichol, 2009).

The Breakwater 2 (BW2) alternative removes the west 1/3rd of the existing Long Beach Breakwater and the Breakwater 3 (BW3) alternative removes the eastern 2/3^{rds} of the Long Beach Breakwater. The modeled scenarios and ocean conditions are described in Section 3. Note that none of modeled scenarios account for adaptive shore protection measures such as beach nourishments, storm berm construction, or other shore protection structures that would likely be required for any of the breakwater reconfiguration alternatives.

It is important to note here that the referenced breakwater reconfiguration study was very limited in modeling scope. For example, only one wave condition from the west and one from the south were evaluated in the analysis. No investigation of the sensitivity of wave conditions inside the reconfigured breakwater to wave direction and period was performed. Hence, any conclusions drawn in this study regarding shoreline impacts resulting from any breakwater reconfiguration should be considered preliminary.

Figure 1: Location Map

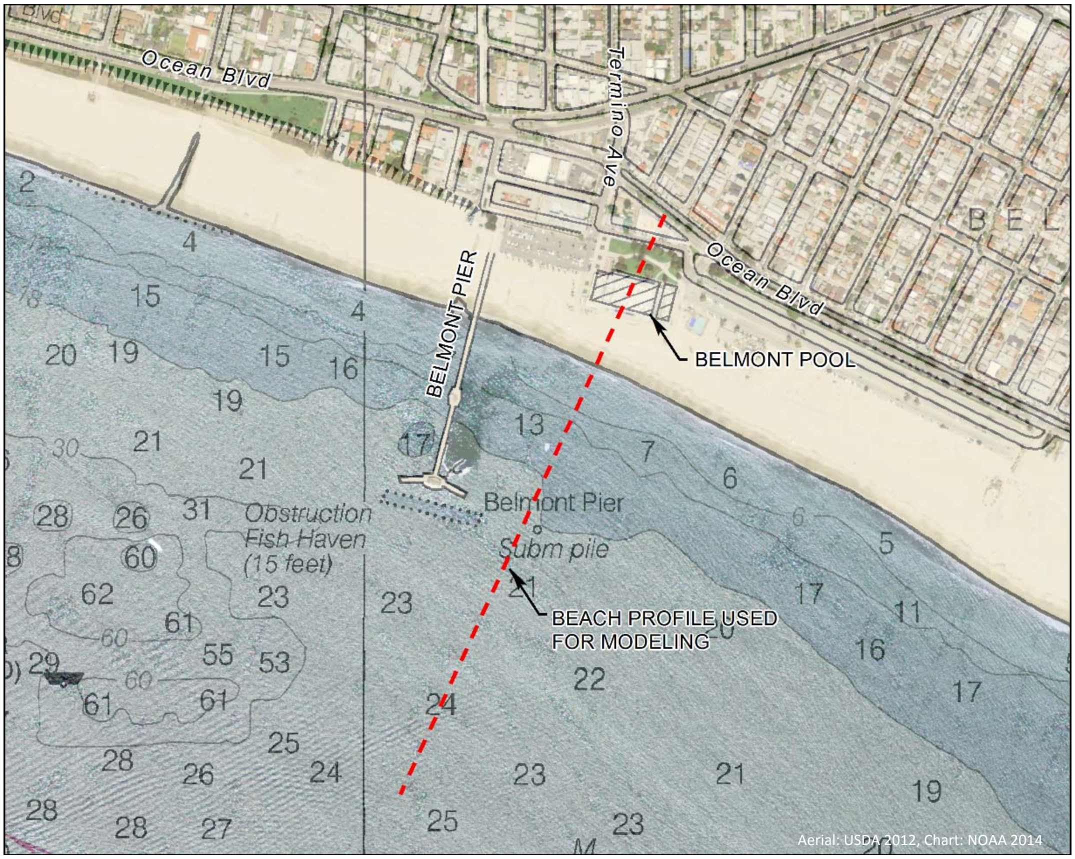


Figure 2: Site Map (Point Depths Relative to MLLW)

2.0 EXISTING BEACH PROFILE

The existing profile was created by merging two data sources: the 2013 NOAA Coastal California TopoBathy Merge Project and the 2010 Santa Monica NOAA Tsunami Inundation Digital Elevation Model (DEM) (Dewberry 2013, Cadwell et al 2011). The TopoBathy data set has 3 foot resolution data and captures the upland areas down to approximately -2 feet NGVD29. The Tsunami Inundation DEM has a 1/3 arc-second resolution (31ft) and was used to capture the profile offshore of the TopoBathy data set. The source data sets were converted from NAVD88 to NGVD29 using NOAA VDATUM. The merged beach profile is shown in Figure 3, along with the Mean Higher High Water (MHHW) as reference. Tidal and geodetic datums conversions are shown in Table 1.

The current beach berm width is nearly 200 feet wide along the profile used for the run-up modeling, however is only approximately 160 feet at the west end of the structure. An 18-foot wide concrete bike path runs across the beach berm 105 feet from the pool sand wall (pool sand wall is at x = 0) on the modeled profile. Mean Higher High Water, +2.65 NGVD29, intersects the beach at about 250 feet from the sand wall on the modeled profile.

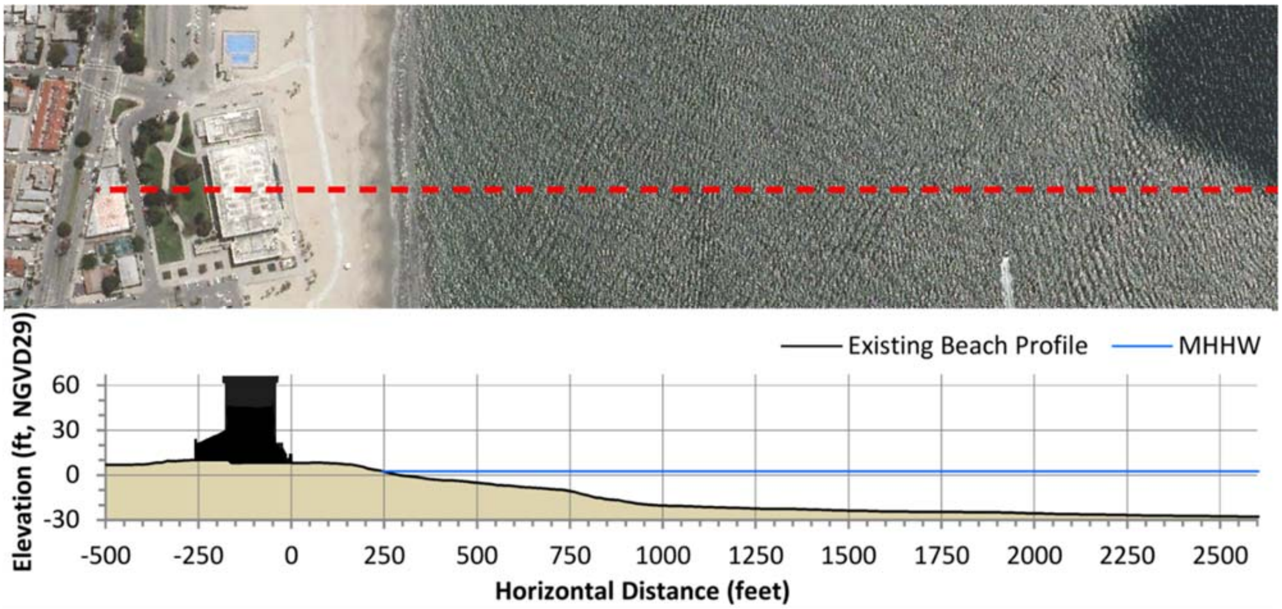


Figure 3: Existing Beach Profile
(x4 vertical Exaggeration)

Table 1: NAVD88 and Tidal Elevations Relative to the NGVD29 Vertical Datum
(VDATUM coordinate: 118.1457°, 33.7577°, Tidal Epoch 1983-2001)

Datum	Elevation (ft NGVD29)
Extreme High Water (observed January 10, 2005)	+5.08
MHHW *Mean Higher High Water*	+2.65
MHW *Mean High Water*	+1.91
MSL *Mean Sea Level*	+0.01
MLW *Mean Low Water*	-1.87
NAVD88 *North American Vertical Datum of 1988*	-2.59
MLLW *Mean Lower Low Water*	-2.80
Extreme Low Water (observed December 17,1933)	-5.53

3.0 LONG-TERM PROFILE DEVELOPMENT

3.1 Methodology

Long-term beach profile development with respect to sea level rise was modeled according to the Bruun Rule. The Bruun Rule hypothesizes that as the sea level rises, the shoreface will respond by moving landward (Figure 4). Using this equilibrium understanding, Bruun (1962) proposed that the retreat of the shoreline can be estimated by assuming that the amount of erosion on the upper part of the profile must equate to the amount of deposition on the lower part of the profile.

The amount of shoreline retreat (δy) can be estimated according to:

$$\delta y = S \frac{w}{h + B}$$

where S is the rise in the sea level, w is the width of the shoreface, h is the depth of closure, and B is the berm height. The Bruun rule is widely accepted as the approach to predict the effects of sea level rise on sandy shorelines. It is based on three assumptions: (1) the underlying geology does not play a role in determining the shoreface shape; (2) shoreface sediment is moved only by waves; and (3) there is no significant movement of sediment beyond the depth of closure.

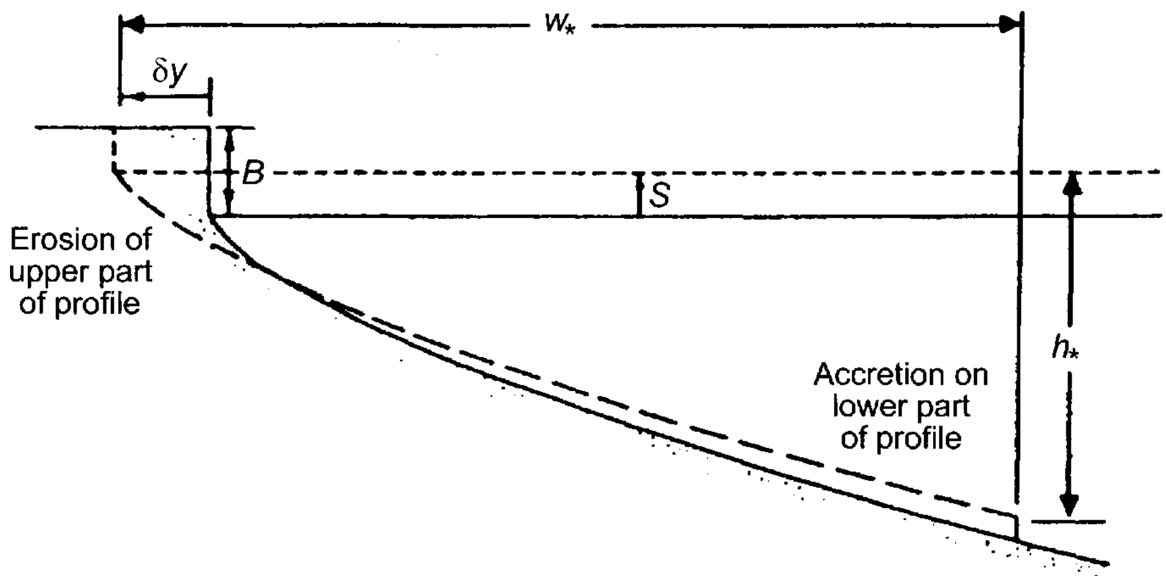


Figure 4: Response of the Shoreface Profile to Rising Sea Level according to the Bruun Rule
(from Masselink & Hughes, 2003)

The depth of closure is defined in the equation above as the most landward depth seaward of which there is no significant change in bottom elevation and no significant net exchange between the nearshore and the offshore. The depth of closure was estimated using Eq. III-3-11 from the Coastal Engineering Manual (Dean et al. 2008).

For the Bruun profiles, the berm elevation was estimated directly from measured profile. This point was taken as the first point of local maxima above the mean sea level elevation. Profiles were shifted landward and up according to the Bruun estimates.

3.2 Modeled Scenarios

The fifteen modeled scenarios are shown in the table below. Five sea level scenarios were analyzed for each of the three Long Beach Breakwater configurations.

Table 2: Modeled Scenarios

Case#	Breakwater Configuration	Sea Level Rise		
		Year	Range	Rise Relative to Current, Feet
1	Existing	2014	Current	0.0
2L	Existing	2060	Low	+0.5
2H	Existing	2060	High	+2.6
3L	Existing	2100	Low	+1.4
3H	Existing	2100	High	+5.5
4	Breakwater 2	2014	Current	0.0
5L	Breakwater 2	2060	Low	+0.5
5H	Breakwater 2	2060	High	+2.6
6L	Breakwater 2	2100	Low	+1.4
6H	Breakwater 2	2100	High	+5.5
7	Breakwater 3	2014	Current	0.0
8L	Breakwater 3	2060	Low	+0.5
8H	Breakwater 3	2060	High	+2.6
9L	Breakwater 3	2100	Low	+1.4
9H	Breakwater 3	2100	High	+5.5

3.3 Results

Since the wave protection provided by the existing breakwater and BW2 are similar, the profile for cases with the same sea level rise (SLR) values are nearly identical (Figure 7). Increases in the transmission coefficient which result from reconfiguring the breakwaters consequently increase the depth of closure. This creates additional profile recession compared to sea level rise alone.

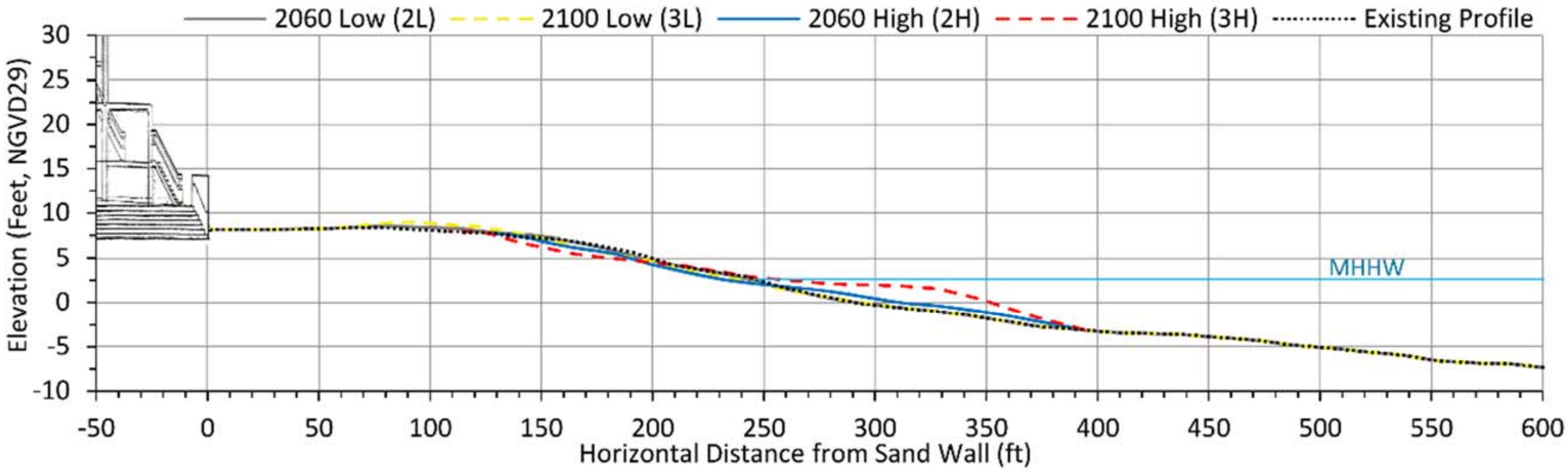


Figure 5: Bruun Profiles for Existing Breakwater Configuration
(Shown at 4x Vertical Exaggeration for clarity)

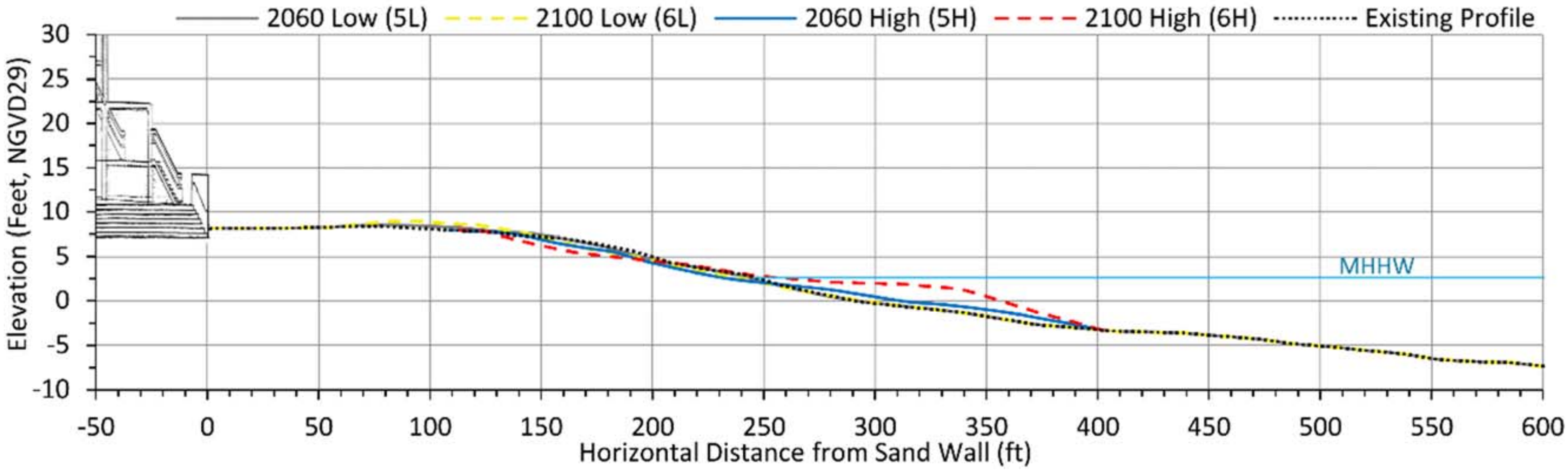


Figure 6: Bruun Profiles for Alternative BW2 Configuration
(Shown at 4x Vertical Exaggeration for clarity)

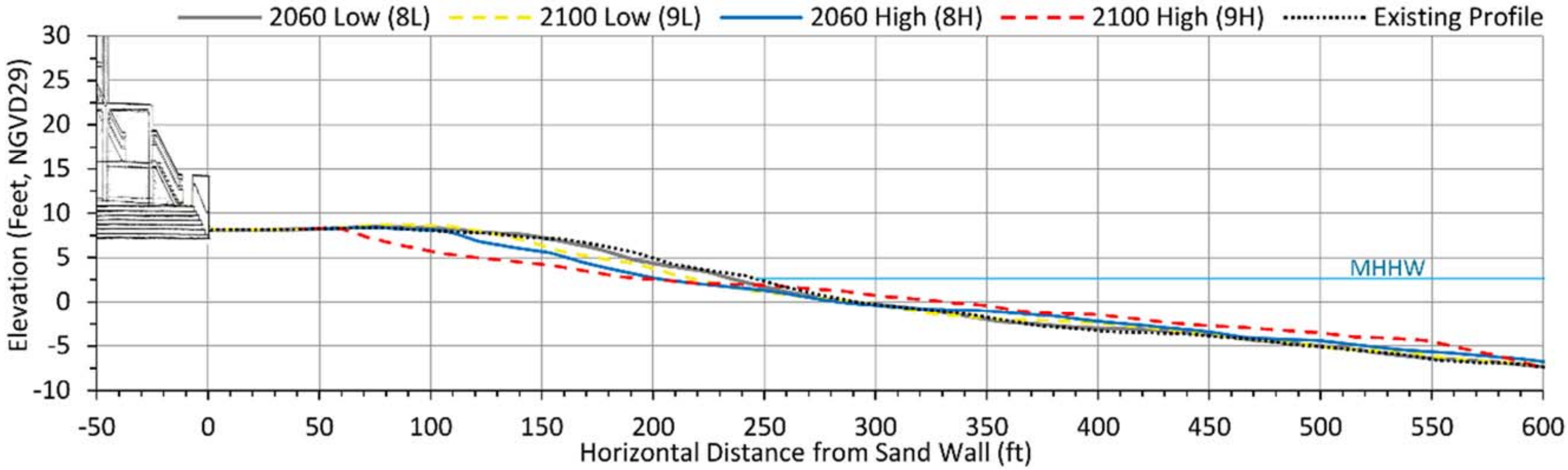


Figure 7: Bruun Profiles for Alternative BW3 Configuration
(Shown at 4x Vertical Exaggeration for clarity)

4.0 XBEACH STORM MORPHOLOGY AND WAVE RUN-UP MODELING

4.1 Model Overview

XBeach is a two-dimensional model for wave propagation, long waves and mean flow, sediment transport and morphological changes of the nearshore area, beaches, dunes and back barrier during storms (Deltares 2012). Experience has shown that structures/developments along the coast are more vulnerable to episodic storms rather than to long-term rates of recession. Therefore, the long-term/Bruun shifted profiles were combined with numerical modeling of storm events, using the model XBeach, to inform the analysis of coastal processes and erosion potential of beaches in the vicinity of the project domain.

4.2 Model Development

4.2.1 Boundary Conditions

4.2.1.1 Waves

Measured wave data applicable to the San Pedro Bay is limited, with the longest record being 10 years (CDIP 092 ‘San Pedro’ and 096 ‘Dana Point’) (Scripps 2014a, 2014b). Therefore, 30-year hindcast wave data from the USACE was used to develop a 100-year storm (USACE 2011). The selected WIS station is located 8.5mi offshore of Newport Harbor (Figure 8). Figure 9 shows the annual joint probability distribution plots of the WIS station including a separate plot for southern waves only. In general, the wave heights are relatively small and the largest southern waves are short period (5-7s).

Earlier modeling work conducted to analyze the effect of modifying the Long Beach Breakwater (M&N 2009) found that the Belmont Pool site is most exposed to southern waves. In addition, previous model calculated the wave transmission coefficient for the existing and modified breakwater.

Table 3 shows the calculated wave transmission coefficient used to force the XBeach offshore boundary.

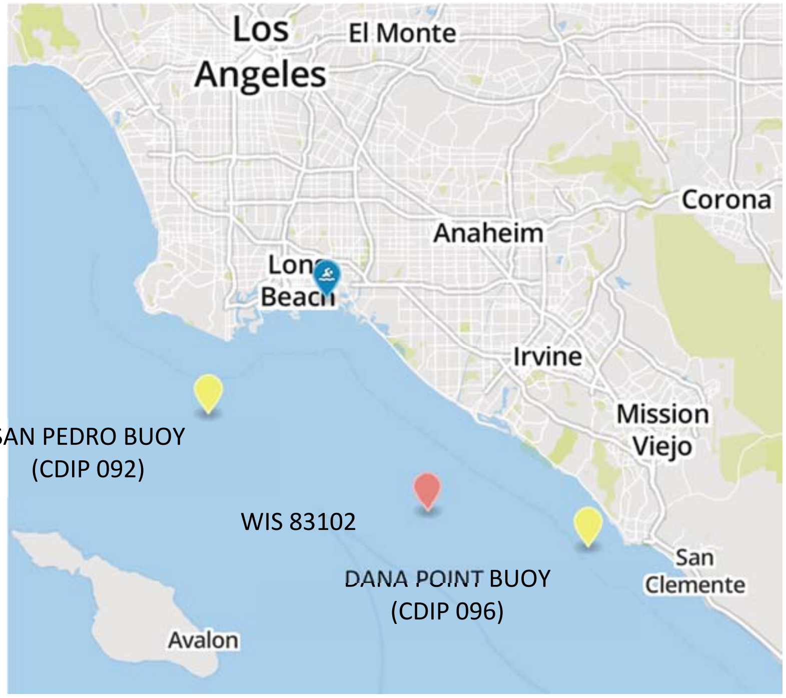
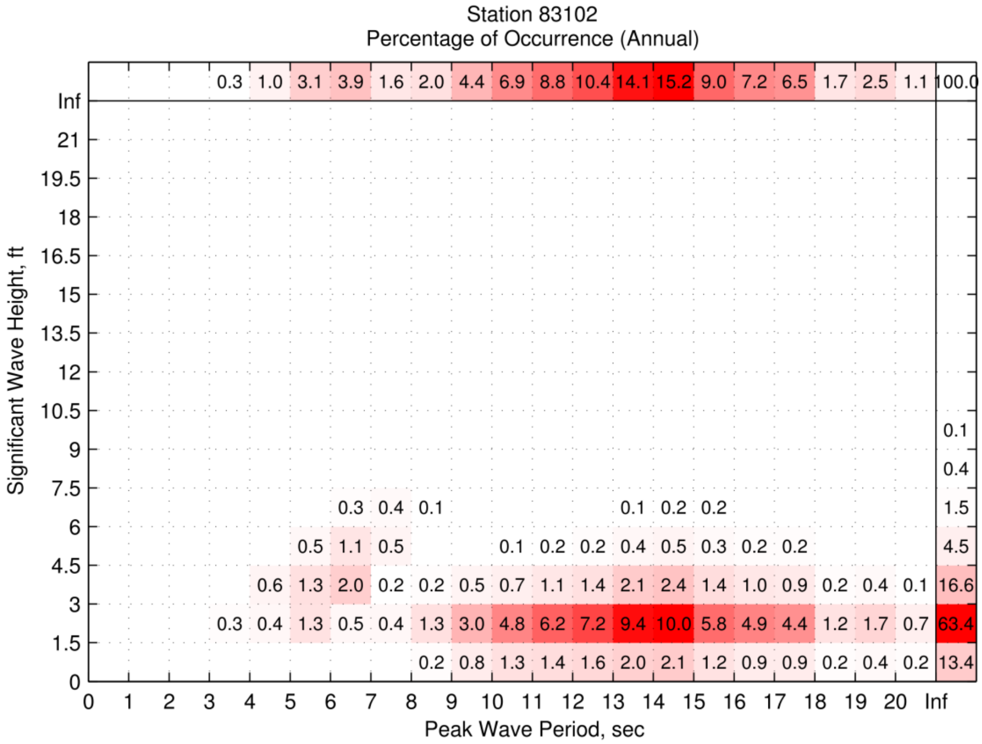


Figure 8: Buoy and Hindcast Extraction Locations

Table 3: Wave Transmission Coefficients

Scenario	Wave Transmission Coefficient
Existing	0.18
Breakwater Configuration 2 (BW2)	0.21
Breakwater Configuration 3 (BW3)	0.78



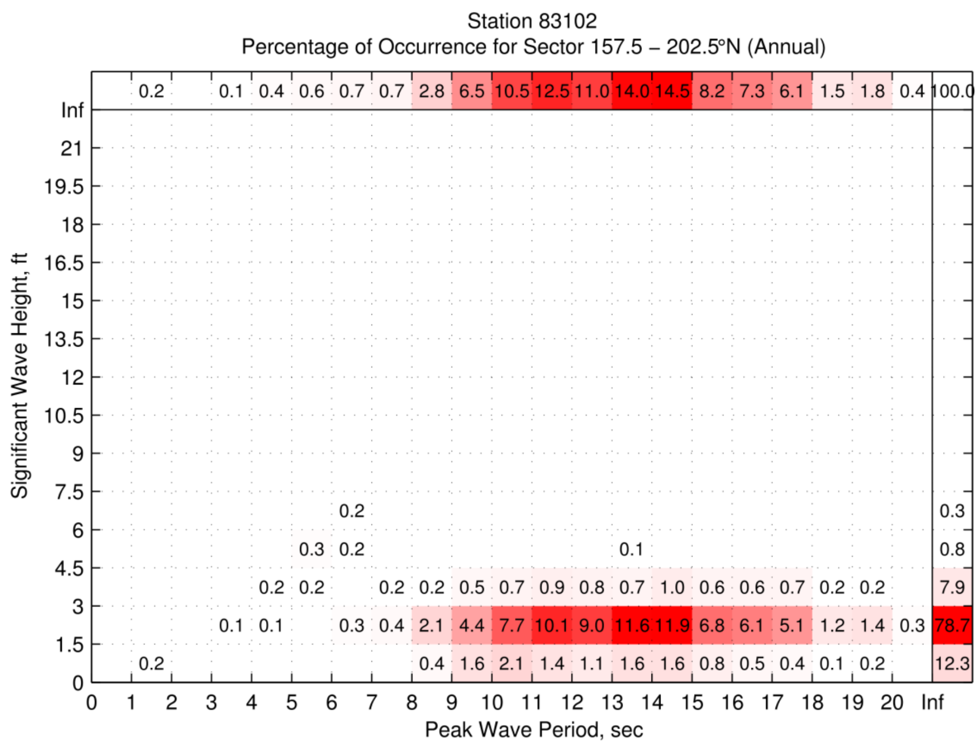


Figure 9: Annual Joint Probability Distribution between the Peak Wave Period and Significant Wave Height from WIS Station 83102.
Top – All Wave Directions; Bottom – Southern Waves Only.

The largest southern storm on the WIS record (1981-2011) occurred March 20th, 2011. The waves approached from 180-200° during the peak of the storm and reached as high as 3.35m (11ft). A comparison of the WIS hindcast results and the two closest CDIP buoys are presented in Figure 10. The San Pedro wave data is labeled 'SP', the Dana Point wave data is labeled 'DP', and the 83102 hindcast data is labeled WIS and shown with the boldest line. The wave period and wave direction measured data is shown with dotted line and a solid 2-hour moving average line. Overall, there is reasonable agreement between the hindcast (WIS) and observed (CDIP) wave heights.

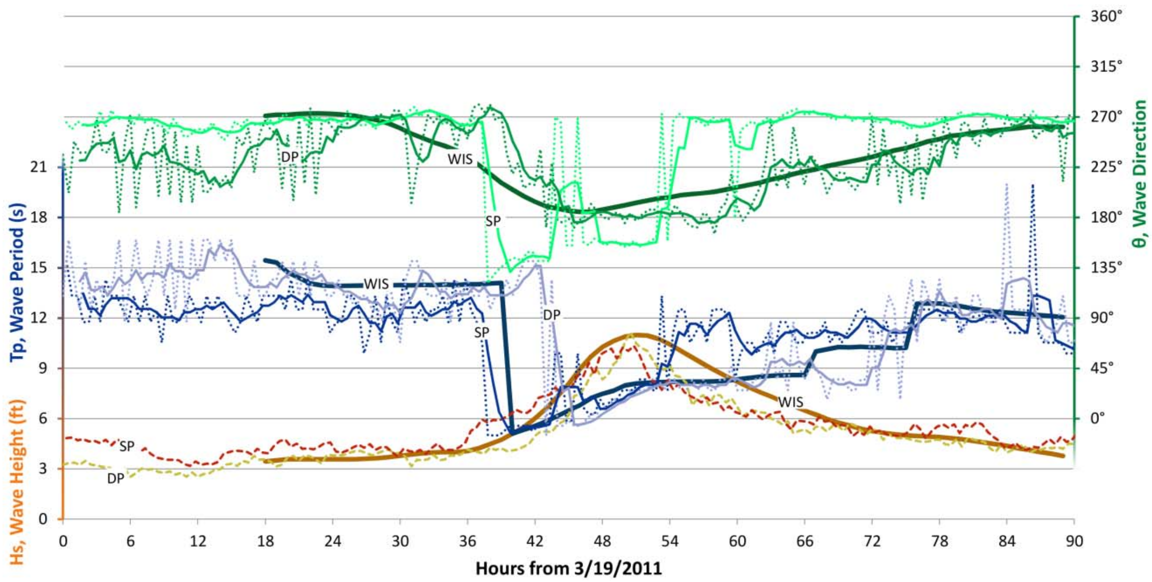


Figure 10: Wave Record Comparison

In order to evaluate the probability of occurrence of extreme wind events, a peak-over-threshold analysis was performed to isolate extreme events and determine return periods. Numerous probability density functions (Fisher-Tippett Type I, Fisher-Tippett Type II, and Weibull) were tested to determine the probability density function that provides the best fit. Return interval statics are adjusted for record length and sample interval. A selection was made based on the probability density function with the highest correlation. The analysis estimated the 100-yr southern wave to be 3.9m (12.8ft). The best fit extreme value curve used to arrive at the 100-yr estimate is shown in Figure 11.

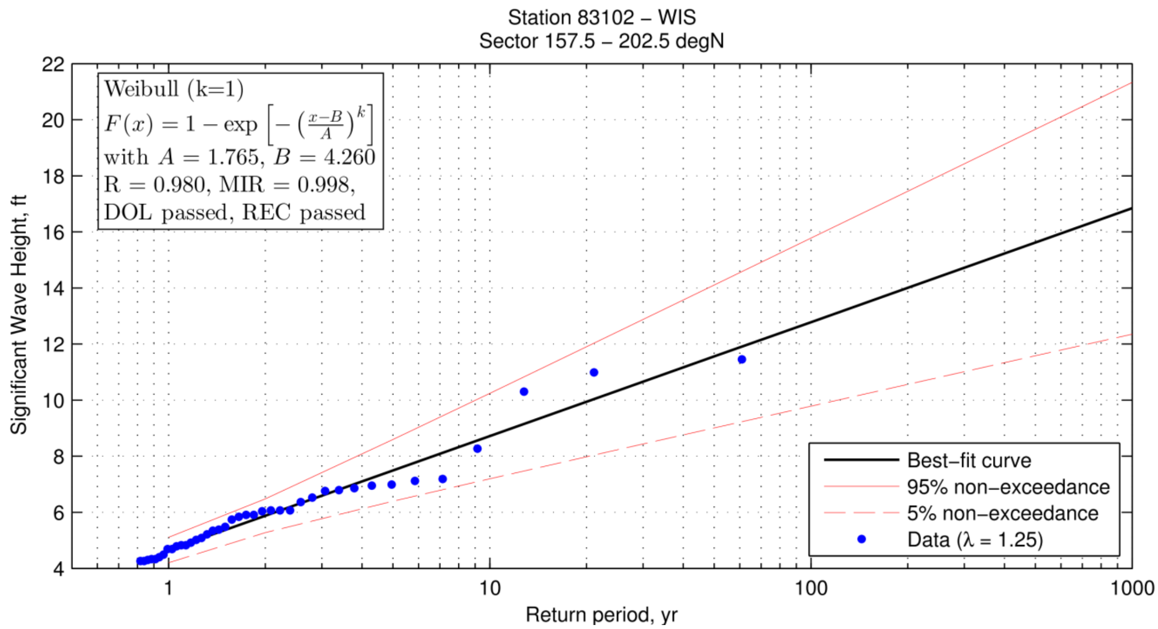


Figure 11: Significant Wave Height Extreme Value Curve

The wave heights from the 2011 storm event were then scaled up to the 100-yr wave height. Next, the storm waves were shoaled from deep water to the reference point for the wave transmission coefficients (just outside the Long Beach Breakwaters, about -50 feet depth) using linear wave theory and Snell's law. The wave transmission coefficients were then applied to shoaled 100-yr wave to create the three wave conditions. Figure 12 shows evolution of the 100 year wave and the wave parameters used to force the XBeach model. Finally, the three sets of wave parameters are used to create the JONSWAP wave spectrums that force the model.

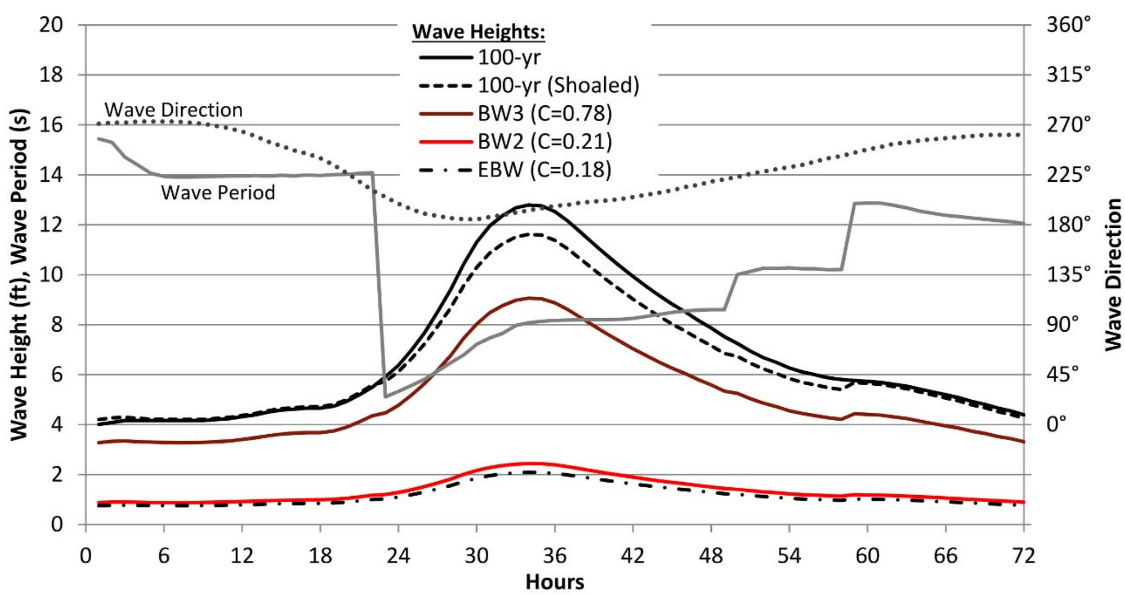


Figure 12: Modeled Storm Hydrograph

4.2.1.2 Water Levels

The Los Angeles, CA NOAA tide gauge (9410660) was used to force the XBeach water levels. A large 2012 King Tide (December 13, 2012) was selected and timed to roughly coincide with the peak of the forced wave height (Figure 13). Based on NOAA's extreme analysis on the Los Angeles tidal station, the 2012 King Tide was approximately a 30-year return period water level (NOAA 2014). The still water locations of the 2012 King Tide, MHHW, MLLW, and future SLR projections on the existing beach are shown in Figure 14.

The modeled water levels were increased by 0.4, 1.4, 2.6, and 5.5 ft to create four sea level rise scenarios for each wave condition to make a total of 15 boundary conditions. The state of California recommends using 2012 National Research Council's (NRC) range of SLR predictions for planning decisions (CO-CAT 2013, NRC 2012). The four SLR values represent the upper and lower range of SLR estimates for 2060 (0.5ft to 2.6ft) and 2100 (1.4ft to 5.5ft) (NRC 2012). These estimates for sea level rise will provide a wide range of estimates for erosion and wave run-up. The 15 boundary condition scenarios modeled are shown in Table 4.

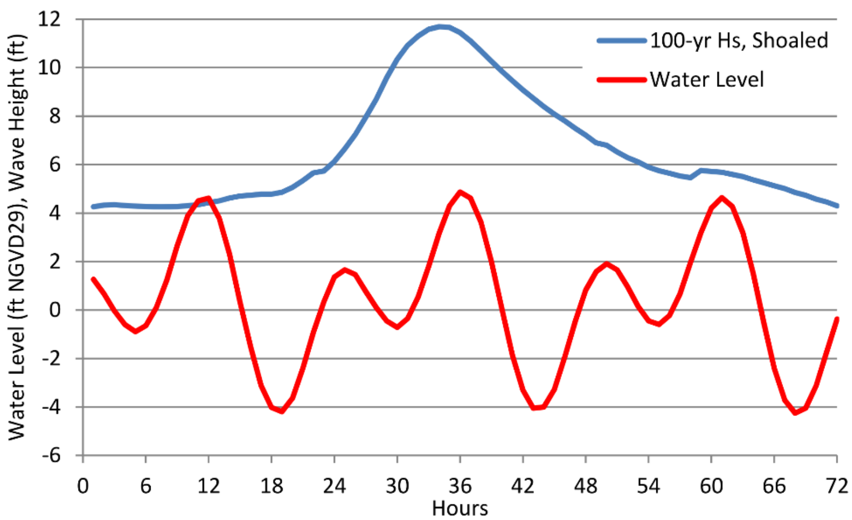


Figure 13: Forced Still Water Level for Existing Condition.

Table 4: Wave Heights for Modeled Scenarios

Case#	Breakwater Configuration	Wave Transmission Coefficient	Peak Wave Height (H_s) 100-yr Storm (ft)	SLR	
				Year	ft
1	Existing	0.18	2.09	2014	0.0
2L	Existing	0.18	2.09	2060	0.5
2H	Existing	0.18	2.09	2060	2.6
3L	Existing	0.18	2.09	2100	1.4
3H	Existing	0.18	2.09	2100	5.5
4	Breakwater 2	0.21	2.44	2014	0.0
5L	Breakwater 2	0.21	2.44	2060	0.5
5H	Breakwater 2	0.21	2.44	2060	2.6
6L	Breakwater 2	0.21	2.44	2100	1.4
6H	Breakwater 2	0.21	2.44	2100	5.5
7	Breakwater 3	0.78	9.06	2014	0.0
8L	Breakwater 3	0.78	9.06	2060	0.5
8H	Breakwater 3	0.78	9.06	2060	2.6
9L	Breakwater 3	0.78	9.06	2100	1.4
9H	Breakwater 3	0.78	9.06	2100	5.5

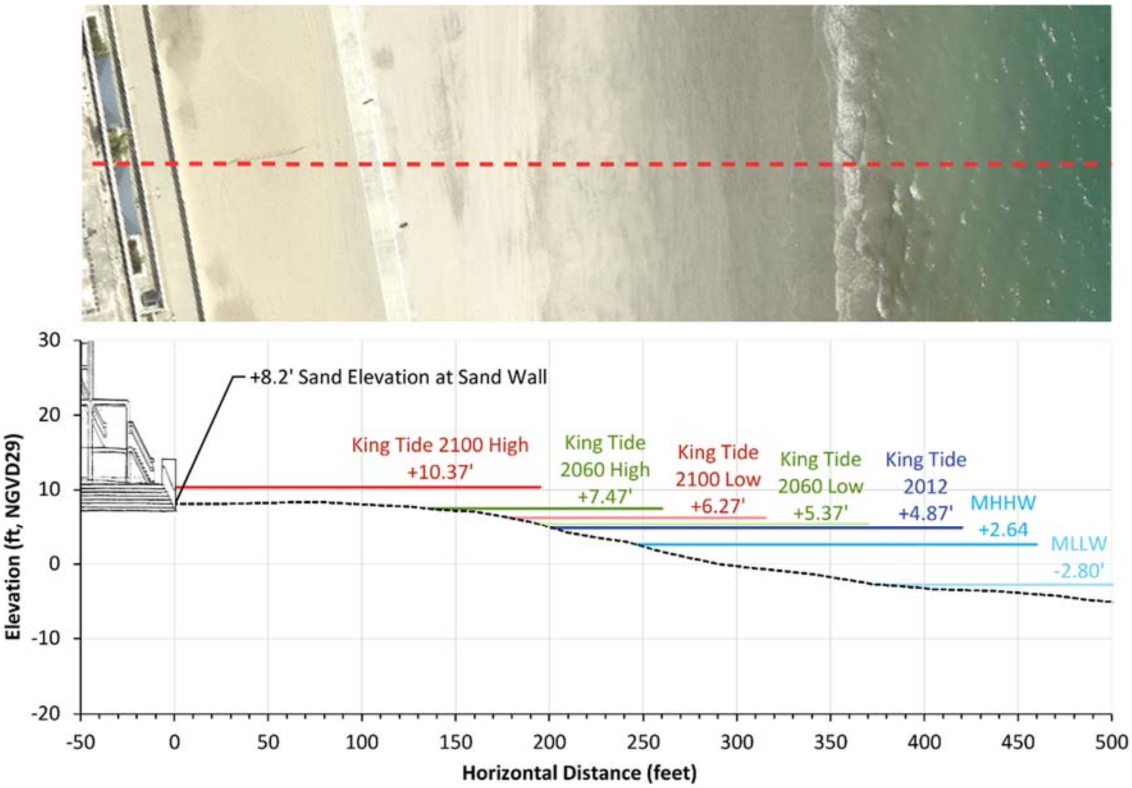


Figure 14: Still Water Level Locations on the Existing Beach
Shown at 4x Vertical Exaggeration for clarity)

4.2.2 Bathymetry & Computational Grid

The profiles detailed in Section 3.3 were used to create the XBeach input profiles. The beach profiles were extended offshore to a depth of 20 meters MSL (-68.2 feet NGVD29) with a 1V:100H slope. For computing efficiency, the profile point spacing varies from 23m (76ft) furthest offshore to 0.91m (3ft) on the beach according to the Courant–Friedrichs–Lewy (CFL) condition. The Bruun adjusted profiles from Section 3.3 are used for the sea level rise scenarios.

The existing pool cells were set to be non-erodible, meaning that these points on the profile will not change over time. The concrete beach path is ignored and treated as sand.

4.2.3 Model Parameters

XBeach model parameters are were largely left to their default settings. Based on prior experience with XBeach, the erosion limiter was set to 0.8. Model defaults were used for all other input parameters.

4.3 Model Results

In order to evaluate the risk of erosion seaward of the Belmont Plaza Pool property, simulations were performed to determine the beach profile response to the 100-year storm event. The storm hydrograph is presented in Figure 12. Simulations with and without sea level rise were also performed to understand short and long term response of the profile and quantify the increase in coastal flooding (run-up). Additionally, two modifications of the Long Beach Breakwater were modeled to analyze the effects of removing portions of the breakwater. Note that none of modeled scenarios account for shore protection measures such as beach nourishment, storm berm construction, or other shore protection structures that would likely be required to accompany any significant breakwater reconfiguration. To varying scales, shore protection measures would be employed to address high sea level rise trends, reduce the impact of incoming storms, and mitigate modifications to the Long Beach Breakwater.

4.3.1 Erosion

Figure 15 shows all 15 modeled scenarios grouped by breakwater configuration. The final, post storm profiles are a result of both Bruun modeling and XBeach modeling of the 100-year storm. As suggested by the wave transmission coefficients (Table 3), the modeled profiles of the existing breakwater configuration and the BW2 configuration are very similar and difficult to differentiate on the figures. Table 5 presents the berm erosion (in horizontal feet and percent-lost compared to present day berm width), final berm width and beach width following the modeled 100-year storm. Beach width is measured as the horizontal distance between the back of the beach (the pool sand wall) and the 0 NGVD beach contour (mean sea level) plus the increase in sea level. The berm crest elevation for all runs was approximated as the high water level of the 2012 King Tide (4.87’) plus the increase in sea level. The berm width is measured from the sand wall to berm crest elevation. The berm width is an important characterization as dry sandy beach is important for many recreational uses and serves as a buffer against coastal flooding. The existing berm width and beach width is 195’, and 285’ respectively.

The effect of sea level rise on the beach is significant. With 5.5ft of SLR, the still water level of the King Tide reaches the pool structure and a dry sandy berm is non-existent. Case 9 suggests the seaward edge of the pool structure would be subject to undermining as the sand elevation at the sand wall has dropped nearly 2 feet in post storm profile (Figure 15).

Berm erosion outpaces erosion at MHW for the modeled cases. At the end of each 100-year storm scenario the beach face has flattened and expanded. Figure 16 depicts the retreat of the berm crest in plan view. The location of the berm crest west and east of the XBEACH transect has been manually approximated using the NOAA TopoBathy dataset and historic aerial photographs.

Of the two modifications to the Long Beach Breakwater analyzed, only BW3 caused a significant change. The waves reaching the beach under the BW3 reconfiguration are over three times larger than the present. The 100-year storm modeled with present day sea levels and BW3 configuration (Case 7) eroded nearly 25% of beach berm.

A number of the modeled cases resulted in a 2 to 3-foot beach scarp located at the berm crest; the formation of beach scarps is common following large storm events, beaches with unnaturally high berms or unnaturally steep beach slopes. It is possible that the scarp may be a result of the profile being cut through the cusp embayment, or that the berm elevation is still at its pre-breakwater elevation and high compared to the sheltered wave environment.

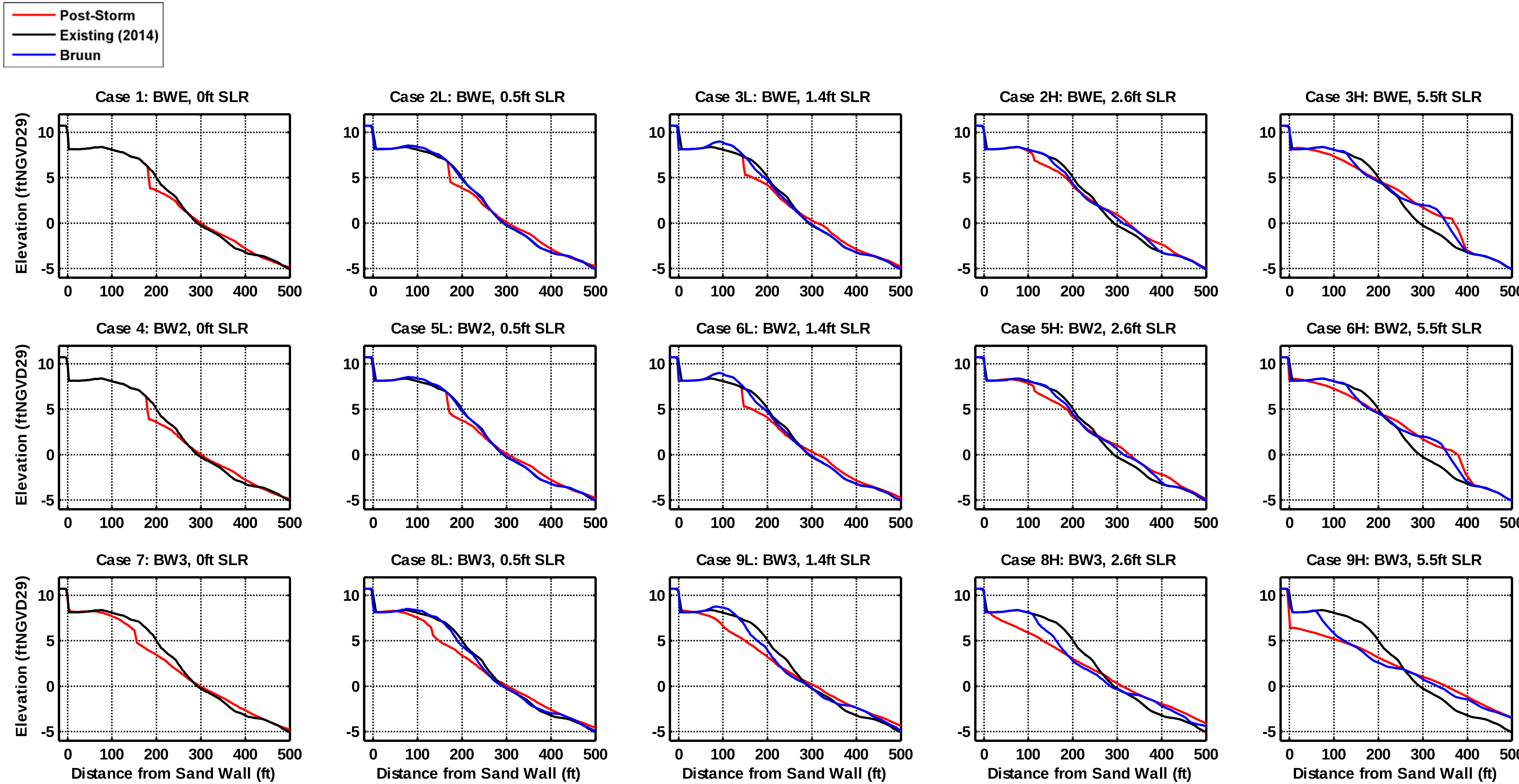


Figure 15: Modeled Beach Profiles
(Shown at over x20 vertical exaggeration for clarity)

Table 5: Erosion Model Results with 100-yr Storm Event

Case #		Year	SLR (ft)	Berm Erosion† (ft) (% loss)	Berm Width (ft)	Beach Width† (ft)
BWE	1	2014	0	24 (12%)	177	294
	2L	2060	0.5	36 (18%)	165	281
	2H	2060	2.6	97 (48%)	104	258
	3L	2100	1.4	60 (30%)	141	232
	3H	2100	5.5	201 (100%)	0	164
BW 2	4	2014	0	27 (14%)	174	294
	5L	2060	0.5	38 (19%)	163	281
	5H	2060	2.6	95 (48%)	106	258
	6L	2100	1.4	63 (31%)	138	233
	6H	2100	5.5	201 (100%)	0	164
BW 3	7	2014	0	51 (26%)	150	291
	8L	2060	0.5	67 (33%)	134	278
	8H	2060	2.6	177 (88%)	24	247
	9L	2100	1.4	100 (50%)	101	209
	9H	2100	5.5	201 (100%)	0	79

†2014 existing berm width and beach width is 195’, and 285’ respectively

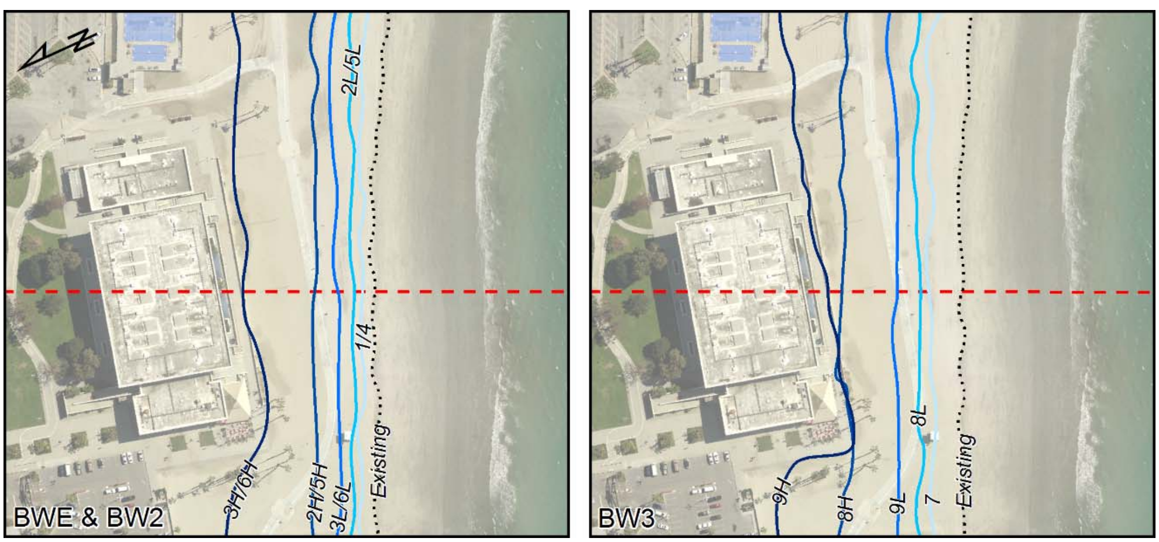


Figure 16: Approximate Berm Crest Locations near the Belmont Pool
(Note: The crest line locations along the dashed red profile line are representative of the XBEACH model results; however the crest lines elsewhere on the plan view were manually approximated from the NOAA TopoBathy dataset.)

4.3.2 Coastal Flooding and Run-up

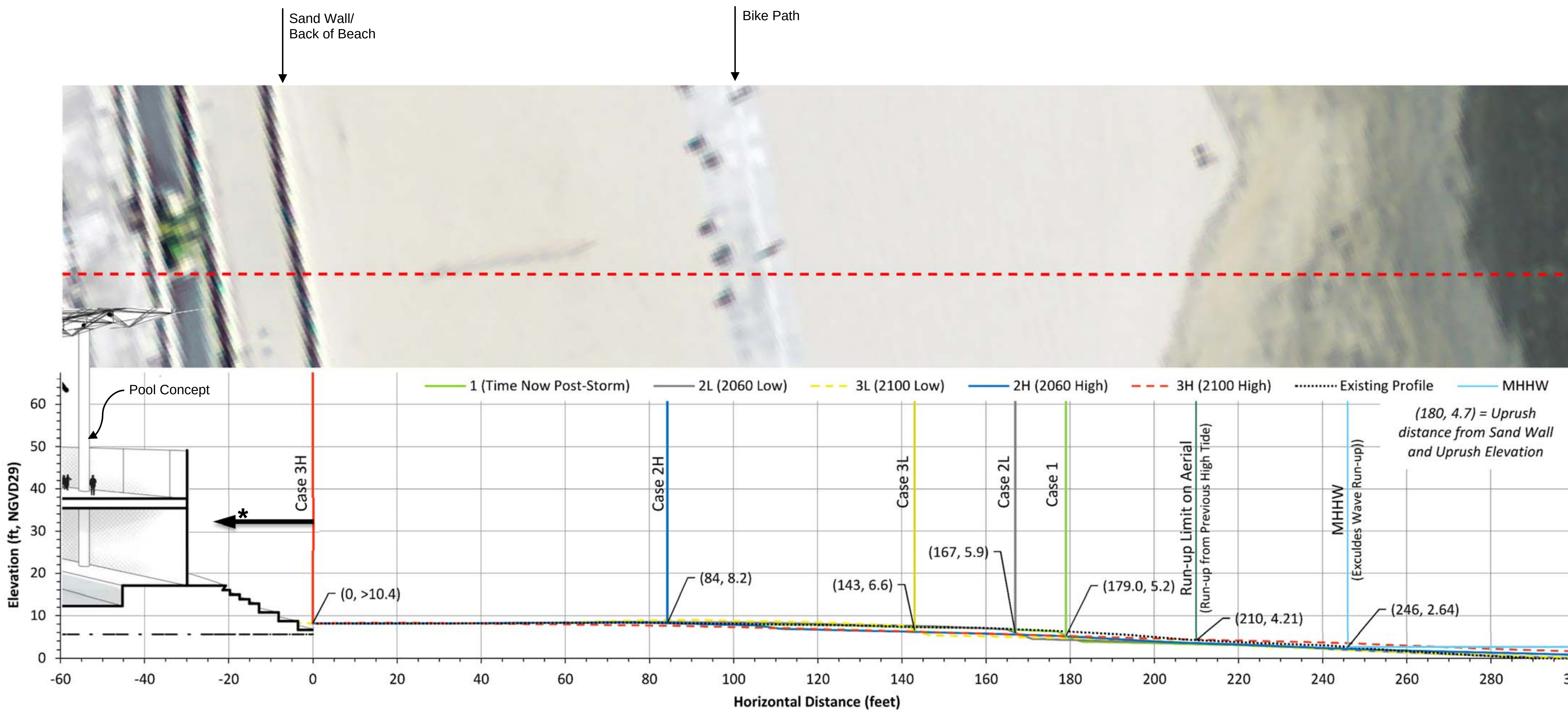
The 2% run-up level is a common metric for quantifying the maximum elevation inundated during a storm event. Statistically, the 2% run-up is the point reached or exceeded by only 2% of all waves. Therefore, the 2% run-up of a 100-year storm is a good indicator of the extent of coastal flooding. Table 6 presents the 2% run-up elevation and the horizontal distance covered by the 2% run-up beyond the existing scenario (Case 1). Figures 17 through 19 show the post-storm profiles with run-up limits. Figure 20 shows the post-storm run-up limits on a plan view graphic.

Similarly to the erosion results, the existing breakwater cases and the BW2 cases are very similar. The run-up at present day sea level for the existing breakwater (Case 1) configuration and BW2 (Case 4) reaches approximately 5 ft NGVD29. As shown in the figures and table below, the run-up reaches higher elevations with SLR and reduced wave sheltering. Due to the subtle slope of the beach berm and 3-foot grid spacing, small changes in predicted wave run-up (<0.1 feet) can lead to large changes in run-up distance (see Case 2H and 5H). The King Tide in addition to the 2100 high sea level projection (Cases 3H, 6H, and 9H) reaches 10.4 feet NGVD29 and inundates the entire beach. With the exception of Case 7, the run-up of all BW3 scenarios reaches the sand wall. With the increased wave height of Case 7, the runup reaches 3 feet higher and 117 feet further than Case 1.

Table 6: Run-up Model Results

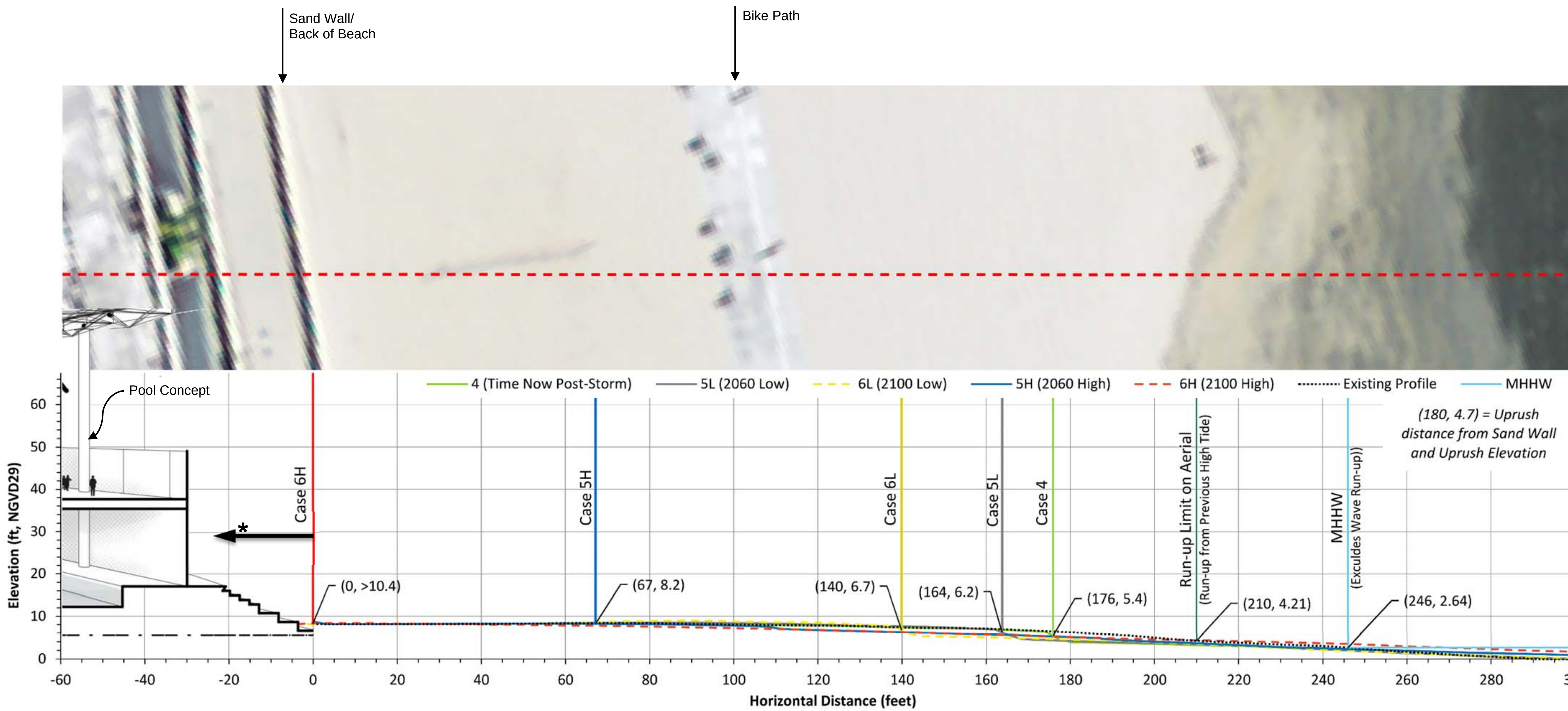
Case #		Year	SLR (ft)	2% Run-up Elevation (ft, NGVD29)	2% Run-up Distance from Sand Wall (ft)	2% Run-up Distance Beyond Case 1 (ft)
EX BW	1	2014	0	5.2	179	--
	2L	2060	0.5	5.9	167	12
	2H	2060	2.6	8.2	84	95
	3L	2100	1.4	6.6	143	36
	3H	2100	5.5	>10.4†	0	179
BW 2	4	2014	0	5.4	176	3
	5L	2060	0.5	6.2	164	15
	5H	2060	2.6	8.2	67	112
	6L	2100	1.4	6.7	140	39
	6H	2100	5.5	>10.4†	0	180
BW 3	7	2014	0	8.2	62	117
	8L	2060	0.5	>8.3	0	179
	8H	2060	2.6	>8.3	0	179
	9L	2100	1.4	>8.3	0	179
	9H	2100	5.5	>10.4†	0	179

† 10.4 is the maximum still water level during the simulation (2012 King Tide + 2100 High SLR)



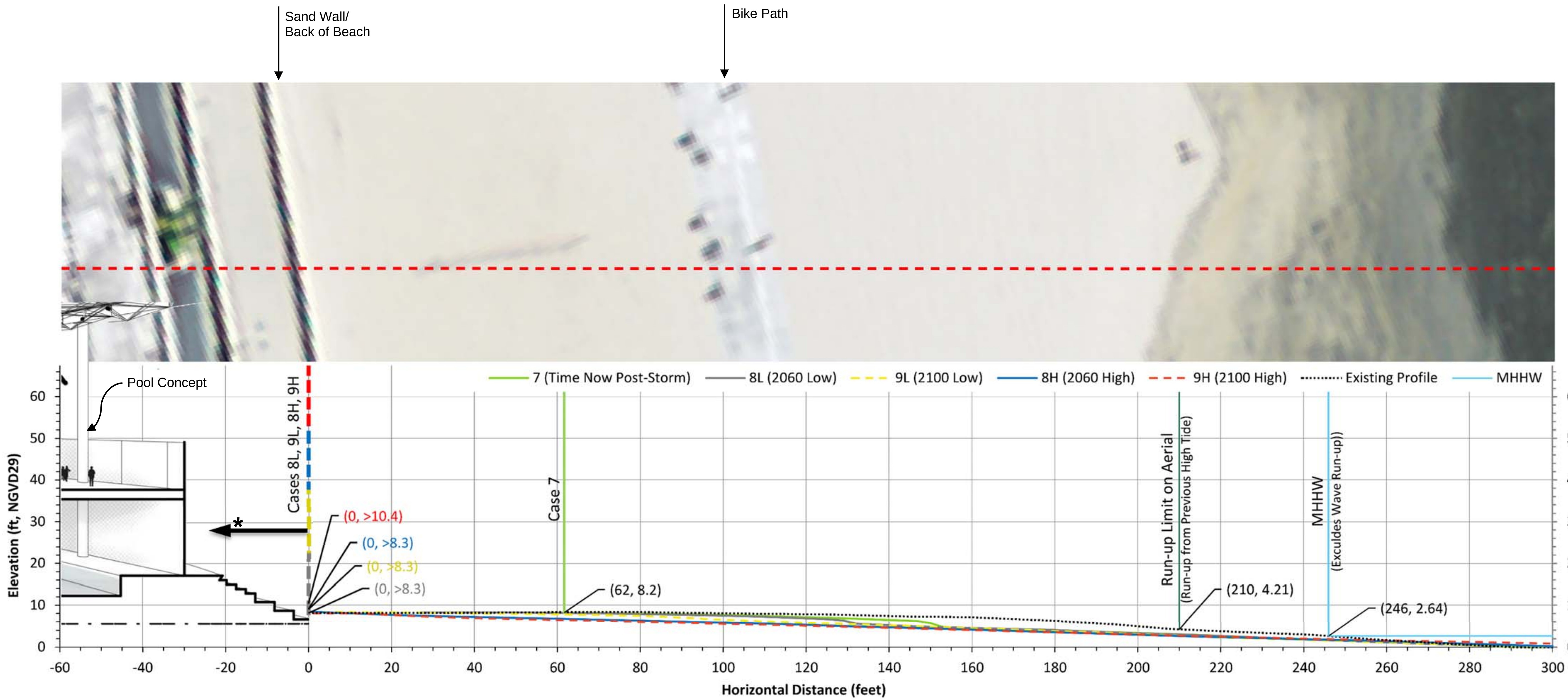
The wave run-up limit of this case is <u>landward</u> of this location. The exact landward extent cannot be determined due to the presence of the existing infrastructure; i.e. the profile modeling ends at the landward edge of sandy beach.

Figure 17: Post Storm Profiles and 2% Run-up Limits - Existing Breakwater Configuration



* *The wave run-up limit of this case is <u>landward</u> of this location. The exact landward extent cannot be determined due to the presence of the existing infrastructure; i.e. the profile modeling ends at the landward edge of sandy beach.*

Figure 18: Post Storm Profiles and 2% Run-up Limits - Alternative BW2 Configuration



* *The wave run-up limits of these cases are landward of this location. The exact landward extents cannot be determined due to the presence of the existing infrastructure; i.e. the profile modeling ends at the landward edge of sandy beach.*

Figure 19: Post Storm Profiles and 2% Run-up Limits - Alternative BW3 Configuration

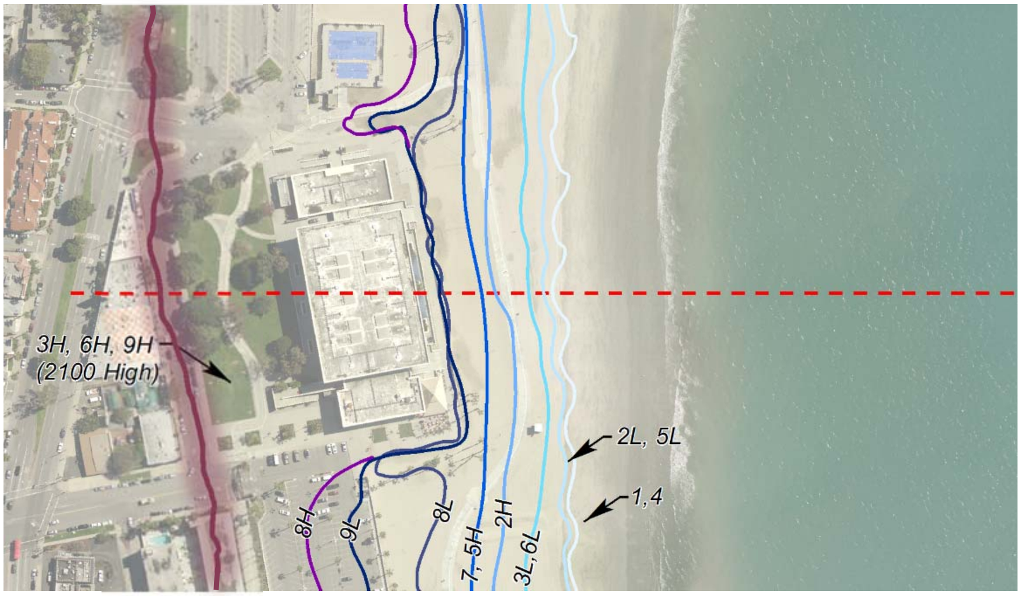


Figure 20: Approximate Wave Runup Limits near the Belmont Pool

(Note: The limit locations along the dashed red profile line are representative of the XBEACH model results; however the limit lines elsewhere on the plan view were manually approximated from the NOAA TopoBathy dataset.)

5.0 CONCLUSIONS AND RECOMMENDATIONS

At present day sea levels and no modifications to the existing Long Beach Breakwater, the XBeach model predicts that the pool facility would suffer no damage or inundation from the 100-year return period storm waves. The beach fronting the facility was predicted to form a two-foot high scarp near the berm crest with 25 feet of berm erosion. The modeled 2% wave run-up reached 5.2ft NGVD29. The landward extent of run-up was reduced by the beach scarp, however even without the scarp, the 2% run-up is unlikely to reach the back beach.

Over the range of predicted 2060 sea levels and no modifications to the Breakwater, the modeled 100-year storm eroded 18% to 48% of the beach berm. Wave run-up for the low estimate of 2060 SLR (+0.5ft) reaches the 5.9ft NGVD29 beach contour, while the high 2060 SLR estimate (+2.6 ft) reaches the 8.2 ft NGVD29 beach contour. In comparison, the existing elevation of the back beach at the sand wall along the modeled profile is at 8.3ft, but is as low as 7 feet near the stairs to the west and closer to 9 feet near the stairs to the east. **These results suggest that the pool is unlikely to suffer damage with the existing breakwater and 2060 levels of sea level rise.**

Sea level rise estimates for 2100 cover a wide range from +1.4 feet to +5.5 feet. The low 2100 SLR estimate ran with the 100-year storm and existing breakwater erodes 60 feet (30%) of the beach berm, with wave run-up reaching the 6.6 ft NGVD29 beach contour. Contrastingly, without preventative measures, the upper 2100 estimate would not only inundate much of the pool facility, but much of the Long Beach Peninsula and Belmont Shore as well. **With the exception of the high 2100 SLR scenario, the effects of the 100-year storm and SLR are quite manageable with the existing breakwater in place.**

Removing the western 1/3 of the Long Beach Breakwater (Breakwater Alternative 2) does not create significantly more erosion or inundation at the site following the modeled 100-year storm, in comparison to the existing Breakwater scenarios. The analysis results of the BW2 scenarios are not significantly different from those of the existing breakwater scenarios; **with the exception of the high 2100 SLR scenario, the effects of the 100-year storm and SLR are quite manageable with the implementation of the Breakwater Alternative 2 (removal of the western 1/3 of the Breakwater).**

Breakwater Alternative 3, removal of the eastern 2/3 of the existing breakwater, would lead to a significant increase in erosion and wave run-up. At current sea levels, the storm waves would inundate up to the 8.2ft NGVD29 elevation and erode approximately 40 feet of beach width. At the conservative (high) 2060 and 2100 predicted sea levels (+2.6ft, +5.5ft), the existing 195-foot wide berm is eroded to just 24 feet and completely eroded, respectively. **The wave run-up reaches above the sand wall in all BW3 scenarios with the exception of case 7 (current mean sea level).** Lastly, note that **any modifications to the Long Beach Breakwater would include measures to mitigate the effects of the increased wave activity at the shoreline it previously protected.**

Erosion caused by the 100-yr storm at the site is likely to be permanent and poses a more serious threat to the pool structure than wave run-up alone. In addition, this predicted erosion may be exacerbated by smaller erosional events (5-yr, 10-yr, 25-yr storms…etc). The west end of the property is especially vulnerable as it is 40 to 50 feet closer to the shoreline than the beach front where the modeled profile is located. However, the majority of the erosion occurs over a long period of time and **additional measures, such as nourishment, winter sand dikes, or protective coastal structures, can be employed to counter act the erosion and safeguard the facility.** Furthermore, modifications to the Long Beach Breakwater would include measures to mitigate the impacts of increased wave activity.

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APPENDIX C

BELMONT PLAZA PROJECT BIOLOGICAL SURVEY MEMORANDUM, PRECONSTRUCTION NESTING BIRD AND BAT ROOST SURVEY, & FOLLOW-UP PRECONSTRUCTION NESTING BIRD AND BAT ROOST SURVEY MEMORANDUM

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MEMORANDUM

DATE: May 3, 2013

TO: City of Long Beach

FROM: Erin Martinelli, LSA Associates, Inc.

SUBJECT: Biological Survey for the Belmont Plaza Revitalization Project, City of Long Beach, California

On April 12, 2013, LSA Associates, Inc. (LSA) biologist Erin Martinelli conducted a biological survey within the area for the proposed Belmont Plaza Revitalization Project (project), located at 4000 E. Olympic Plaza, City of Long Beach (City), California. The purpose of the survey was to identify any potential bird nesting or roosting (perching in order to rest or sleep) locations, or any other biological resources, within the project area.

The survey consisted of Ms. Martinelli inspecting each tree and structure for signs of nesting material or any other evidence of frequent bird use, such as whitewash (excretion) within, on, or around the tree or structure. Information regarding the locations and signs of nesting and/or roosting found during the survey is included in Table A (attached). A map of the nesting/roosting locations is provided as Figure 1 (attached), and photographs of the nesting/roosting locations are included in Figure 2 (attached). This survey was conducted during the typical bird-nesting season, which generally occurs between February 15 and August 31 of each year (with some exceptions; e.g., hummingbirds may nest outside of this period).

The results of the survey found nine locations (two structures and seven tree areas) with evidence of nesting and/or roosting. To the maximum extent feasible, construction activities that may impact existing vegetation or other potential nesting substrates should be conducted outside the primary nesting season for birds. Peak nesting months are typically March through June. Trees are especially useful for nesting birds, so it is recommended that any necessary tree removal be completed during the autumn months (i.e., September through December). If tree removal or trimming must be done outside this period, a qualified biologist should search for nesting birds during the 3 days prior to the work being done. If a nest with eggs or young of any species covered under the Migratory Bird Treaty Act is found, work should not be permitted within a safe distance to be determined by the qualified biologist involved.

Species observed during the survey include black-crowned night-heron (*Nycticorax nycticorax*), western gull (*Larus occidentalis*), rock pigeon (*Columba livia*)*, mourning dove (*Zenaida macroura*), Anna's hummingbird (*Calypte anna*), Allen's hummingbird (*Selasphorus sasin*), red-crowned parrot (*Amazona viridigenalis*)*, black phoebe (*Sayornis nigricans*), American crow (*Corvus brachyrhynchos*), bushtit (*Psaltriparus minimus*), European starling (*Sturnus vulgaris*)*, orange-crowned warbler (*Oreothlypis celata*)*, yellow-rumped warbler (*Setophaga coronata*), chipping sparrow (*Spizella passerina*), house finch (*Haemorhous mexicanus*), and house sparrow (*Passer domesticus*)*
* = Species not native to the survey area

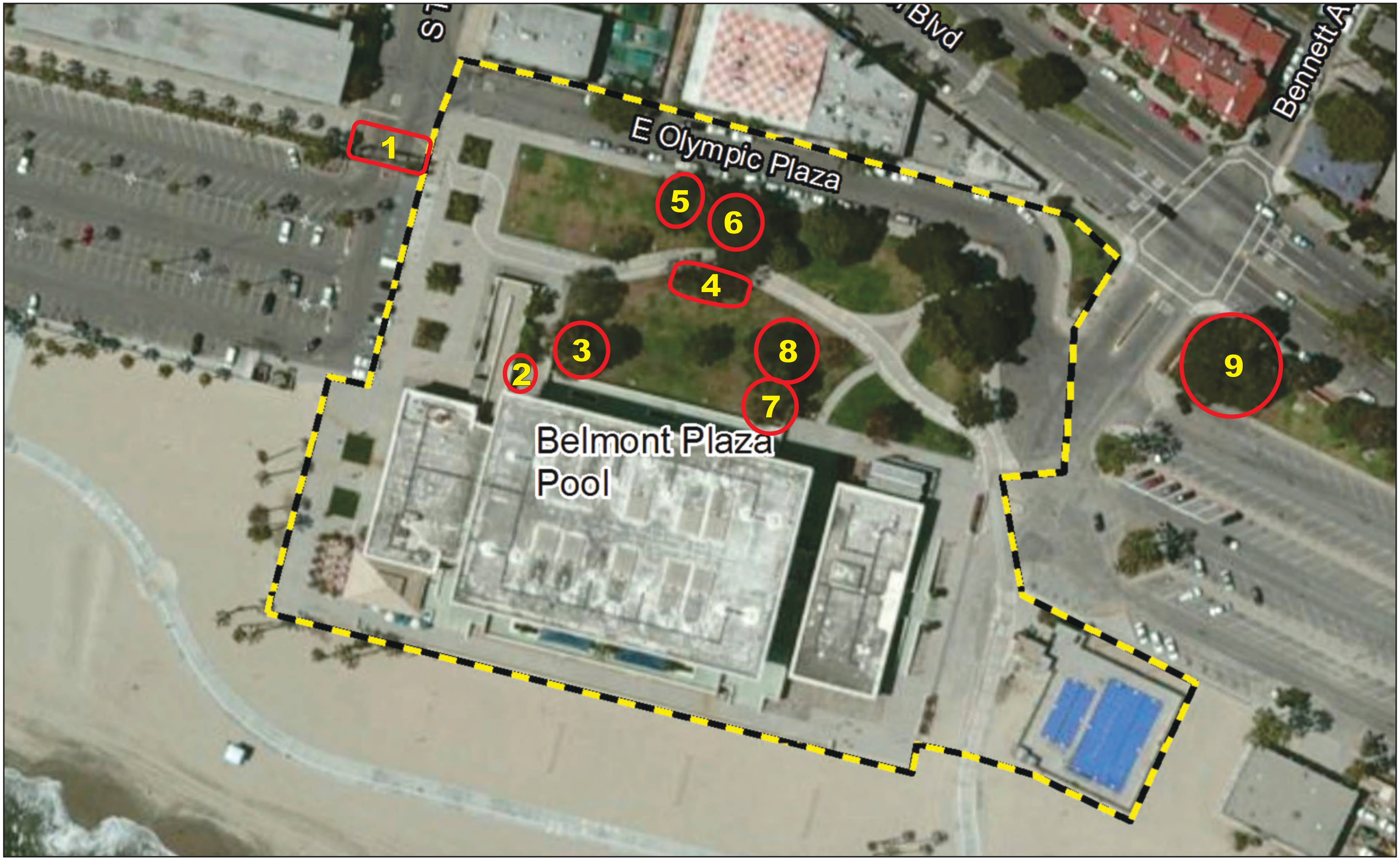
Attachments: Table A: Belmont Plaza Project Biological Survey Results
Figure 1: Belmont Plaza Project Biological Survey Map of Nesting/Roosting Locations
Figure 2: Belmont Plaza Project Biological Survey Photographs

Table A: Belmont Plaza Project Biological Survey Results

Nesting/ Roosting Locations (Figure 1)	Photo No. (Figure 2)	Nesting or Roosting	Tree or Structure	Tree Type	Type of Sign	Observations
1	1	Nesting	Structure	N/A	Nests	Nests observed on Belmont Veterans Memorial Pier wooden structure. Species observed were nonnative European starlings and house sparrows, but native species could also utilize the structure for nesting.
2	2	Nesting	Structure	N/A	Nests	Two nests observed on top of pipes that run under Del Mar Room ramp.
3	3	Nesting	Tree	Paperbark[1]	Nest	A nest was observed in one of the three paperbark trees.
4	4	Roosting	Tree	Eucalyptus[1]	Whitewash	No nests were observed in these two adjacent eucalyptus trees, though whitewash in the trees suggests frequent roosting.
5	5	Nesting	Tree	Oak	Nest	A nest was observed in the southernmost (closer to the pool) oak tree.
6	6	Nesting	Tree	Ornamental[1]	Nests	A black-crowned night-heron was observed on a nest in this ornamental tree located in front of Yankee Doodles. Three nests were observed in this tree.
7	7	Nesting	Tree	Paperbark[1]	Nests	Black-crowned night-herons were observed roosting and nesting in these two paperbark trees located adjacent to the pool building.
8	8	Nesting	Tree	Oak	Nests	Black-crowned night-herons were observed roosting and nesting in this oak tree.
9	9	Nesting	Tree	Ficus[1]	Nests	Black-crowned night-herons were observed roosting and nesting in these three trees.

[1] = Nonnative

N/A = not applicable



L S A

FIGURE 1

LEGEND

Project Site

Nesting/Roosting Location

0 50 100

FEET

SOURCE: Bing (c. 2010)

I:\CLB1302\G\Bio Survey Map.cdr (4/26/13)

Belmont Pool Revitalization Project

Biological Survey Map of Nesting/Roosting Locations

1. Nests observed on Belmont Veterans Memorial Pier wooden structure. Species observed were nonnative European starlings and house sparrows, but native species could also utilize the structure for nesting.

2. Two nests observed on top of pipes that run under Del Mar Room ramp.

3. A nest was observed in one of the three paperbark trees.

4. No nests were observed in these two adjacent eucalyptus trees, though whitewash in the trees suggests frequent roosting.

LSA

FIGURE 2

Belmont Pool Revitalization Project

Biological Survey Photographs

5. A nest was observed in the southernmost (closer to the pool) oak tree.

6. A black-crowned night-heron was observed on a nest in this ornamental tree located in front of Yankee Doodles. Three nests were observed in this tree.

7. Black-crowned night-herons were observed roosting and nesting in these two paperbark trees located adjacent to the pool building.

8. Black-crowned night-herons were observed roosting and nesting in this oak tree.

9. Black-crowned night-herons were observed roosting and nesting in these three trees.

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MEMORANDUM

DATE:	August 18, 2014
TO:	Bill Zein, City of Long Beach
FROM:	Erin Martinelli, LSA Associates, Inc.
SUBJECT:	Preconstruction Nesting Bird and Bat Roost Surveys Prior to Belmont Pool Demolition, City of Long Beach, California

On August 11, 2014, LSA Associates, Inc. (LSA) biologists Jill Carpenter and Erin Martinelli conducted preconstruction nesting bird and bat roost surveys within and around the Belmont Pool building, located at 4000 E. Olympic Plaza, in the City of Long Beach (City), California. The purpose of the survey was to identify any active bird nesting or roosting (perching in order to rest or sleep) locations, or any bat roosts, within the project area that could be impacted by demolition of the building. In the evening, two additional LSA biologists assisted in the bat emergence survey and acoustic monitoring.

Preconstruction Nesting Bird Survey

As a follow-up to the initial biological survey conducted by Ms. Martinelli on April 12, 2013, the preconstruction nesting bird survey consisted of Ms. Martinelli inspecting each tree and structure for signs of current bird nesting or roosting activity, such as any occupied nests or recent whitewash (excretion) within, on, or around the tree or structure. Information regarding the locations and signs of nesting and/or roosting found during the survey is included in Table A (attached). A map of the nesting/roosting locations is provided as Figure 1 (attached), and photographs of the nesting/roosting locations are included in Figures 2A and 2B (attached). This survey was conducted during the bird-nesting season designated in California Coastal Commission guidance as January through September (black-crowned night-herons [*Nycticorax nycticorax*] and a few other birds may begin nesting as early as January, but the majority of birds nest between February 15 and August 31).

All nine previously identified (during the April 12, 2013, survey) nesting/roosting locations (two structures and seven tree areas) were thoroughly inspected, and a new location (one pine tree) with evidence of recent roosting was added to Table A and Figure 1. The results of the survey found no active bird nests, evidence of recent roosting in two of the locations, and one roosting black-crowned night-heron in one of the locations during the time of the survey.

Species observed during the survey include black-crowned night-heron, western gull (*Larus occidentalis*), rock pigeon (*Columba livia*),[1] mourning dove (*Zenaida macroura*), Allen's hummingbird (*Selasphorus sasin*), red-crowned parrot (*Amazona viridigenalis*),[1] and American crow (*Corvus brachyrhynchos*).

Since no active bird nests were observed, demolition of the Belmont Pool building before October 2014 should not result in impacts to nesting birds. Roosting birds are expected to be deterred from the project area during construction activities and to relocate to nearby roosting areas outside of the project area. However, should demolition be delayed, construction activities that may impact nesting birds should be conducted between October and December, outside the primary nesting season for birds. If construction activities, tree removal, or

[1] Species not native to the survey area.

tree trimming must be done outside this period, a qualified biologist should search for nesting birds within 3 days prior to the work being done. If a nest with eggs or young of any species covered under the California Fish and Game Code or the Migratory Bird Treaty Act is found, work should not be permitted within a safe distance to be determined by the qualified biologist involved.

Preconstruction Bat Roost Survey

Both the interiors and exteriors of the Belmont Pool building and its associated structures were investigated during the daytime for the presence of suitable day-roosting habitat for bats. Day roosts are used by bats during the day for shelter from the elements and from predators. Species that commonly utilize anthropogenic structures such as buildings for day and/or night roosting and that may occur in the vicinity of the Belmont Pool building complex include the Mexican free-tailed bat (*Tadarida brasiliensis*), big brown bat (*Eptesicus fuscus*), California myotis (*Myotis californicus*), and Yuma myotis (*Myotis yumanensis*); other species that may use these types of roosts for roosting include western mastiff bat (*Eumops perotis*), California myotis (*Myotis californicus*), pallid bat (*Antrozous pallidus*), and western canyon bat (*Parastrellus hesperus*).

Each room and partitioned space throughout the Belmont Pool building complex, including the banquet hall and the attached former La Palapa Del-Mar restaurant, was entered in order to examine the walls, ceilings, closets, corners, and crawl spaces for bats or sign of bats (e.g., guano, urine staining, and vocalizations). A small spotlight was used to better examine dark corners, high ceilings, and spaces behind equipment or furniture. Special attention was given to any crevices or spaces along the walls and ceilings, enclosed storage areas, spaces behind curtains or furniture, and any other potentially suitable roosting location. The entire exterior of the Belmont Pool building complex, including the rooftop, was also visited and inspected for areas that might contain potential bat roosting habitat. In addition, the quality of any potential foraging habitat in the vicinity of the building complex was also assessed during the daytime survey, since the presence of quality foraging habitat can increase the likelihood that an adjacent structure is used for roosting.

No bats or recent bat sign[1] were observed within or outside the Belmont Pool building or associated structures during the daytime survey. The only potential bat roosting habitat observed on the exterior of the Belmont Pool building consisted of several square openings present on all four sides of the pool building just beneath the roof, and the thatched roof of the former La Palapa Del-Mar restaurant. The aboveground height of these areas on the exterior of the Belmont Pool complex precluded close examination for bats or bat sign. Some potentially suitable roosting habitat was also observed throughout portions of the building interior; however, lack of observed bats or bat sign in these locations indicates that these areas are not used by bats for roosting. In addition, most of the possible entries into the building complex have been well sealed using various methods, making access to the interior of the structures difficult. A notable exception to this was the former restaurant, which at the time of the survey had open windows along its southern face that could allow bats to freely enter or exit that structure. Furthermore, the ceiling and other parts of the restaurant interior were lined with straw or straw-style thatching, and the crevice-like spaces and gaps within this material could provide roosting habitat for a variety of bat species. Although no bats or bat sign were observed during the inspection of the former restaurant, the thatch lining of the ceiling was difficult to thoroughly examine and the absence of bats could not be confirmed simply by visual daytime inspection.

Potential bat foraging habitat in the vicinity of the Belmont Pool building complex is limited to only a grassy lawn containing scattered ornamental trees on the northern side of the complex, with extensive developed commercial and residential land use on the other two sides and a sandy beach on the southern side of the complex. The foraging habitat adjacent to the building complex is, therefore, of marginal quality.

[1] The only bat sign observed consisted of two small guano pellets that were observed in a corner of a storage room below the pool deck; however, these guano pellets were very old and likely came from a bat that had entered the building when the facility was still in operation. Since the amount of guano was relatively small, and no carcass was observed, this bat likely found its way out of the building shortly after roosting there.

A nighttime emergence survey was conducted following the daytime inspection to determine whether bats were roosting in the square openings along the top of the Belmont Pool building exterior walls, within the thatched roof of the former restaurant, or within the former restaurant's interior. These areas were difficult to closely examine for bats or bat sign during the daytime inspection due to the aboveground height of the square openings and the roof of the restaurant, necessitating a follow-up emergence survey. During this survey, which began approximately 0.5 hour before sunset and continued until approximately 1.0 hour after sunset, each of the four biologists performing the survey was positioned in a location that allowed him or her a vantage point of any bats that might exit from the square holes along each one of the four sides of the pool building. One of the four biologists was positioned next to the former restaurant to also permit observation of any bats that might exit from the open windows leading to the restaurant interior or from the thatched roof. Each of the biologists used a handheld ultrasound acoustic detector during the entire survey to record the echolocation calls of any bats that might be roosting, foraging, or flying in the vicinity of the Belmont Pool building complex.

No bats were observed emerging from the Belmont Pool building complex at any time during the emergence survey. In addition, no bats were observed flying or foraging in the vicinity, nor were any bats detected with the acoustic equipment. Based upon the results of the daytime building inspection and the nighttime emergence survey, there is no evidence that bats are currently roosting in or around the building complex. Therefore, demolition of the Belmont Pool building complex should not result in impacts to day-roosting bats or bat colonies.

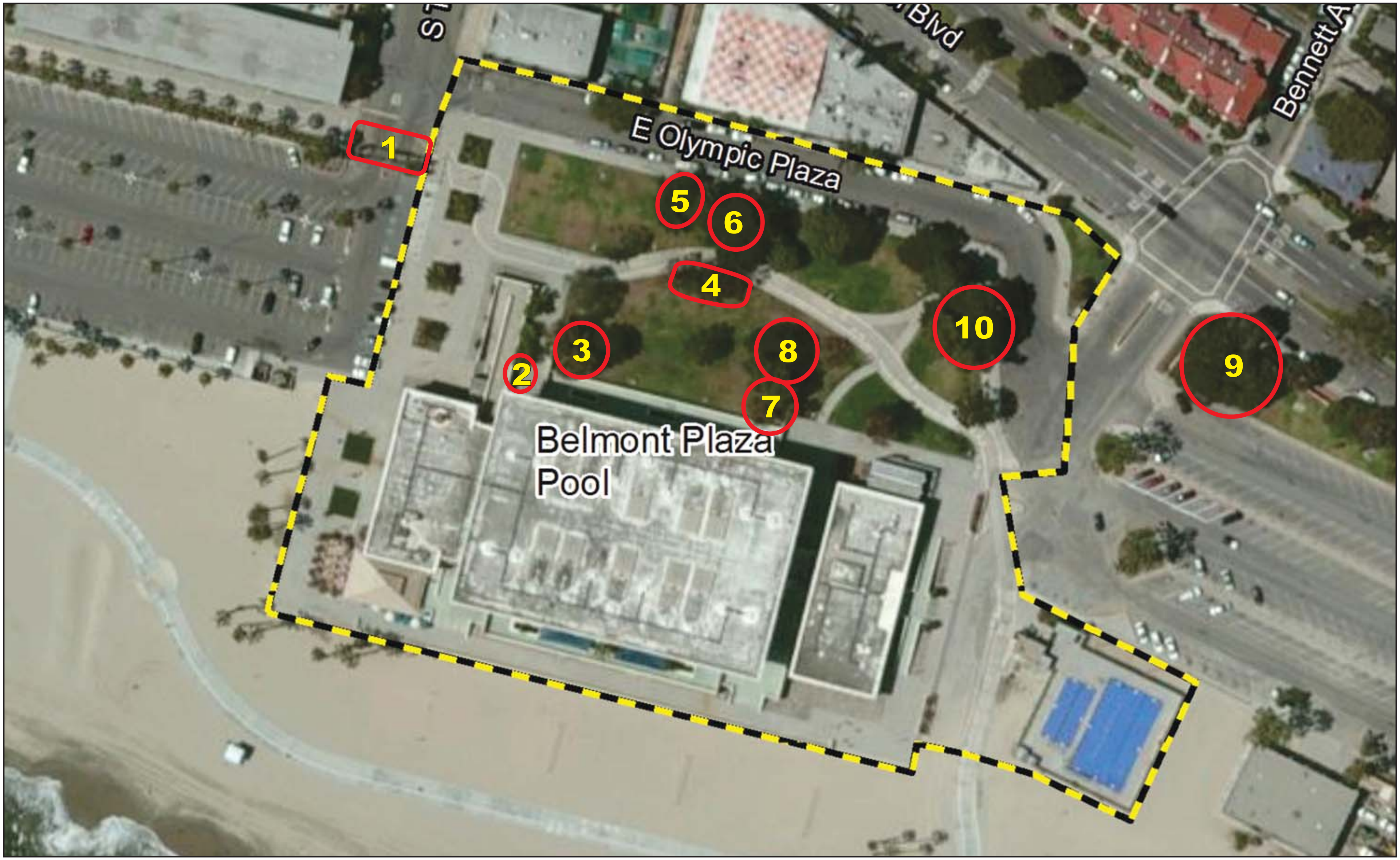
Attachments: Table A: Belmont Pool Preconstruction Nesting Bird Survey Results
Figure 1: Belmont Pool Preconstruction Nesting Bird Survey Map of Nesting/Roosting Locations
Figure 2: Belmont Pool Preconstruction Nesting Bird Survey Photographs

Table A: Belmont Pool Demolition Preconstruction Nesting Bird Survey Results

Nesting/ Roosting Locations (Figure 1)	Photo No. (Figure 2)	Nesting or Roosting	Tree or Structure	Tree Type	Type of Sign	Observations
1	1	Previous Nesting	Structure	N/A	Inactive Nests	Nesting material observed on Belmont Veterans Memorial Pier wooden structure, but no birds observed occupying or visiting nests.
2	2	Previous Nesting	Structure	N/A	Inactive Nest	One nest observed on top of pipes that run under Del Mar Room ramp, but no birds observed occupying or visiting the nest.
3	3	Previous Nesting	Tree	Paperbark[1]	Previously Observed Nest	No current nesting activity was observed.
4	4	Previous Roosting	Tree	Eucalyptus[1]	Previously Observed Whitewash	No evidence of recent roosting (whitewash) was observed.
5	5	Previous Nesting	Tree	Oak	Inactive Nest	A nest was observed in the southernmost (closer to the pool) oak tree, but no birds observed occupying or visiting the nest.
6	6	Previous Nesting	Tree	Ornamental[1]	Inactive Nests	Nesting material observed in ornamental tree located near Yankee Doodles, but no birds observed occupying or visiting nests.
7	7	Previous Nesting	Tree	Paperbark[1]	Previously Observed Nests	No current nesting or roosting activity was observed.
8	8	Roosting and Previous Nesting	Tree	Oak	Roosting Bird and Inactive Nests	Black-crowned night-heron observed roosting in tree. Nesting material observed, but no birds occupying or visiting nests during survey.
9	9	Roosting and Previous Nesting	Tree	Ficus[1]	Inactive Nests and Whitewash	Evidence of recent roosting (whitewash), but no birds observed roosting during survey. Nesting material observed, but no birds occupying or visiting nests during survey.
10	N/A	Roosting	Tree	Pine[1]	Whitewash	Evidence of recent roosting (whitewash), but no birds observed roosting during survey.

[1] = Nonnative

N/A = not applicable



L S A

LEGEND

Project Site

Nesting/Roosting Location

0 75 150
FEET

SOURCE: Bing (c. 2010)

FIGURE 1

Belmont Pool Demolition
Preconstruction Nesting Bird Surveys

Map of Nesting/Roosting Locations

I:\CLB1403\G\Nesting-Roosting Locations.cdr (8/18/14)

1. Nesting material observed on Belmont Veterans Memorial Pier wooden structure, but no birds observed occupying or visiting nests.

2. One nest observed on top of pipes that run under Del Mar Room ramp, but no birds observed occupying or visiting the nest.

3. No current nesting activity was observed.

4. No evidence of recent roosting (whitewash) was observed.

LSA

FIGURE 2A

Belmont Pool Demolition
Preconstruction Nesting Bird Surveys

Biological Survey Photographs

5. A nest was observed in the southernmost (closer to the pool) oak tree, but no birds observed occupying or visiting the nest.

6. Nesting material observed in ornamental tree located near Yankee Doodles, but no birds observed occupying or visiting nests.

7. No current nesting or roosting activity was observed.

8. Black-crowned night-heron observed roosting in tree. Nesting material observed, but no birds occupying or visiting nests during survey.

9. Evidence of recent roosting (whitewash), but no birds observed roosting during survey. Nesting material observed, but no birds occupying or visiting nests during survey.

LSA

FIGURE 2B

Belmont Pool Demolition
Preconstruction Nesting Bird Surveys

Biological Survey Photographs

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BERKELEY
CARLSBAD
FRESNO
PALM SPRINGS
PT. RICHMOND
RIVERSIDE
ROCKLIN
SAN LUIS OBISPO

MEMORANDUM

DATE: April 20, 2015

TO: Bill Zein, City of Long Beach Development Services

FROM: Richard Erickson and Leo Simone, LSA Associates, Inc.

SUBJECT: Follow-up Preconstruction Nesting Bird Survey for the Belmont Veterans Memorial Pier Parking Lot Project, City of Long Beach, California

This memorandum documents a follow-up preconstruction nesting bird survey on the site of the Belmont Veterans Memorial Pier Parking Lot Project in the City of Long Beach, California. A previous nesting bird survey was conducted on April 16, 2015.

LSA ornithologist Richard Erickson conducted the survey on April 19, 2015, from 6:25 a.m. to 8:05 a.m. It was clear, cool, and calm during the survey; conditions were conducive for observing potential nesting bird behavior. The survey was focused on the Mexican fan palms (*Washingtonia robusta*) scheduled for relocation within the parking lot but also included trees, shrubs, and other potential nesting substrates within 300 feet of the project boundary. This included trees along 39th Place, at the base of the pier, along South Termino Avenue, along East Olympic Plaza, and in the western portion of the adjacent park.

Black-crowned night-herons (*Nycticorax nycticorax*) and snowy egrets (*Egretta thula*) were nesting conspicuously in trees near the intersection of East Ocean Boulevard and Bennett Avenue, some distance away from the parking lot, but otherwise little evidence of nesting birds was observed. A cluster of sticks in the top of one of the palms next to the parking lot entrance at the intersection of South Termino Avenue and East Allin Street had clearly been placed there by large birds (probably American crows [*Corvus brachyrhynchos*]), but no bird activity was evident there during the survey. Indeed, it appeared as if the nest construction process was terminated before completion. A male mourning dove (*Zenaida macroura*) sang (cooed) from several exposed perches around the parking lot, but it also moved far to the east as well, so no potential nesting location was identified.

Old fronds had been trimmed from the palm trees in the parking lot so that nesting opportunities were greatly reduced. Two species most often found nesting in palms—the house finch (*Haemorhous mexicanus*) and hooded oriole (*Icterus cucullatus*)—were not even seen in the parking lot trees. Finches were seen nearby but no hooded orioles were observed. The nonnative European starling (*Sturnus vulgaris*) also commonly nests in palms and was present foraging in the parking lot. Perhaps not coincidentally, potential nest predators such as crows, gulls (*Larus* sp.), and even herons were prevalent in the area. Crows and gulls are attracted to public locations such as this, where human trash provides ample foraging opportunities.

Species observed within the study area but not already mentioned included ring-billed gull (*Larus delawarensis*), western gull (*Larus occidentalis*), California gull (*Larus californicus*), the nonnative rock pigeon (*Columba livia*), Anna's hummingbird (*Calypte anna*), Allen's hummingbird

(*Selasphorus sasin*), black-headed grosbeak (*Pheucticus melanocephalus*), and Bullock's oriole (*Icterus bullockii*).

Please call Art Homrighausen or Leo Simone at (949) 553-0666 if you have any questions regarding the results of the preconstruction nesting bird surveys.

APPENDIX D

CULTURAL RESOURCES MEMORANDUM & PALEONTOLOGICAL ASSESSMENT

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ROCKLIN
SAN LUIS OBISPO

May 15, 2013

Mona DeLeon, AICP
Principal
LSA Associates, Inc.

Subject: Belmont Pool Cultural Resources Letter Report for the Belmont Pool Replacement Project, 4000 East Olympic Plaza,
City of Long Beach, Los Angeles County, California

Dear Ms. DeLeon:

CULTURAL RESOURCES

A cultural resource record search of an area that included the Belmont Pool Replacement Project area plus an additional 0.25-mile area was conducted by Ryo Braco of LSA Associates, Inc. (LSA) on April 4, 2013, at the South Central Coastal Information Center (SCCIC) of the California Historical Resources Information System (CHRIS) at California State University, Fullerton (CSUF). This record search identified no recorded cultural resources in the Project area, or within 0.25 mile of the Project area. The record search did identify two cultural resource studies that included the entire Project area: Weinman (1978) and Weinman and Stickel (1978). As well, two additional studies determined to be unmappable by the SCCIC, Dixon (1974) and Hill (1985), also appear to pertain to the current Project area.

No buildings listed in the Directory of Properties of the Historic Property Data (HPD) File for Los Angeles County were found to exist within the Project area. One listed property in the HPD is located approximately 0.25 mile outside of the current Project area. This property, 108 Park Avenue, Long Beach, was determined ineligible for the National Register of Historic Places (National Register) by consensus through the Section 106 process. This property was not evaluated for the California Register of Historical Resources (California Register) or for local listing.

As part of the record search, a copy of the historic *Long Beach, California* 7.5-minute quadrangle map (United States Geological Survey [USGS] 1925) was provided. This map clearly shows that the northern edge of the Project area once contained three buildings. These buildings were located along the south side of East Olympic Plaza where a grassy park currently exists. The Belmont Pier is clearly depicted on the 1925 map approximately 500 feet (ft) west of the western edge of the current Project area. The historic map shows that the beach in the vicinity of the Project area was only about 100 ft wide in 1925, but is at present approximately 400–500 ft wide. It is on this wide sandy area that the majority of the current Project area is located. Based on aerial photographs, development of buildings with a parking lot on the sandy beach occurred sometime between 1952 and 1972. Belmont Pier was extended approximately 400 ft sometime between 1925 and 1952, when the majority of sand accumulation occurred. Two smaller additions were added to the end of the pier sometime between 1952 and 1972. Beach width also increased slightly after 1972.

Additional History

The Belmont Plaza Olympic Pool was constructed in the late 1960s at a cost of $3.7 million for the 1968 United States Olympics (U.S. Olympics) swimming trials. It opened in 1968, in time for the

U.S. Olympics swimming trials, and hosted both the 1968 and 1976 U.S. Olympics swimming trials, as well as the 1974 and 1978 National Collegiate Athletic Association (NCAA) swimming championships. The pool measures 150 x 240 ft, and has had some major records broken at this facility. In March 2011, Tom Shields set the current NCAA record in the 200-yard butterfly swim with a time of 1:40.31, while in May of 2010, Vlad Morozov set the current national high school record in the 50-yard freestyle with a time of 19.43 seconds. On January 10, 2013, the indoor pool was closed when an engineering report warned it was at risk of collapse in even a moderate earthquake. That preliminary report was confirmed on February 1, when it was announced that the pool would stay closed permanently. According to a local official, it is estimated that repairs to the building to make it a building that "balances recreational and competitive swimming needs" will cost between $54 and $62 million.

Sincerely,

LSA ASSOCIATES, INC.

Ivan H. Strudwick
Archaeologist

REFERENCES

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1974 Environmental Management Element of the General Plan, Archaeological Resources and Policy Recommendation, City of Long Beach. Copley International Corporation. On file, South Central Coastal Information Center, California State University, Fullerton (ID No. 03860).

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1985 Cultural Evolution in the Archaic/Mesolithic: A Research Design for the Los Angeles Basin. Archaeological Resource Management Corp. On file, South Central Coastal Information Center, California State University, Fullerton (ID No. 04323).

United States Geological Survey (USGS)
1925 *Long Beach, California* 7.5-minute quadrangle. Surveyed in 1923. Edition of 1925. Reprinted in 1932.

Weinman, Lois J., and E. Gary Stickel
1978 Los Angeles – Long Beach Harbor Areas Cultural Resource Survey. Prepared for the United States Army Corps of Engineers, Los Angeles District. On file, South Central Coastal Information Center, California State University, Fullerton (ID No. 02399).

Weinman, Lois J.
1978 Los Angeles – Long Beach Harbor Areas Regional Cultural History, Los Angeles County, California. On file, South Central Coastal Information Center, California State University, Fullerton (ID No. 10527).

June 6, 2014

Craig Chalfant, Planner
City of Long Beach
City Manager's Office
333 West Ocean Boulevard
Long Beach, CA 90802

Subject: Paleontological Assessment for the Belmont Pool Replacement Project, 4000 East Olympic Plaza, City of Long Beach, Los Angeles County, California

Dear Mr. Chalfant:

LSA Associates, Inc. (LSA) conducted a Paleontological Assessment for the Belmont Pool Replacement Project (proposed Project), located at 4000 East Olympic Plaza in the City of Long Beach (City) in Los Angeles County (County), California (Figure 1; see Attachment A). The proposed Project includes demolition of the existing pool complex and buildings and construction of a new pool complex. This assessment was conducted pursuant to the California Environmental Quality Act (CEQA).

PROJECT LOCATION AND DESCRIPTION

The proposed Project is located within a portion of Section 9, Township 5 South, Range 12 West, San Bernardino Baseline and Meridian, as shown on the *Long Beach, California* 7.5-minute topographic quadrangle (United States Geological Survey [USGS] 1964) (Figure 1, see Attachment A).

The proposed Project includes a replacement pool facility; the existing pool complex will be demolished due to seismic safety issues and a new, more modern pool complex will be built in its place. The proposed pool facility will be larger and will provide opportunities for public swimming, as well as swimming, diving, and aquatic sport training and competitive meets.

PROJECT CHARACTERISTICS

In order to demolish the existing pool facility, occasional excavations that extend at least as deep as the deepest portion of the existing pool may be necessary; however, most excavations will be in the upper several feet as needed to remove building foundations and prepare the ground surface for any new structures and the new pool. According to the most recent geotechnical report (GMU Geotechnical, Inc., 2013), a temporary aboveground pool is planned for the parking lot area east of the existing Belmont Plaza Pool Plaza. Two-thirds of the pool will be constructed at the existing grade and will be supported on a 12-inch-thick concrete slab; the remainder of the pool will be constructed on 3 feet (ft) of new fill and a 12-inch-thick concrete slab. The concrete slab will also support braced walls. In addition, isolated footings will support a raised pool deck and bleachers that will surround the pool. Other improvements will include temporary restroom/shower and office trailers; temporary asphalt walkways, curbs, and planters; and 70 to 80 ft high light poles. GMU Geotechnical, Inc. (2013) states that based on the current plans, only minor excavations of no more than approximately 18 inches will be required to develop the proposed property, mainly to remove and recompact the on-site fill soils. Slightly deeper excavations will be needed to install any new utility lines or remove lines that will be abandoned, but these should be no more than 4 to 5 ft below the surface.

MACTEC (2009) made the recommendation that if and when permanent buildings or structures are constructed on site, the on-site soils should be improved through the use of stone columns or vibro-replacement to densify the on-site soils through the addition of coarse-grained material. MACTEC recommended that these ground improvements extend at least 25 ft below the surface to an elevation of approximately 18 ft below sea level. Once this has been completed, additional excavation and recompaction to depths of 5 ft beyond and below any footings and 2 ft beyond and below any areas that will receive paving will also be required, along with the removal and recompaction of any Artificial Fill.

METHODOLOGY

Literature and Locality Review

LSA conducted a paleontological literature search and locality review to obtain geological and paleontological locality information pertinent to the Project and the area immediately surrounding the Project. This included geologic maps, paleontological literature, and the geotechnical reports that were prepared for the Project (MACTEC, 2009; GMU Geotechnical, Inc., 2013). In addition, LSA requested information form the Natural History Museum of Los Angeles County (LACM).

The objective of this archival research was to determine the geology of the Project and whether there were any known paleontological localities within or immediately adjacent to the Project site. Even if there were no known localities nearby, the results could be used to determine whether there were any geologic formations in the Project area with the potential to contain paleontological resources based on localities from similar sediments.

Pedestrian Survey

Based on the developed nature of the Project, a pedestrian survey was not conducted as part of the assessment. Much, if not all, of the surface of the Project area has been disturbed by prior construction in the area. In addition, much of the ground surface within the Project area has been obscured with paving, existing buildings, and landscaping.

FINDINGS

Geology

The Project area is located at the northern end of the Peninsular Ranges Geomorphic Province, a 900-mile northwest-southeast trending structural block that extends from the tip of Baja California to the Transverse Ranges and includes the Los Angeles Basin (Norris and Webb, 1976). The total width of the province is approximately 225 miles, with a maximum landbound width of 65 miles (Sharp, 1976). The Peninsular Ranges contain extensive Cretaceous (more than 65 million years ago [mya]) and pre-Cretaceous igneous and metamorphic rock covered by limited exposures of post-Cretaceous sedimentary deposits.

Specifically, the Project is located within the Los Angeles Basin, which is a broad, almost level alluvial plain (gradient of 0.5 to 1 percent). It is bounded on the north and northeast by hills and mountains of the Northern Peninsular and Transverse Ranges and on the south and west by the Pacific Ocean. The Los Angeles Basin is divided into several areas. The Downey Plain, in which the Project lies, is the largest section and is located in the central portion of the Los Angeles Basin. The Tustin Plain is located to the east and separated from the Los Angeles Basin by the Santa Ana River. The Torrance Plain and the El Segundo Sand Hills are located on the western margin. Smaller plains, such as the Santa Monica and La Brea Plains, are located on the northern margin.

The marine and nonmarine sediments within the Los Angeles Basin are up to 6 miles deep. The Basin began to form approximately 15 mya due to crustal stretching from movement along various faults. The crustal stretching resulted in the formation of a large, bowl-like basin. Thick layers of sediment from both the ocean and rivers accumulated in this bowl. Approximately 5 mya, the crustal stretching subsided and the ocean floor of the Basin was uplifted to the surface. Additional sediment accumulated during and after the uplifting, resulting in the shallow gradient of the Basin as it exists today.

Currently, the main sediment sources for the Los Angeles Basin are several rivers that flow into it. These include the Santa Ana, San Gabriel, and Los Angeles Rivers. The current path of the Santa Ana River is located approximately 12.5 miles to the east of the current Project, the current path of the San Gabriel River is located approximately 2 miles to the east, and the current path of the Los Angeles River is located approximately 3.5 miles to the west. Because the gradient of the Los Angeles Basin is quite shallow, these rivers have not always flowed in their current channels; rather, they have flowed across the entire Los Angeles Basin, evenly depositing sediment. In fact, prior to the flood of 1825, the Los Angeles River ran west and emptied into the Pacific Ocean in the area of Marina Del Rey, north of the Palos Verdes Peninsula, following the current path of Ballona Creek. This is 20 miles north of the location in which the Los Angeles River currently enters the Pacific Ocean at Wilmington.

Specifically, Saucedo et al. (2003) have mapped Artificial Fill as occurring on the surface of the Project area. Artificial Fill is also noted as being present on the surface of the Project in the geotechnical reports (MACTEC, 2009; GMU Geotechnical, Inc., 2013) and may extend 4 to 5 ft below the surface. The geotechnical reports also state that beneath the Artificial Fill lie deposits of alluvium and of beach and estuary-type sediments that extend to the deepest borings that reached 75 ft below the surface. Saucedo et al. (2003) also indicates that Late Pleistocene to Holocene Alluvium and Late Holocene deposits of beach and estuarine sediments are located nearby. Each unit is described in more detail below.

Artificial Fill. Artificial Fill is not mapped within the Project area on the geologic map by Saucedo et al. (2003), but it is noted as being present by two geologic studies that have been completed for the Project (MACTEC, 2009; GMU Geotechnical, Inc., 2013). Artificial Fill consists of sediments that have been removed from one location and transported to another by humans. The transportation distance can range from a few feet to dozens of miles. Composition is dependent on the source. When Artificial Fill is compacted and dense, it is known as "engineered fill," but it can be unconsolidated and loosely compacted. Artificial Fill will sometimes contain modern debris such as asphalt, wood, bricks, concrete, metal, glass, plastic, and even plant material. Depending on the area, thickness can be less than 1 foot or several hundred feet. Within the subsurface of the Project, the geotechnical studies indicate that the thickness of the Artificial Fill ranges between 1.5 and 3.5 ft thick (MACTEC, 2009; GMU Geotechnical, Inc., 2013).

Very Young Beach Deposits. These deposits are unconsolidated and consist mostly of well-sorted fine- to coarse-grained sand and sand-sized fragments of fragmented shells within areas subjected to active wave action. According to Saucedo et al. (2003), these sediments were deposited during the late Holocene. These sediments are likely less than several 1,000 years old given the fact that sea levels have been relatively stable over the last 7,000 years and that prior to this time (18,000 to 7,000 years ago), sea levels had been mostly rising due to melting glaciers (Fairbanks, 1989). The active beach was well off shore and approximately 400 ft below the current sea level 18,000 years ago. The color is dependent on the sediment source; however, in this area it is generally light yellow-brown to almost white. These sediments can be several feet to possibly tens of feet thick, and in the active beach zone, this thickness can vary with the seasonal movement of the sand on and off shore. Within the Project, the geotechnical studies indicate these sediments may range in thickness between 8 and 13 ft below the Artificial Fill (MACTEC, 2009; GMU Geotechnical, Inc., 2013).

Very Young Estuarine Deposits. These deposits are composed mostly of loose to moderately dense fine-grained sand, silt, and clay. These sediments were deposited in an estuary-type environment. Like the Very Young Beach Deposits, these sediments are likely less than several thousand years old for the same reason given above. Within the Project area, these sediments are 4 to 15 ft thick and both underlie and interfinger with the Very Young Beach Deposits (MACTEC, 2009; GMU Geotechnical, Inc., 2013).

Young Alluvial Floodplain Deposits. Young Alluvial Floodplain Deposits were deposited during the Holocene to the late Pleistocene (Saucedo et al., 2003). These sediments are less than 126,000 years old; however, it is likely that the upper approximately 15 ft of these deposits are from the Holocene and are less than 11,700 years old. These deposits are composed of mixtures of gravel, sand, silt, or mud that were deposited by flowing water in a stream or river. The color is often dependent on upstream geology but usually includes shades of light grey, light brown, or yellow-brown. Sand grains range from angular to rounded, while the gravels and pebbles are usually more rounded than the sand grains.

Like the Very Young Beach and Very Young Estuarine Deposits, although the upper 10 to 15 ft of thickness of the Young Alluvial Floodplain Deposits can contain remains of plants and animals, generally not enough time has passed for the remains to become fossilized; in addition, the remains are contemporaneous with modern species and are usually not considered to be significant.

Once a depth of 10 to 15 ft of thickness for these sediments is reached (potentially as shallow as 23 ft below the ground surface), it is possible that alluvial sediments from the Pleistocene will be encountered, and these older sediments can and do contain fossils (Jefferson, 1991a and 1991b; Reynolds and Reynolds, 1991; and Miller, 1971). Mammoths are the indicator fossil for the Pleistocene Epoch, which is divided into the older Irvingtonian North American Land Mammal Age

(NALMA) that spans the period between 2.58 million and 2400,000 years ago, and the Rancholabrean NALMA, which spans the last 240,000 years of the Pleistocene. The indicator fossil for the Rancholabrean NALMA is *Bison* sp. Other fossils that may be present include camels, antelopes, saber-toothed cats, dire-wolves, bears, deer, sloths, rodents, birds, reptiles, and fish (Jefferson, 1991a, 1991b, and 1987; Reynolds and Reynolds, 1991; and Miller, 1971).

For the current Project, these Pleistocene sediments will likely not be encountered until a depth of at least 23 ft below the surface is reached, which is below the anticipated excavation depth associated with this Project. This minimum depth is based on minimums of 1 to 2 ft of Artificial Fill, 8 ft of Very Young Beach Deposits, 4 ft of Very Young Estuarine Deposits, and 10 ft of Holocene Alluvium. However, the actual depth to reach the Pleistocene Alluvium, will likely be somewhat greater.

Results of the Locality Search

According to the results of the locality search conducted through the LACM (provided in Attachment B), the surficial deposits within the Project are composed of active beach sands. These types of sediments typically do not contain significant vertebrate fossils at least in the uppermost layers; however, the LACM states that these deposits often overlie sediments that can contain paleontological resources. The closest locality to the Project that is within similar sediments and that may be encountered at depth within the Project is LACM 2031, near the intersection of Grand Avenue and East Livingston Drive (800 ft to the northwest), which produced a specimen of a Bison (*Bison* sp.) at a depth of approximately 25 ft. The next closest locality is LACM 7739, located between the parking lot of Bluff Park and the shoreline (1.1 miles to the west), which produced a rich suite of fossil marine vertebrates, including sharks, rays, and bony fish (see full list in Appendix B), as well as associated fossil invertebrates (including snails, clams, tusk shells, barnacles, crabs, and sea urchins) at a depth of approximately 25 ft below the surface. Just to the west of locality LACM 7739, located across from Bixby Park south of Ocean Boulevard at approximately 17th Place (1.3 miles to the west), LACM 1005 produced fossil specimens of mammoth (*Mammuthus columbi*) and ground sloth (*Nothrotheriops shastensis*) at approximately 60 ft below the surface. Finally, LACM 6896, located along Ocean Boulevard near its intersection with Magnolia Avenue (approximately 3 miles to the west), produced a whale humerus at a depth of less than 100 ft during pile-driving activities.

Results of the Literature Search

Artificial Fill. Artificial Fill can contain fossils, but these fossils have been removed from their original location and are thus out of context. They are not considered to be important for scientific study.

Very Young Beach Deposits. Although Very Young Beach Deposits can contain remains of animals such as shells, shell fragments, and occasional bones, based on their young age, not enough time has passed for the remains to become fossilized; in addition, the remains are contemporaneous with modern species and are usually not considered to be significant.

Very Young Estuarine Deposits. Like the Very Young Beach Deposits, Very Young Estuarine Deposits can contain remains of animals such as shells, shell fragments, and occasional bones. However, based on their young age, not enough time has passed for the remains to become fossilized. In addition, the remains are contemporaneous with modern species and are usually not considered to be significant.

Young Alluvial Floodplain Deposits. Although not mapped within the Project site, these sediments are located nearby and were observed in the borings by the geotechnical studies (MACTEC, 2009; GMU Geotechnical, Inc., 2013). The upper 10 to 15 ft of thickness of these sediments are likely from the Holocene and are less than 11,700 years old, and like the sediments described above, the upper layers of these sediments are generally not considered to have paleontological significance. However, once a thickness of at least 10 to 15 ft is reached (23 to 28 ft below the surface), it is possible that the sediments may be from the Pleistocene and older than 11,700 years ago.

Fossils are known in similar Pleistocene sediments from excavations for roads, housing developments, and quarries in Southern California (Jefferson, 1991a and 1991b; Miller, 1971; and Reynolds and Reynolds, 1991). Mammoths are the indicator fossil for the Pleistocene Epoch, which is divided into the older Irvingtonian NALMA, which spans the period between 2.58 million and 240,000 years ago, and the Rancholabrean NALMA, which spans the last 240,000 years of the Pleistocene. Within the Project area, these sediments will be from the Rancholabrean NALMA. The indicator fossil for the Rancholabrean NALMA is *Bison* sp. Other fossils that may be present include camels, antelopes, saber-toothed cats, dire-wolves, bears, deer, sloths, rodents, birds, reptiles, and fish (Jefferson, 1991a, 1991b, and 1987; Reynolds and Reynolds, 1991; and Miller, 1971). These fossils help describe climatic and habitat conditions during the Pleistocene. There is potential for these types of fossils whenever Pleistocene alluvial sediments are exposed, and they are considered to have high paleontological significance.

RECOMMENDATIONS

Based on the Project description, the results of an examination of the area geology, and the results of a locality search, the geologic units that are likely present within the Project include Artificial Fill, Very Young Beach Deposits, Very Young Estuarine Deposits, and Young Alluvial Deposits, all of which have a low potential to contain paleontological resources as long as no excavation work extends deeper than 23 ft below the surface, where Pleistocene Alluvial sediments with a high paleontological sensitivity may begin to be encountered. As such, no additional paleontological work is recommended, as it is unlikely that excavation associated with this Project will extend as deep as 23 ft below the surface. However, in the unlikely event that paleontological resources are discovered during excavation associated with this Project, work in the immediate vicinity of the find should be diverted and a Professional Paleontologist contacted to examine the discovery to assess the find for significance and, if needed, collect the find and make recommendations for the need for further paleontological mitigation.

If excavation work extends deeper than 23 ft below the surface and sediments can actually be observed, or if paleontological resources are discovered at a shallower depth, it is recommended that paleontological monitoring occur in those areas under the direction and supervision of a Professional Paleontologist to mitigate impacts to significant paleontological resources that may exist in that portion of the Project. This may require preparation of a Paleontological Resources Impact Mitigation Program (PRIMP). If excavation below 23 ft is limited to soil stabilization techniques such as vibro-replacement, as discussed in the MACTEC geotechnical report (MACTEC, 2009), monitoring will not be required because it is essentially impossible to monitor this activity for paleontological resources and monitoring is limited to areas that can actually be observed, such as open excavations. If any fossils are collected during monitoring, they should be prepared to the point of identification, identified to the lowest taxonomic level, and curated into an accredited institutional repository. If paleontological monitoring occurs, a report of findings shall be prepared by the Professional Paleontologist to document the results of the monitoring at the conclusion of the monitoring effort.

Sincerely,

LSA ASSOCIATES, INC.

Brooks Smith

Brooks Smith
Associate, Cultural and Paleontological Resources Group

Attachments: A. Figure 1: Project Location and Vicinity Map
B. LACM Locality Search Results

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ATTACHMENT A

FIGURE 1: PROJECT LOCATION AND VICINITY MAP

LSA

LEGEND

Project Site

FIGURE 1

0 100 200
FEET

SOURCE: Bing (c. 2010)

Belmont Pool Revitalization Project

Project Location

I:\CLB1302\GIS\Project_Location.mxd (4/16/2013)

ATTACHMENT B

LACM LOCALITY SEARCH RESULTS

Natural History Museum
of Los Angeles County
900 Exposition Boulevard
Los Angeles, CA 90007

tel 213.763.DINO
www.nhm.org

NATURAL HISTORY MUSEUM
LOS ANGELES COUNTY

Vertebrate Paleontology Section
Telephone: (213) 763-3325
Fax: (213) 746-7431
e-mail: smcleod@nhm.org

16 May 2014

LSA Associates, Inc.
20 Executive Park, Suite 200
Irvine, California 92614

Attn: Brooks Smith, Associate, Cultural & Paleontological Resources Group

re: Paleontological Resources Records Check for the proposed Belmont Pool Demolition Project, LSA project # CLB1302, Phase 05, in the City of Long Beach, Los Angeles County, project area

Dear Brooks:

I have thoroughly searched our paleontology collection records for the locality and specimen data for the proposed Belmont Pool Demolition Project, LSA project # CLB1302, Phase 05, in the City of Long Beach, Los Angeles County, project area project area as outlined on the portion of the Long Beach USGS topographic quadrangle map that you sent to me via e-mail on 12 May 2014. We do not have any vertebrate fossil localities that lie within the proposed project boundaries, but we do have localities nearby from the same type of sedimentary deposits that may occur subsurface within the proposed project area.

The surface deposits in the entire proposed project area are composed of active beach sands within the tidal and storm zone. These types of deposits typically do not contain significant vertebrate fossils, at least in the uppermost layers, but may be underlain by older deposits that do contain significant fossil vertebrate remains. Our closest vertebrate fossil locality from older deposits is LACM 2031, just northwest of the proposed project area, near the intersection of Grand Avenue and East Livingston Drive, that produced fossil specimens of bison, *Bison antiquus*, at about 25 feet from the top of the bluff. Along the nearby beach, however, our vertebrate fossil locality LACM 7739, situated west-northwest of the proposed project area between the parking lot of Bluff Park and the shoreline, at a depth of 25 feet produced a rich suite of fossil marine vertebrates (see appendix for faunal list) in addition to associated fossil invertebrates including snails, clams, tusk shells, barnacles, crabs, and sea urchins. Just to the west of locality LACM 7739, across from Bixby Park south of Ocean Boulevard at approximately 17th Place, our fossil vertebrate locality LACM 1005 produced fossil specimens of mammoth, *Mammuthus columbi*, and ground sloth, *Nothrotheriops shastensis*, at approximately 60 feet from the surface. Further west along Ocean Boulevard, near the intersection with Magnolia Avenue, our vertebrate fossil locality LACM 6896, produced a fossil whale, Cetacea, humerus from pile driving activities at a depth of less than 100 feet.

Surface grading or shallow excavations in the younger Quaternary beach sands exposed in the proposed project area are unlikely to uncover significant vertebrate fossils. Deeper excavations that extend down into older deposits, however, may well encounter significant fossil vertebrate remains. Any substantial excavations in the proposed project area, therefore, should be monitored closely to quickly and professionally recover any fossil remains discovered while not impeding development. Any fossils recovered during mitigation should be deposited in an accredited and permanent scientific institution for the benefit of current and future generations.

This records search covers only the vertebrate paleontology records of the Natural History Museum of Los Angeles County. It is not intended to be a thorough paleontological survey of the proposed project area covering other institutional records, a literature survey, or any potential on-site survey.

Sincerely,

Samuel A. McLeod

Samuel A. McLeod, Ph.D.
Vertebrate Paleontology

enclosures: appendix, invoice

Fossil fish fauna from locality LACM 7739

Chondrichthyes
- Carcharhiniformes
  - Carcharhinidae - requiem sharks
    - *Carcharhinus*
    - *Galeorhinus galeus*
  - Sphyrnidae - hammerhead sharks
    - *Sphyrna*
  - Triakidae - smoothhounds
    - *Triakis semifasciata*
- Heterodontiformes
  - Heterodontidae - horn sharks
    - *Heterodontus francisci*
- Myliobatiformes
  - Dasyatidae - stingrays
    - *Dasyatis*
  - Myliobatidae - eagle rays
    - *Myliobatis californica*
- Rajiformes
  - Rajidae - skates
    - *Raja*
  - Rhinobatidae - guitarfish
    - *Rhinobatos productus*
- Squaliformes
  - Squalidae - dogfish sharks
    - *Squalus acanthias*
- Squatiniformes
  - Squatinidae - angel sharks
    - *Squatina californica*

Osteichthyes
- Batrachoidiformes
  - Batrachoididae - toadfishes
    - *Porichthys notatus*
- Clupeiformes
  - Clupeidae - herring
- Ophidiiformes
  - Ophidiidae - cusk-eels
    - *Chilara taylori*
- Perciformes
  - Embiotocidae - surfperches
    - *Cymatogaster aggregata*
    - *Damalichthys vacca*
    - *Embiotoca jacksoni*
    - *Hyperprosopon argenteum*
    - *Micrometrus aurora*
    - *Phanerodon furcatus*
  - Gobiidae - gobies
  - Sciaenidae - croakers
    - *Genyonemus lineatus*
    - *Seriphus politus*
  - Sphyraenidae - barracudas
    - *Sphyraena argentea*
- Pleuronectiformes
  - Citharidae - sanddabs
    - *Citharichthys sordidus*
    - *Citharichthys stigmaeus*
  - Pleuronectidae - flounders
    - *Glyptocephalus zachirus*
    - *Lyopsetta exilis*
- Scorpaeniformes
  - Cottidae - sculpins
  - Scorpaenidae - rockfish
    - *Sebastes goodei*

APPENDIX E

REPORT OF PRELIMINARY GEOTECHNICAL EVALUATION, GEOTECHNICAL INVESTIGATION, PRELIMINARY GEOTECHNICAL REPORT, & SOIL CORROSIVIY EVALUATION

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REPORT OF PRELIMINARY GEOTECHNICAL INVESTIGATION

REPORT OF PRELIMINARY
GEOTECHNICAL INVESTIGATION
PROPOSED BELMONT PLAZA OLYMPIC POOL
REVITALIZATION PROJECT

4000 EAST OLYMPIC PLAZA
LONG BEACH, CALIFORNIA

Prepared for:

MDM ARCHITECTS, LLP

Pasadena, California

April 14, 2009

MACTEC Project 4953-09-0301

MACTEC

MACTEC
engineering and constructing a better tomorrow

April 14, 2009

Mr. Richard Dell
MDM Architects, LLP
201 South Lake Avenue, Suite 413
Pasadena, California 91101

Subject: **LETTER OF TRANSMITTAL**
Report of Preliminary Geotechnical Investigation
Proposed Belmont Plaza Olympic Pool Revitalization Project
4000 East Olympic Plaza
Long Beach, California
MACTEC Project 4953-09-0301

Dear Mr. Dell:

We are pleased to submit the results of our preliminary geotechnical investigation for the proposed Belmont Plaza Olympic Pool Revitalization project in Long Beach, California. This investigation was conducted in general accordance with our proposal February 26, 2009, as it was incorporated into the Agreement between Architect (Maple Dell + McClelland Architects, LLP) and Consultant (MACTEC Engineering and Consulting, Inc.) dated October 22, 2008. The Architect's agreement (the Prime Agreement) dated October 21, 2008, with the City of Long Beach provides professional services that included geotechnical services for the Belmont Plaza Olympic Pool Revitalization project. Our services were provided in accordance the terms and conditions contained in those agreements.

The scope of our services was planned with Mr. Marc Hauck of Maple Dell + McClelland Architects, LLP. Mr. Hauck provided us with information regarding the structural features of the existing structures. We have discussed the project with Mr. Jaime Garza of Miyamoto International, Inc., structural engineers for the project.

The results of our investigation and design recommendations are presented in this report. Please note that our report only contains information for use in evaluating the existing structures at the site and for planning development and preliminary design for replacement structures.

It has been a pleasure to be of professional service to you. Please call if you have any questions or if we can be of further assistance.

Sincerely,

MACTEC Engineering and Consulting, Inc.

Boris O. Korin
Senior Engineer

Rosalind Munro
Senior Geologist

Marshall Lew, Ph.D.
Senior Principal Engineer
Vice President

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(7 copies submitted)

**REPORT OF PRELIMINARY GEOTECHNICAL INVESTIGATION
PROPOSED BELMONT PLAZA
OLYMPIC POOL REVITALIZATION PROJECT**

**4000 EAST OLYMPIC PLAZA
LONG BEACH, CALIFORNIA**

Prepared for:

MDM ARCHITECTS, AIA

Long Beach, California

MACTEC Engineering and Consulting, Inc.

Los Angeles, California

April 14, 2009

Project 4953-09-0301

TABLE OF CONTENTS

EXECUTIVE SUMMARY

We have completed our geotechnical investigation of the site of the existing Belmont Plaza Olympic Pool Complex in Long Beach, California for Maple, Dell + McClelland Architects, LLP on behalf of the City of Long Beach. Our results of our subsurface explorations, engineering analyses, and foundation design recommendations are summarized below.

In 1966, under the name of a MACTEC legacy firm, LeRoy Crandall and Associates, Inc., we had performed a foundation investigation for the existing complex. To supplement our previous investigation, we performed a geotechnical investigation that included additional explorations, laboratory testing, and engineering analyses. The current investigation included drilling two borings at the site and laboratory testing of the soil samples obtained. To supplement the borings, five cone penetration test (CPT) soundings were performed. The geotechnical recommendations in this report were developed using information from our current and our previous investigation.

The site is underlain by artificial fill placed for the existing development. Fill consisting of silty sand was encountered in one of our borings. The composition and thickness of the fill may vary across the site. To our knowledge, the fill was not observed or tested during placement and should be considered to be uncertified fill. The fill is underlain by beach and estuary deposits consisting of poorly graded sand with silty sand, sandy silt, and silty clay. Ground water was encountered in our borings at depths of 6½ to 9 feet (Elevation +½ to +4 feet). Approximately the upper 20 feet of the soils consist of loose to medium dense sandy soils that are susceptible to liquefaction. The potential seismically induced settlement of the on-site soils ranges from approximately 1 to 3 inches.

Plans provided to us show that the structure was proposed to be supported on timber piles. Verification of the foundation type and condition would require an invasive and destructive investigation and was not within the scope of our investigation. The capacity of the existing piles is sufficient for the design static loads but not for additional seismic loads. Furthermore, in the event of liquefaction occurring at the site, the capacity of the piles would no longer be sufficient to support even the static design loads. This would be expected to result in appreciable settlement of the building(s), probably with permanent damage to the foundations and structure. There is also a potential for several feet of lateral spreading that could damage the foundations and structure.

Renovation of the existing building(s)should include new piling to replace the existing piles. Mini-piles are expected to be the most feasible type of piling for installation within the existing buildings. The new piling would be to provide vertical and lateral capacity for the foundations. In addition to the new piling, the potential lateral spreading should be mitigated. Mitigation for lateral spreading could consist of ground improvement between the existing buildings and the ocean (as close as possible to the buildings). The ground improvement should wrap around the existing buildings as much as possible. Ground improvement of the on-site soils can be accomplished using Vibro-replacement or deep soil mixing.

If the buildings are to be replaced, ground improvement to mitigate the liquefaction potential, liquefaction-induced settlement, and lateral spreading potential should be performed. The ground improvement can be accomplished using Vibro-replacement or deep soil mixing. The ground improvement should be sufficient to allow support of the replacement buildings, and swimming pool(s) on shallow foundations (spread footings).

1.0 SCOPE

This report provides the results of our geotechnical investigation for the proposed Belmont Plaza Olympic Pool Revitalization project in the City of Long Beach, California. The locations of the existing buildings and our exploration borings are shown on Figure 1, Plot Plan. The results of our current field explorations and laboratory tests are presented in Appendix A with the results of cone penetration test (CPT) soundings and soil corrosivity testing presented in Appendices B and C, respectively.

We previously performed a foundation investigation for the subject site and existing development and submitted the results in a report dated August 15, 1966 (the report was issued under the name of a MACTEC legacy company, LeRoy Crandall & Associates, Job No. A-66102). A copy of our prior report is presented in Appendix D. The locations of our previous exploration borings are shown on Figure 1. We have reviewed and accept the field and laboratory test data presented in that report. However, with advances in knowledge of the behavior of soils since the report was issued, many of the recommendations contained in the report are no longer considered to be applicable.

This investigation was authorized to perform subsurface explorations, laboratory testing, and geologic and engineering analyses to assess the geologic-seismic hazards that might affect the site. We were also to provide preliminary geotechnical recommendations for use in evaluating the existing development and to provide information for use in planning and preliminary design for revitalization of the existing development or for replacement development. Our services were to consist of the following main tasks:

- Review of prior data at the site that has been provided to us.
- Subsurface explorations to determine the nature and stratigraphy of the subsurface soils, and to obtain undisturbed and bulk samples for laboratory observation and testing.
- A geologic-seismic hazards evaluation including an evaluation of liquefaction, slope instability and surface rupture due to faulting or lateral spreading.
- Laboratory testing of soil samples for determination of the static physical soil properties.

- Corrosion studies to determine the presence of potentially corrosive soils.
- Engineering evaluation of the geotechnical data to develop preliminary recommendations for use in planning and preliminary design of the proposed revitalization or for a replacement development.

Our investigation was not intended to be sufficient to provide final geotechnical design recommendations for use in design of structures at the site. A comprehensive investigation should be performed to develop final recommendations once the structural features of the future work have been established. Depending on the features of the future work, additional field and laboratory testing may or may not be required.

Our recommendations are based on the results of our current and previous field explorations, laboratory tests, and appropriate engineering analyses. The results of the current field explorations and laboratory tests, which form the basis of our recommendations, are presented in Appendices A, B, and C.

2.0 PROJECT CONSIDERATIONS

The Belmont Plaza Pool facility site is bounded on the north by East Olympic Plaza, Termino Avenue (and its extension) on the west, Bennett Avenue on the east, and the beach (Pacific Ocean) on the south. The northern (landward side) portion of the site is occupied by a park; the park is not a part of the project. The site grades were raised by several feet for the existing development by the placement of fill. There is a retaining wall up to 3 feet in height between the walk surrounding the facility and the beach.

The existing building complex is roughly 440 feet by 220 feet in plan. Based on plans provided to us, the existing building is supported on timber piles with tip diameters of at least 8 inches and minimum lengths of 32 feet. The plans show the pile caps at various elevations. The pool walls and diving towers are believed to be supported on shallow foundations. The structural features and details are being evaluated by Miyamoto International, Inc. (2009).

It is proposed to evaluate the existing structure and foundations of the existing Belmont Plaza Pool and to develop plans and recommendations for revitalization or replacement of the facility .

3.0 EXPLORATIONS AND TESTING

The soil conditions beneath the site were explored by drilling two borings to depths of about 76½ feet below the existing grade at the locations shown on Figure 1. Details of the current explorations and the logs of the borings are presented in the Appendix A.

Laboratory tests were performed on selected samples obtained from the current borings to aid in the classification of the soils and to determine the pertinent engineering properties of the foundation soils. The following tests were performed:

- Moisture content and dry density determinations.
- Direct shear.
- Consolidation.
- Sieve analyses.
- Atterberg limits.

All testing was done in general accordance with applicable ASTM specifications. Details of the laboratory testing program and test results are presented in the Appendix A.

To supplement the data from the borings and laboratory tests, we retained Kehoe Testing & Engineering (Kehoe) to perform Cone Penetration Test (CPT) soundings. The soundings were performed at five locations selected by us to depths of approximately 60 feet each. Two of the soundings were performed near the borings to provide correlation data. Shear wave measurements were performed in one of the soundings (CPT-3). The results of Kehoe's testing are presented in Appendix B.

Soil Corrosivity tests were performed on two samples of the upper on-site soils by Schiff Associates (Schiff). The results of the soil corrosivity study are presented in Appendix C.

Data were also available from our previous investigation for the subject site (our Job No. A-66102). Our report for the previous investigation, including details of the prior explorations and results of laboratory testing, is presented in Appendix D.

4.0 GEOLOGY

The site is located in the northern portion of the Peninsular Ranges geomorphic province. This province extends northwesterly from Baja California into the Los Angeles Basin and westerly into the offshore area, including Santa Catalina, Santa Barbara, San Clemente and San Nicolas islands. The northern boundary of the province is the Transverse Ranges along the Malibu Coast, Santa Monica, Hollywood, Raymond, Sierra Madre, and Cucamonga faults. The eastern boundary of the province is the Colorado Desert geomorphic province along the San Jacinto fault system. The Peninsular Ranges province is characterized by northwest/southeast trending alignments of mountains and hills and intervening basins, reflecting the influence of northwest trending major faults and folds, such as the nearby Newport Inglewood fault zone, controlling the general geologic structural fabric of the region.

Most of the site is underlain by artificial fill. Fill consisting of silty sand was encountered in one of our borings. The composition of the fill may vary across the site. While correspondence in our files indicates that there was intent to compact the fill, we have no records that the fill was actually compacted.

The fill is underlain by beach and estuary deposits consisting of poorly graded sand with silty sand, sandy silt, and silty clay. The general geology of the area is shown on Figure 2, Regional Geology.

Ground water was encountered in our borings (current and previous) at depths of 5 to 9 feet below the existing grade (Elevation +½ to +4 feet).

5.0 LIMITED GEOLOGIC-SEISMIC HAZARDS EVALUATION

Based on the available geologic data, active or potentially active faults with the potential for surface fault rupture are not known to be located beneath or projecting towards the site. The closest active fault to the site is the Newport Inglewood fault zone located approximately 1.5 miles to the northeast. The Palos Verdes fault is located approximately 7 miles to the southwest. The site is not in an Alquist-Priolo Earthquake Fault Zone. In our opinion, the potential for surface rupture at the site due to fault plane displacement propagating to the ground surface during the design life of the project is considered low.

Figure 3 shows the location of the site in relation to active faults and significant historic earthquakes in the region. Although the site could be subjected to strong ground shaking in the event of an earthquake, this hazard is common in Southern California and the effects of ground shaking on structures can be mitigated by proper engineering design and construction in conformance with current building codes and engineering practices.

The site is along the coastline and is susceptible to damage from a tsunami. Government agencies are currently upgrading the region's tsunami preparedness, warning, and evacuation systems. The site is in a FEMA Special Flood Hazard Area subject to inundation by the 1% annual chance flood. According to the City of Long Beach Safety Element of the General Plan, the site is not located downslope of any large bodies of water that could adversely affect the site in the event of earthquake-induced dam failures or seiches (wave oscillations in an enclosed or semi-enclosed body of water).

The site is located between the Seal Beach and Wilmington oil fields. There are no known oil wells on the site. The site is along the margins of the area impacted by ground subsidence due to oil extraction in the Wilmington oil field. Water injection was begun in 1958 to repressurize the oil field and the area has been stabilized.

The site is relatively level and the absence of nearby slopes precludes any slope stability hazards. The site is not in a state of California Earthquake-Induced Landslide Hazard Zone (California Division of Mines and Geology, CDMG, 1999).

6.0 LIQUEFACTION EVALUATION

Liquefaction potential is greatest where the ground water level is shallow, and submerged loose, fine sands occur within a depth of about 15 meters (50 feet) or less. Liquefaction potential decreases as grain size and clay and gravel content increase. As ground acceleration and shaking duration increase during an earthquake, liquefaction potential increases. The site is within a state of California designated Liquefaction Hazard Zone (CDMG, 1999).

To evaluate the site-specific liquefaction potential, we computed the peak ground acceleration (PGA) for the maximum credible earthquake ground motion with a 2% probability of being exceeded in 50 years using EZ-FRISK, Version 7.32. This ground motion, which has a return period of 2,475 years, was adjusted to be compatible with a Magnitude 7.5 earthquake. The next generation ground motion attenuation relationships (NGA) of Abrahamson & Silva (2008), Boore & Atkinson (2008), Campbell & Bozorgnia (2008) and Chiou & Young, (2008) were used, with equal weight, in the analysis. Based on the shear wave velocity measurements in CPT-3, a shear wave velocity of 267 meters per second was used for the upper 30 meters. The depth which the shear wave velocity is at least 1,000 meters per second was assumed to be 2 kilometers while the depth at which the velocity is at least 2,500 meters per second was assumed to be 4 kilometers. The details of the CPT soundings and shear wave velocity measurements are presented in Appendix B.

We used a PGA for our liquefaction analyses that is two-thirds of the Magnitude-7.5 compatible PGA for equivalence with the design level earthquake as defined in the 2007 California Building Code and ASCE 7-05, and as referenced in California Geological Survey Note 48 dated October 2007. The Magnitude 7.5-compatible PGA computed in this manner for the subject site is 0.40g. (The Magnitude-7.5 compatible PGA is not the same as the one used in the evaluation of structures. This latter PGA is 0.49g).

The liquefaction potential of the soils underlying the site was evaluated using the Magnitude-7.5 compatible PGA, as described above and the results of our current explorations at the project site. The ground-water level for our liquefaction analysis was assumed to be 7 feet below the existing grade based on our measurements of the ground water level; the historical high ground-water level has not been established for the site. The liquefaction potential was computed according to procedures described in Youd et al. (2001).

Seismically-induced settlement is often caused by loose to medium-dense granular soils densified during ground shaking. Dry and partially saturated soils as well as saturated granular soils are subject to seismically-induced settlement. The medium dense granular soils encountered in our exploratory borings are considered to be susceptible to liquefaction and seismically-induced settlement. We evaluated the seismically-induced settlement based on the procedures outlined by Tokimatsu and Seed (1987) and Ishihara and Yoshimine (1992). We estimate the seismically-induced settlement to be about ¾ to 2¾ inches.

Some, but not all, liquefiable soils are susceptible to lateral spreading. Methods to calculate the extent and magnitude of lateral spreading are few and only provide a rough order of magnitude estimates of the amount of lateral spreading. Assuming that the soils between the site and the Pacific Ocean are similar to those beneath the site, several feet of lateral spreading towards the Pacific Ocean could occur in the event of design earthquake ground motions. The movement of the soils due to lateral spreading would not be expected to be uniform. Therefore, differential lateral spreading should be expected in the building area. We evaluated the lateral spreading potential based on the procedures outlined by Youd et al (2002).

7.0 RECOMMENDATIONS

7.1 GENERAL

The existing Belmont Plaza buildings, especially the pool building, are being considered for structural rehabilitation or replacement. The plans for the existing buildings indicate that they are supported on timber piles. While the foundation recommendations presented in our 1966 report remain applicable for static loading, the upper soils are subject to liquefaction in the event of design earthquake level ground motion at the site. Liquefaction of the on-site soils would result in significant reductions in the capacities of the existing foundations. In the event of strong ground motion at the site, settlement and damage to the existing structures' foundations and structural elements should be anticipated.

If renovation of the existing buildings is to be performed, piling is expected to be the most feasible means of replacing or strengthening the foundations. Because of expected caving in the granular soils below the relatively shallow ground water level beneath the site, the installation of conventional drilled cast-in-place concrete piling would be difficult. Since the installation of new piling would for the most part be performed within the existing structures, micro-piles or auger-cast piles are recommend. For preliminary planning purposes, 10-inch-diameter mini-piles or 24-inch-diameter auger cast piles should extend approximately 50 feet below the existing grade to develop a downward capacity of 160 kips (sufficient capacity to replace two of the existing timber piles). In addition to replacing and/or strengthening the foundations, some means of mitigating the potential lateral spreading should be used. This mitigation would most likely consist of ground improvement between the existing buildings and the Pacific Ocean; the improvements should be constructed as close to the buildings as possible.

If the buildings are to be replaced, the liquefaction induced settlement and lateral spreading should be mitigated by ground improvement of the site. The replacement buildings could then be supported on shallow foundations, most likely spread footings.

7.2 FOUNDATIONS

Existing Timber Piles

The existing building is reportedly supported on timber piles. The tip diameter of thee piles was to be 8 inches in diameter and the piles were to be a minimum of 32 feet long. Based on our previous report (1966) for the site, these piles have an allowable downward design capacity of 80 kips. As was usual at the time the analyses were performed, this capacity does not consider liquefaction. (The Niigata and Alaska earthquakes of 1964 were the start of liquefaction becoming a concern. The early versions of the current procedures to evaluate liquefaction were not published for use until the 1980s and only nominal peak ground accelerations were usually used in the analyses until the 1994 Northridge Earthquake.)

In the event of liquefaction affecting the upper 20 feet soils, as could potentially occur based on our current analyses, the existing piles would be overloaded with the ultimate downward axial capacity of the piles being temporarily less than the structural and downdrag forces imposed on the piles. The extent of the consequences are this is difficult to project since to a large degree they are influenced by the structure and will be locally variable. However, readily perceptible settlement of the structure, probably on the order of several inches, is expected with probable permanent damage to the timber piles and the structure. There would also be a loss of lateral capacity of the piles probably resulting in some lateral movement of the building columns. Slabs supported on grade supported will settle and voids may develop beneath the slabs.

New Foundations

Provided that ground improvement is performed at the site in accordance with the recommendations in the Grading section of this report, the replacement buildings may be supported on spread footings. Spread footings carried at least 1 foot into properly compacted fill and at least 2 feet below the lowest adjacent grade or floor level can be designed to impose a net dead-plus-live load pressure of 3,000 pounds per square foot. The excavations should be deepened as necessary to extend into satisfactory soils. A one-third increase can be used for wind or seismic loads. The recommended bearing value is a net value, and the weight of concrete in the footings can be taken as 50 pounds per cubic foot; the weight of soil backfill can be neglected when determining the downward loads.

Lateral loads can be resisted by soil friction and by the passive resistance of the soils. A coefficient of friction of 0.4 may be used between the footings and the floor slab and the supporting soils. The passive resistance of natural soils or properly compacted fill soils can be assumed to be equal to the pressure developed by a fluid with a density of 250 pounds per cubic foot. A one-third increase in the passive value can be used for wind or seismic loads. The frictional resistance and the passive resistance of the soils can be combined without reduction in determining the total lateral resistance.

7.3 SITE COEFFICIENT AND SEISMIC ZONATION

We have determined the seismic parameters in accordance with the Section 1613A of the 2007 edition of the California Building Code (2007 CBC) and Section 11.4 of ASCE 7-05 Standard (ASCE, 2005) using the United States Geological Survey (USGS, 2007) program, Earthquake Ground Motion Parameters, Version 5.0.8. The site location used was Latitude 33.7581° and Longitude -118.1456° with a Site Class "D." If the proposed buildings are to be designed using the provisions of the 2007 CBC, the seismic site coefficients may be taken as presented below:

Site Coefficient	Value
S_S (0.2 second period, Site Class B)	1.74g
S_1 (1.0 second period, Site Class B)	0.67g
Site Class	D
F_a	1.00
F_v	1.50
$S_{MS} = F_a S_S$ (0.2 second period, Site Class D)	1.74g
$S_{M1} = F_v S_1$ (1.0 second period, Site Class D)	1.00g
$S_{DS} = 2/3 \times S_{MS}$ (0.2 second period, Site Class D)	1.16g
$S_{D1} = 2/3 \times S_{M1}$ (1.0 second period, Site Class D)	0.67g

By MKT 4/2/09
Chkd By LT 4/5/09

7.4 FLOOR SLAB SUPPORT

For pile supported buildings, the floor slabs should be structurally supported. If the subgrade is prepared as recommended in a following section on grading and some distress in the on-grade concrete walks and slabs as a result of liquefaction in the event of strong ground motion is acceptable, the concrete walks and slabs adjacent to the buildings may be supported on grade.

If the upper soils are improved so that the buildings can be supported on spread footings, the floor slabs may be supported on grade on the improved soils. Construction activities and exposure to the environment can cause deterioration of the prepared subgrade. Therefore, we recommend that our field representative observe the condition of the final subgrade soils immediately prior to slab-on-grade construction, and, if necessary, perform further density and moisture content tests to determine the suitability of the final prepared subgrade.

In areas where vinyl or other moisture-sensitive floor covering is planned, we recommend that the floor slab in those areas be underlain by a vapor retarder/barrier consisting of a vapor-retarding membrane. If the interior of the structure directly above the slab-on-grade is a humidity controlled area, then the same recommendations apply. The membrane should conform to the requirements of ASTM E 1745, " Standard Specifications for Water Vapor Retarders in Contact with Soil or Granular Fill under Concrete Slabs." The installation of the membrane applies to both the structurally supported floor slabs and slabs supported on grade.

In addition, measures will be required to prevent slab curling due to uneven curing between the top and the bottom of the slab. These measures should consist of one or more of the following:

- Reduced joint spacing
- A low shrinkage concrete mix design such as a low water/cement ratio mix or water-reducing admixtures
- Use of a 2-inch thick "blotter" layer

If a blotter layer is used, it should consist of trimmable, free-draining granular fill between the membrane and the slab. The blotter layer fill should have a Sand Equivalent of 30. The blotter layer should be placed with a moisture content of less than 5% percent. Note that if a blotter layer is used, then the layer should not be allowed to become wet (due to rain, wet-curing, wet-grinding or cutting, and cleaning where water enters prior to slab placement or after slab placement through openings such as column block-outs). Also, the blotter layer should be cut off from sources of water (for instance, the blotter layer should not be continuous to the exterior of the building).

Care should be taken to prevent any tears or discontinuities in the membrane. The membrane should be inspected prior to placement of the slab or installation of a blotter layer and any holes or discontinuities (e.g., around penetrations) properly sealed.

Where vinyl or other moisture sensitive floor covering or storage of moisture sensitive materials is not planned, the floor slab and other concrete slabs may be supported directly on the final prepared subgrade.

7.5 RETAINING WALLS AND WALLS BELOW GRADE

Lateral Earth Pressure

For design of cantilevered retaining walls, where the surface of the backfill is level, it may be assumed that drained soils will exert a lateral pressure (active earth pressure) equal to that developed by a fluid with a density of 30 pounds per cubic foot. In addition to the recommended earth pressure, the walls should be designed to resist any applicable surcharges due to storage or traffic loads. If the soils are not drained, they should also resist hydrostatic pressures.

For the design of braced basement walls, it may be assumed that drained soils will exert a lateral pressure (at-rest earth pressure) equal to that developed by a fluid with a density of 52 pounds per cubic foot. In addition to the recommended earth pressure, the walls should be designed to resist any applicable surcharges due to foundation, storage, or traffic loads. If the soils are not drained, they should also resist hydrostatic pressures.

In addition to the recommended earth pressure, retaining walls adjacent to areas subject to vehicular traffic should be designed to resist a uniform lateral pressure of 100 pounds per square foot, acting as a result of an assumed 300 pounds per square foot surcharge behind the walls due to normal vehicular traffic. If the traffic is kept back at least 10 feet from the walls, the traffic surcharge may be neglected.

Seismic Lateral Earth Pressure

In addition to the above-mentioned lateral earth pressures, basement walls with more than 6 feet of unbalanced earth (where the difference in height of retained soil from one side of the basement to the other is greater than 6 feet) and cantilever retaining walls greater than 12 feet in height should be designed to support a seismic active pressure. The seismic active pressure for use in design should be applied uniformly to the back of the wall and should taken as being 5H pounds per square foot, where H is the height of the retained soils in feet or the difference in height of the retained soils between the opposing basement walls.

Drainage

Walls, or at least the portions of walls, that extend below Elevation +8 feet should be designed to resist hydrostatic pressure in addition to the lateral earth, seismic, traffic, and other surcharge pressures. The portions of walls not designed to resist hydrostatic pressures should be provided with a drainage system. However, walls that are provided with a full height drainage system and use weepholes at the base of the wall (such as retaining walls that are separate from the buildings) for removal of the water do not need to be designed to resist hydrostatic pressure even if they extend below Elevation +8. For design, the hydrostatic pressure may be taken as being 50 pounds per cubic foot (this pressure considers buoyancy of the soils and the unit weight of salt water).

Walls below grade that are not designed to resist hydrostatic pressures should be provided with a drainage system placed behind the walls below grade to help dissipate the hydrostatic forces that may develop behind the walls. The drainage system may consist of a 4-inch-diameter perforated pipe placed with the perforations down and surrounded by at least 4 inches of granular filter gravel. The pipe should be sloped at least 2 inches in 100 feet. The granular filter material should be separated from the adjacent soils by a filter fabric. The perforated pipes should be placed at the bases of the walls below grade. In addition, a 1-foot wide zone of granular filter material, or continuous Miradrain collector panels, should be placed behind each wall. The strip of granular filter material or the Miradrain (Miradrain 6000 or equivalent) panels should extend down to the drainage system, and should be terminated at 2 feet below the ground surface.

The installed drainage system should be observed by personnel from our firm prior to being backfilled. Inspection of the drainage system may also be required by the reviewing governmental agencies.

It should be realized that a permit from the State of California Regional Water Quality Control Board would have to be obtained to discharge the water from the drainage system into the storm drain. To obtain such a permit, chemical tests will have to be performed on water samples obtained at the site to verify that chemicals or pollutants within the water do not exceed the allowable limits for discharging into the storm drain.

7.6 GRADING

Site Improvement

If the upper potentially liquefiable soils are sufficiently improved, the potential liquefaction hazard at the site would be mitigated and the replacement buildings could be supported on spread footings, unless other considerations require the use of piling. If the existing buildings and/or pool are proposed to remain, ground improvement probably will not be a feasible alternative to piling due to possibility of damaging the buildings and/or pool.

We expect that a ground improvement procedure such as stone columns or Vibro-Replacement would provide the best outcome for the project site. These procedures consist of densifying the on-site soils and the addition coarse grained materials. The presence of silts and clays in the upper soils excludes the possibility of using techniques that would just densify the on-site soils. The ground improvement should extend at least 25 feet below the existing surrounding grade to approximately Elevation -18 feet (18 feet below sea level). The ground improvement procedure is performed by a specialty contractor and such a contractor should be consulted early on in the planning process to aid in determining if proceeding with ground improvement alternative is economically desirable. We would be pleased to develop recommendations for planning and verification of sufficient improvement if it is decided to proceed with ground improvement.

After the on-site soils are improved, the surface of the ground is expect to be lower and the upper materials will be disturbed. The disturbed materials should be excavated as recommended in the following section on Site Preparation and Compaction.

Site Preparation and Compaction

To provide support for at-grade concrete walks and slabs adjacent to the new buildings, all the existing uncertified fill (those fills for which a record of compaction during placement is unavailable) should be excavated. To our knowledge, the existing fill soils at the site were not observed and tested during placement. Further excavation should be performed to remove disturbed natural soils within the construction area and for at least 2 feet beyond any proposed paving and 5 feet beyond any proposed footings in plan. Where there is insufficient room for the recommended overexcavation, we can provide case specific recommendations. The excavated soils should be replaced as properly compacted fill. All planned additional fill should be properly compacted.

Where excavations are deeper than about 4 feet, the sides of the excavations should be sloped back at 1:1 (horizontal to vertical) or shored for safety. Adjacent to an existing building, the excavations should not extend below a plane drawn downward at 1½: (horizontal to vertical) from the bottoms of the exterior footings (pile caps and/or grade beams) of the existing buildings. If the existing pool is to remain, the excavation should not extend below 1½:1 1 (horizontal to vertical) plane extending downward from the top edge of the pool.

All applicable requirements of the 2009 State of California Construction and General Industry Safety Orders, the Occupational Safety and Health Act of 1970, and the Construction Safety Act should be met.

After excavating the upper soils as recommended, the exposed natural soils should be carefully observed for the removal of all unsuitable deposits. Next, the exposed soils should be rolled with heavy compaction equipment. The upper 6 inches of exposed soils should be compacted to at least 90% of the maximum density obtainable by the ASTM Designation D1557-07 method of compaction. For soils with less than 5% of the particles by weight passing the No. 200 sieve, the soils should be compacted to at least 95%.

After compacting the exposed soils, all required fill should be placed in loose lifts not more than 8 inches thick and compacted to at least 90% (95% if less than 5% of the particles pass the No. 200 sieve). The moisture content of the on-site granular soils at the time of compaction should vary from zero to no more than 4% above optimum moisture content. The moisture content of any on-site cohesive soils at the time of compaction should be brought to about 4% over optimum moisture content.

Material for Fill

The on-site soils, less any debris or organic matter, may be used in required fills. The on-site clayey soils should not be placed with 2 feet of proposed floor slabs, pool decks, or other portland cement concrete paved areas. Any required imported material should consist of relatively non-expansive soils with an Expansion Index of less than 35. The imported materials should contain sufficient fines (binder material) so as to be relatively impermeable and result in a stable subgrade when compacted. All proposed import materials should be approved by our personnel prior to being placed at the site.

7.7 GEOTECHNICAL OBSERVATION

The reworking of the upper soils and the compaction of all required fill should be observed and tested during placement by a representative of our firm. This representative should perform at least the following duties:

- Observe the clearing and grubbing operations for proper removal of all unsuitable materials.
- Observe ground improvement procedures if they are used.
- Observe the exposed subgrade in areas to receive fill and in areas where excavation has resulted in the desired finished subgrade. The representative should also observe proofrolling and delineation of areas requiring overexcavation.
- Evaluate the suitability of on-site and import soils for fill placement; collect and submit soil samples for required or recommended laboratory testing where necessary.
- Observe the fill and backfill for uniformity during placement.
- Test backfill for field density and compaction to determine the percentage of compaction achieved during backfill placement.
- Observe and probe foundation materials to confirm that suitable bearing materials are present at the design foundation depths.
- Observe the installation of piling and any testing of the piling that is required.

The governmental agencies having jurisdiction over the project should be notified prior to commencement of grading so that the necessary grading permits can be obtained and arrangements can be made for required inspection(s). The contractor should be familiar with the inspection requirements of the reviewing agencies.

8.0 GENERAL LIMITATIONS AND BASIS FOR RECOMMENDATIONS

Our professional services have been performed using that degree of care and skill ordinarily exercised, under similar circumstances, by reputable geotechnical consultants practicing in this or similar localities. No other warranty, expressed or implied, is made as to the professional advice included in this report. This report has been prepared for MDM Architects, LLP, their client, the City of Long Beach, and their design consultants to be used solely in the evaluation, planning and design of the proposed Belmont Plaza Olympic Pool Revitalization Project. The report has not been prepared for use by other parties, and may not contain sufficient information for purpose of other parties or other uses.

The recommendations provided in this report are based upon our understanding of the described project information and on our interpretation of the data collected during our current and previous subsurface explorations. We have made our recommendations based upon experience with similar subsurface conditions under similar loading conditions. The recommendations apply to the specific project discussed in this report; therefore, any change in the structure configuration, loads, location, or the site grades should be provided to us so that we can review our conclusions and recommendations and make any necessary modifications.

The recommendations provided in this report are also based upon the assumption that the necessary geotechnical observations and testing during construction will be performed by representatives of our firm. The field observation services are considered a continuation of the geotechnical investigation and essential to verify that the actual soil conditions are as expected. This also provides for the procedure whereby the client can be advised of unexpected or changed conditions that would require modifications of our original recommendations. If another firm is retained for the geotechnical observation services, our professional responsibility and liability would be limited to the extent that we would not be the geotechnical engineer of record.

9.0 REFERENCES

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FIGURES

Explanation

Boring 2 ● Current Boring
3 ◒ Previous Boring (Job No. A-66102)
CPT-5 ▲ Current CPT Sounding
Location & Number

0 30' 60' 120'
SCALE: 1" = 60'-0"

N

MACTEC

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PHONE (323) 889-5300 FAX (323) 889-5398

JOB:	4953-09-0301
DATE:	4/03/09
SCALE:	1' = 60'-0"
DRAWN:	L. Morley
REVD:	
CHKD:	B. Korin
DATE:	3/31/09

Belmont Plaza Olympic Pool Revitalization
4000 East Olympic Plaza, Long Beach, California 90803

PLOT PLAN

FIGURE NO. 1

PROJECT NO. 4953-09-0301

Path: P:\4953 Geotech\2009-proj\90301 Belmont Pool\4.0 Project Deliverables\4.3 Drawings\4953-09-0301.dwg [B60]
Date: March 27, 2009 - 12:00pm By: LAMorley

ABBREVIATED EXPLANATION

Approximate stratigraphic relationships only: see accompanying Sheet 2 for correlation of map units and more detailed descriptions.

CENOZOIC — QUATERNARY — HOLOCENE

- af — Artificial fill
- Qw — Active channel and wash deposits
- Qa — Alluvial flood plain deposits
- Qls — Landslide deposits
- Qb — Beach deposits
- Qe — Eolian deposits
- Qpe — Paralic estuarine deposits
- Qyf — Young alluvial fan and valley deposits, undivided a = sand, s = silt, c = clay
- Qyf2 — Young alluvial fan deposits, unit 2
- Qyf1 — Young alluvial fan deposits, unit 1
- Qya — Young alluvial flood plain deposits, unit 1
- Qye — Young eolian deposits
- Qype — Young paralic estuarine deposits
- Qof — Old alluvial fan and valley deposits, undivided a = sand, s = silt, c = clay
- Qoa — Old alluvial flood plain deposits, undivided

PLEISTOCENE

- Qoe — Old eolian deposits
- Qom — Old marine deposits, undivided
- Qop — Old paralic deposits, undivided, a = sand, s = silt, c = clay
- Qlh — La Habra Formation

San Pedro Formation

- Qsp — San Pedro Formation, undivided
- Qspt — Timms Point Silt Member
- Qspl — Lomita Marl Member
- Qi — Inglewood Formation

TERTIARY — PLIOCENE

Fernando Formation

- Tfu — Upper Member
- Tfl — Lower Member, Tflc = conglomerate

Puente Formation

- Tpsc — Sycamore Canyon Member, Tpscc = conglomerate

MIOCENE

- Tpy — Yorba Member
- Tps — Soquel Member
- Tplv — La Vida Member

Monterey Formation

- Tmm — Malaga Mudstone Member
- Tmvd — Valmonte Diatomite Member
- Tmv — Volcanic rocks within the Monterey Formation
- Tma — Altamira Shale Member

MESOZOIC — CRETACEOUS JURASSIC

- mcs — Catalina Schist

Offshore Region

- Qms — Unconsolidated shelf sediment
- Qmf — Unconsolidated flank sediment
- Qmb — Unconsolidated basin sediment
- Qmr — Unconsolidated ridge sediment
- Qmc — Unconsolidated canyon sediment
- Qct — Canyon terrace
- Qcf — Canyon fill
- Qgf — Gully fill
- Qf — Fan deposits
- Qls — Landslide deposits
- Qp — Pleistocene sedimentary deposits, undivided
- QTt — Plio-Pleistocene terrace deposits
- Tp — Pliocene sedimentary rocks, undivided*
- Tmp — Mio-Pliocene sedimentary rocks, undivided*
- Tu — Tertiary sedimentary and volcanic rocks undivided*
- Tmu — Miocene sedimentary rocks, undivided*
- Tmv — Miocene volcanic rocks*
- ms — Metamorphic rocks of pre- Late Cretaceous age*

* Q/ = Map unit overlain by more than 3 meters of unconsolidated Quaternary sediment.

MAP SYMBOLS

Contact - accuracy of location ranges from well located to inferred. All offshore contacts are considered approximately located.

U D ? Fault - solid where well located; dashed where approximately located or inferred; dotted where concealed; queried where continuation or existence is uncertain. Where age was determined in offshore area, age symbol is shown astride fault and relative offset is shown by U, upthrown side; D, downthrown side (relative or apparent). Age of faults are indicated as follows:

- cuts strata of Holocene age
- cuts strata of Pleistocene age
- cuts strata of Quaternary age
- cuts strata of Pliocene age
- cuts Miocene or older strata

Anticlinal fold - solid where well located; dashed where approximately located or inferred; dotted where concealed. Plunge direction indicated by arrowhead on fold axis.

Synclinal fold - solid where well located; dashed where approximately located or inferred; dotted where concealed. Plunge direction indicated by arrowhead on fold axis.

Strike and dip of stratified rocks. Number indicates dip angle in degrees when known.

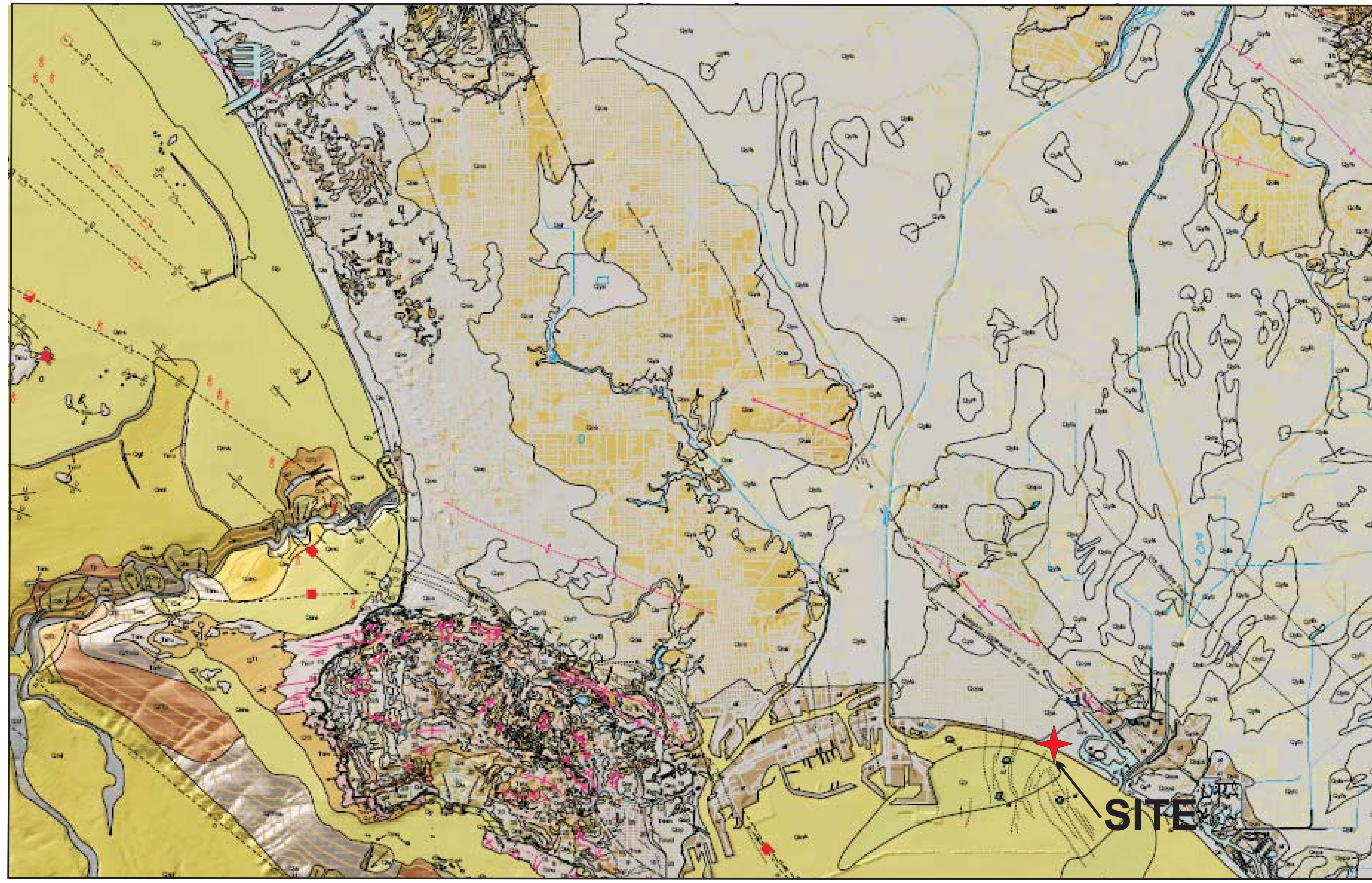
- 25 Inclined beds
- 80 Overturned beds
- Horizontal beds

Strike and dip of metamorphic and igneous foliation.

- Vertical foliation

Arrows on landslides indicate direction of movement. Hachured where headscarp is mappable.

Oil and/or gas seep.



Base: California Geological Survey, 2003,
Geologic Map of the Long Beach 30'x 60'
Quadrangle, California, Map No. 5

SCALE 1:100,000

MILES

KILOMETERS

THOUSAND FEET

CONTOUR INTERVAL 40 METERS
BATHYMETRIC CONTOUR INTERVAL 100 METERS

N

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Figure 2 - Regional Geology
Belmont Plaza Olympic Pool Revitalization
Long Beach, California

JOB NO.:	4953-09-0301	REVISIONS:
DATE:	03/30/2009	
SCALE:	As shown	
DRAWN BY:	DGW	
CHECKED BY:	PER	

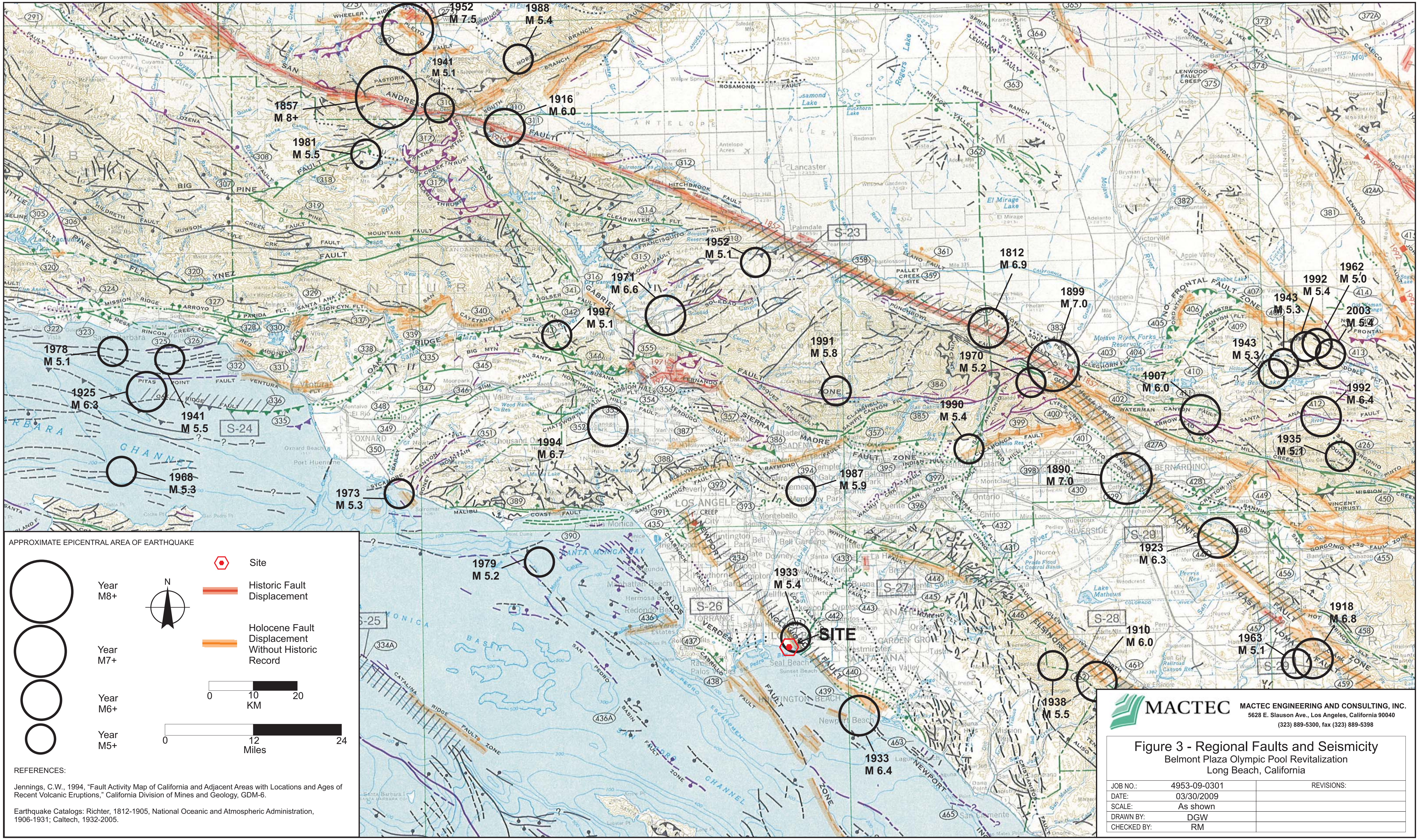


Figure 3 - Regional Faults and Seismicity
Belmont Plaza Olympic Pool Revitalization
Long Beach, California

JOB NO.:	4953-09-0301	REVISIONS:
DATE:	03/30/2009	
SCALE:	As shown	
DRAWN BY:	DGW	
CHECKED BY:	RM	

APPENDIX A

CURRENT EXPLORATIONS AND LABORATORY TESTS

APPENDIX A

CURRENT EXPLORATIONS AND LABORATORY TESTS

EXPLORATIONS

The soil conditions beneath the site were explored by drilling two borings. In addition, data were available from our prior investigation at the site (our Job No. A-66102). The locations of our current and prior borings are shown on Figure 1. The current borings were drilled to depths of about 76½ feet below the existing grade using 5-inch-diameter rotary-wash-type drilling equipment. Drilling mud was used to prevent caving. The mud was removed following completion of the drilling to permit future measurements of the water level.

The soils encountered were logged by our field technician, and undisturbed and bulk samples were obtained for laboratory inspection and testing. The logs of the current borings are presented on Figures A-1.1 through A-1.2; the logs from our prior borings are presented in our previous report in Appendix D. The depths at which the undisturbed samples were obtained are indicated to the left of the boring logs. The number of blows required to drive the Crandall sampler 12 inches using a 300 pound hammer falling 18 inches is indicated on the logs. The soils are classified in accordance with the Unified Soil Classification System described on Figure A-2.

LABORATORY TESTS

Laboratory tests were performed on selected samples obtained from the borings to aid in the classification of the soils and to determine their engineering properties.

The field moisture content and dry density of the soils encountered were determined by performing tests on the undisturbed samples. The results of the tests are shown to the left on the boring logs.

Direct shear tests were performed on selected undisturbed samples to determine the strength of the soils. The tests were performed after soaking to near-saturated moisture content and at various surcharge pressures. The yield-point values determined from the direct shear tests are presented on Figure A-3, Direct Shear Test Data.

Confined consolidation tests were performed on one undisturbed sample to determine the compressibility of the soils. Water was added to the sample during the tests to illustrate the effect of moisture on the compressibility. The results of the tests are presented on Figure A-4, Consolidation Test Data.

To determine the particle size distribution of the soils and to aid in classifying the soils, mechanical analyses were performed on seven samples. The results of the mechanical analyses are presented on Figures A-5.1 through A-5.4, Particle Size Distribution.

Soil corrosivity studies were performed on samples of the on-site soils. The results of the study and recommendations for mitigating procedures are presented on Appendix D.

APPENDIX B

CONE PENETRATION TEST DATA

APPENDIX C

CORROSION STUDY

APPENDIX D

PRIOR REPORT OF GEOTECHNICAL INVESTIGATION

FIGURES

APPENDIX A

CURRENT EXPLORATIONS AND LABORATORY TESTS

APPENDIX A

CURRENT EXPLORATIONS AND LABORATORY TESTS

EXPLORATIONS

The soil conditions beneath the site were explored by drilling two borings. In addition, data were available from our prior investigation at the site (our Job No. A-66102). The locations of our current and prior borings are shown on Figure 1. The current borings were drilled to depths of about 76½ feet below the existing grade using 5-inch-diameter rotary-wash-type drilling equipment. Drilling mud was used to prevent caving. The mud was removed following completion of the drilling to permit future measurements of the water level.

The soils encountered were logged by our field technician, and undisturbed and bulk samples were obtained for laboratory inspection and testing. The logs of the current borings are presented on Figures A-1.1 through A-1.2; the logs from our prior borings are presented in our previous report in Appendix D. The depths at which the undisturbed samples were obtained are indicated to the left of the boring logs. The number of blows required to drive the Crandall sampler 12 inches using a 300 pound hammer falling 18 inches is indicated on the logs. The soils are classified in accordance with the Unified Soil Classification System described on Figure A-2.

LABORATORY TESTS

Laboratory tests were performed on selected samples obtained from the borings to aid in the classification of the soils and to determine their engineering properties.

The field moisture content and dry density of the soils encountered were determined by performing tests on the undisturbed samples. The results of the tests are shown to the left on the boring logs.

Direct shear tests were performed on selected undisturbed samples to determine the strength of the soils. The tests were performed after soaking to near-saturated moisture content and at various surcharge pressures. The yield-point values determined from the direct shear tests are presented on Figure A-3, Direct Shear Test Data.

Confined consolidation tests were performed on one undisturbed sample to determine the compressibility of the soils. Water was added to the sample during the tests to illustrate the effect of moisture on the compressibility. The results of the tests are presented on Figure A-4, Consolidation Test Data.

To determine the particle size distribution of the soils and to aid in classifying the soils, mechanical analyses were performed on seven samples. The results of the mechanical analyses are presented on Figures A-5.1 through A-5.4, Particle Size Distribution.

Soil corrosivity studies were performed on samples of the on-site soils. The results of the study and recommendations for mitigating procedures are presented on Appendix D.

B12SOIL_CRANDALL(DECIMAL_ELE) 90301.GPJ LAW_CRAN.GDT 4/14/09

THIS RECORD IS A REASONABLE INTERPRETATION OF SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. LATITUDE AND LONGITUDE OF BORING LOCATION SHOWN ON LOGS ARE APPROXIMATE; REFER TO PLOT PLAN FOR MORE ACCURATE LOCATION INFORMATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND AT OTHER TIMES MAY DIFFER. INTERFACES BETWEEN STRATA ARE APPROXIMATE. TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

BORING 1

DATE DRILLED: March 5, 2009
EQUIPMENT USED: Rotary Wash
HOLE DIAMETER (in.): 4.9
ELEVATION: 10.0**

ELEVATION (ft)	DEPTH (ft)	"N" VALUE STD.PEN.TEST	MOISTURE (% of dry wt.)	DRY DENSITY (pcf)	BLOW COUNT* (blows/ft)	SAMPLE LOC.	USCS	DESCRIPTION
								3-inch thick Asphalt Concrete
							SM	FILL - SILTY SAND - moist, brown
							SP	POORLY GRADED SAND - medium dense, moist, light brown, trace Silt, medium to coarse grained, some shell fragments
			14.5	97	40	ring		
5	5							
			12.1	100	20	ring		
							CL	SANDY CLAY - stiff, wet, olive gray
			21.8	106	14	ring		
							SP	▽ POORLY GRADED SAND - medium dense, wet, grayish brown, fine grained with trace fine gravel
0	10							
		28				SPT		5.6% Passing No. 200 Sieve
							CL	SANDY CLAY - very stiff to hard, wet, reddish-brown (LL=31, PI=13)
			17.9	115	27	ring		
-5	15							
		33				SPT		
							ML	SANDY SILT - hard, moist, olive gray
-10	20							
			27.5	98	60	ring		
							SM	SILTY SAND - dense, moist, olive gray, fine grained
							SP-SM	POORLY GRADED SAND with SILT - dense, wet, gray, fine grained, trace silt
-15	25							
		46				SPT		
-20	30							
		44				SPT		Becomes bluish gray
-25	35							
		53				SPT		Becomes very dense
	40							

(CONTINUED ON FOLLOWING FIGURE)

Field Tech: DW
Prepared By: MKT
Checked By: LT 4/14/09

Proposed Belmont Plaza Olympic Pool Project Long Beach, California

MACTEC

LOG OF BORING
Project: 4953-09-0301 Figure: A-1.1a

BORING 1 (Continued)

DATE DRILLED: March 5, 2009
EQUIPMENT USED: Rotary Wash
HOLE DIAMETER (in.): 4.9
ELEVATION: 10.0**

ELEVATION (ft)	DEPTH (ft)	"N" VALUE STD.PEN.TEST	MOISTURE (% of dry wt.)	DRY DENSITY (pcf)	BLOW COUNT* (blows/ft)	SAMPLE LOC.		DESCRIPTION
		73						8.6% Passing No. 200 Sieve
								Thin layer of Clayey Silt
-35	45		19.7	99	83/9"			Some Clay
-40	50	69						
-45	55	30						Dense, some coarse grained with fine gravel up to ¼ inch in size
-50	60	54						
-55	65	58						9.2% Passing No. 200 Sieve
								Thin layer of Clayey Silt
							SP	POORLY GRADED SAND - very dense, wet, gray, fine to medium grained
-60	70		20.7	96	50/3"			
-65	75	68					CL-ML	SILTY CLAY - hard, moist, gray (LL=36, PI=12)
	80							

* Number of blows required to drive Crandall sampler 12 inches using a 300 pound hammer falling 18 inches.
** Elevation based on Aerial Topographic Survey provided by PSOMAS.

END OF BORING AT 76.5 FEET
NOTES: Boring bailed to 30 feet. Ground water measured at 9 feet. Boring backfilled with bentonite cement grout from bottom up and patched with asphalt concrete.

THIS RECORD IS A REASONABLE INTERPRETATION OF SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. LATITUDE AND LONGITUDE OF BORING LOCATION SHOWN ON LOGS ARE APPROXIMATE; REFER TO PLOT PLAN FOR MORE ACCURATE LOCATION INFORMATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND AT OTHER TIMES MAY DIFFER. INTERFACES BETWEEN STRATA ARE APPROXIMATE. TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

Field Tech: DW
Prepared By: MKT
Checked By: LT 4/14/09

B12SOIL_CRANDALL(DECIMAL_ELE) 90301.GPJ LAW_CRAN.GDT 4/14/09

THIS RECORD IS A REASONABLE INTERPRETATION OF SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. LATITUDE AND LONGITUDE OF BORING LOCATION SHOWN ON LOGS ARE APPROXIMATE; REFER TO PLOT PLAN FOR MORE ACCURATE LOCATION INFORMATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND AT OTHER TIMES MAY DIFFER. INTERFACES BETWEEN STRATA ARE APPROXIMATE. TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

BORING 2

DATE DRILLED: March 6, 2009
EQUIPMENT USED: Rotary Wash
HOLE DIAMETER (in.): 4.9
ELEVATION: 9.5**

ELEVATION (ft)	DEPTH (ft)	"N" VALUE STD.PEN.TEST	MOISTURE (% of dry wt.)	DRY DENSITY (pcf)	BLOW COUNT* (blows/ft)	SAMPLE LOC.		DESCRIPTION
							SP	FILL - POORLY GRADED SAND - moist, brown, fine grained, some debris fragments
			-	-	28		SP	POORLY GRADED SAND - medium dense, moist, brown, fine grained, some shell fragments
5	5		25.6	96	25		SP-SM	POORLY GRADED SAND with SILT - medium dense, moist, brownish-gray, fine grained
			18.2	110	21		SP	POORLY GRADED SAND - medium dense, wet, grayish-brown, fine to medium grained
0	10	17					SM	SILTY SAND - medium dense, wet, olive gray, fine grained
			24.7	99	25		SP	POORLY GRADED SAND - medium dense, wet, gray, fine grained
							SM	SILTY SAND - medium dense, wet, olive gray, fine grained
-5	15	9					ML	CLAYEY SILT - stiff, wet, olive brown (LL=40, PI=11)
							SM	SILTY SAND - medium dense, wet, olive brown, fine grained
-10	20	28						27.3% Passing No. 200 Sieve
							SP-SM	POORLY GRADED SAND with SILT - dense, wet, brown, fine grained
-15	25	35						6.3% Passing No. 200 Sieve
-20	30	51						Some fine gravel up to ¼ inch in size, FeO2 staining 5.5% Passing No. 200 Sieve
-25	35	43						
-30	40							

(CONTINUED ON FOLLOWING FIGURE)

Field Tech: DW
Prepared By: MKT
Checked By: LT 4/15/09

BORING 2 (Continued)

DATE DRILLED: March 6, 2009
EQUIPMENT USED: Rotary Wash
HOLE DIAMETER (in.): 4.9
ELEVATION: 9.5**

ELEVATION (ft)	DEPTH (ft)	"N" VALUE STD.PEN.TEST	MOISTURE (% of dry wt.)	DRY DENSITY (pcf)	BLOW COUNT* (blows/ft)	SAMPLE LOC.		DESCRIPTION
			19.8	105	64/9"			Thin layer of Sandy Silt
-35	45	51					CL	SANDY CLAY - hard, wet, gray
							SP	POORLY GRADED SAND - very dense, wet, brown, fine grained, some fine gravel up to ¼ inch in size
-40	50	63						
-45	55	92/11"						
-50	60	50/5"						Becomes gray and orangish brown
-55	65	90						
-60							ML	SANDY SILT - hard, wet, gray
	70		26.0	101	80/8"			82.3% Passing No. 200 Sieve
							SP-SM	POORLY GRADED SAND with SILT - very dense, wet, gray, fine grained, trace Clay
-65	75	97/9"						
-70	80							

END OF BORING AT 76.5 FEET
NOTES: Boring bailed to 30 feet. Ground water measured at 6.4 feet. Boring backfilled with bentonite cement grout from bottom up and patched with asphalt concrete.

THIS RECORD IS A REASONABLE INTERPRETATION OF SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. LATITUDE AND LONGITUDE OF BORING LOCATION SHOWN ON LOGS ARE APPROXIMATE; REFER TO PLOT PLAN FOR MORE ACCURATE LOCATION INFORMATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND AT OTHER TIMES MAY DIFFER. INTERFACES BETWEEN STRATA ARE APPROXIMATE. TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

Field Tech: DW
Prepared By: MKT
Checked By: LT (4/14/09)

Proposed Belmont Plaza Olympic Pool Project Long Beach, California

MACTEC

LOG OF BORING
Project: 4953-09-0301 Figure: A-1.2b

B12SOIL CRANDALL(DECIMAL ELE) 90301.GPJ LAW CRAN.GDT 4/14/09

MAJOR DIVISIONS			GROUP SYMBOLS	TYPICAL NAMES
COARSE GRAINED SOILS (More than 50% of material is LARGER than No. 200 sieve size)	GRAVELS (More than 50% of coarse fraction is LARGER than the No. 4 sieve size)	CLEAN GRAVELS (Little or no fines)	GW	Well graded gravels, gravel - sand mixtures, little or no fines.
			GP	Poorly graded gravels or grave - sand mixtures, little or no fines.
		GRAVELS WITH FINES (Appreciable amount of fines)	GM	Silty gravels, gravel - sand - silt mixtures.
			GC	Clayey gravels, gravel - sand - clay mixtures.
	SANDS (More than 50% of coarse fraction is SMALLER than the No. 4 Sieve Size)	CLEAN SANDS (Little or no fines)	SW	Well graded sands, gravelly sands, little or no fines.
			SP	Poorly graded sands or gravelly sands, little or no fines.
		SANDS WITH FINES (Appreciable amount of fines)	SM	Silty sands, sand - silt mixtures
			SC	Clayey sands, sand - clay mixtures.
FINE GRAINED SOILS (More than 50% of material is SMALLER than No. 200 sieve size)	SILTS AND CLAYS (Liquid limit LESS than 50)		ML	Inorganic silts and very fine sands, rock flour, silty of clayey fine sands or clayey silts and with slight plasticity.
			CL	Inorganic lays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays.
			OL	Organic silts and organic silty clays of low plasticity.
	SILTS AND CLAYS (Liquid limit GREATER than 50)		MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts.
			CH	Inorganic clays of high plasticity, fat clays
			OH	Organic clays of medium to high plasticity, organic silts.
HIGHLY ORGANIC SOILS			PT	Peat and other highly organic soils.

BOUNDARY CLASSIFICATIONS: Soils possessing characteristics of two groups are designated by combinations of group symbols.

SILT OR CLAY	SAND			GRAVEL		Cobbles	Boulders
	Fine	Medium	Coarse	Fine	Coarse		

No.200 No.40 No.10 No.4 3/4" 3" 12"

U.S. STANDARD SIEVE SIZE

Reference: The Unified Soil Classification System, Corps of Engineers, U.S. Army Technical Memorandum No. 3-357, Vol. 1, March, 1953 (Revised April, 1960)

Undisturbed Sample	Auger Cuttings
Split Spoon Sample	Bulk Sample
Rock Core	Crandall Sampler
Dilatometer	Pressure Meter
Packer	No Recovery
Water Table at time of drilling	Water Table after drilling

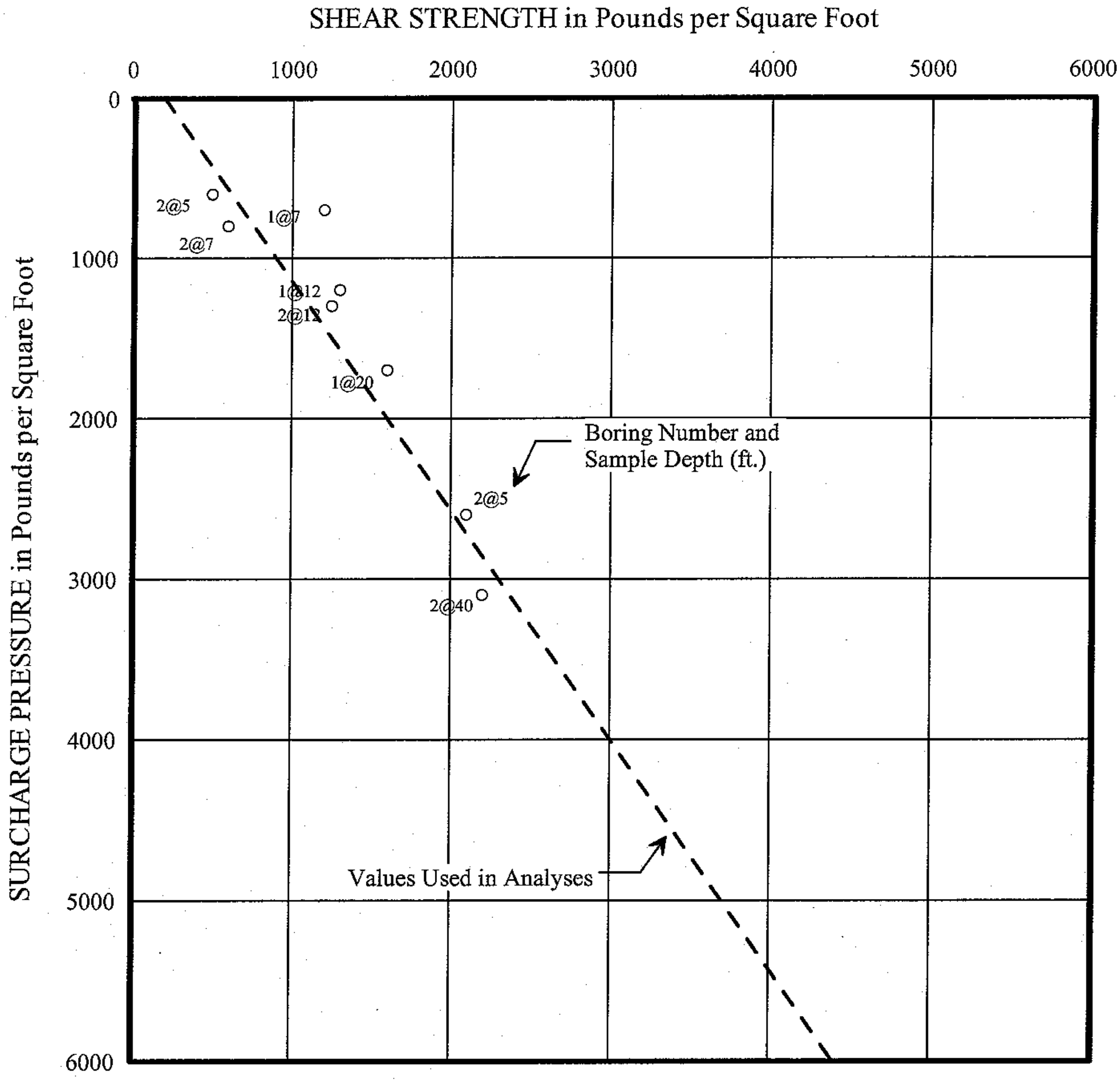
Correlation of Penetration Resistance with Relative Density and Consistency

SAND & GRAVEL		SILT & CLAY	
No. of Blows	Relative Density	No. of Blows	Consistency
0 - 4	Very Loose	0 - 1	Very Soft
5 - 10	Loose	2 - 4	Soft
11 - 30	Medium Dense	5 - 8	Medium Stiff
31 - 50	Dense	9 - 15	Stiff
Over 50	Very Dense	16 - 30	Very Stiff
		Over 30	Hard

KEY TO SYMBOLS AND DESCRIPTIONS

MACTEC

Figure A-2

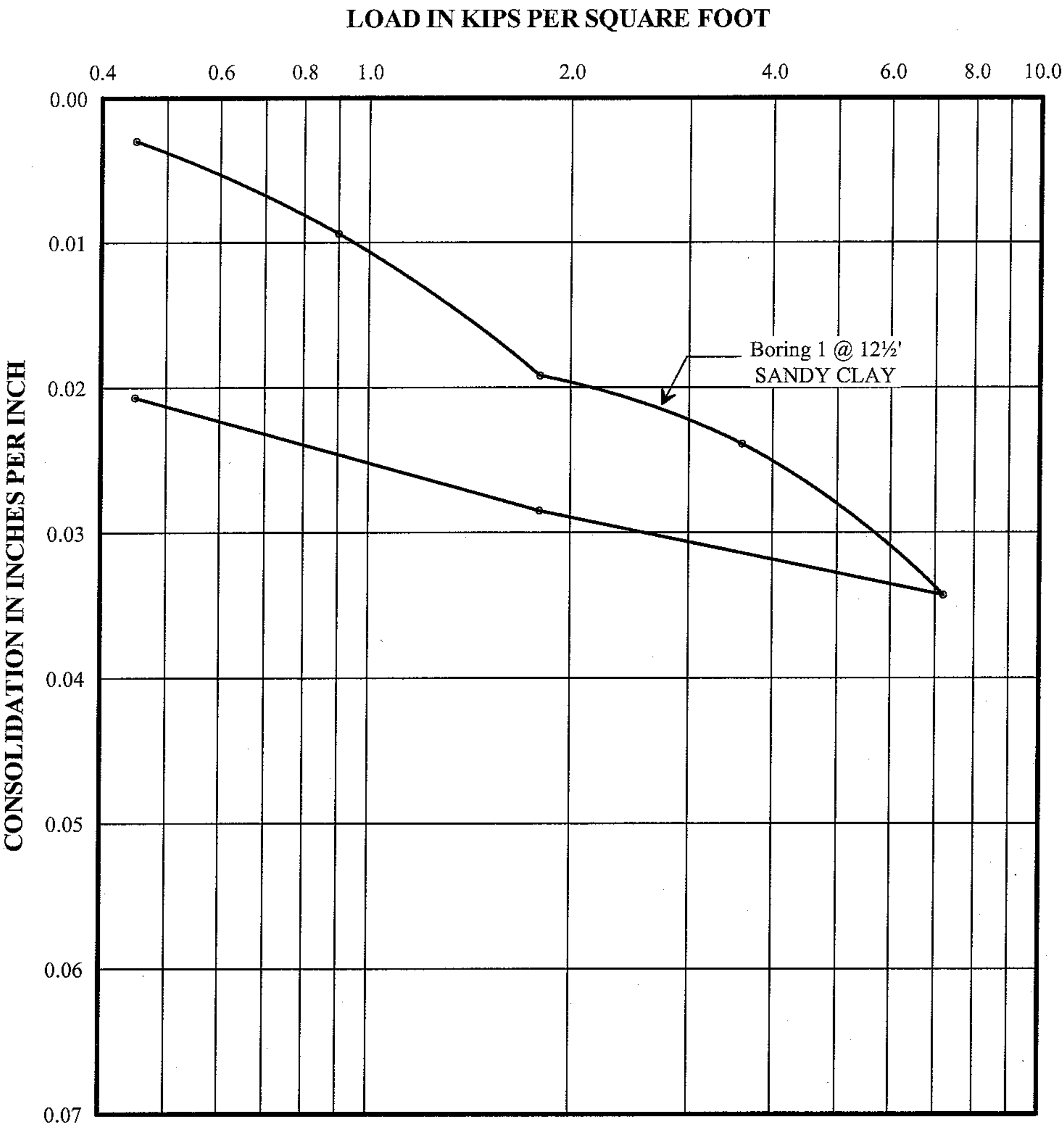


KEY: ○ Samples tested after soaking to a moisture content near saturation.

└ Natural Soils

Prepared/Date: MKT 3/25/09
Checked/Date: LT 4/7/09

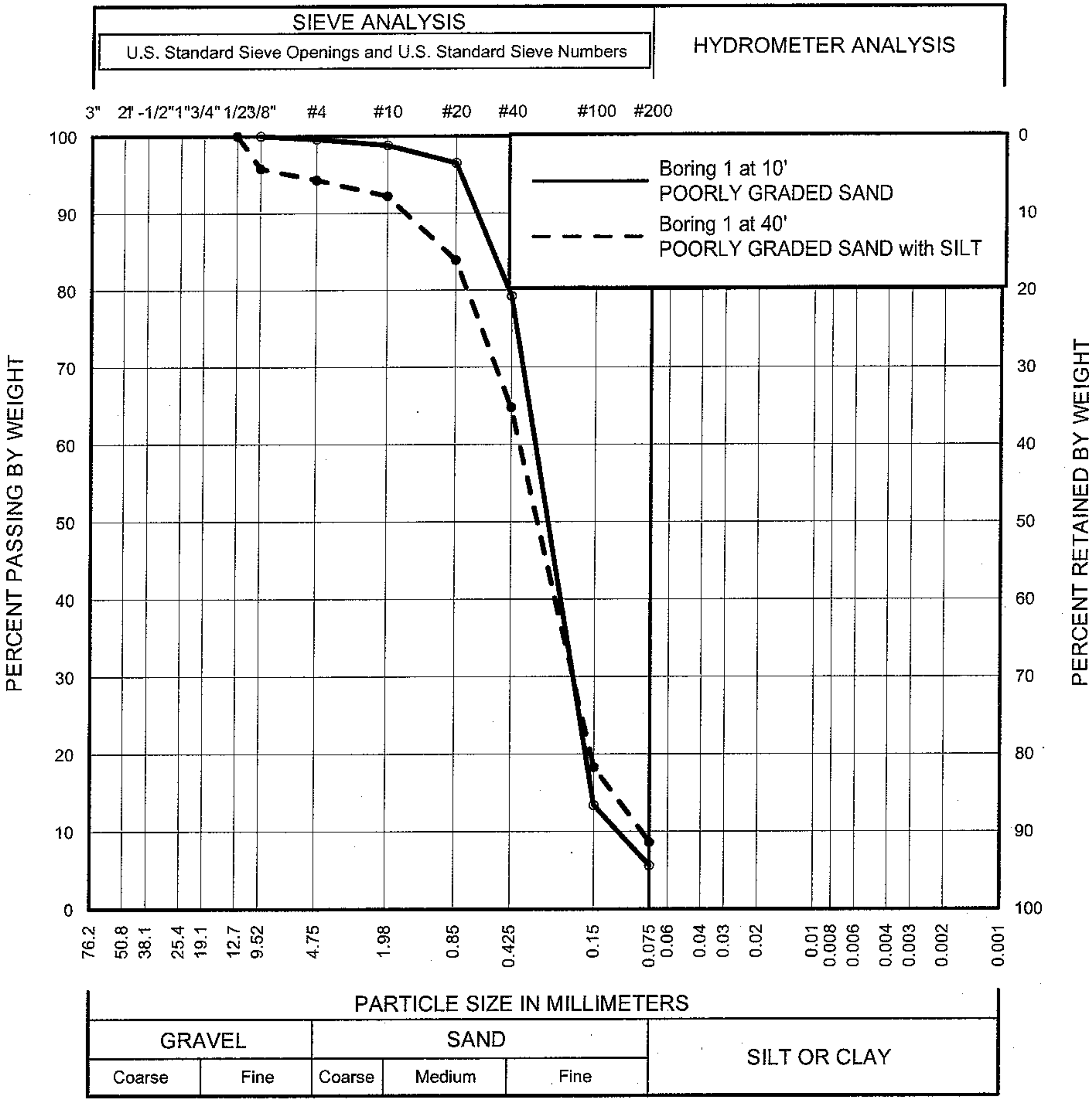
Proposed Belmont Plaza Olympic Pool Project Long Beach, California	MACTEC	DIRECT SHEAR TEST DATA Project No. 4953-09-0301 Figure A-3



Note: Water added to a sample after consolidation under a load of 1.8 kips per square foot.

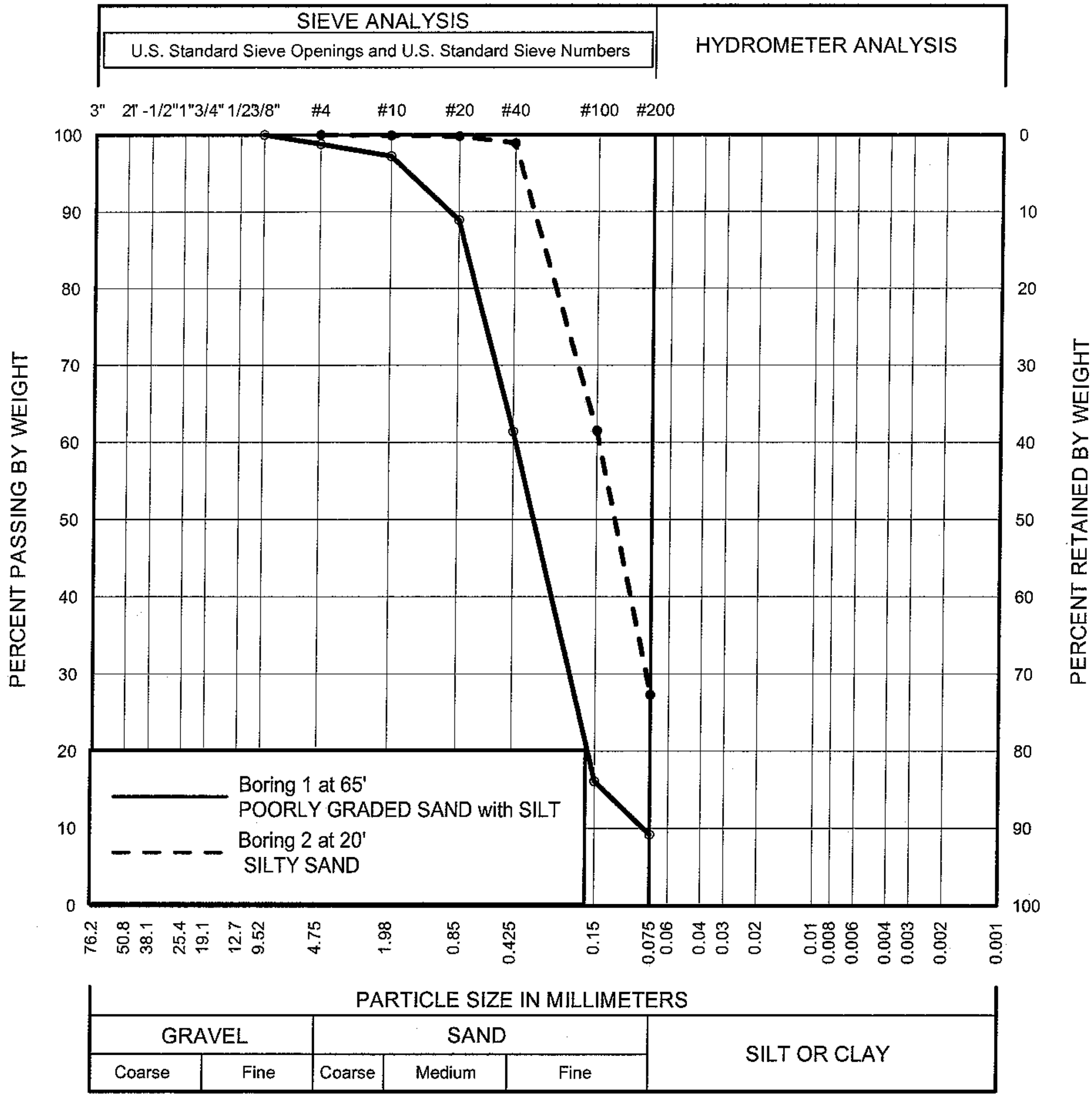
Prepared/Date: MKT 4/6/09
Checked/Date: Box 4/15/09

Proposed Belmont Plaza Olympic Pool Project Long Beach, California	MACTEC	CONSOLIDATION TEST DATA Project 4953-09-0301 Figure A-4



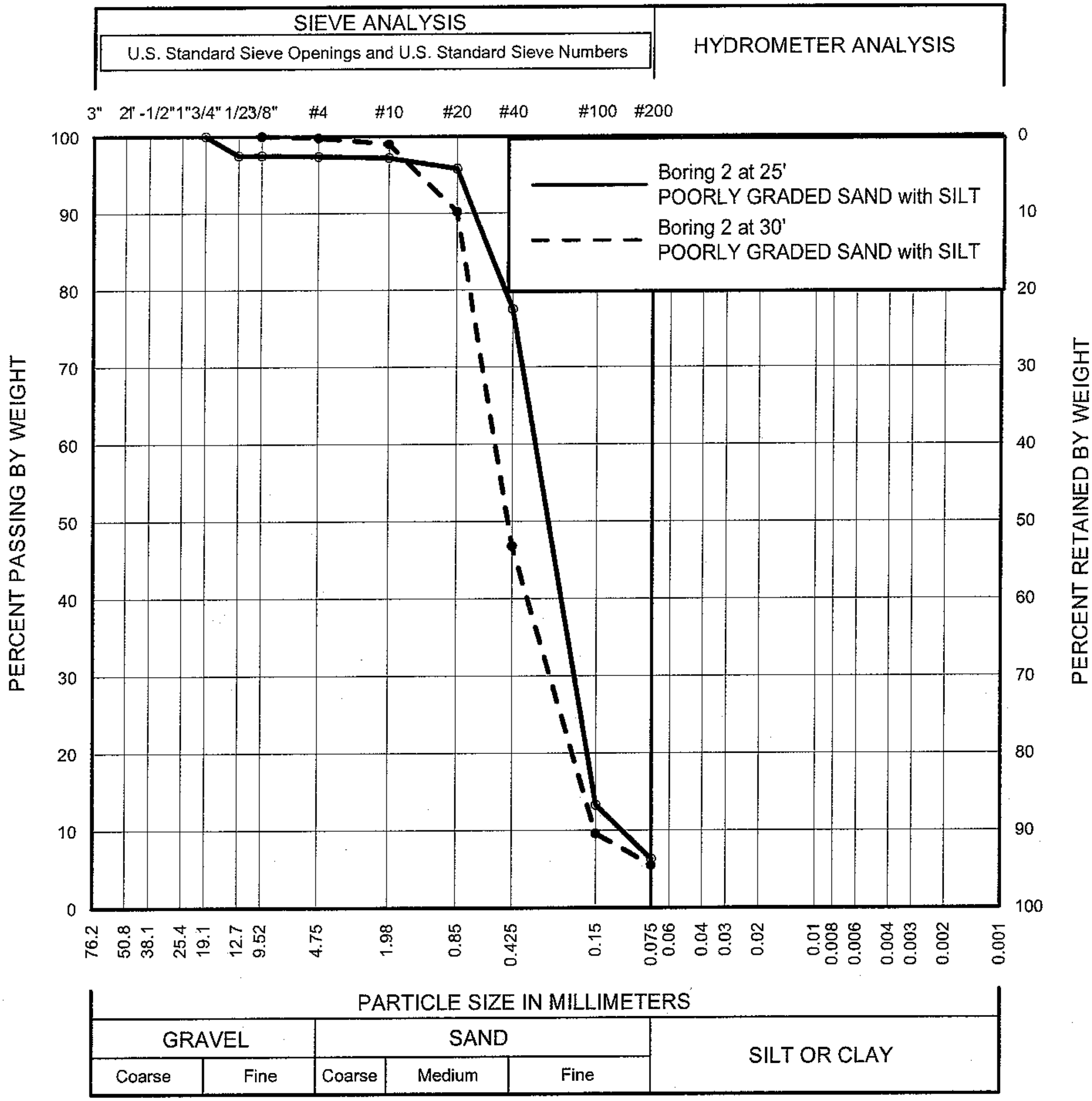
Prepared/Date: MKT 3/25/09
Checked/Date: LT 4/9/09

Proposed Belmont Plaza Olympic Pool Project Long Beach, California	MACTEC	PARTICLE SIZE DISTRIBUTION Project No. 4953-09-0301 Figure A-5.1



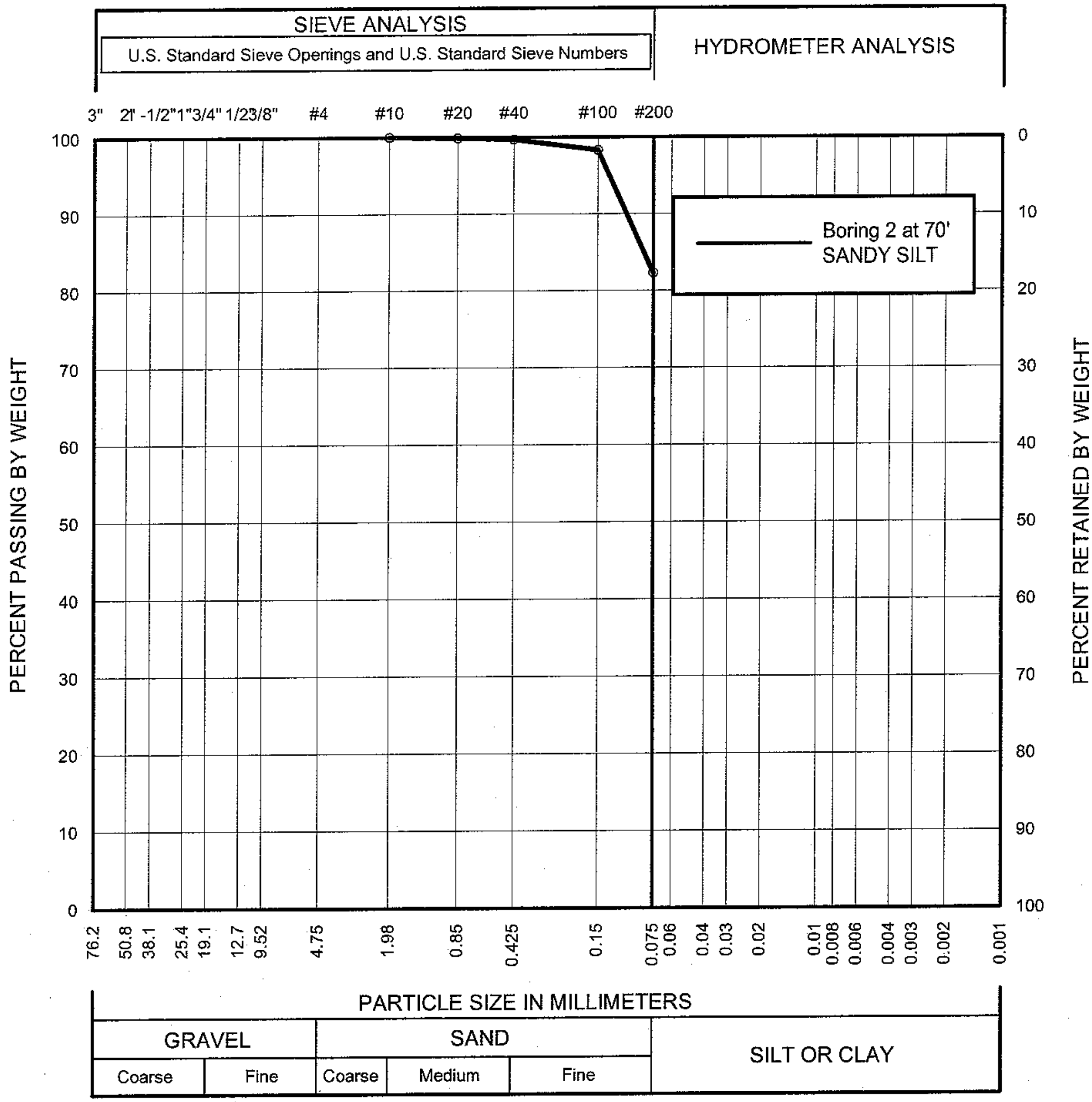
Prepared/Date: MKT 3/25/09
Checked/Date: BOK 4/15/09

Proposed Belmont Plaza Olympic Pool Project Long Beach, California	MACTEC	PARTICLE SIZE DISTRIBUTION Project No. 4953-09-0301 Figure A-5.2



Prepared/Date: MKT 3/25/09
Checked/Date: LT 4/9/09

Proposed Belmont Plaza Olympic Pool Project Long Beach, California	MACTEC	PARTICLE SIZE DISTRIBUTION Project No. 4953-09-0301 Figure A-5.3



Prepared/Date: MKT 3/25/09
Checked/Date: LJ (4/9/09)

Proposed Belmont Plaza Olympic Pool Project Long Beach, California	MACTEC	PARTICLE SIZE DISTRIBUTION Project No. 4953-09-0301 Figure A-5.4

APPENDIX B

CONE PENETRATION TEST DATA

Reviewed and acceptable for use

NAME: [signature] DATE: 4/14/2009

MACTEC Engineering and Consulting, Inc.

SUMMARY

OF

CONE PENETRATION TEST DATA

Project:

Belmont Plaza Pool
4000 E. Olympic Plaza
Long Beach, CA
March 6, 2009

Prepared for:

Mr. Angel Recio
MACTEC Engineering & Consulting, Inc.
5628 E. Slauson Avenue
Los Angeles, CA 90040-2922
Office (323) 889-5300 / Fax (323) 721-6700

Prepared by:

KTE

KEHOE TESTING & ENGINEERING

5415 Industrial Drive
Huntington Beach, CA 92649-1518
Office (714) 901-7270 / Fax (714) 901-7289
www.kehoetesting.com

TABLE OF CONTENTS

SUMMARY

OF

CONE PENETRATION TEST DATA

1. INTRODUCTION

This report presents the results of a Cone Penetration Test (CPT) program carried out for the Belmont Plaza Pool project located at 4000 E. Olympic Plaza in Long Beach, California. The work was performed by Kehoe Testing & Engineering (KTE) on March 6, 2009. The scope of work was performed as directed by MACTEC Engineering & Consulting, Inc. personnel.

2. SUMMARY OF FIELD WORK

The fieldwork consisted of performing CPT soundings at five locations to determine the soil lithology. The groundwater measurements were taken in the open CPT hole approximately 10 minutes after completion of CPT. The following **TABLE 2.1** summarizes the CPT soundings performed:

LOCATION	DEPTH OF CPT (ft)	COMMENTS/NOTES:
CPT-1	60	Groundwater @ 8 ft
CPT-2	60	Groundwater @ 11 ft
CPT-3	60	Groundwater @ 8 ft
CPT-4	60	Hole open to 5 ft (dry)
CPT-5	60	Hole open to 2 ft (dry)

TABLE 2.1 - Summary of CPT Soundings

3. FIELD EQUIPMENT & PROCEDURES

The CPT soundings were carried out by **KTE** using an integrated electronic cone system manufactured by Vertek. The CPT soundings were performed in accordance with ASTM standards (D5778). The cone penetrometers were pushed using a 30-ton CPT rig. The cone used during the program was a 15 cm^2 cone and recorded the following parameters at approximately 2.5 cm depth intervals:

- Cone Resistance (qc)
- Sleeve Friction (fs)
- Dynamic Pore Pressure (u)
- Inclination
- Penetration Speed
- Pore Pressure Dissipation (at selected depths)

At location CPT-3, shear wave measurements were obtained at approximately 5-foot intervals. The shear wave is generated using an air-actuated hammer, which is located inside the front jack of the CPT rig. The cone has a triaxial geophone, which recorded the shear wave signal generated by the air hammer.

The above parameters were recorded and viewed in real time using a portable computer and stored on a diskette for future analysis and reference. A complete set of baseline readings was taken prior to each sounding to determine temperature shifts and any zero load offsets. Monitoring base line readings ensures that the cone electronics are operating properly.

4. CONE PENETRATION TEST DATA & INTERPRETATION

The Cone Penetration Test data is presented in graphical form in the attached Appendix. Penetration depths are referenced to ground surface. The soil classification on the CPT plots is derived from the CPT Classification Chart (Robertson, 1986) and presents major soil lithologic changes. The stratigraphic interpretation is based on relationships between cone resistance (qc), sleeve friction (fs), and penetration pore pressure (u). The friction ratio (Rf), which is sleeve friction divided by cone resistance, is a calculated parameter that is used to infer soil behavior type. Generally, cohesive soils (clays) have high friction ratios, low cone resistance and generate excess pore water pressures. Cohesionless soils (sands) have lower friction ratios, high cone bearing and generate little (or negative) excess pore water pressures.

Output from the interpretation program CPTINT provides averaged CPT data over one-foot intervals. The CPTINT output includes Soil Classification Zones, SPT N Values and Undrained Shear Strength (Su). A summary of the equations used for the tabulated parameters is provided in the CPTINT Correlation Table in the Appendix.

The interpretation of soils encountered on this project was carried out using correlations developed by Robertson et al, 1986. It should be noted that it is not always possible to clearly identify a soil type based on qc, fs and u. In these situations, experience, judgment and an assessment of the pore pressure data should be used to infer the soil behavior type.

If you have any questions regarding this information, please do not hesitate to call our office at (714) 901-7270.

Sincerely,

KEHOE TESTING & ENGINEERING

Richard W. Koester, Jr.
General Manager

03/09/09-at-83-9492

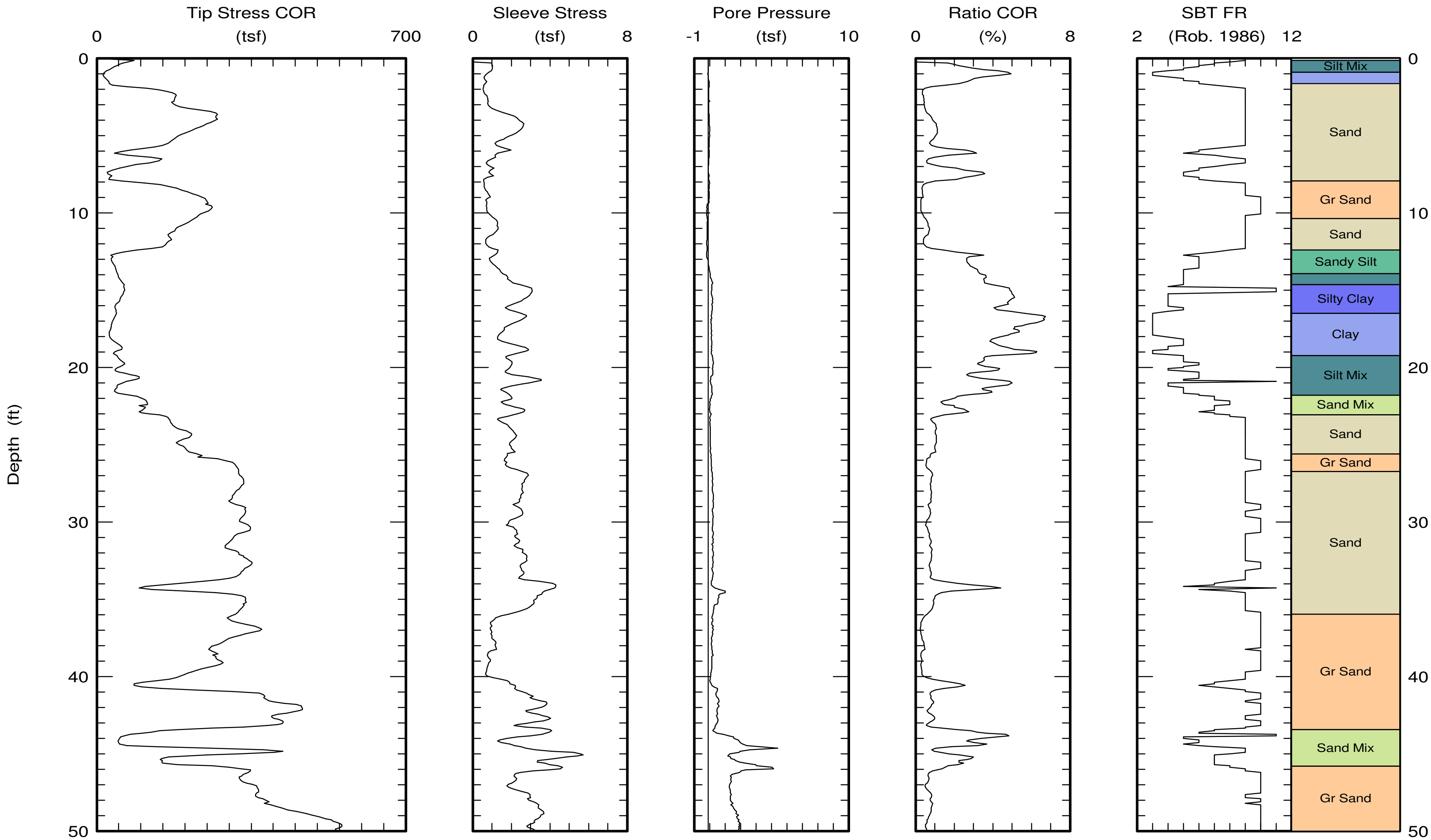
APPENDIX

Kehoe Testing & Engineering
Office: (714) 901-7270
Fax: (714) 901-7289
rich@kehoetesting.com
skehoe@msn.com

CPT Data
30 ton rig

Date: 06/Mar/2009
Test ID: CPT-1
Project: LongBeach

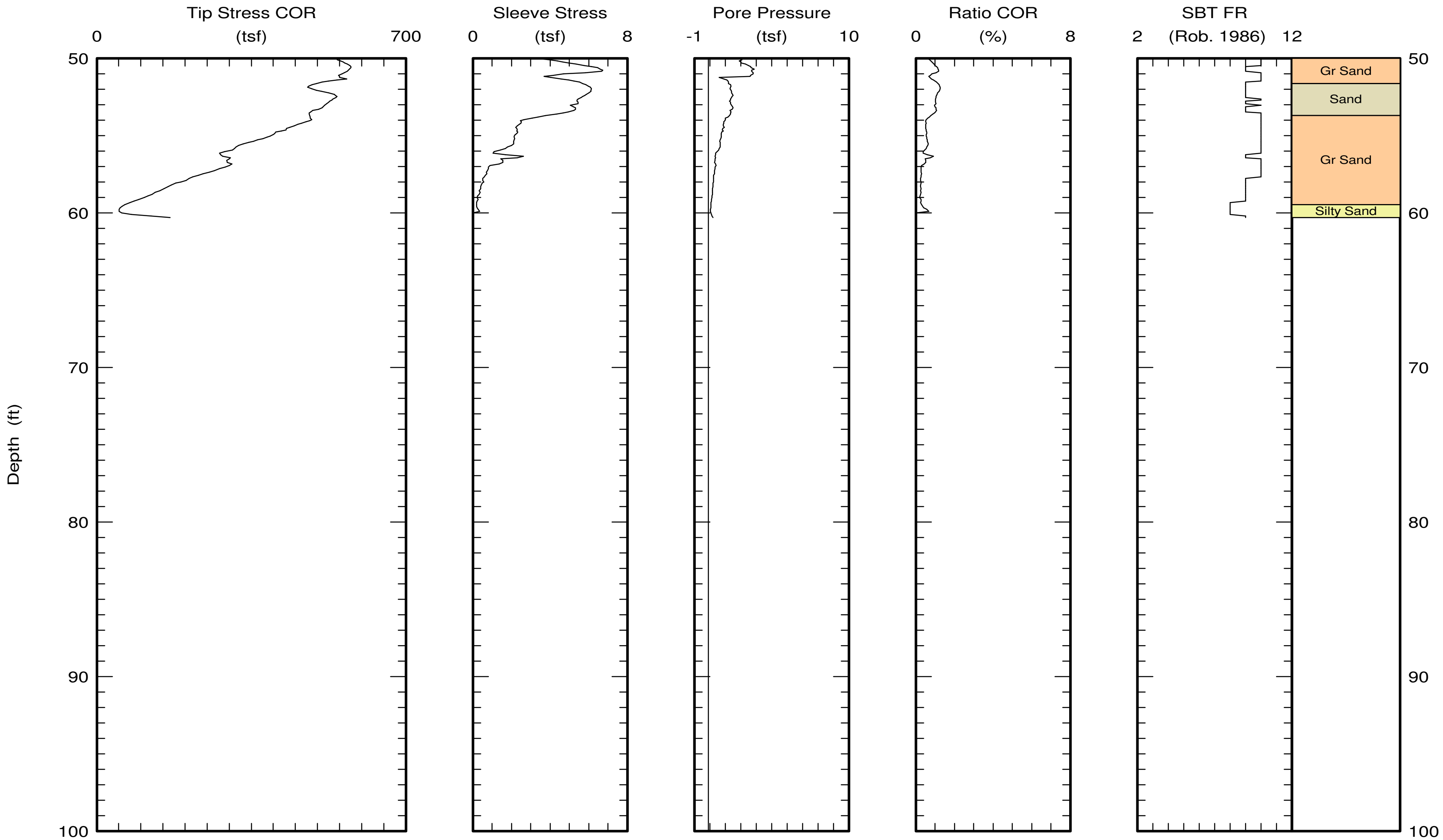
Customer: MACTEC
Job Site: Belmont Plaza Pool



Maximum depth: 60.33 (ft)

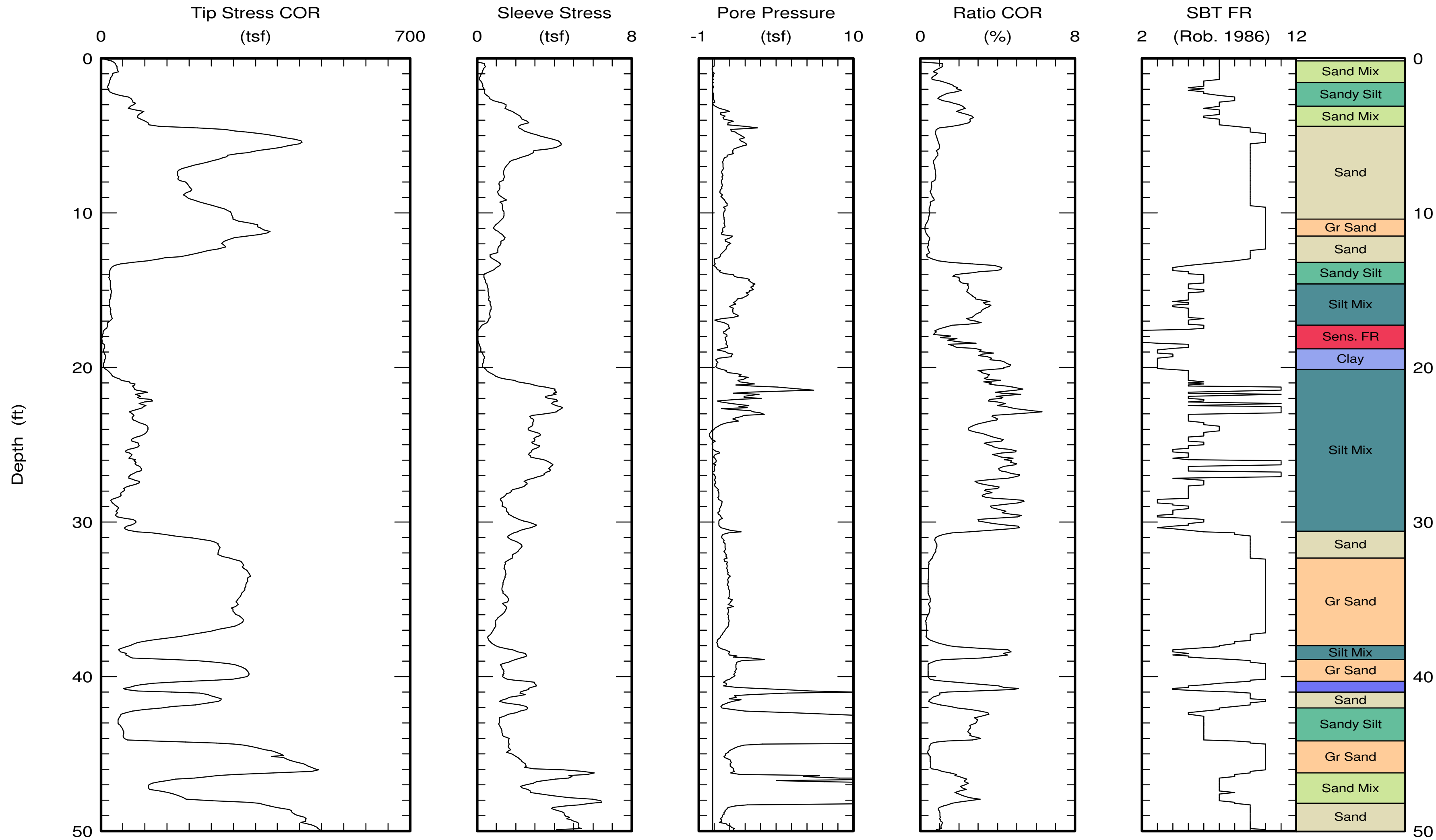
Test ID: CPT-1
File: Z06M0904C.ECP

Kehoe Testing & Engineering Office: (714) 901-7270 Fax: (714) 901-7289 rich@kehoetesting.com skehoe@msn.com	CPT Data 30 ton rig	Date: 06/Mar/2009 Test ID: CPT-1 Project: LongBeach
	Customer: MACTEC Job Site: Belmont Plaza Pool	



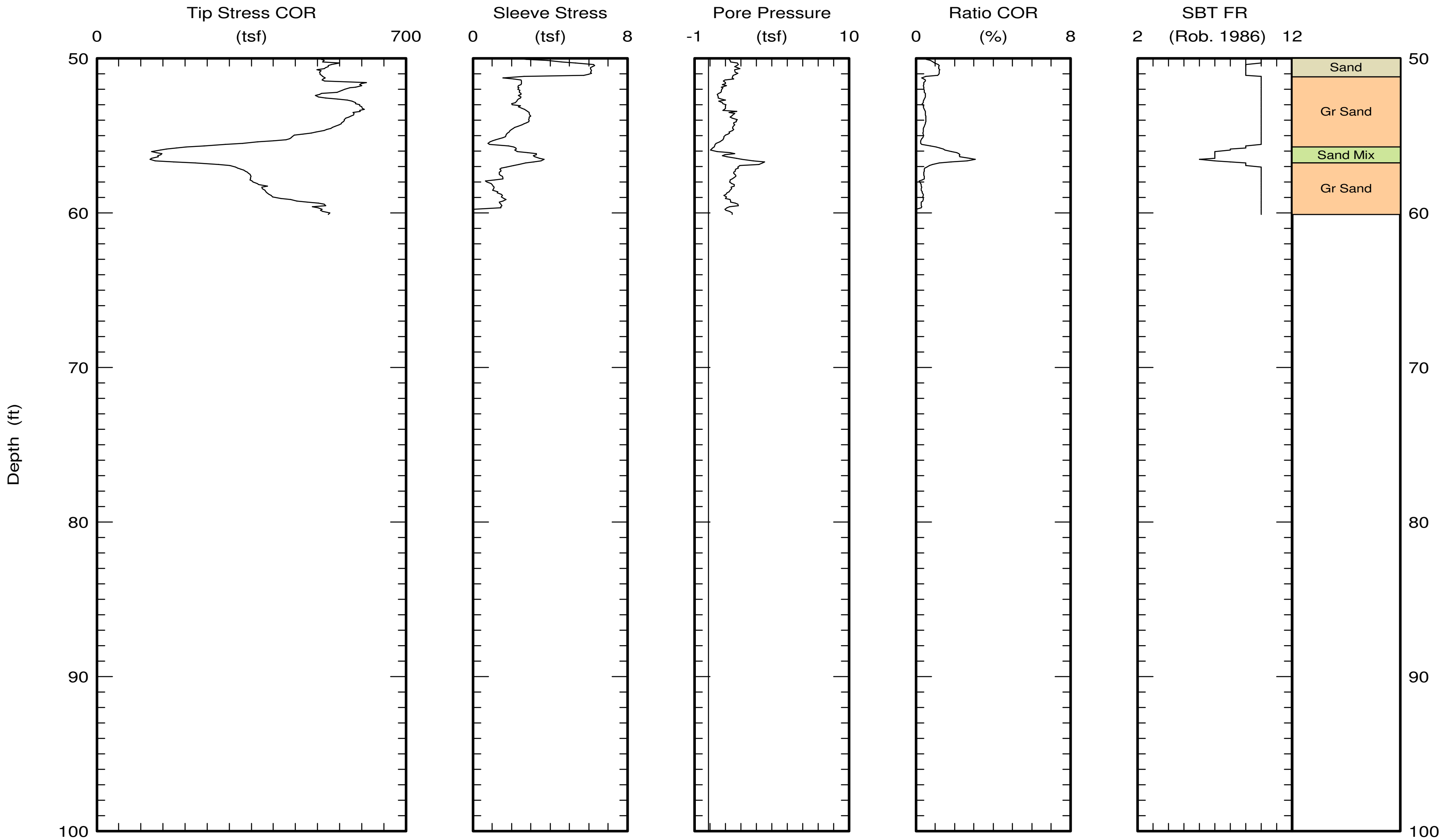
Maximum depth: 60.33 (ft)

Kehoe Testing & Engineering Office: (714) 901-7270 Fax: (714) 901-7289 rich@kehoetesting.com skehoe@msn.com	CPT Data 30 ton rig	Date: 06/Mar/2009 Test ID: CPT-2 Project: LongBeach
	Customer: MACTEC Job Site: Belmont Plaza Pool	



Maximum depth: 60.11 (ft)

Kehoe Testing & Engineering Office: (714) 901-7270 Fax: (714) 901-7289 rich@kehoetesting.com skehoe@msn.com	CPT Data 30 ton rig	Date: 06/Mar/2009 Test ID: CPT-2 Project: LongBeach
	Customer: MACTEC Job Site: Belmont Plaza Pool	



Maximum depth: 60.11 (ft)

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Kehoe Testing & Engineering
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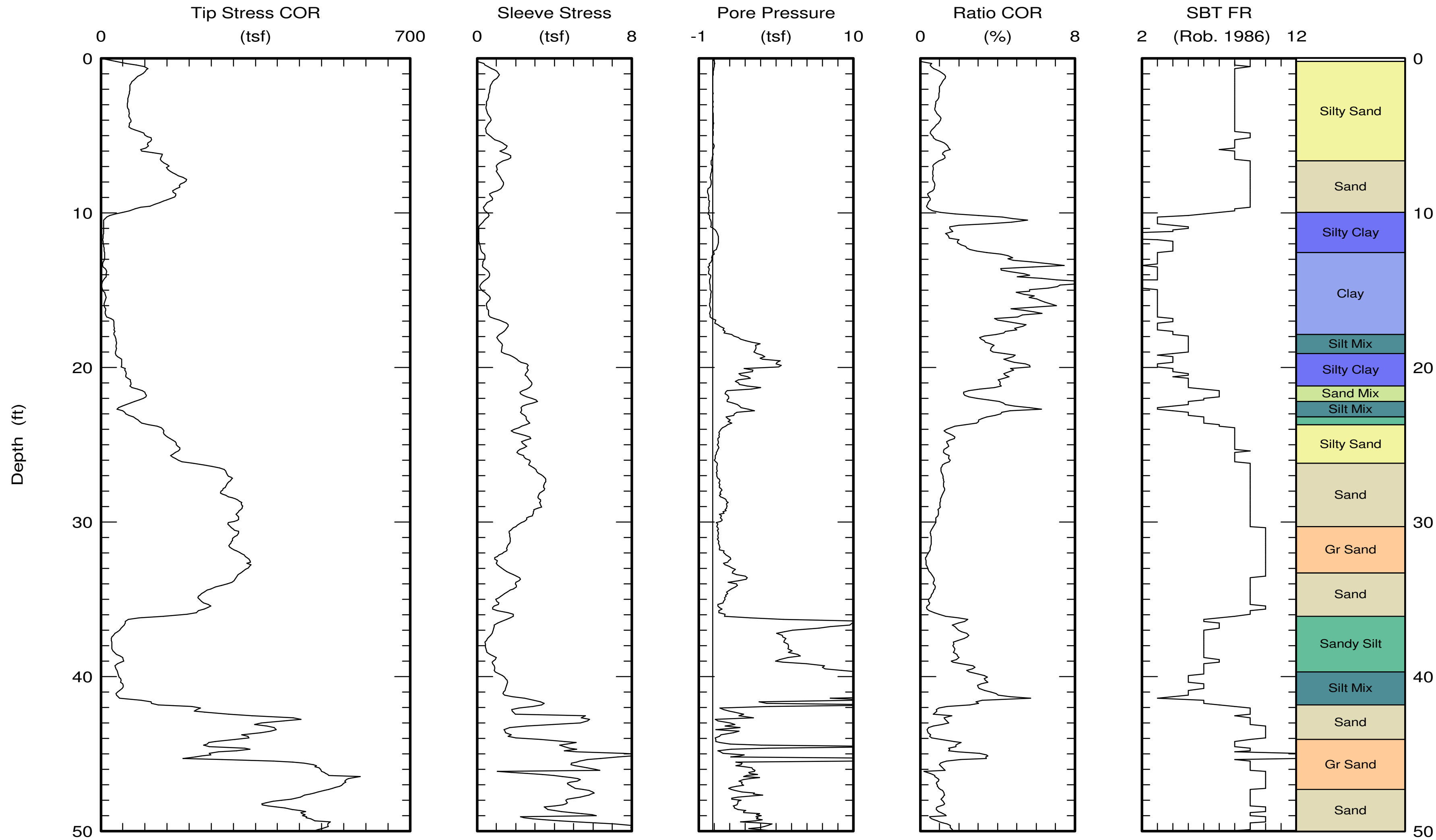
Fax: (714) 901-7289
rich@kehoetesting.com
skehoe@msn.com

CPT Data
30 ton rig

Date: 06/Mar/2009
Test ID: CPT-3
Project: LongBeach

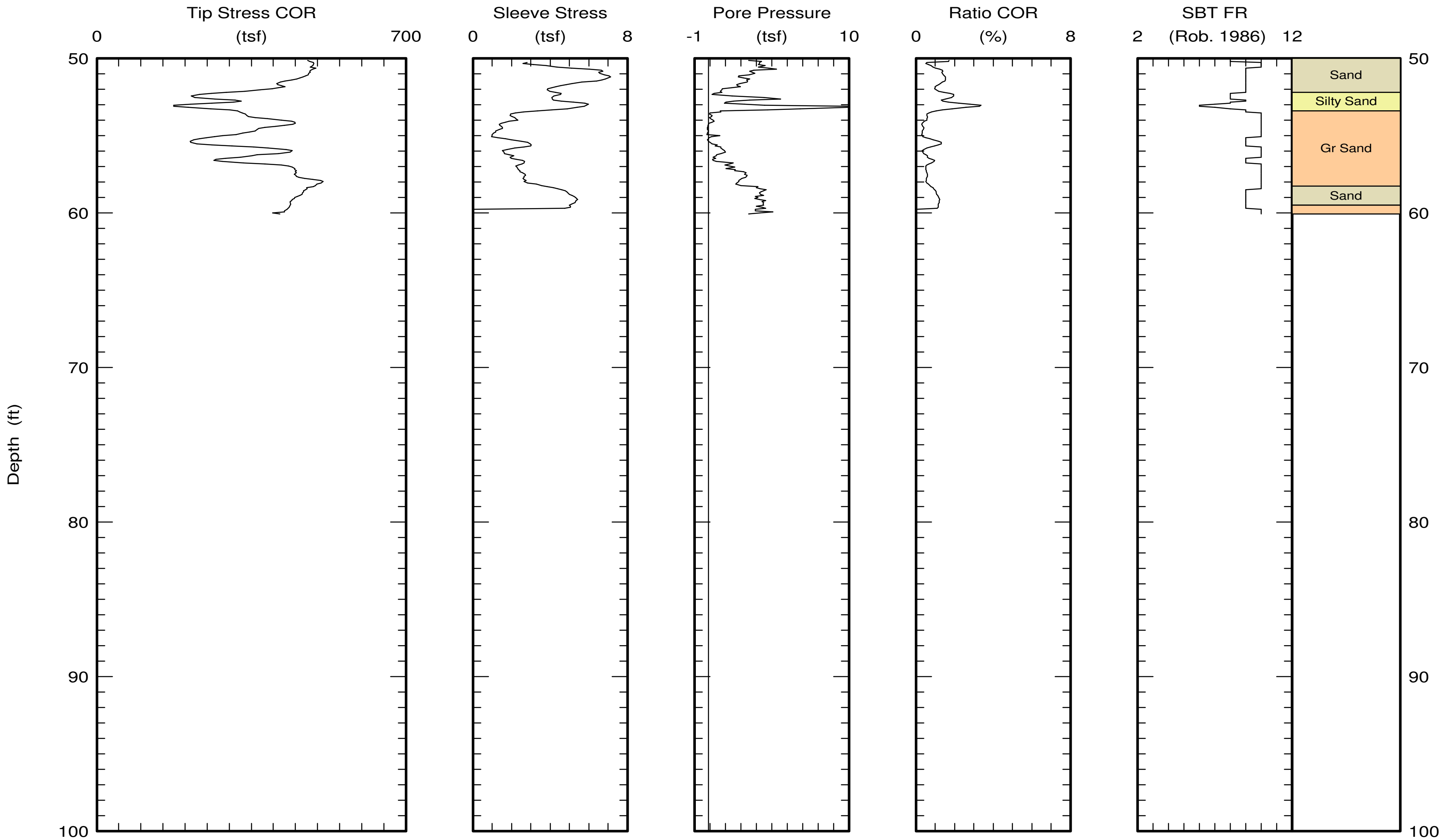
Customer: MACTEC
Job Site: Belmont Plaza Pool



Maximum depth: 60.09 (ft)

Test ID: CPT-3
File: Z06M0907C.ECP

Kehoe Testing & Engineering Office: (714) 901-7270 Fax: (714) 901-7289 rich@kehoetesting.com skehoe@msn.com	CPT Data 30 ton rig	Date: 06/Mar/2009 Test ID: CPT-3 Project: LongBeach
	Customer: MACTEC Job Site: Belmont Plaza Pool	



Maximum depth: 60.09 (ft)

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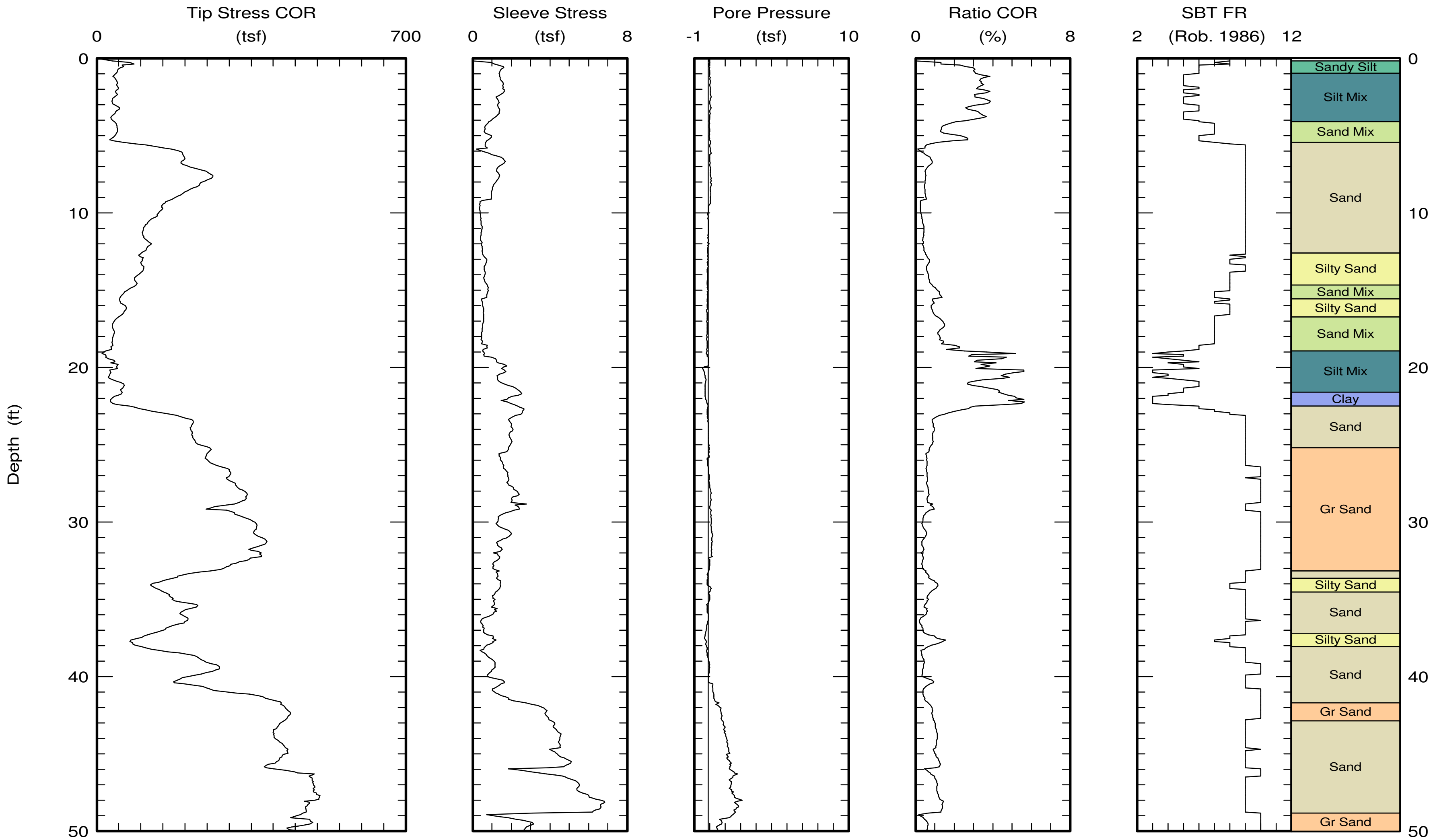
rich@kehoetesting.com
skehoe@msn.com

CPT Data
30 ton rig

Date: 06/Mar/2009
Test ID: CPT-4
Project: LongBeach

Customer: MACTEC
Job Site: Belmont Plaza Pool



Maximum depth: 60.15 (ft)
Page 1 of 2

Test ID: CPT-4
File: Z06M0903C.ECP

Kehoe Testing & Engineering
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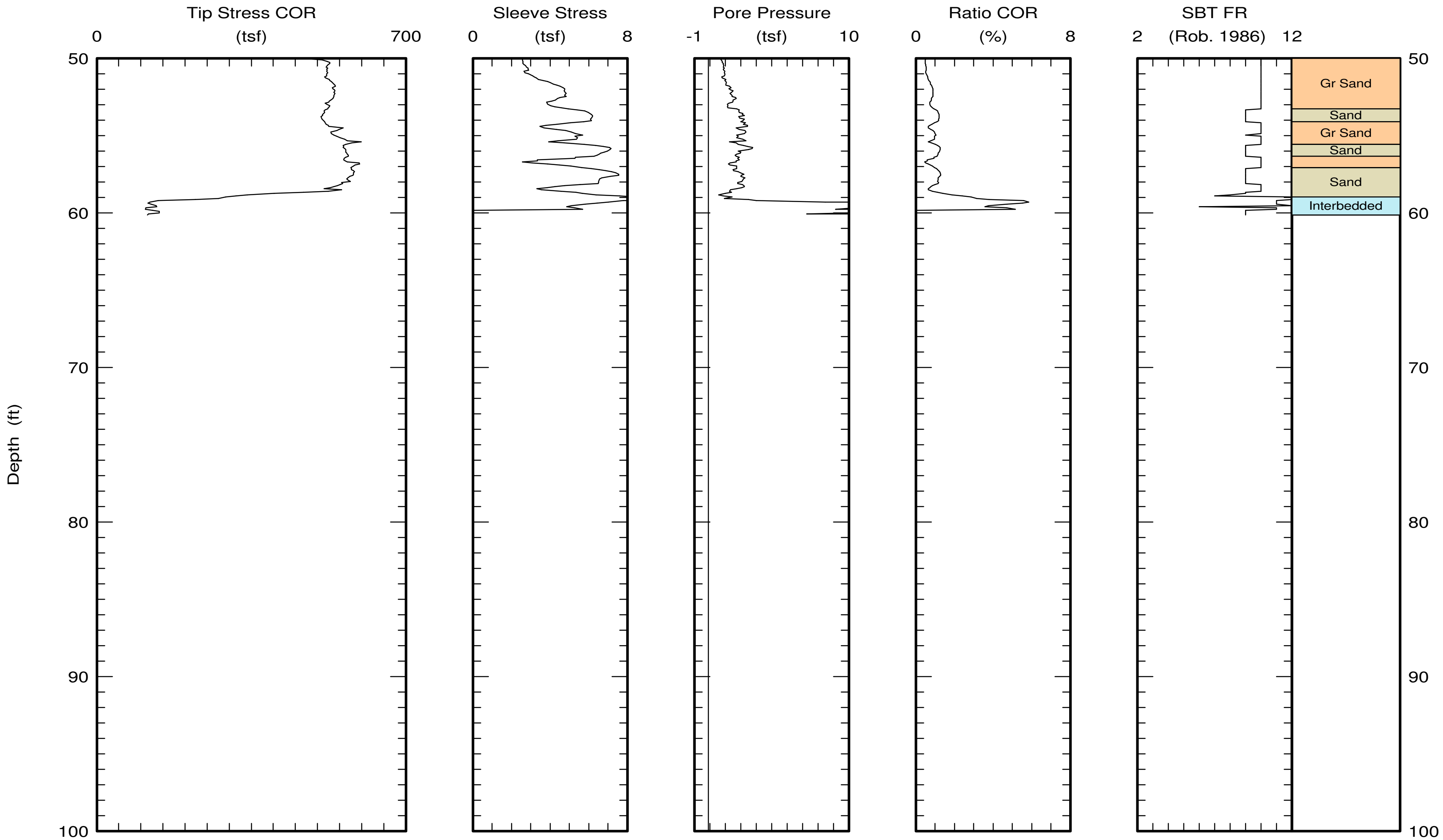
rich@kehoetesting.com
skehoe@msn.com

CPT Data
30 ton rig

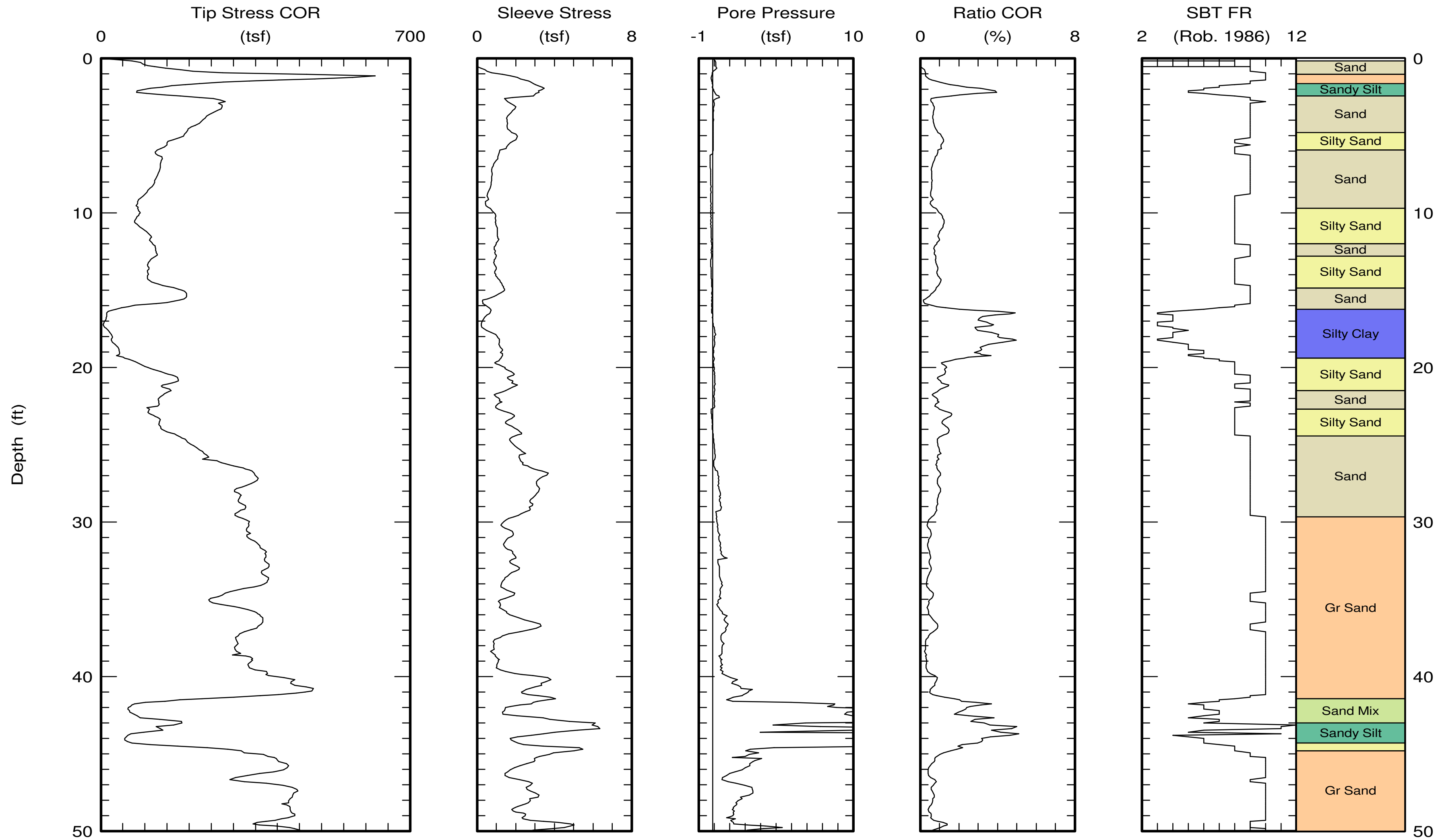
Date: 06/Mar/2009
Test ID: CPT-4
Project: LongBeach

Customer: MACTEC
Job Site: Belmont Plaza Pool



Maximum depth: 60.15 (ft)
Page 2 of 2

Kehoe Testing & Engineering Office: (714) 901-7270 Fax: (714) 901-7289 rich@kehoetesting.com skehoe@msn.com	CPT Data 30 ton rig	Date: 06/Mar/2009 Test ID: CPT-5 Project: LongBeach
	Customer: MACTEC Job Site: Belmont Plaza Pool	



Maximum depth: 60.13 (ft)

Page 1 of 2

Test ID: CPT-5
File: Z06M0908C.ECP

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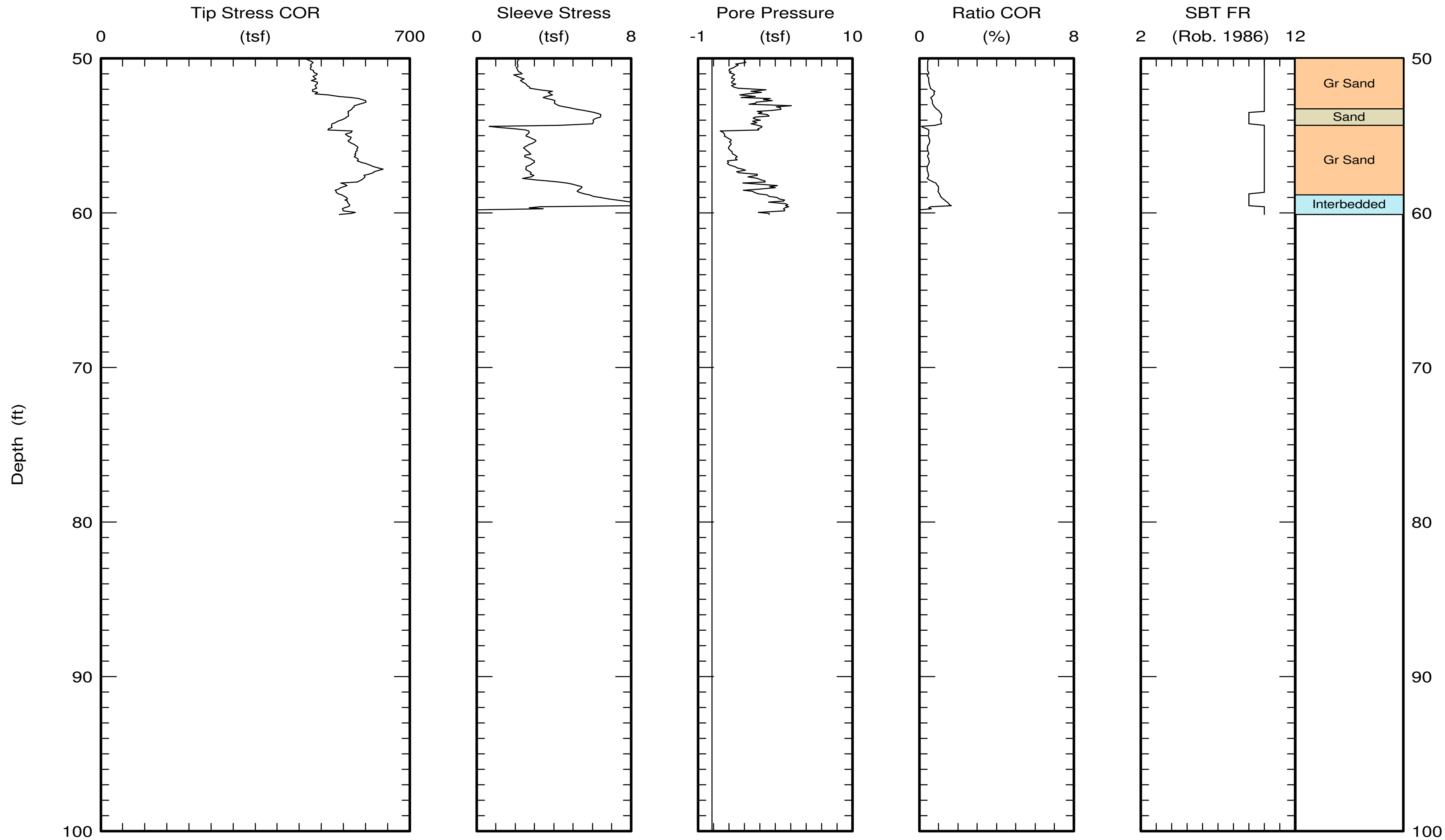
CPT Data
30 ton rig

Date: 06/Mar/2009
Test ID: CPT-5
Project: LongBeach

Customer: MACTEC
Job Site: Belmont Plaza Pool



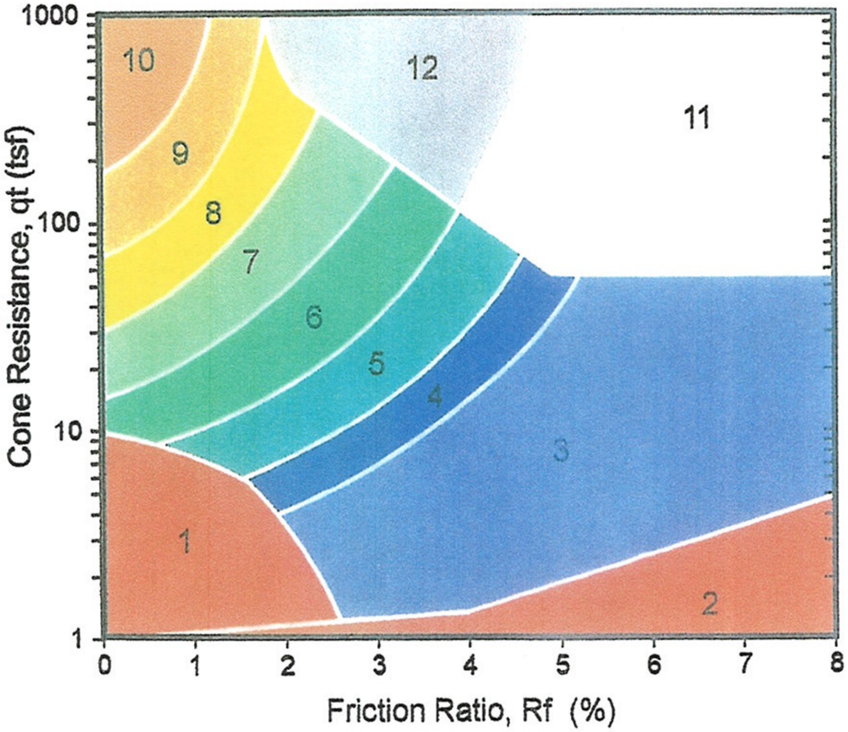
Maximum depth: 60.13 (ft)

Test ID: CPT-5
File: Z06M0908C.ECP

KEHOE TESTING & ENGINEERING

CPT Classification Chart

(after Robertson and Campanella, 1988)



Zone		q_t / N	Soil Behavior Type	UCSCS
1		2	sensitive fine grained	OL-OH
2		1	organic material	Pt-OH
3		1	clay	CH
4		1.5	silty clay to clay	CL-CH
5		2	clayey silt to silty clay	ML-CL
6		2.5	sandy silt to clayey silt	MH-ML
7		3	silty sand to sandy silt	SM-ML
8		4	sand to silty sand	SP-SM
9		5	sand	SP
10		6	gravelly sand to sand	SW-SP
11		1	very stiff fine grained *	CL-MH
12		2	sand to clayey sand *	SP-SC

* overconsolidated or cemented

INPUT FILE: C:\temp\CPT-1.CSV

" Depth " (feet)	Qc(avg) (TSF)	Fs(avg) (TSF)	Rf (%)	Rf Zone (zone #)	Spt N (blow/ft)	Spt N1 (blow/ft)	Su (TSF)
0.500	41.627	0.719	1.727	7	13	20	9E9
1.500	36.510	0.632	1.731	6	14	21	9E9
2.500	170.782	0.709	0.415	9	33	50	9E9
3.500	242.150	1.565	0.646	9	46	69	9E9
4.500	229.550	2.460	1.072	9	44	66	9E9
5.500	149.770	1.548	1.034	9	29	44	9E9
6.500	98.075	1.066	1.087	8	23	35	9E9
7.500	39.311	0.854	2.174	6	15	23	9E9
8.500	186.822	0.713	0.382	9	36	54	9E9
9.500	252.190	0.733	0.291	10	40	60	9E9
10.500	212.311	1.151	0.542	9	41	62	9E9
11.500	167.422	0.929	0.555	9	32	47	9E9
12.500	80.433	1.053	1.310	8	19	27	9E9
13.500	40.863	1.224	2.995	6	16	22	9E9
14.500	56.050	2.215	3.948	5	27	35	3.680
15.500	54.833	2.714	4.943	4	35	44	3.596
16.500	41.450	2.326	5.602	3	40	49	2.699
17.500	31.262	1.682	5.373	3	30	36	2.014
18.500	46.090	2.194	4.753	4	29	34	3.000
19.500	52.117	1.990	3.814	5	25	28	3.397
20.500	68.031	2.441	3.585	5	33	36	4.454
21.500	57.171	1.957	3.420	5	27	29	3.725
22.500	107.269	2.105	1.962	7	34	35	9E9
23.500	163.879	1.731	1.056	9	31	31	9E9
24.500	201.880	2.131	1.055	9	39	39	9E9
25.500	218.233	1.907	0.874	9	42	41	9E9
26.500	315.011	2.146	0.681	10	50	47	9E9
27.500	328.078	2.634	0.803	9	63	58	9E9
28.500	310.222	2.409	0.776	9	59	53	9E9
29.500	331.589	2.349	0.708	10	53	47	9E9
30.500	335.650	2.120	0.631	10	54	47	9E9
31.500	303.450	2.393	0.788	9	58	49	9E9
32.500	340.811	2.683	0.787	10	54	45	9E9
33.500	296.540	2.804	0.945	9	57	46	9E9
34.500	226.060	3.774	1.669	8	54	43	9E9
35.500	328.278	2.769	0.843	9	63	50	9E9
36.500	329.389	1.057	0.321	10	53	41	9E9
37.500	312.980	1.055	0.337	10	50	38	9E9
38.500	265.100	0.950	0.358	10	42	31	9E9
39.500	240.182	0.764	0.318	10	38	28	9E9
40.500	153.300	1.954	1.274	8	37	27	9E9
41.499	407.318	3.386	0.831	10	65	46	9E9
42.499	427.325	3.401	0.796	10	68	47	9E9
43.499	213.017	3.194	1.498	8	51	35	9E9
44.499	173.418	2.530	1.455	8	42	28	9E9
45.499	211.354	4.438	2.095	7	68	45	9E9
46.499	335.733	2.407	0.716	10	54	35	9E9
47.499	364.630	2.540	0.696	10	58	38	9E9
48.499	422.330	3.408	0.806	10	67	43	9E9
49.499	539.492	3.132	0.580	10	86	54	9E9

INPUT FILE: C:\temp\CPT-1.CSV

" Depth " (feet)	Qc(avg) (TSF)	Fs(avg) (TSF)	Rf (%)	Rf Zone (zone #)	Spt N (blow/ft)	Spt N1 (blow/ft)	Su (TSF)
50.499	562.885	5.473	0.971	10	90	56	9E9
51.499	521.085	5.129	0.984	9	100	61	9E9
52.499	527.917	5.698	1.079	9	101	61	9E9
53.499	492.575	4.417	0.896	10	79	47	9E9
54.499	436.967	2.344	0.536	10	70	41	9E9
55.499	345.727	1.995	0.577	10	55	32	9E9
56.499	293.290	1.561	0.532	10	47	27	9E9
57.499	243.478	0.682	0.280	10	39	22	9E9
58.499	152.133	0.404	0.266	9	29	16	9E9
59.499	71.000	0.242	0.341	8	17	9	9E9
60.499	106.450	0.000	0.000	9	9E9	9E9	9E9

INPUT FILE: C:\temp\CPT-2.CSV

" Depth " (feet)	Qc(avg) (TSF)	Fs(avg) (TSF)	Rf (%)	Rf Zone (zone #)	Spt N (blow/ft)	Spt N1 (blow/ft)	Su (TSF)
0.500	29.950	0.241	0.805	7	10	15	9E9
1.500	19.800	0.237	1.198	6	8	12	9E9
2.500	51.656	0.693	1.342	7	16	24	9E9
3.500	81.280	1.879	2.308	7	26	39	9E9
4.500	231.720	2.515	1.084	9	44	66	9E9
5.500	418.609	3.908	0.933	9	80	120	9E9
6.500	269.620	2.169	0.804	9	52	78	9E9
7.500	178.600	1.398	0.782	9	34	51	9E9
8.500	197.340	1.152	0.583	9	38	57	9E9
9.500	249.978	1.347	0.538	9	48	72	9E9
10.500	323.544	1.161	0.359	10	52	78	9E9
11.500	329.011	1.254	0.381	10	53	78	9E9
12.500	215.060	0.911	0.423	9	41	58	9E9
13.500	37.650	0.877	2.325	6	14	19	9E9
14.500	20.436	0.463	2.213	6	8	11	9E9
15.500	21.162	0.625	2.899	5	10	13	1.374
16.500	22.627	0.676	2.956	5	11	14	1.457
17.500	10.392	0.195	1.840	5	5	6	0.634
18.500	5.191	0.117	2.186	4	3	4	0.281
19.500	8.400	0.327	3.834	3	8	9	0.489
20.500	27.143	0.963	3.511	5	13	14	1.743
21.500	80.542	3.520	4.335	5	39	42	5.325
22.500	90.625	4.093	4.498	11	87	91	9E9
23.500	85.877	2.869	3.331	6	33	34	9E9
24.500	88.300	2.991	3.387	6	34	34	9E9
25.500	70.885	2.959	4.172	5	34	33	4.622
26.500	81.645	3.713	4.547	11	78	74	9E9
27.500	68.050	2.527	3.710	5	33	31	4.426
28.500	35.429	1.392	3.920	5	17	15	2.249
29.500	45.364	1.780	3.915	5	22	20	2.908
30.500	95.492	2.347	2.453	7	31	27	9E9
31.500	254.540	2.081	0.817	9	49	42	9E9
32.500	299.700	1.651	0.551	10	48	40	9E9
33.500	332.030	1.434	0.432	10	53	43	9E9
34.500	321.600	1.393	0.433	10	51	41	9E9
35.500	304.130	1.461	0.480	10	49	39	9E9
36.500	307.289	0.993	0.323	10	49	38	9E9
37.500	151.540	0.680	0.448	9	29	22	9E9
38.500	78.833	1.975	2.497	6	30	22	9E9
39.500	318.075	1.355	0.426	10	51	37	9E9
40.500	162.023	2.410	1.484	8	39	28	9E9
41.499	232.909	1.923	0.824	9	45	32	9E9
42.499	59.870	1.707	2.786	6	23	16	9E9
43.499	45.469	1.272	2.621	6	19	13	9E9
44.499	262.067	1.642	0.622	9	51	35	9E9
45.499	438.654	2.314	0.527	10	70	47	9E9
46.499	267.700	4.516	1.679	8	64	42	9E9
47.499	140.300	3.322	2.302	7	46	30	9E9
48.499	392.254	4.806	1.222	9	75	48	9E9

49.499	472.167	4.971	1.052	9	90	57	9E9

INPUT FILE: C:\temp\CPT-2.CSV

" Depth " (feet)	Qc(avg) (TSF)	Fs(avg) (TSF)	Rf (%)	Rf Zone (zone #)	Spt N (blow/ft)	Spt N1 (blow/ft)	Su (TSF)
50.499	515.379	5.311	1.030	9	99	62	9E9
51.499	549.562	2.900	0.527	10	88	54	9E9
52.499	542.943	2.359	0.434	10	87	53	9E9
53.499	586.057	2.730	0.466	10	94	56	9E9
54.499	521.921	2.251	0.431	10	83	49	9E9
55.499	312.369	1.536	0.492	10	50	29	9E9
56.499	167.423	3.010	1.794	8	40	23	9E9
57.499	339.179	1.393	0.410	10	54	31	9E9
58.499	379.108	1.166	0.307	10	61	34	9E9
59.499	486.350	1.127	0.232	10	78	43	9E9
60.499	525.550	0.000	0.000	10	9E9	9E9	9E9

INPUT FILE: C:\temp\CPT-3.CSV

" Depth " (feet)	Qc(avg) (TSF)	Fs(avg) (TSF)	Rf (%)	Rf Zone (zone #)	Spt N (blow/ft)	Spt N1 (blow/ft)	Su (TSF)
0.500	75.411	0.569	0.754	8	18	27	9E9
1.500	73.756	0.866	1.173	8	18	27	9E9
2.500	62.678	0.583	0.931	8	15	23	9E9
3.500	63.011	0.548	0.869	8	15	23	9E9
4.500	76.030	0.555	0.730	8	18	27	9E9
5.500	106.667	1.202	1.127	8	26	39	9E9
6.500	134.210	1.383	1.031	8	32	48	9E9
7.500	171.133	1.132	0.662	9	33	50	9E9
8.500	173.070	1.055	0.610	9	33	50	9E9
9.500	110.110	0.527	0.479	9	21	32	9E9
10.500	12.289	0.380	3.103	4	8	12	0.773
11.500	5.390	0.090	1.648	1	3	4	0.316
12.500	8.010	0.281	3.499	3	8	11	0.484
13.500	8.244	0.418	5.095	3	8	11	0.491
14.500	5.730	0.358	6.270	3	5	7	0.321
15.500	9.333	0.544	5.861	3	9	12	0.556
16.500	13.510	0.666	4.941	3	13	16	0.831
17.500	30.290	1.401	4.607	4	19	23	1.956
18.500	34.156	1.210	3.489	5	17	20	2.236
19.500	41.436	2.048	4.855	4	27	31	2.733
20.500	58.889	2.621	4.418	4	38	42	3.871
21.500	85.170	2.552	2.985	6	33	36	9E9
22.500	60.920	2.595	4.237	5	29	31	3.990
23.500	90.870	2.485	2.728	6	35	36	9E9
24.500	152.420	2.302	1.509	8	37	37	9E9
25.500	170.320	2.339	1.373	8	41	40	9E9
26.500	248.964	2.947	1.184	9	48	46	9E9
27.500	287.192	3.495	1.217	9	55	52	9E9
28.500	297.479	3.256	1.094	9	57	52	9E9
29.500	311.677	2.832	0.908	9	60	54	9E9
30.500	300.392	1.863	0.620	10	48	42	9E9
31.500	298.167	1.610	0.540	10	48	41	9E9
32.500	332.045	1.080	0.325	10	53	45	9E9
33.500	310.156	1.902	0.613	10	50	41	9E9
34.500	243.650	1.634	0.670	9	47	38	9E9
35.500	228.390	1.130	0.495	9	44	35	9E9
36.500	67.287	1.268	1.848	7	22	17	9E9
37.500	28.378	0.627	2.133	6	11	8	9E9
38.500	33.678	0.644	1.854	6	13	10	9E9
39.500	37.190	0.949	2.446	6	15	11	9E9
40.500	43.600	1.507	3.232	5	22	16	2.939
41.499	82.880	2.437	2.880	6	32	23	9E9
42.499	313.778	3.582	1.141	9	60	42	9E9
43.499	361.010	2.328	0.644	10	58	40	9E9
44.499	273.218	4.868	1.778	8	66	45	9E9
45.499	364.433	6.027	1.649	8	88	59	9E9
46.499	534.293	4.295	0.803	10	85	57	9E9
47.499	489.279	5.385	1.100	9	94	62	9E9
48.499	415.164	4.449	1.070	9	80	52	9E9
49.499	492.240	5.888	1.195	9	94	60	9E9

INPUT FILE: C:\temp\CPT-3.CSV |---

" Depth " (feet)	Qc(avg) (TSF)	Fs(avg) (TSF)	Rf (%)	Rf Zone (zone #)	Spt N (blow/ft)	Spt N1 (blow/ft)	Su (TSF)
50.499	485.569	5.441	1.119	9	93	59	9E9
51.499	434.450	5.741	1.320	9	83	52	9E9
52.499	278.277	4.566	1.639	8	67	41	9E9
53.499	295.777	3.425	1.156	9	57	35	9E9
54.499	392.500	1.463	0.373	10	63	38	9E9
55.499	291.893	2.097	0.718	9	56	33	9E9
56.499	350.992	2.187	0.623	10	56	33	9E9
57.499	462.586	2.557	0.552	10	74	43	9E9
58.499	476.269	4.361	0.914	10	76	43	9E9
59.499	436.436	4.076	0.932	9	84	47	9E9
60.499	406.150	0.000	0.000	10	9E9	9E9	9E9

INPUT FILE: C:\temp\CPT-4.CSV

" Depth " (feet)	Qc(avg) (TSF)	Fs(avg) (TSF)	Rf (%)	Rf Zone (zone #)	Spt N (blow/ft)	Spt N1 (blow/ft)	Su (TSF)
0.500	50.355	1.120	2.223	6	19	29	9E9
1.500	44.191	1.506	3.408	5	21	32	2.940
2.500	40.127	1.411	3.514	5	19	29	2.666
3.500	41.618	1.289	3.095	5	20	30	2.762
4.500	44.409	0.715	1.610	7	14	21	9E9
5.500	89.908	0.706	0.785	8	22	33	9E9
6.500	196.027	1.334	0.680	9	38	57	9E9
7.500	247.209	1.313	0.531	9	47	71	9E9
8.500	212.691	1.035	0.487	9	41	62	9E9
9.500	154.442	0.481	0.311	9	30	45	9E9
10.500	122.525	0.433	0.354	9	23	35	9E9
11.500	108.558	0.448	0.413	9	21	31	9E9
12.500	108.525	0.519	0.478	9	21	30	9E9
13.500	102.855	0.655	0.637	8	25	34	9E9
14.500	85.982	0.684	0.795	8	21	28	9E9
15.500	57.391	0.636	1.109	7	18	23	9E9
16.500	57.709	0.558	0.968	7	18	22	9E9
17.500	37.745	0.503	1.333	7	12	14	9E9
18.500	33.736	0.561	1.663	6	13	15	9E9
19.500	30.458	1.110	3.647	5	15	17	1.948
20.500	35.564	1.443	4.063	4	23	25	2.282
21.500	53.945	2.166	4.020	5	26	28	3.504
22.500	74.355	2.216	2.981	6	28	29	9E9
23.500	205.209	2.043	0.995	9	39	40	9E9
24.500	218.883	1.977	0.903	9	42	42	9E9
25.500	250.233	1.618	0.647	9	48	47	9E9
26.500	284.909	1.665	0.585	10	45	43	9E9
27.500	310.773	1.936	0.623	10	50	46	9E9
28.500	330.027	2.235	0.677	10	53	48	9E9
29.500	307.583	1.773	0.576	10	49	43	9E9
30.500	360.367	1.658	0.460	10	58	50	9E9
31.500	370.433	1.431	0.386	10	59	50	9E9
32.500	338.200	1.204	0.356	10	54	45	9E9
33.500	198.692	1.292	0.650	9	38	31	9E9
34.500	148.492	1.241	0.836	9	28	22	9E9
35.500	201.217	1.123	0.558	9	39	31	9E9
36.500	186.625	0.579	0.310	9	36	28	9E9
37.500	102.517	0.888	0.867	8	25	19	9E9
38.500	182.808	0.713	0.390	9	35	26	9E9
39.500	259.609	1.025	0.395	10	41	30	9E9
40.500	218.300	1.259	0.577	9	42	30	9E9
41.499	390.158	2.233	0.572	10	62	44	9E9
42.499	431.108	3.878	0.899	9	83	58	9E9
43.499	404.917	4.375	1.080	9	78	54	9E9
44.499	423.282	4.384	1.035	9	81	55	9E9
45.499	403.831	4.508	1.115	9	77	52	9E9
46.499	477.662	4.486	0.939	9	92	61	9E9
47.499	496.400	5.737	1.155	9	95	62	9E9
48.499	475.229	5.912	1.243	9	91	58	9E9
49.499	460.779	2.501	0.542	10	74	47	9E9

INPUT FILE: C:\temp\CPT-4.CSV

" Depth " (feet)	Qc(avg) (TSF)	Fs(avg) (TSF)	Rf (%)	Rf Zone (zone #)	Spt N (blow/ft)	Spt N1 (blow/ft)	Su (TSF)
50.499	518.662	2.701	0.521	10	83	52	9E9
51.499	528.664	3.778	0.714	10	84	52	9E9
52.499	532.393	4.452	0.836	10	85	52	9E9
53.499	516.262	5.526	1.070	9	99	59	9E9
54.499	530.117	4.794	0.904	10	85	50	9E9
55.499	563.642	5.787	1.026	9	108	63	9E9
56.499	571.180	5.073	0.888	10	91	52	9E9
57.499	575.877	6.798	1.179	9	110	63	9E9
58.499	477.307	5.444	1.140	9	92	52	9E9
59.499	144.592	5.432	3.700	12	70	39	9E9
60.499	121.733	0.000	0.000	9	9E9	9E9	9E9

INPUT FILE: C:\temp\CPT-5.CSV

" Depth (feet)	Qc(avg) (TSF)	Fs(avg) (TSF)	Rf (%)	Rf Zone (zone #)	Spt N (blow/ft)	Spt N1 (blow/ft)	Su (TSF)
0.500	129.490	0.188	0.145	9	25	38	9E9
1.500	332.325	2.606	0.784	9	64	96	9E9
2.500	180.382	2.435	1.349	8	43	65	9E9
3.500	254.733	1.762	0.692	9	49	74	9E9
4.500	205.863	1.669	0.811	9	39	59	9E9
5.500	154.133	1.730	1.122	8	37	56	9E9
6.500	132.967	1.021	0.768	9	25	38	9E9
7.500	128.925	0.772	0.599	9	25	38	9E9
8.500	109.637	0.640	0.584	9	21	32	9E9
9.500	84.860	0.611	0.720	8	20	30	9E9
10.500	82.864	0.967	1.167	8	20	30	9E9
11.500	109.023	1.059	0.972	8	26	38	9E9
12.500	123.292	0.945	0.767	9	24	34	9E9
13.500	107.900	0.927	0.859	8	26	35	9E9
14.500	127.758	1.223	0.958	8	31	41	9E9
15.500	171.423	0.768	0.448	9	33	42	9E9
16.500	22.950	0.553	2.407	6	9	11	9E9
17.500	11.570	0.402	3.466	4	7	8	0.700
18.500	31.820	1.178	3.695	5	15	17	2.048
19.500	65.085	1.184	1.819	7	21	24	9E9
20.500	150.000	1.701	1.134	8	36	40	9E9
21.500	145.740	1.465	1.005	9	28	30	9E9
22.500	122.038	1.217	0.997	8	29	30	9E9
23.500	130.129	1.744	1.340	8	31	32	9E9
24.500	173.323	1.978	1.141	9	33	33	9E9
25.500	228.800	2.215	0.968	9	44	43	9E9
26.500	308.892	2.812	0.910	9	59	56	9E9
27.500	334.744	3.184	0.951	9	64	59	9E9
28.500	314.360	2.923	0.930	9	60	54	9E9
29.500	318.730	2.159	0.677	10	51	45	9E9
30.500	332.744	1.597	0.480	10	53	46	9E9
31.500	356.450	1.549	0.434	10	57	48	9E9
32.500	374.900	1.915	0.511	10	60	50	9E9
33.500	372.611	1.641	0.440	10	60	49	9E9
34.500	307.570	1.546	0.502	10	49	39	9E9
35.500	300.664	1.295	0.431	10	48	38	9E9
36.500	359.233	2.606	0.725	10	57	44	9E9
37.500	310.987	1.241	0.399	10	50	38	9E9
38.500	322.530	0.953	0.295	10	52	39	9E9
39.500	351.618	1.468	0.417	10	56	41	9E9
40.500	450.589	3.153	0.699	10	72	52	9E9
41.499	235.767	2.902	1.227	9	45	32	9E9
42.499	88.789	2.340	2.573	6	35	24	9E9
43.499	112.478	4.701	4.098	11	110	75	9E9
44.499	167.120	3.310	1.950	7	54	36	9E9
45.499	400.511	2.858	0.713	10	64	43	9E9
46.499	348.850	1.950	0.559	10	56	37	9E9
47.499	433.113	2.848	0.657	10	69	44	9E9
48.499	427.142	2.237	0.523	10	68	43	9E9
49.499	402.885	3.538	0.877	9	77	48	9E9

INPUT FILE: C:\temp\CPT-5.CSV

" Depth " (feet)	Qc(avg) (TSF)	Fs(avg) (TSF)	Rf (%)	Rf Zone (zone #)	Spt N (blow/ft)	Spt N1 (blow/ft)	Su (TSF)
50.499	476.733	2.157	0.452	10	76	47	9E9
51.499	487.033	2.423	0.497	10	78	48	9E9
52.499	547.100	3.815	0.696	10	87	52	9E9
53.499	562.446	5.711	1.014	9	108	64	9E9
54.499	537.062	3.502	0.652	10	86	50	9E9
55.499	571.485	2.736	0.479	10	91	53	9E9
56.499	584.258	2.781	0.476	10	93	53	9E9
57.499	610.633	2.803	0.459	10	98	55	9E9
58.499	546.000	5.282	0.966	10	87	48	9E9
59.499	557.314	5.183	0.928	10	89	49	9E9
60.499	553.200	0.000	0.000	10	9E9	9E9	9E9

4000 E. Olympic Plaza
Long Beach, CA

CPT-3

CPT Shear Wave Measurements

Depth (ft)	Travel Distance (ft)	S-Wave Arrival (msec)	S-Wave Velocity from Surface (ft/sec)	Interval S-Wave Velocity (ft/sec)
5.02	7.09	9.17	772.65	
10.09	11.26	15.35	733.61	675.68
15.05	15.86	24.87	637.67	482.97
20.03	20.64	31.48	655.80	724.02
25.01	25.50	37.34	683.05	829.40
30.00	30.41	43.47	699.65	800.80
35.26	35.61	49.95	712.97	802.30
40.10	40.41	55.43	729.04	875.51
45.10	45.38	61.27	740.60	850.31
50.07	50.32	66.40	757.82	963.49
55.01	55.24	70.76	780.62	1127.92
60.00	60.21	75.57	796.72	1033.52

Shear Wave Source Offset = 5 ft

S-Wave Velocity from Surface = Travel Distance/S-Wave Arrival
Interval S-Wave Velocity = (Travel Dist2-Travel Dist1)/(Time2-Time1)

CPTCP.TBL - CPTINT Correlation and Parameters Table File
-------------with NOTES & References at end-------------

Program: CPTINT - CPT Cone Interpretation Program
Version: 5.2
Table File by: Dr. R. G. (DICK) Campanella, P.Eng.
Rev. Dated: April 3, 2002

Parameter	Methods	Refer. Number	Valid Soil Type	Valid Zone
Depth average see NOTE #1	Depth averaged over specified range (see menu)		All	All
Parameter Averaging	Averaged over range specified for depth. If no values exist, your choice is zero's or no value		All	All
Qc, Tip Stress	measured tip force/area	#6,#8	All	All
Qt corrtd for U2 see NOTE #2	Qt = Qc + (1 - a) x U2 and a = tip area ratio Defaults to U2 if given or uses U1 or U3 times Const.	#6,#8	All	All
[Note: Input value from input file is used if defined, not calculated]				
Q (Qt Normalized)	$Q = \dfrac{Qt - sv}{sv'}$	#9 & 13	All	All
Fs	measured sleeve force/area	#6,#8	All	All
Rf Friction Ratio (if Rf>8, Rf=8)	$Rf = \dfrac{Fs}{Qt} \times 100\%$	#6,#8	All	All
F (Rf Normalized)	$F = \dfrac{Fs}{(Qt - sv)} \times 100\%$	#9 & 13	All	All
Gamma Total Unit Weight (Soil + Water) see NOTE #3	Based on Rf or Bq Classif. Zone Zone # — Gamma = kN/m^3 1 Qt<4bar 15.70 1 Qt=4bar 17.30 2 Rf<5% 13.36 2 Rf=5% 11.80 2 Bq Zone 12.58 3 Qt<10bar 18.86 3 Qt=10bar 19.65 4, 5 & 6 Qt<20bar 18.86 4, 5 & 6 Qt=20bar 19.65 7 18.86 8 & 9 19.65 10 20.44 11 & 12 21.22		All	All

Parameter	Methods	Refer. Number	Valid Soil Type	Valid Zone
U Penetration Pore Pressure see NOTE #4	U1,measured on Face of tip U2,measured Behind Tip at shoulder (std location) U3,measured Behind Friction Sleeve		All	All
Water Table	Depth below ground surface to where pore pressure = 0 Make negative if water level is above ground		All	All
Uo Hydrostatic Pore Pressure see NOTE #4	Uo = water depth,Hw x unit weight water, Gamma or Uo=Hw=depth-depth to water table if depth<water table,Uo = 0		All	All
dU Excess Pore Pressure	dU = U2 - Uo Defaults to U2 if given or uses U1 or U3 x const.		All	All
DPPR (Differential Pore Pressure Ratio)	$DPPR = \frac{dU}{Qt} = \frac{U - Uo}{Qt}$ Defaults to U2 if given or uses U1 or U3 x const.	#6,#8	All	All
Bq	$Bq = \frac{dU}{Qt - sv}$	# 4 # 8 # 13	All	All
OS (Overburden Stress)	OS = sv = S (Gamma x Depth)		All	All
EOS (Effective Overburden Stress)	EOS = sv' = OS - Uo = sv - Uo		All	All
Rf Zone Soil Behavior Type see NOTE #5	Classification chart for Qc and Rf Zone # = Soil Behavior Type 1=sensitive fine grained 2=organic material 3=clay 4=silty clay 5=clayey silt 6=sandy silt 7=silty sand 8=fine sand 9=sand 10=gravelly sand 11=very stiff fine grained ¥ 12=sand to clayey sand ¥ ¥ overconsolidated or cemented	#6 #8, Fig4.3	All	1<Qt<1000bar 0<Rf<8%

<table>
<tr><th>Parameter</th><th>Methods</th><th>Refer. Number</th><th>Valid Soil Type</th><th>Valid Zone</th></tr>
<tr><td>Bq Zone
Soil
Behavior Type</td><td>Classification chart for
Qc and Bq
(same zone #'s as Rf above)</td><td>#8
Fig 4.3</td><td>All</td><td>0<Qt<1000bar
-0.1<Bq<1.4</td></tr>
<tr><td>Spt N(60)
Standard
Penetration
Test
(Blows/foot)
at 60% Energy
After R&C(1983)
see NOTE #6</td><td>Qt/N ratio per zone<table>
<tr><th>Zone #</th><th>Qt/N</th><th>Zone #</th><th>Qt/N</th></tr>
<tr><td>1</td><td>2</td><td>7</td><td>3</td></tr>
<tr><td>2</td><td>1</td><td>8</td><td>4</td></tr>
<tr><td>3</td><td>1</td><td>9</td><td>5</td></tr>
<tr><td>4</td><td>1.5</td><td>10</td><td>6</td></tr>
<tr><td>5</td><td>2</td><td>11</td><td>1</td></tr>
<tr><td>6</td><td>2.5</td><td>12</td><td>2</td></tr>
</table></td><td># 7

8
Fig 4.2</td><td>All</td><td>All</td></tr>
<tr><td>Spt N1(60)
Normalized for
Overburden str</td><td>Spt N1(60) = Cn x Spt N(60)
where Cn = (sv')^(-0.77)</td><td># 8</td><td>All</td><td>0.5<Cn<1.5</td></tr>
<tr><td>Dr
Relative
Density

see NOTE #7

Compressibility

moderate
high

all</td><td>Specific Sands:
$$Dr = \frac{100}{C2} * \ln\left[\frac{Qc}{C0\; sv'^{C1}}\right]$$
where:
All are NC & UNAGED<table>
<tr><th>Sand</th><th>C0</th><th>C1</th><th>C2</th></tr>
<tr><td>Ticino</td><td>17.37</td><td>.558</td><td>2.58</td></tr>
<tr><td>Schmertmann</td><td>15.32</td><td>.520</td><td>2.75</td></tr>
</table>
ALL SANDS:
NC, OC, ALL TESTS
$$Dr = C3 + C4\log_{10}\left[\frac{\left[\frac{Qc}{C1}\right]}{\left[\frac{sv'+C2}{C0}\right]}\right]$$
where:<table>
<tr><th>C0</th><th>C1</th><th>C2</th><th>C3</th><th>C4</th></tr>
<tr><td>0.100</td><td>0.0981</td><td>0.5</td><td>-98</td><td>66</td></tr>
</table></td><td># 8

1
1

5</td><td>Sand

Sand</td><td>7 to 10
0<Qt<500bar
0<sv'<5bar

7 to 10
(6 possible)</td></tr>
<tr><td>Phi

Friction Angle</td><td>Methods:
1) Robertson & Campanella
2) Durgunoglu & Mitchell
3) Janbu beta = +15 degree
4) Janbu beta = 0 degree
5) Janbu beta = -15 degree</td><td>#6, #8
2
#6, #8
#6, #8
#6, #8</td><td>Sand</td><td>7 to 10 & 6
0<Qt<500bar
0<sv'<4bar
29<phi<49</td></tr>
</table>

Parameter	Methods	Refer. Number	Valid Soil Type	Valid Zone
Gmax Maximum Shear Modulus at very small strains	Clay: Gmax = alpha x Qt Sand: Digitized figure of Qc vs Gmax with interpolation between sv'curves, R&C method	# 8 Fig4.18 # 6 # 8 Fig4.13	Clay Sand	1 to 6 (6 possible) 7 to 10 .25<sv'<8bar
CSR(Qc), t/s LEVEL ground Liquefaction SAND Resistance see NOTE #8	Seed's CSR vs N1(60) graph for specified equake Magnitude. Can include silty sand corr. for Zone 7. N1(60) from CPT correlations.	# 11 # 12	Sand	7 to 10 (6 possible)
CSR(Eq), t/s Cyclic Stress Ratio applied by design quake	$CSR(Eq) = 0.65 \dfrac{Amax}{g} \dfrac{sv}{svo'} rd$ Amax=max surface acceleratn including Amplification	# 12 # 3	Sand	7 to 10 (6 possible)
[Note: Input value from input file is used if defined, & not calculated]				
rd Reduction Factor to find CSR(Eq)	Digitized graph to use for depth vs rd: 1) Seed's mean 2) Fraser Delta	# 12 # 3	Sand	(6 possible) 7 to 10 0<depth<30m
FL, Safety Factor against Liquefaction	FL = CSR(Qc)/CSR(Eq)	# 3	Sand	7 to 10 (6 possible)
Qcr Critical Bearng required to resist Liquefctn	Qcr backcalculated from CSR(Eq) for a specified FL. Qcr is only for the given GWT,EOS,OS,Amax/g & Eq.Mag	# 12	Sand	7 to 10 (6 possible)
Su, Undrained Shear Strength of CLAY METHODS:	Nk: $Su = \dfrac{Qc - st}{Nk}$	# 8	Clay	1 to 6
	Nke: $Su = \dfrac{Qt - U2}{Nke}$		Clay	1 to 6
	Nkt: $Su = \dfrac{Qt - sv}{Nkt}$		Clay	1 to 6
	Nc: $Su = \dfrac{Qt}{Nc}$		Clay	1 to 6
see NOTE #9	NdU: $Su = \dfrac{dU2\ (dU1\ or\ dU3)}{NdU}$		Clay	1 to 6

Parameter	Methods	Refer. Number	Valid Soil Type	Valid Zone
Su/EOS	$Su/EOS = \frac{Su}{sv'}$	# 8	Clay	1 to 6
Ko (NC) Normally Consolidated	$(Ko)NC = 1 - Sin(\ f\ )$ see NOTE #10	# 8	Sand	7 to 10 (6 possible)
Ko (OC) Over Consolidated	$(Ko)OC = (Ko)NC \times OCR^{0.42}$	# 8	Sand	7 to 10 (6 possible)
E25 Youngs Modulus	E25 = alpha x Qt where user input alpha	# 8 4.11&12	Sand	(6) 7 to 10 0<Qt<500bar
M Constrained Modulus	CLAY: M = alpha x Qt where user input alpha SAND: Methods: Qt: M = alpha x Qt Baldi: $\frac{M}{Qt} = C0 \times pa \left(\frac{sv'}{pa}\right)^{C1} \times OCR^{C2} \times \exp(\ C3\ Dr\ )$	# 8 Tabl4.3 # 8 Fig4.10	Clay Sand Sand	1 to 6 7 to 10 (6 possible) 7 to 10
OCR (Clay) Over- Consolidation Ratio see NOTE #11	$OCR = \left(\frac{\frac{Su}{svo'}}{\left(\frac{Su}{svo'}\right)_{NC}}\right)^{1.25}$	# 6 # 8 Fig4.19	Clay	1 to 6
Ic Material Index After J&D(1993) see NOTE #18	$Ic = \left[\left(3-\log_{10}(Q(1-Bq))\right)^{2} + \left(1.5+1.3\log_{10}F\right)^{2}\right]^{0.5}$	# 13 # 17	All	All
Spt N(60) Standard Penetration Test (Blows/foot) at 60% Energy After J&D(1993) see NOTE #16	$Qc/N = 8.5(1-(Ic/4.75))$ where Qc in bars	# 13	All	All

Parameter	Methods	Refer. Number	Valid Soil Type	Valid Zone
State Parameter State, (e-units) Current Void Void Ratio minus Critical Void Ratio	$$\text{State} = \frac{\ln\left[\dfrac{3M + 8.5M/F}{Q(1-Bq)}\right]}{11.9 - 1.33F}$$ $$M = \frac{6 \text{ Sin fcv}}{3 - \text{Sin fcv}}$$ fcv = const. vol. Phi angle	# 14	All	All
Fines Content FC(%) Percent less than #200 Sieve After Davies,99	FC(%) = 42.4179(Ic) - 54.8574 FC(%) = 0% if Ic < 1.2933 FC(%) = 100% if Ic > 3.6508	# 15	All	All
OCR (Clay) Overcons. Ratio by Pore Press. U1 & U2 or U1 & U3 see NOTE #17	OCR = 0.5 + 1.50(PPD) PPD = (U1 - U2)/Uo or PPD = (U1 - U3)/Uo and default 0.5 & 1.5 are settable	# 16	Clay	1 to 6

1. Depth averaging may be in 0.5, 1, 2.5 or 5 ft. intervals or 0.1, 0.25, 0.5 or 1.0 m intervals, or no depth averaging if zero is selected. The average is the mean value of the readings in the interval. The depth value is the mid-depth of the averaged interval. It is convenient to start at half the depth averaging interval. For example, if you want "even" depths and the depth averaging is set at 0.50 m then start at 0.25 to get values of depth of 0.5, 1.0, 1.5, etc.

2. Basic input CPTU data columns are for Depth, Qc, Fs, U1, U2, U3, INC and TEMP may be selected. In addition the following parameters may also be specified as an INPUT data column: Qt, Gamma, Uo, Spt N, Rf Zone, Bq Zone and CSR(EQ). These values will be used where required to obtain other interpreted parameters. If they are not specified the program will estimate them when they are required. For example, you can create an OUTPUT data file of any of the above parameters and then edit some or all of the values to suite your measurements or your desires to specify their values. You can do that with "Gamma" values to input your measurements of unit weight, or with "Uo" if you want to input values of pore water pressure other than hydrostatic, or with any of the other input parameters. You would use your edited file of adjusted data as your new INPUT data file. Thus, you can specify these parameters if you want to override the Program's values.

You can also use the designated value of "9E9" to denote an unknown value.

You can use the "OTHER" designation to input other data that exists on your input file and identify its units. This allows you to output it, without operating on it, if you choose.

It is best NOT to use depth averaging when using input data that is not continuous at regular depth intervals. Always use DEPTH AVERAGING with extreme caution since the program averages ALL INPUT parameters over the interval chosen irregardless of soil type. Careful use of start and end depth choises can make depth averaging very effective.

3. Since there is no data in the file within the initial depth interval, a default Gamma (unit weight) must be specified from the surface to the starting depth. This is done in the "Param" Menu in units of kN/m^3 (1kN/m^3=6.36pcf). Also, you can specify the values of Gamma to be used by the program as in NOTE #2 above.

4. If pore pressures are not measured by the cone then the program will take Qc as being equal to Qt for all interpretations requiring Qt. Also, Uo may be specified in the input file as a column of Uo vs depth values, if the water pressures are not hydrostatic. See NOTE #2 for more info on customizing input data.

5. You can choose to use either the Rf classif. Zone or the Bq classif. Zone to divide soil into Undrained Parameters (Zones 1 to 6) and Drained Parameters (Zones 7 to 10) in the "Param" Menu. (However, in order to use the Bq Zone you must have Pore Pressure, U2, data.) Also, you may choose to switch Zone 6 to a Drained Zone from its Undrained Zone status. This is done if you feel that the soil identified as Zone 6 (sandy silt) is really coaser (using other sources of information) and/or you want it analyzed as a Drained rather than Undrained soil. Finally, the soil behavior names in each zone were shortened in version 5.0 for simplicity. For example, Zone 6 was named "sandy silt to clayey silt" but was shortened to "sandy silt".

6. Spt N is the same as Spt N(60) for 60% transferred energy. This value is calculated from the Qt/N ratios given for each Soil Zone (you can specify either Rf or Bq Zone) and these values are used in the Level Ground Liquefaction analysis. Values of Spt N may be specified in the Input File, if indepedently measured values are to be used. We suggest that you not use depth averaging if you only have selected Spt N values at a few depths. You may use "9E9" for missing data.

7. If Dr values are negative then soil is very loose or likely more of an undrained soil like a silty sand rather than a drained soil for which the Dr correlations were developed. Use Dr interpretations very cautiously since they also assume the soil is free draining, uncemented, unaged and has the same compressibility of grains as the soil used for the correlations in chamber calibration tests.

8. The simplified sand liquefaction analysis for level ground according to Seed et al requires Spt N1(60) and earthquake magnitude to obtain the cyclic stress ratio to cause liquefaction, CSR(Qc). The design maximum ground acceleration, the depth-reduction factor, Rd, and overburden total and effective stresses are required to calculate the cyclic stress ratio applied by the design earthquake, CSR(EQ). The program estimates the N1(60) values from the cone stresses, the operator identifies the earthquake magnitude and Seed et al chart is used to get CSR(Qc). The program also calculates CSR(EQ) from the user specified maximum ground acceleration including any amplification factors, the calculated overburden stresses and either Seed's mean or the Fraser Delta Rd factor. The Fraser Delta is used only when amplification factors of the order of 2 or more are used. See Reference Nos. 3, 6, 11 and 12 for more information. The user can INPUT specific values for Spt N, CSR(EQ), Soil Zones, Gamma's, etc. in order to customize the analysis for the existing data base of information. It is recommended that you do not use depth averaging when using specific input data but make calculations at specific depths where external input data exists. The calculated value of Qcr is the minimum value of cone bearing stress required at a given depth such that the factor of safety against liquefaction, or the ratio FL = CSR(Qc)/CSR(EQ) have the specified value for a given earthquake magnitude, max. ground acceleration, depth reduction factor, and calculated overburden stresses. This value of Qcr is useful to identify the required minimum level of soil improvement for a given design condition.

9. The NdU method to calculate undrained shear strength has been extended to allow the user to choose either dU1, or dU2 or dU3 provided such pore pressure measurements exist.

10. The Overconsolidation Ratio, OCR, for the sand must be estimated by the user in the "Param" menu if you want to estimate Ko in the sand layers. For the typical normally consolidated sand, OCR = 1.0.

11. It is currently only possible to estimate the OCR for a clay, which makes use of the correlations obtained from extensive laboratory tests.

12. An improved calculation and print routine was added to version 5.0 which uses swap routines to reduce memory requirements, but slows down the calculations.

13. The classification charts for Rf has been extended at all boundaries such that values of Rf>8 and values of Qc<1.00 are possible. The Bq classification chart which requires dU2 and can now accept values of Bq>1.2 and Qt<1. Unfortunately, this feature does not work.

14. Version 5.1ppd added several enhancements to the program. You may input an average vertical flow gradient, which is applied over the entire profile depth to be analysed so adjust the depth of interest accordingly. Zero gives hydrostatic and no flow, a negative gradient is upward flow which increases pore pressure and reduces vertical effective stress. A positive gradient gives downward flow.

15. A State Parameter or current void ratio minus critical void ratio is calculated according to the paper by Ref. 14, Plewes, Davies and Jefferies, 1994.

16. An alternate method to estimate SPT from CPT is provided according to Ref. 13, Jefferies and Davies, 1993 in ASTM.

17. An alternate method to estimate OCR in clays is provided which uses the measured pore pressure difference, ppd, so both U1 and U2 or U1 and U3 must be measured at the same time. (see Ref. 16)

18. Version 5.2 added the value Ic (Material Index) according to Jefferies & Davies, 1993, 1991 (Ref. 13 & 17) which combines all Normalized parameters Q, F and Bq.
(Note: QtN was changed to Q and RfN to F.)

18A. In Version 5.2, if at any depth the value of Bq>1 (in very sensitive saturated soil)then Bq is made equal to 0.99. Also, if Rf>8 it is made 7.99. These changes have a negligable effect on the results.

19. FC(%) or percent of dry weight less than #200 sieve (.074mm) was also added according to Davies, 1999 Ref.#15)

REFERENCES:

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APPENDIX C

CORROSION STUDY

SCHIFF ASSOCIATES
FIFTY YEARS OF PROFESSIONALISM

www.schiffassociates.com
Consulting Corrosion Engineers – Since 1959

March 24, 2009

via email: mtsai@mactec.com

Reviewed and acceptable for use
NAME: [signature] DATE: 4/14/2009
MACTEC Engineering and Consulting, Inc.

MACTEC
5628 East Slanson Avenue
Los Angeles, CA 90040

Attention: Mr. Meng-Kang Tsai, P.E.

Re: Soil Corrosivity Study
Long Beach Belmont Plaza
Long Beach, CA
SA #09-0201SCS, M #4953-09-0301

INTRODUCTION

Laboratory tests have been completed on two soil samples provided for the referenced project. The purpose of these tests was to determine if the soils might have deleterious effects on underground utility piping and concrete structures. Schiff Associates assumes that the samples provided are representative of the most corrosive soils at the site.

The proposed construction is a swimming pool and building. The site is located at 4000 Olympic Plaza in Long Beach, CA and the water table is reportedly six feet deep.

The scope of this study is limited to a determination of soil corrosivity and general corrosion control recommendations for materials likely to be used for construction. Our recommendations do not constitute, and are not meant as a substitute for, design documents for the purpose of construction. If the architects and/or engineers desire more specific information, designs, specifications, or review of design, Schiff Associates will be happy to work with them as a separate phase of this project.

LABORATORY SOIL CORROSIVITY TESTS

The electrical resistivity of each sample was measured in a soil box per ASTM G187 in its as-received condition and again after saturation with distilled water. Resistivities are at about their lowest value when the soil is saturated. The pH of the saturated samples was measured per CTM 643. A 5:1 water:soil extract from each sample was chemically analyzed for the major soluble salts commonly found in soil per ASTM D4327 and D513. Test results are shown in Table 1.

SOIL CORROSIVITY

A major factor in determining soil corrosivity is electrical resistivity. The electrical resistivity of a soil is a measure of its resistance to the flow of electrical current. Corrosion of buried metal is an electrochemical process in which the amount of metal loss due to corrosion is directly proportional to the flow of electrical current (DC) from the metal into the soil. Corrosion currents, following Ohm's Law, are inversely proportional to soil resistivity. Lower electrical resistivities result from higher moisture and soluble salt contents and indicate corrosive soil.

A correlation between electrical resistivity and corrosivity toward ferrous metals is:[1]

Soil Resistivity in ohm-centimeters	Corrosivity Category
Greater than 10,000	Mildly Corrosive
2,000 to 10,000	Moderately Corrosive
1,000 to 2,000	Corrosive
0 to 1,000	Severely Corrosive

Other soil characteristics that may influence corrosivity towards metals are pH, soluble salt content, soil types, aeration, anaerobic conditions, and site drainage.

Electrical resistivities were in the corrosive and severely corrosive categories with as-received moisture. When saturated, the resistivities remained in the corrosive to severely corrosive categories. Both as-received resistivities were at their saturated values.

Soil pH values varied from 7.9 to 8.3. Both pH values are moderately alkaline.[2] These values do not particularly increase soil corrosivity.

The soluble salt content of the samples ranged from low to moderate.

Nitrate was detected in low concentrations.

Tests were not made for sulfide and negative oxidation-reduction (redox) potential because these samples did not exhibit characteristics typically associated with anaerobic conditions.

This soil is classified as severely corrosive to ferrous metals.

CORROSION CONTROL RECOMMENDATIONS

The life of buried materials depends on thickness, strength, loads, construction details, soil moisture, etc., in addition to soil corrosivity, and is, therefore, difficult to predict. Of more practical value are corrosion control methods that will increase the life of materials that would be subject to significant corrosion.

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[1] *Romanoff, Melvin. Underground Corrosion, NBS Circular 579. Reprinted by NACE. Houston, TX, 1989, pp. 166–167.*

[2] *Romanoff, Melvin. Underground Corrosion, NBS Circular 579. Reprinted by NACE. Houston, TX, 1989, p. 8.*

The following recommendations are based on the soil conditions discussed in the Soil Corrosivity section above. Unless otherwise indicated, these recommendations apply to the entire site or alignment.

Steel Pipe

Implement *all* the following measures:

1. Underground steel pipe with rubber gasketed, mechanical, grooved end, or other nonconductive type joints should be bonded for electrical continuity. Electrical continuity is necessary for corrosion monitoring and cathodic protection.
2. Install corrosion monitoring test stations to facilitate corrosion monitoring and the application of cathodic protection:
    a. At each end of the pipeline.
    b. At each end of all casings.
    c. Other locations as necessary so the interval between test stations does not exceed 1,200 feet.
3. To prevent dissimilar metal corrosion cells and to facilitate the application of cathodic protection, electrically isolate each buried steel pipeline per NACE Standard SP0286 from:
    a. Dissimilar metals.
    b. Dissimilarly coated piping (cement-mortar vs. dielectric).
    c. Above ground steel pipe.
    d. All existing piping.
4. Choose one of the following corrosion control options:

    OPTION 1

    a. Apply a suitable dielectric coating intended for underground use such as:
        i. Polyurethane per AWWA C222 *or*
        ii. Extruded polyethylene per AWWA C215 *or*
        iii. A tape coating system per AWWA C214 *or*
        iv. Hot applied coal tar enamel per AWWA C203 *or*
        v. Fusion bonded epoxy per AWWA C213.

    b. Apply cathodic protection to steel piping as per NACE Standard SP0169.

    OPTION 2

    a. As an alternative to dielectric coating and cathodic protection, apply a ¾-inch cement mortar coating per AWWA C205 or encase in concrete 3 inches thick, using any type of cement. Joint bonds, test stations, and insulated joints are still required for these alternatives.

NOTE: Some steel piping systems, such as for oil, gas, and high-pressure piping systems, have special corrosion and cathodic protection requirements that must be evaluated for each specific application.

Iron Pipe

Implement *all* the following measures:

1. Electrically insulate underground iron pipe from dissimilar metals and from above ground iron pipe with insulating joints per NACE Standard SP0286.
2. Bond all nonconductive type joints for electrical continuity. Electrical continuity is necessary for corrosion monitoring and cathodic protection.
3. Install corrosion monitoring test stations to facilitate corrosion monitoring and the application of cathodic protection:
    a. At each end of the pipeline.
    b. At each end of any casings.
    c. Other locations as necessary so the interval between test stations does not exceed 1,200 feet.
4. Choose one of the following corrosion control options:

    OPTION 1

    a. Apply a suitable coating intended for underground use such as:
        i. Polyethylene encasement per AWWA C105; *or*
        ii. Epoxy coating; *or*
        iii. Polyurethane; *or*
        iv. Wax tape.

        NOTE: The thin factory-applied asphaltic coating applied to ductile iron pipe for transportation and aesthetic purposes does not constitute a corrosion control coating.

    b. Apply cathodic protection to cast and ductile iron piping as per NACE Standard SP0169.

    OPTION 2

    a. As an alternative to dielectric coating and cathodic protection, concrete encase all buried portions of metallic piping so that there is a minimum of 3 inches of concrete cover provided over and around surfaces of pipe, fittings, and valves using any type of cement.

Copper Tubing

Implement *all* the following measures:

1. Place cold water copper tubing in an 8-mil polyethylene sleeve or encase in double 4-mil thick polyethylene sleeves and bed and backfill with clean sand at least 2 inches thick surrounding the tubing. Clean sand should have a minimum resistivity of no less than 3000 ohm-cm, and a pH of 6.0–8.0. Copper tubing for cold water can also be treated the same as for hot water.
2. Hot water tubing may be subject to a higher corrosion rate. Protect hot copper tubing by one of the following measures:
   a. Preventing soil contact. Soil contact may be prevented by placing the tubing above ground or encasing the tubing with PVC pipe with solvent-welded joints. *or*
   b. Applying cathodic protection per NACE Standard SP0169. The amount of cathodic protection current needed can be minimized by coating the tubing.

Plastic and Vitrified Clay Pipe

1. No special precautions are required for plastic and vitrified clay piping placed underground from a corrosion viewpoint.
2. Protect all metallic fittings and valves with wax tape per AWWA C217 or epoxy.

All Pipe

1. On all pipes, appurtenances, and fittings not protected by cathodic protection, coat bare metal such as valves, bolts, flange joints, joint harnesses, and flexible couplings with wax tape per AWWA C217 after assembly.
2. Where metallic pipelines penetrate concrete structures such as building floors, vault walls, and thrust blocks use plastic sleeves, rubber seals, or other dielectric material to prevent pipe contact with the concrete and reinforcing steel.

Concrete

1. From a corrosion standpoint, any type of cement may be used for concrete structures and pipe because the sulfate concentration is negligible, 0 to 0.1 percent.[3,4,5,6]
2. Standard concrete cover over reinforcing steel may be used for concrete structures and pipe in contact with these soils due to the low chloride concentration[7] found onsite.

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[3] *1997 Uniform Building Code (UBC) Table 19-A-4*

[4] *2006 International Building Code (IBC) which refers to American Concrete Institute (ACI-318) Table 4.3.1*

[5] *2006 International Residential Code (IRC) which refers to American Concrete Institute (ACI-318) Table 4.3.1*

[6] *2007 California Building Code (CBC) which refers to American Concrete Institute (ACI-318) Table 4.3.1*

[7] *Design Manual 303: Concrete Cylinder Pipe. Ameron. p.65*

3. Due to the high ground water table encountered at this site, cyclical or continual wetting may be an issue. Any contact between concrete structures and ground water should be prevented. Contact can be prevented with an impermeable waterproofing system.

<u>Pre-cast Concrete Piles</u>

1. It is assumed that prestressed concrete piles will contain about 8 sacks of type V cement per cubic yard of concrete, a water/cement ratio not exceeding 0.45, and 2 inches of concrete cover. No further corrosion control measures are required for such piles.

2. If ground water is present, solid steel lifting lugs are recommended to prevent ground water from wicking into the pile interior. If wire rope lifting lugs are used, they should be carefully drilled out 1.5 inches deep and the hole filled with epoxy.

<u>Steel Reinforced Cast in Place Concrete Piles</u>

1. Protect steel reinforced cast-in-place and cast-in-drilled-hole concrete piles the same way as concrete structures mentioned under the concrete structures section in this report.

CLOSURE

Our services have been performed with the usual thoroughness and competence of the engineering profession. No other warranty or representation, either expressed or implied, is included or intended.

Please call if you have any questions.

Respectfully Submitted,
SCHIFF ASSOCIATES

Ronald Z. Hodgman

REGISTERED PROFESSIONAL ENGINEER
RONALD Z. HODGMAN
CR 1138
EXP 3/31/09
CORROSION
STATE OF CALIFORNIA

Leobardo Solis

Enc: Table 1

09-0201SCS RPT RZH

SCHIFF ASSOCIATES
FIFTY YEARS OF PROFESSIONALISM
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Table 1 - Laboratory Tests on Soil Samples

MACTEC
Long Beach Belmont Plaza
Your #4953-09-0301, SA #09-0201SCS
13-Mar-09

Sample ID			B-1 @ 15' CL	B-2 @ 10' SP
Resistivity		**Units**		
as-received		ohm-cm	640	1,880
saturated		ohm-cm	640	1,800
pH			8.3	7.9
Electrical Conductivity		mS/cm	0.21	0.15
Chemical Analyses				
Cations				
calcium	Ca^{2+}	mg/kg	27	41
magnesium	Mg^{2+}	mg/kg	14	8.3
sodium	Na^{1+}	mg/kg	250	96
potassium	K^{1+}	mg/kg	12	31
Anions				
carbonate	CO_3^{2-}	mg/kg	ND	ND
bicarbonate	HCO_3^{1-}	mg/kg	290	113
flouride	F^{1-}	mg/kg	23	1.5
chloride	Cl^{1-}	mg/kg	47	43
sulfate	SO_4^{2-}	mg/kg	65	157
phosphate	PO_4^{3-}	mg/kg	57	2.2
Other Tests				
ammonium	NH_4^{1+}	mg/kg	ND	ND
nitrate	NO_3^{1-}	mg/kg	1.1	ND
sulfide	S^{2-}	qual	na	na
Redox		mV	na	na

Electrical conductivity in millisiemens/cm and chemical analysis were made on a 1:5 soil-to-water extract.
mg/kg = milligrams per kilogram (parts per million) of dry soil.
Redox = oxidation-reduction potential in millivolts
ND = not detected
na = not analyzed

431 West Baseline Road · Claremont, CA 91711
Phone: 909.626.0967 · Fax: 909.626.3316

APPENDIX D

PRIOR REPORT OF GEOTECHNICAL INVESTIGATION

REPORT OF FOUNDATION INVESTIGATION
PROPOSED BELMONT PLAZA BEACH CENTER
ALLIN STREET AND TERMINO AVENUE
LONG BEACH, CALIFORNIA
FOR THE
CITY OF LONG BEACH
(OUR JOB NO. A-66102)

February 13, 1967

Heusel, Homolka & Associates
730 East Third Street
Long Beach, California 90812

(Our Job No. A-66102)

Gentlemen:

Support of Swimming Pool Walls and Diving Towers
Proposed Belmont Plaza Beach Center
Allin Street and Termino Avenue
Long Beach, California
for the City of Long Beach

As requested by Mr. Wendell Wilson of Bole and Wilson, we have reviewed the Natatorium Foundation and Ground Level Framing Plan, Sheet S5, dated January 23, 1967, for the subject Beach Center. We investigated the soil conditions beneath the site of the Beach Center and submitted our report of foundation investigation on August 15, 1966. We were asked to review the Foundation Plan and confirm the feasibility of supporting the pool and diving towers on spread foundations. Sheets S6 and S17, dated January 23, were also furnished us.

A review of the Foundation Plan indicates the excavation for the pool will extend as low as Elevation -3.71 at the deepest point. The foundation for the 10- and 6.5-meter diving tower will extend to Elevation -2.69, just below the bottom of the adjacent pool floor. Two adjacent 3-meter diving towers will be supported on spread foundations at Elevation +16, approximately two feet below the pool deck. Based on information furnished by Mr. Wilson and indicated on the Foundation Plan in red pencil, the footings supporting the pool walls will impose pressures up to 1,550 pounds per square foot. Pressures imposed by the spread footing supporting the 10- and 6.5-meter tower will be 1,040 pounds per square foot. The pressure imposed by the 3-meter tower footings will be 670 pounds per square foot.

Excavation for the pool at its deepest point and excavation for the 10- and 6.5-meter tower foundation will extend through the surface sand overlying the site and into silt and clay soils. The footings supporting the walls of the pool will be supported on sand and on the underlying silt and clay where the deeper excavation is required.

The soils at the planned excavated level are moderately firm and will provide adequate support for the pool and diving towers as planned. The soils at the excavated level are capable of supporting pressures up to 2,000 pounds per square foot. We estimate that the settlement of the pool walls and the major 10- and 6.5-meter diving tower will be on the order of one-fourth inch or less. The settlement of the 3-meter towers will be on the same order of magnitude. Significant differential settlements are not anticipated. The effect of surcharge loading from the 3-meter towers should be considered in the design of the adjacent pool walls. Also, it should be noted that proper compaction of backfill will be necessary to provide adequate support for the shallow footings of the 3-meter towers.

Yours very truly,

LeROY CRANDALL AND ASSOCIATES

by LeRoy Crandall
LeRoy Crandall

JK-SC/cr
(4 copies submitted)

cc: (2) Bole and Wilson

November 9, 1966

Heusel, Homolka & Associates
730 East Third Street
Long Beach, California 90812

(Our Job No. A-66102)

Gentlemen:

Compacted Fill Material
Proposed Belmont Plaza Beach Center
Allin Street and Termino Avenue
Long Beach, California
for the City of Long Beach

This letter confirms our discussions with Mr. Wendell Wilson of Bole and Wilson, regarding the compacted fill material required at the site of the subject Belmont Plaza Beach Center. We investigated the soil conditions beneath the site of the Center and submitted our report of foundation investigation on August 15, 1966. Based on the planned floor grades and existing topography, compacted fill ranging from four to nine feet in thickness will be required within the building areas.

We understand that the soils to be excavated from the Fidelity Federal Savings & Loan Association site at Ocean Boulevard and Atlantic Avenue may become available for use at the Belmont Center site. Based on our investigation of the Fidelity Federal site (our Job No. A-66266), the soils beneath the site consist of alternating layers of silty sand, clay, silt, and sand to the planned depth of excavation.

We believe that the soils from the Fidelity Federal site will be suitable for use beneath the Belmont Center site. The clay soils would be somewhat expansive, however, and we suggest that the clay materials be used in the lower portions of the required fills to the extent possible. Although laboratory compaction tests were not performed, we estimate that the shrinkage of the excavated soils when compacted would be less than 15%. That is, it should require no more than 1.15 yards of excavated soil to make 1 yard of compacted fill.

Yours very truly,

LeROY CRANDALL AND ASSOCIATES

by LeRoy Crandall
LeRoy Crandall

LC-JK:lb
(3 copies submitted)
cc: (1) Bole and Wilson

August 15, 1966

City of Long Beach
Long Beach, California 90802

P.O. No. 4949
(Our Job No. A-66102)

Attention: Mr. Jess D. Gilkerson
City Engineer

Gentlemen:

Our "Report of Foundation Investigation, Proposed Belmont Plaza Beach Center, Allin Street and Termino Avenue, Long Beach, California, for the City of Long Beach" is herewith submitted.

The scope of the investigation was planned in collaboration with Mr. Jess D. Gilkerson, City Engineer, and with Heusel, Homolka & Associates, Architects. We were advised of the structural features of the proposed buildings by Bole and Wilson, Structural Engineers.

The natural soils beneath the site are sufficiently firm for the support of light structures, such as the maintenance building, on conventional spread footings. However, the main buildings in the Center, which will impose heavy loads, should be supported on friction piling to minimize potential settlements. The shallow water level and caving nature of the soils would prevent the use of drilled cast-in-place piling, so that driven piling will be the most feasible foundation type. Recommendations for foundation and basement wall design and for floor slab support are presented in the report.

Respectfully submitted,

LeROY CRANDALL AND ASSOCIATES

by LeRoy Crandall
LeRoy Crandall

LC-SC/cr
(4 copies submitted)

cc: (2) Heusel, Homolka & Associates
(1) Bole and Wilson

REPORT OF FOUNDATION INVESTIGATION

PROPOSED BELMONT PLAZA BEACH CENTER

ALLIN STREET AND TERMINO AVENUE

LONG BEACH, CALIFORNIA

FOR THE

CITY OF LONG BEACH

SCOPE

This report presents the results of a foundation investigation of the site of the subject development. The locations of the proposed buildings and our exploration borings are shown on Plate 1, Plot Plan.

The investigation was authorized to determine the characteristics of the soils at the site and to provide recommendations for foundation design. The results of the field explorations and laboratory tests, which form the basis of our recommendations, are presented in the attached Appendix.

STRUCTURAL CONSIDERATIONS

The proposed buildings comprising the Center are shown in plan on Plate 1. The pool building will have 50-foot-high walls; there will be a one-story locker building to the east of the pool building, and a two-story community building with a partial basement to the west. The buildings will be of reinforced concrete construction. Column loads will be approximately 200 kips in the pool building, 100 kips in the community building, and 70 kips in the locker building. Wall loads will be on the order of 3,000 pounds per lineal foot. The maintenance building will be one story high and also of reinforced concrete construction. Foundation loads in this building will be light.

The planned floor elevations are shown on Plate 1. Based on the planned floor grades and existing topography, compacted fill some four to nine feet in thickness will be required within the building areas. Excavation approximately three feet deep will be required for the partial basement, with somewhat deeper excavation required for the proposed pool.

SITE CONDITIONS

The site is located on the beach, and is clear of existing structures. Elevations of the existing grade at selected locations are shown on Plate 1.

As disclosed by the exploration borings, the natural soils beneath the site consist of sand to a depth of approximately ten feet. Below this upper sand, the soils consist of silt, silty sand, and clay to depths of 19 to 27 feet, below which the soils consist primarily of sand. The sand deposits are generally moderately firm to firm; the cohesive soils are moderately firm.

Based on measurements made in the borings, the water level is at approximately Elevation +4. Some variations in the water level may occur with the normal fluctuation of the tide.

RECOMMENDATIONS

FOUNDATIONS

General

The upper soils are only moderately firm and are not adequate for support of the heavy buildings on spread footings. To assure adequate support of the proposed buildings, we recommend the use of driven friction piling. The installation of drilled cast-in-place piling is not feasible due to the shallow water level and caving nature of the soils. The proposed maintenance building, which will impose lighter loads, may be supported on conventional spread footings. If the upper natural soils are reworked and the planned fill is properly compacted, such footings may be established in either the undisturbed natural soils or properly compacted fill.

Driven Piling

The downward and upward capacities of several types of driven piles are presented on Plate 2, Driven Pile Capacities. Dead plus live load capacities are shown; a one-third increase may be used when considering wind or seismic loads. If required fill is compacted as recommended, the fill may be assumed to offer support to the piles equal to that of the natural soils. Where piles are located immediately adjacent to the partial basement or swimming pool, the supporting capacity should be neglected for that portion of the piles located above a plane drawn upward through the bottom edge of the basement or pool at an angle of 45 degrees with the horizontal.

Piles in groups should be spaced at least 2½ diameters on centers, but in no event less than three feet on centers. If the piles are so spaced, there will be no reduction in the downward capacity of the piles due to group action. The maximum ultimate settlement of the proposed buildings, supported on driven piling as recommended, will be less than one-fourth inch.

Because of the dense nature of the sand, firm driving should be anticipated. Pile lengths which would be indicated by use of a dynamic formula should not be substituted for the predetermined values shown on Plate 2. Pile driving should commence near an exploration boring so that driving criteria can be established. If jetting is required, only pilot jetting should be permitted; side jetting could seriously affect the lateral capacities of the piles and should not be used. We recommend that the pile driving and any required jetting be done under the supervision of personnel of our firm, to assure that the desired capacities are developed.

The driven piles may be used to resist lateral loads. Compacted fill soils or natural soils adjacent to a concrete pile having a butt diameter of 16 inches can safely resist horizontal thrusts up to 14,000 pounds. The lateral value of a wood pile with a 12 inch butt diameter would be 7,000 pounds. The lateral resistance of other sizes of piles would be proportional to the diameter. The maximum bending moment in a pile due to a horizontal load imposed at the top of the pile may be computed by multiplying the load by an assumed moment arm of five feet. For design, it may be assumed that the maximum bending moment occurs at or near the top of the pile and that the bending moment decreases to zero at a depth of ten feet below the pile cap. The lateral capacity and reduction in the bending moment are based on the assumption that necessary backfill adjacent to pile caps and grade beams will be properly compacted.

Lateral loads may also be resisted by friction between the floor slab and the subgrade and by the passive resistance of the soils. A coefficient of friction of 0.5 may be used between the floor slabs and the supporting soils. The passive resistance of the natural soils or properly compacted backfill against pile caps and grade beams may be assumed to be equal to the pressure developed by a fluid with a density of 300 pounds per cubic foot. If the imposed lateral loads can be resisted by the piles, by friction, and/or by the passive resistance of the soils, tie-beams will not be necessary between pile foundations for seismic stability.

Spread Footings

The proposed maintenance building may be supported on conventional spread footings established in the natural soils. If the upper natural soils are reworked and required fill is compacted as recommended in a following section on grading, footings may be established in either the compacted fill or the natural soils. If footings are to be established in the fill, the reworking of the upper natural soils and the compaction of all required fill should be controlled and certified by a competent soils engineer.

Conventional spread footings carried into undisturbed natural soils or established on properly compacted fill may be designed to impose a dead plus live load pressure of 2,000 pounds per square foot at a depth of two feet below the adjacent finished grade or floor level, whichever is lower. A one-third increase in the bearing value may be used when considering wind or seismic loads. The bearing value of the fill will depend on the materials used; however, if acceptable soils are used and are compacted as recommended, the quoted bearing value will be obtained. The maximum ultimate settlement of the proposed maintenance building, supported on spread footings in the manner recommended, will be on the order of one-fourth inch.

The soils are relatively cohesionless, and it will be necessary to form footings extending into sand. The supporting sand should be wet down prior to placing concrete. However, footing backfill and utility trench backfill should be mechanically compacted to assure adequate floor slab support.

For resisting lateral loads, a coefficient of friction of 0.5 may be used between footings or the floor slabs and the supporting soils. The passive resistance of the natural soils or properly compacted fill may be assumed to be equal to the pressure developed by a fluid with a density of 300 pounds per cubic foot.

WALLS BELOW GRADE

No difficulties are anticipated in excavating for the partial basement as planned; however, the soils will not stand vertically without shoring.

We recommend that the walls of an unshored excavation be sloped back to at least 1:1.

Building walls below grade should be designed to resist the lateral pressure developed by a fluid with a density of 30 pounds per cubic foot. Required backfill against the walls should be mechanically compacted to at least 90% of the maximum density obtainable by the ASTM Designation D1557-64T method of compaction modified to use three layers. Flooding of the backfill should not be permitted. If the backfill is compacted as recommended, hydrostatic pressures are not expected to develop against basement walls, and waterproofing will not be required. Damp-proofing of the basement walls should be satisfactory.

GRADING

To provide improved support for floor slabs and adequate support for the maintenance building footings established in fill, the upper natural soils should be reworked and all required fill must be properly compacted. If footings are to be established in the fill, the reworking of the natural soils and the compaction of all fill must be controlled and certified by a competent soils engineer. Any imported fill materials should be approved by the soils engineer.

No significant difficulties due to soil conditions are anticipated in grading the site as planned. However, the sand is relatively cohesionless, and it may be difficult to operate construction vehicles on the sand. Also, the compacted fill and the natural soils can be readily eroded, so that surface drainage should be carefully controlled.

Prior to placing any fill, the exposed natural soils should be scarified to a depth of six inches, brought to optimum moisture content, and rolled with heavy compaction equipment. At least six passes of a heavy pneumatic-tired roller or vibratory roller are recommended to compact the upper soils. The upper six inches of natural soils should be compacted to at least 90% of the maximum density obtainable by the ASTM Designation D1557-64T method of compaction modified to use three layers. Required fill should be placed in loose lifts not more than eight inches in thickness, brought to optimum moisture content, and compacted to at least 90%.

The on-site soils, if available, may be used in required fills. Since the soils consist primarily of clean sand, it will be difficult to operate construction equipment and to maintain a uniform subgrade on the sand. Keeping the clean sands moist to wet will minimize the difficulties. All required imported material should consist of non-expansive and predominantly granular soils such as a silty sand.

FLOOR SLAB SUPPORT

If the subgrade is prepared as recommended, adequate support should be provided for the building floor slabs. If a capillary break is desired beneath the floor slabs, the slabs may be supported on a four-inch-thick layer of gravel or an impermeable membrane. A suggested gradation for this gravel layer would be as follows:

Sieve Size	Percent Passing
3/4"	90 - 100
No. 4	0 - 10
No. 100	0 - 3

If a membrane is used instead of the gravel, it should be covered with a thin layer of sand to allow curing of the concrete, or a low-slump concrete should be used to minimize possible curling of the slabs.

SWIMMING POOL

The groundwater level was measured at depths of 5 to 7 feet below the existing grade. Accordingly, depending on the pool depth, water may be encountered and dewatering may be necessary during construction of the pool. Relief valves may be required in the pool bottom to prevent uplift pressures when the pool is drained. When empty, it should be assumed that the soils above the water level will exert a pressure on the pool walls equal to that developed by a fluid with a density of 30 pounds per cubic foot; below the water level a fluid pressure of 80 pounds per cubic foot should be used.

-o0o-

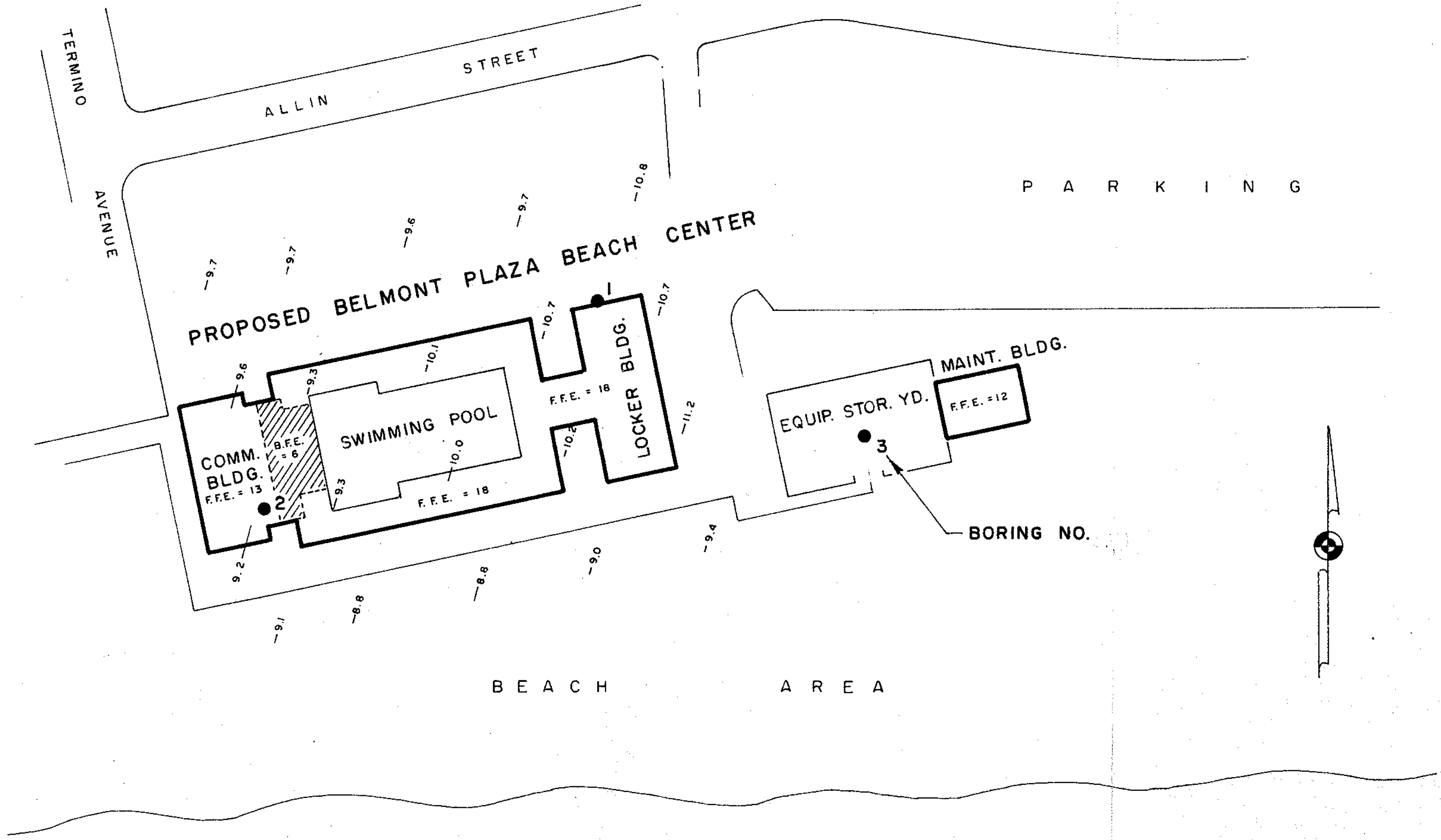
The following Plates and Appendix are attached and complete this report:

Plate 1 . . . . . Plot Plan

Plate 2 . . . . . Driven Pile Capacities

Appendix . . . . Explorations and Laboratory Tests

JOB A66102 DATE 4-27-66 DR. M.C. O.E. CHKD. FRL



REFERENCE :
SURVEY AND PLANS PROVIDED BY
HEUSEL, HOMOLKA & ASSOCIATES, A.I.A. ARCHITECTS.

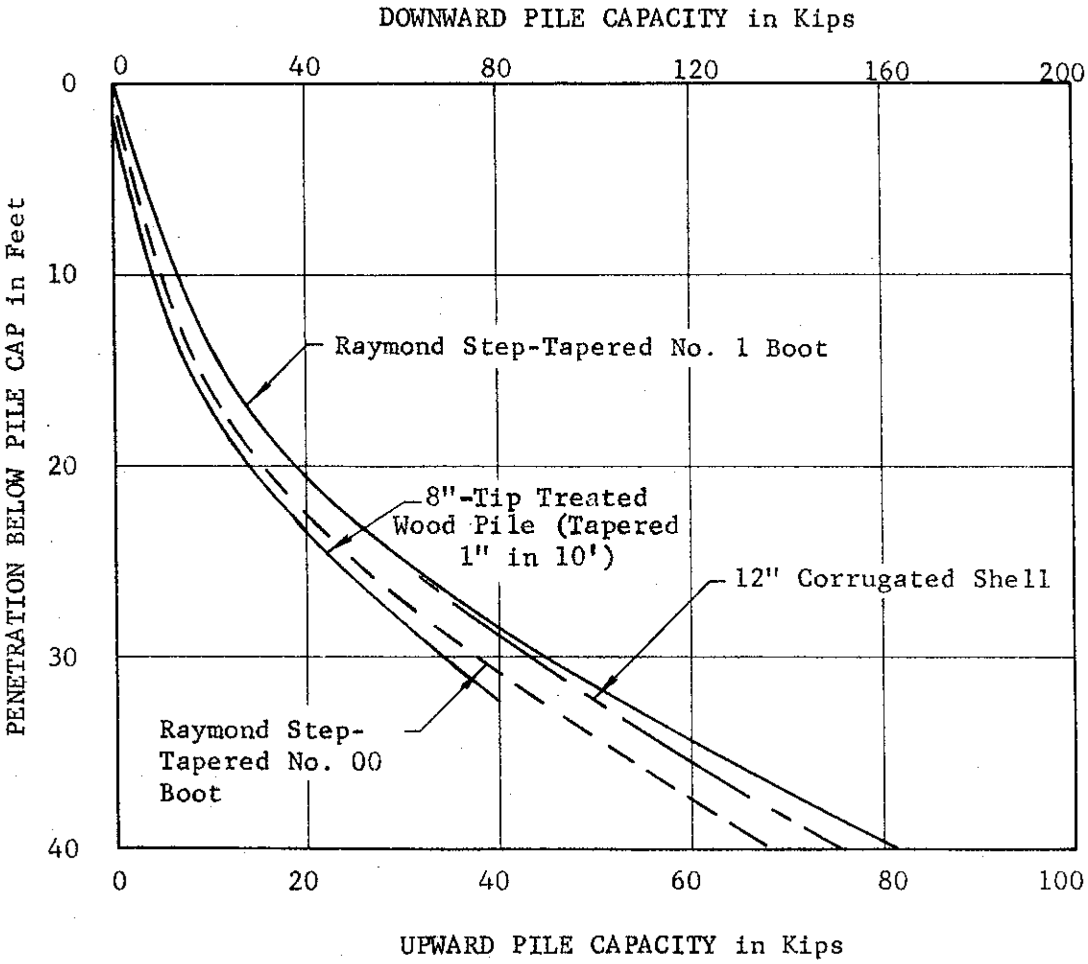
PLOT PLAN

SCALE 1" = 100'

LEROY CRANDALL & ASSOCIATES

PLATE I

JOB A66102 DATE 8-11-66 DR. JM O.E. cr CHKD. rl SC



NOTES:

(1) The indicated values refer to the total of dead plus live loads; a one-third increase may be used when considering wind or seismic loads.

(2) Piles in groups should be spaced a minimum of 2½ diameters, but not less than 3 feet, on centers.

DRIVEN PILE CAPACITIES

APPENDIX

EXPLORATIONS

The site of the proposed development was explored by drilling three borings to depths ranging from 41 to 50 feet below the existing ground surface. The borings were drilled deeper than initially planned to provide sufficient data for design of pile foundations. The borings were drilled using 6-inch-diameter rotary wash-type drilling equipment under the supervision of our field engineer.

The soils encountered were logged by our field engineer, and undisturbed samples were obtained for laboratory inspection and testing. The boring logs are presented on Plates A-1 through A-3; the depths at which undisturbed samples were obtained are indicated to the left of the boring logs. The soils are classified in accordance with the Unified Soil Classification System shown on Plate B.

LABORATORY TESTS

The field moisture content and dry density of the soils were determined by performing tests on the undisturbed samples. The test results are shown to the left of the boring logs.

Direct shear tests were performed on selected undisturbed samples to determine the strength of the soils. The tests were performed at field and increased moisture contents and at various surcharge pressures. Selected samples were tested at two different surcharge pressures to provide more complete data. The results of the tests are presented on Plate C, Direct Shear Test Data.

Confined consolidation tests were performed on four undisturbed samples to determine the compressibility of the soils. Water was added to two of the samples during the tests to illustrate the effect of moisture on the compressibility. The consolidation test results are presented on Plates D-1 and D-2, Consolidation Test Data.

The optimum moisture content and maximum dry density of the soils were determined by performing a compaction test on a sample from Boring 2. The test was performed in accordance with the ASTM Designation D1557-64T method of compaction modified to use three layers instead of five. The results of the test are presented on Plate E, Compaction Test Data.

-oOo-

JOB A66102 DATE 4-27-66 DR. GMC O.E. cr SC CHKD. ARL

BORING 1

DATE DRILLED: April 13, 1966
EQUIPMENT USED: 6"-Diameter Rotary Wash

ELEVATION 11

ELEVATION (ft.)	DEPTH (ft.)	MOISTURE (% of dry wt.)	DRY DENSITY (lbs./cu. ft.)	SAMPLE
10		4.3	107	■
		14.8	102	■
		8.0	99	■
		17.3	114	■
0	10	22.3	103	■
		20.1	111	■
-10	20	24.7	103	■
		27.6	101	■
-20	30	17.0	109	■
		9.4	125	■
-30	40	15.8	113	■
		22.0	104	■
-40	50	16.3	112	■
	60			

- **SP** SAND - fine, light brown
  - Layer of SANDY SILT, greyish-brown
  - Few sea shells
  - ▼ Water level (4/14/66)
- **CL** SILTY CLAY - brown
- **SM** SILTY SAND - fine, brown
- **SP** SAND - fine, grey
- **SW** SAND - well graded, few gravel, grey
  - Pockets of clay
- **SP** SAND - fine, greyish-brown
  - Layer of well graded SAND with gravel
  - Pockets of clay and silt

NOTE: Drilling mud used in drilling process; mud removed after drilling completed. Water level measured at a depth of 7'. [illegible]

*Elevations refer to datum of reference drawing; see Plate 1.

Soils classified in accordance with the Unified Soil Classification System.

LOG OF BORING

LEROY CRANDALL & ASSOCIATES

JOB A66102 DATE 4-27-66 DR. GMC O.E. SL CHKD. FRL

BORING 2

DATE DRILLED: April 14, 1966
EQUIPMENT USED: 6"-Diameter Rotary Wash

ELEVATION 9

ELEVATION (ft.)	DEPTH (ft.)	MOISTURE (% of dry wt.)	DRY DENSITY (lbs./cu. ft.)	SAMPLE		
		4.2	105	■	SP	SAND - fine, few sea shells, light brown
		14.0	103	■		Grey
		22.4	105	■		Water Level (4/14/66)
		29.4	96	■		Streaks of coarse sand
0	10	28.5	98	■		
					ML	CLAYEY SILT - greyish-brown
		23.1	103	■		
					ML	SANDY SILT - some clay, bluish-grey
-10	20				SP	SAND - fine, dark grey
		23.1	101	■		
		17.6	107	■		
-20	30	16.4	112	■	SW	SAND - well graded, brownish-grey
		18.0	108	■		
					SP	SAND - fine, grey
-30	40	21.5	104	■		
-40	50					

NOTE: Drilling mud used in drilling process; mud removed after drilling completed. Water level measured at a depth of 5'.

LOG OF BORING

LEROY CRANDALL & ASSOCIATES

JOB A66102 DATE 4-27-66 DR. Gmc O.E. ___ CHKD. ___

BORING 3

DATE DRILLED: April 14, 1966
EQUIPMENT USED: 6"-Diameter Rotary Wash

ELEVATION 10

ELEVATION (ft.)	DEPTH (ft.)	MOISTURE (% of dry wt.)	DRY DENSITY (lbs./cu. ft.)
		4.6	102
		9.0	102
		20.0	109
		22.1	105
0	10	23.5	101
		30.0	96
-10	20	27.3	96
		23.6	104
-20	30	18.1	108
		12.8	116
-30	40	25.3	100
-40	50		

SP — SAND - fine, few sea shells, light brown
- Slightly silty
- ▼ Water Level (4/14/66)
- More sea shells, grey

ML — CLAYEY SILT - greyish-brown

SP — SAND - fine, brown
- Pockets of coarse sand
- Pockets of well graded sand

SW — SAND - well graded, greyish-brown

CL — SILTY CLAY - some sand, light brown

NOTE: Drilling mud used in drilling process; mud removed after drilling completed. Water level measured at a depth of 6'.

LOG OF BORING

LEROY CRANDALL & ASSOCIATES

MAJOR DIVISIONS			GROUP SYMBOLS	TYPICAL NAMES
COARSE GRAINED SOILS (More than 50% of material is LARGER than No. 200 sieve size)	GRAVELS (More than 50% of coarse fraction is LARGER than the No. 4 sieve size)	CLEAN GRAVELS (Little or no fines)	GW	Well graded gravels, gravel-sand mixtures, little or no fines.
			GP	Poorly graded gravels or gravel-sand mixtures, little or no fines.
		GRAVELS WITH FINES (Appreciable amt. of fines)	GM	Silty gravels, gravel-sand-silt mixtures.
			GC	Clayey gravels, gravel-sand-clay mixtures.
	SANDS (More than 50% of coarse fraction is SMALLER than the No. 4 sieve size)	CLEAN SANDS (Little or no fines)	SW	Well graded sands, gravelly sands, little or no fines.
			SP	Poorly graded sands or gravelly sands, little or no fines.
		SANDS WITH FINES (Appreciable amt. of fines)	SM	Silty sands, sand-silt mixtures.
			SC	Clayey sands, sand-clay mixtures.
FINE GRAINED SOILS (More than 50% of material is SMALLER than No. 200 sieve size)	SILTS AND CLAYS (Liquid limit LESS than 50)		ML	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity.
			CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays.
			OL	Organic silts and organic silty clays of low plasticity.
	SILTS AND CLAYS (Liquid limit GREATER than 50)		MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts.
			CH	Inorganic clays of high plasticity, fat clays.
			OH	Organic clays of medium to high plasticity, organic silts.
HIGHLY ORGANIC SOILS			Pt	Peat and other highly organic soils.

BOUNDARY CLASSIFICATIONS: Soils possessing characteristics of two groups are designated by combinations of group symbols.

P A R T I C L E   S I Z E   L I M I T S

SILT OR CLAY	SAND			GRAVEL		COBBLES	BOULDERS
	FINE	MEDIUM	COARSE	FINE	COARSE		

NO. 200 NO. 40 NO. 10 NO. 4 3/4 in. 3 in. (12 in.)

U. S. STANDARD SIEVE SIZE

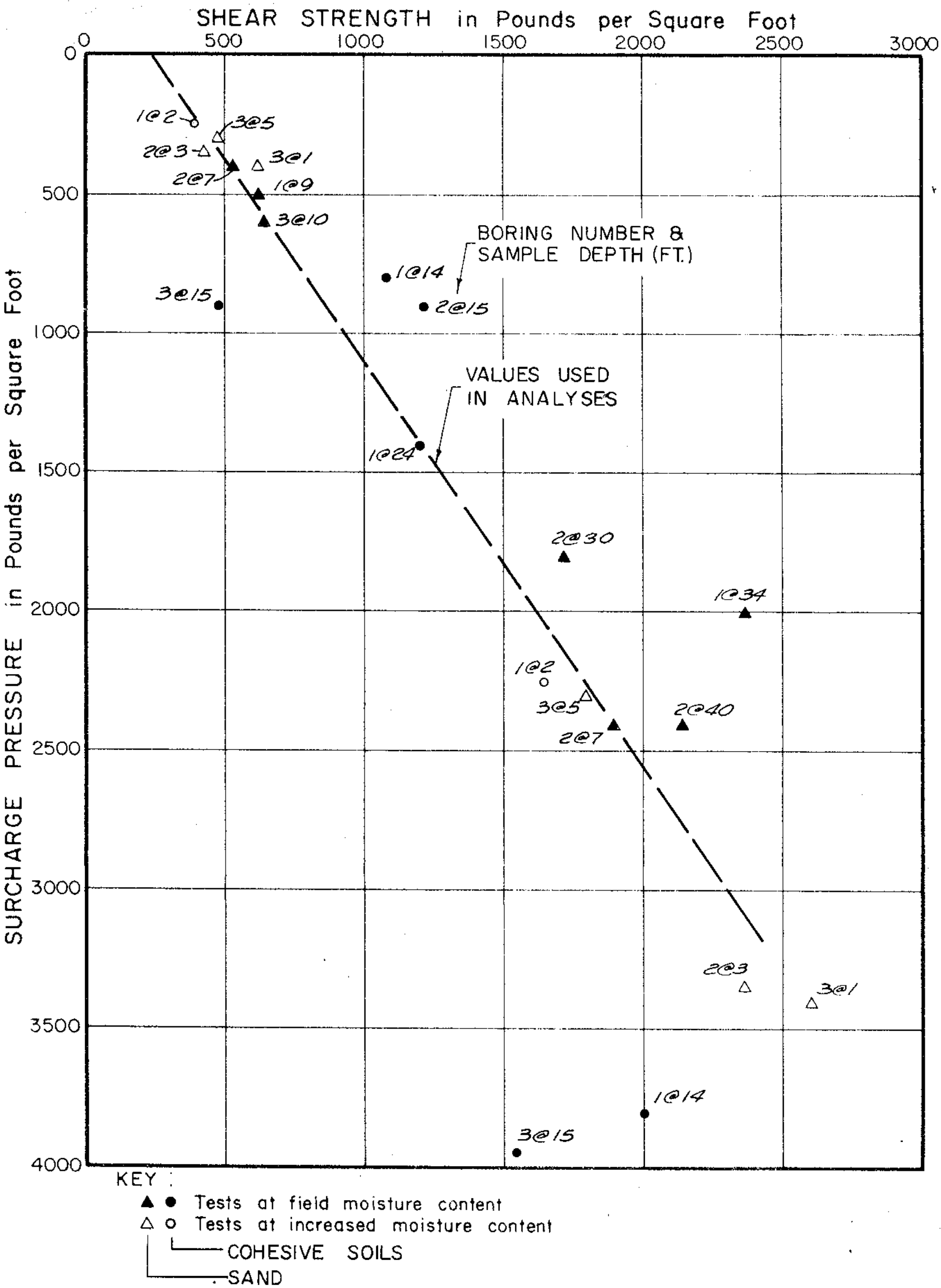
UNIFIED SOIL CLASSIFICATION SYSTEM

Reference :
The Unified Soil Classification System, Corps of Engineers, U. S. Army Technical Memorandum No. 3-357, Vol. I, March, 1953. (Revised April, 1960)

LEROY CRANDALL AND ASSOCIATES

PLATE B

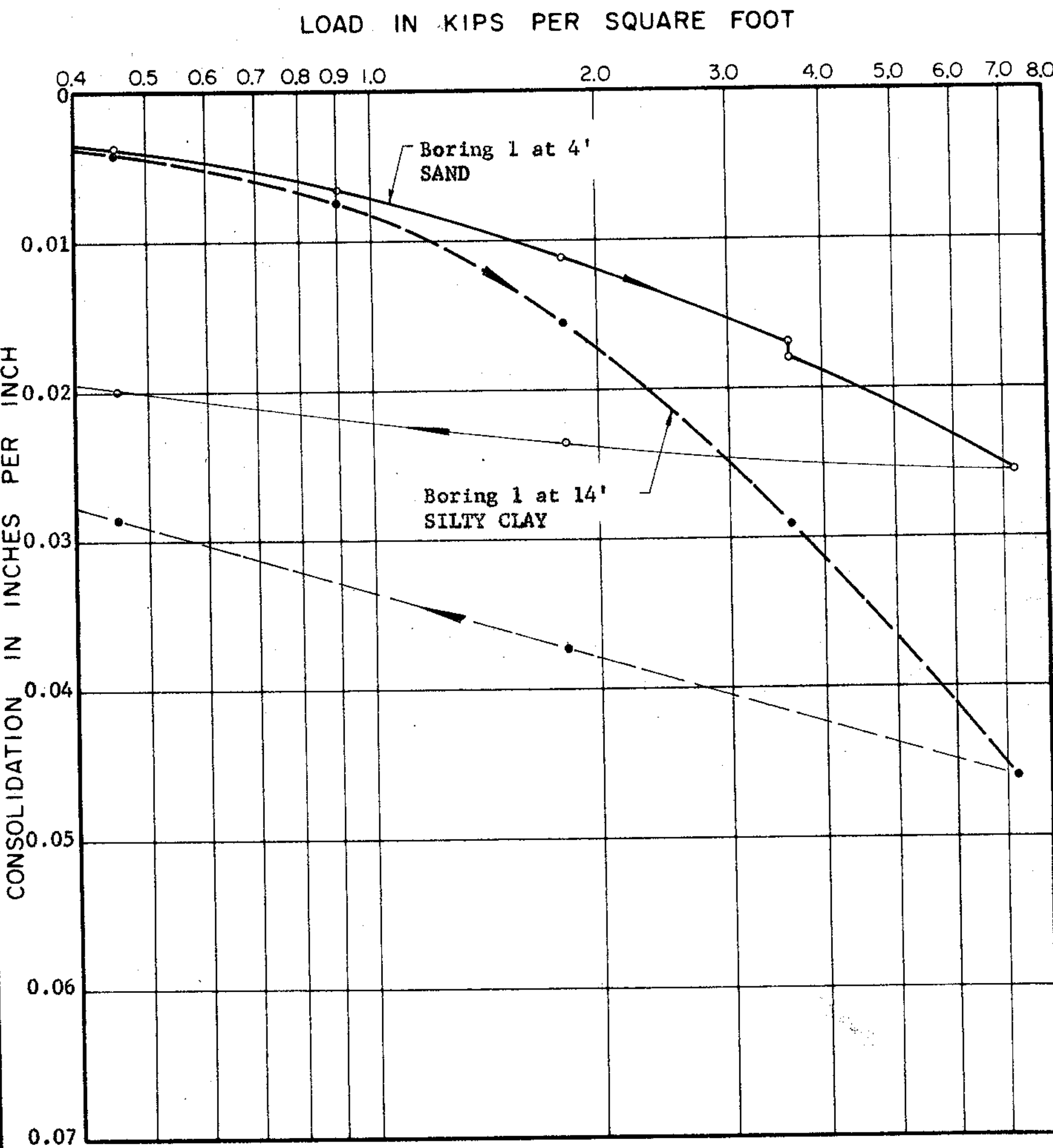
JOB A-66102 DATE 5-5-66 DR. VJM O.E. GC CHKD. 74



DIRECT SHEAR TEST DATA

LeROY CRANDALL & ASSOCIATES

PLATE C



NOTE: Water added to sample from 4' after consolidation under a load of 3.6 kips per square foot. The other sample tested at field moisture content.

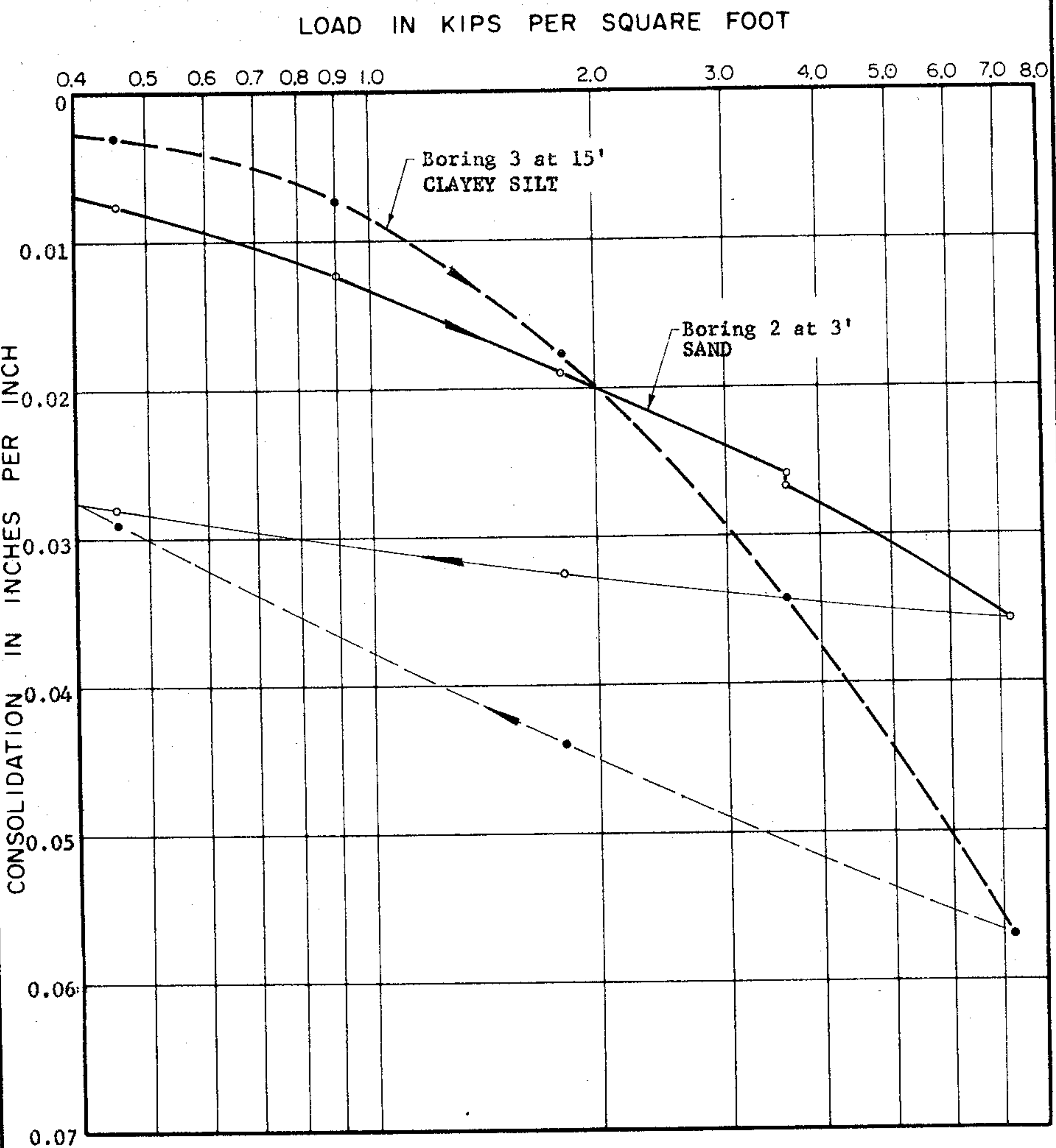
CONSOLIDATION TEST DATA

LEROY CRANDALL & ASSOCIATES

JOB A-66102 DATE 4-27-65 DR. VM O.E. CHKD

PLATE D-1

JOB A-66102 DATE 4-27-66 DR. V.M. O.E. cr CHKD



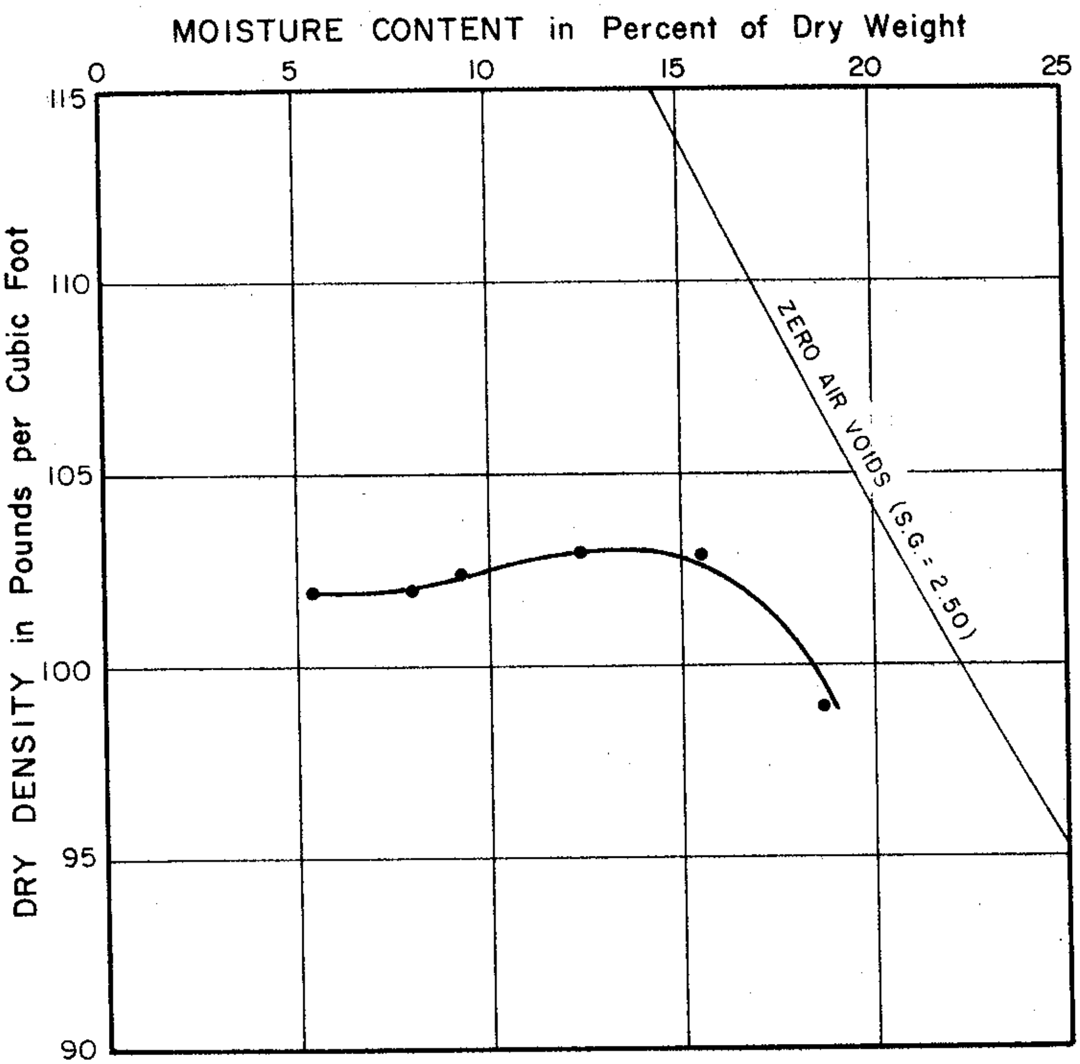
NOTE: Water added to sample from 3' after consolidation under a load of 3.6 kips per square foot. The other sample tested at field moisture content.

CONSOLIDATION TEST DATA

LEROY CRANDALL & ASSOCIATES

PLATE D-2

JOB A66108 DATE 4-27-66 DR. GMC O.E. [illegible] CHKD. [illegible]



SOURCE: BORING 2 AT 0'-2'
SOIL TYPE: SAND
MAXIMUM DRY DENSITY: 103 lbs./cu. ft.
OPTIMUM MOISTURE CONTENT: 14 % of dry wt.
TEST METHOD: Modified ASTM Designation D1557-64T.
This method utilizes a 1/30-cubic-foot mold, in which each of three layers of soil is compacted by 25 blows of a 10-pound hammer falling 18 inches.

COMPACTION TEST DATA

LEROY CRANDALL & ASSOCIATES

GEOTECHNICAL INVESTIGATION FOR THE TEMPORARY MYRTHA POOL AND ASSOCIATED IMPROVEMENTS

INTRODUCTION

PURPOSE

This report presents the results of our geotechnical investigation for the temporary Myrtha Pool and associated improvements proposed in the existing public parking lot located to the east of the Belmont Plaza Olympic Pool Complex at 4000 Olympic Plaza within the City of Long Beach, California (see Plate 1 – Location Map). The purpose of this report is to provide a summary of our geotechnical investigation, data, and conclusions, and then provide geotechnical recommendations pertaining to site remedial grading and for the design and construction of the proposed temporary pool and associated site improvements.

SCOPE

1. Reviewed background information pertaining to the site, including published regional geologic maps and literature and a previous geotechnical report by Mactec for the adjacent Belmont Plaza Olympic Pool Complex.

2. Performed an initial site reconnaissance to assess current surface conditions and mark the site for Underground Service Alert.

3. Conducted a subsurface exploration program that consisted of the advancement of four CPT soundings each to a depth of 50 feet and the drilling of one hand-augered boring to a depth of 5 feet in order to physically observe the subsurface soils and to obtain samples for laboratory testing. The boring was logged by our senior engineer and samples were collected for laboratory testing.

4. Performed laboratory testing on a bulk sample that was collected during our subsurface exploration.

5. Interpreted and evaluated field conditions and laboratory data.

6. Performed geotechnical engineering analyses using the field and laboratory data in conjunction with the conceptual site plan. The analysis addressed site seismicity, anticipated settlement, groundwater, liquefaction, and concrete flatwork and pool design.

7. Prepared this report which summarizes the results of our research, subsurface exploration, laboratory and field testing, analyses, conclusions, and recommendations relative to the proposed improvements at the subject site.

SITE LOCATION AND DESCRIPTION

The temporary pool and associated improvements are proposed within a public parking lot located to the east of the Belmont Plaza Olympic Pool Complex which is located at 4000 Olympic Plaza within the City of Long Beach, California. This public parking lot is bordered on the west by Bennett Avenue, on the north by a landscaped easement and then East Ocean Boulevard, and on the south by the beach (Pacific Ocean). The parking lot is also bordered on the south by an existing pool and by a City of Long Beach maintenance building and yard that have been constructed on the beach. To the west, the parking lot continues beyond the limits of planned improvements. The general location of the site with respect to nearby roadways is shown on Plate 1.

The existing parking lot is paved with asphalt, has light bollards and parking meters between the rows of parking stalls, and is surrounded by concrete curbs and gutters. At the end of the parking stalls are planters with groundcover and palm trees.

The parking lot appears to drain by sheet flow towards the north to northwest towards the intersection of East Ocean Boulevard and Bennett Avenue. The pavement exhibits various levels of distress ranging from occasional cracks to extensive alligator cracking with local depressions. The distress is more extensive along the north side of the parking lot.

SITE RESEARCH AND PREVIOUS GEOTECHNICAL REPORTS

Reviewed materials for the site included geology maps and previously published geologic reports in order to identify site history and geologic conditions. These included:

- State of California Seismic Hazard Zones Map; Long Beach Quadrangle, base map prepared by U.S. Geologic Survey and dated 1964 (Photo revised 1981), Official Map Released March 3, 1999, Scale: 1 inch = 2000 feet

- Seismic Hazard Zone Report for the Long Beach 7.5-Minute Quadrangle, Los Angeles County, California, Seismic Hazard Zone Report 028 (California Division of Mines and Geology, 1998).

MACTEC previously performed a subsurface investigation for the adjacent Belmont Plaza Pool Complex (reference (1)). This investigation included the drilling of two exploratory borings each to a depth of 76.5 feet using a hollow-stem auger drill rig and the advancement of five Cone Penetration Test (CPT) soundings each to a depth of 50 feet. Samples of the onsite soils were obtained by MACTEC for laboratory testing. Laboratory testing associated with this previous investigation included in-place moisture content/dry density, particle size analysis, Atterberg limits, consolidation and shear strength characteristics, and soil corrosivity.

This report recommended that the complex building either be underpinned with new pile foundations and the exterior improvements be protected from lateral spreading by ground improvement, or that the entire structure be demolished, the entire building site improved by ground improvement, and then a new building constructed.

PLANNED IMPROVEMENTS

Based on our conversations with representatives of RJM Design Group, it is our understanding that a portion of the existing parking lot to the east of the Belmont Plaza Olympic Pool Plaza will be removed and replaced with a large concrete slab that will support a temporary above-ground Myrtha pool. Two- thirds of the pool will be constructed on-grade and will be supported on a 12-inch-thick concrete slab. The remaining one-third of the pool will be constructed on 3 feet of new fill and the 12-inch-thick concrete slab. The pool walls will be constructed as braced stainless steel walls. The concrete slab will also support the braced walls while isolated concrete footings will support the raised decking and bleachers that will surround the pool.

Other improvements include temporary restroom/shower and office trailers, temporary asphalt walkways and curbs, planter areas, fencing, and 70- to 80-foot-high light poles. Some of the existing asphalt paving will also be covered with slurry and restriped.

Based on the current plans, the majority of the site will remain at existing grades; therefore, only minor cuts and fills will be required within most areas. However, the deep portion of the temporary pool will require cuts of up to 12 inches while the shallow portion of the pool will require fills of up to 3 feet to reach proposed bottom of slab grades.

SUBSURFACE EXPLORATION

Our subsurface investigation consisted of the advancement of four CPT soundings (CPT-1 through CPT-4) each to a depth of 50 feet to obtain continuous geotechnical information of the subsurface soils. In addition, a single hand-augered drill hole was advanced within a planter area to a depth of 5.5 feet to physically observe the subsurface soils and to obtain a bulk sample for geotechnical testing. The drill hole was logged by our senior engineer. The locations of the CPT soundings and drill hole are shown on Plate 2 – Geotechnical Map, and the log of the drill hole and the results of the CPT soundings are included in Appendix A.

MONITORING WELLS

In order to determine depths to groundwater, two monitoring wells were installed within the site. These monitoring wells were both 20 feet deep and were comprised of 2-inch diameter slotted pipes installed within 8-inch diameter drilled holes. The space around the slotted pipes was backfilled with clean sand to within 3 feet of existing grade and then capped with 2 feet of bentonite to seal the wells from surface water.

LABORATORY TESTING

Laboratory testing for the subject investigation was performed to determine the expansion potential and corrosion characteristics of the onsite soils. Corrosion testing included the determination of soluble sulfate and chloride concentrations, and soil pH and electrical resistivity. Laboratory procedures and test results are presented in Appendix B – Geotechnical Laboratory Procedures and Test Results. Pertinent laboratory test data is also shown on our recent drill hole log.

Laboratory test results on samples collected at the site indicate that onsite soils are:

- Non-expansive
- Moderately corrosive to concrete
- Corrosive to ferrous metals

GEOLOGIC FINDINGS

LOCAL GEOLOGY AND SUBSURFACE SOIL CONDITIONS

The site is located within an area that has been significantly altered by the construction of manmade islands and landforms and is underlain by undifferentiated older and younger artificial fill that has been placed over native young alluvium and estuarine deposits. Within our CPT soundings, it was not possible to differentiate between the fill and the native soils.

Our recent drill hole and CPT soundings indicate that the site is underlain by approximately 8 to 13 feet of poorly graded sand and silty sand, a 4- to 15-foot-thick layer of intermixed clay and silty clay, and then poorly graded sand and silty sand to the maximum depth explored (50 feet). Within the southern portion of the site, the clay layer is located approximately 13 feet below the ground surface and is 4 to 6.5 feet thick, while in the northern portion of the site, the clay layer is located approximately 8 to 9 feet below the ground surface and is approximately 9 to 15 feet thick. The poorly graded sands and silty sands are loose to medium dense with rootlets in the upper 12 to 18 inches, becoming medium dense to dense below while the underlying clays and silty clays are firm.

At the locations of the CPT soundings, the existing asphalt was observed to range from approximately 2.5 to 3 inches thick. The underlying base is intermixed with varying amounts of sand and ranges from approximately 6 to 7 inches thick.

GROUNDWATER

Groundwater was originally measured within our drill hole and CPT soundings at the time of our subsurface exploration. Groundwater was measured three more times within our monitoring wells. The groundwater depths ranged from 6 to 6.8 feet below existing grades. These depths to groundwater are in general agreement with the depths of historically high groundwater provided in the reference (2) Seismic Hazard Zone Map for the Long Beach Quadrangle. Since the project does not include any subsurface structures, groundwater is not expected to adversely impact the proposed grading or construction.

FAULTING AND SEISMICITY

The site is not located within an Official Alquist-Priolo Earthquake Fault Zone and no known active faults are shown on current geologic maps for the site. The nearest known active fault is the Newport-Inglewood Fault, which is located approximately 2.3 kilometers from the site and is capable of generating a maximum earthquake magnitude (Mw) of 7.1. The site is also located within 10.1 kilometers of the Palos Verdes fault, which is capable of generating a maximum earthquake magnitude (Mw) of 7.3. Given the proximity of the site to these and numerous other active and potentially active faults, the site will likely be subject to earthquake ground motions in the future.

In order to evaluate the likelihood of future earthquake ground motions occurring at the site, a probabilistic seismic hazard analysis (PSHA) of horizontal ground shaking was performed using the commercial computer program EZ-FRISK ver. 7.43. The PSHA utilized seismic sources and attenuation equations consistent with the 2008 USGS National Seismic Hazard Mapping Project. Assuming a conservative risk level of 10 percent probability of exceedance in 50 years (i.e., ~475 year ARP), the PHGA is 0.38g.

It should be noted that this peak ground acceleration has a 10 percent probability of being exceeded in 50 years (which is roughly equivalent to the design life of an average long-term development).

For the subject project, the temporary Myrtha pool will only be used for approximately 2 years or less and the probability of a significant earthquake occurring during this time span is so low that the corresponding PGA would be essentially zero. Therefore, the PGA we used can be considered to be very conservative for this temporary structure.

SEISMIC HAZARD ZONES

The subject property is not located within an area mapped as having the potential for seismic-induced landsliding; however, it is located within an area mapped as having the potential for seismic-induced liquefaction as shown on the reference (2) Seismic Hazard Zone Map for the Long Beach Quadrangle.

GEOTECHNICAL ENGINEERING FINDINGS

LIQUEFACTION, SEISMIC SETTLEMENT, AND LATERAL SPREADING

Liquefaction Investigation

Since the site is located within a zone mapped as having the potential for earthquake induced liquefaction, liquefaction and related hazards were quantitatively evaluated utilizing the CPT soundings to a maximum depth of 50 feet.

Design Earthquake and Mode Magnitude

Based on our site specific PSHA with deaggregation, a very conservative PGA of 0.38g, Modal Magnitude 7.2, and modal distance of 11.2 km were calculated for this study.

Design Groundwater Level

Actual groundwater levels encountered during our recent exploration indicate a groundwater level of approximately 6 to 6.5 feet below existing site grades, which are in agreement with the depths of historically high groundwater provided in the reference (2) Seismic Hazard Zone Map for the Long Beach Quadrangle. Therefore our analysis was performed using the worst case condition (5 feet b.g.s.).

Liquefaction Analyses

GMU utilized CLiq to evaluate CPT data for liquefaction. CLiq is a commercial computer software program that applies the latest NCEER methods for liquefaction analysis including post-earthquake settlement and lateral displacement.

Liquefaction, Seismic Settlement, and Lateral Spreading Potential

Our analysis indicates that discrete zones within the underlying soils below the groundwater level may be subject to liquefaction during a design seismic event. Based on our analysis, the site has a slight to moderate potential for any adverse effects of liquefaction due to the depth and discrete nature of the liquefiable zones. Liquefaction seismic settlement calculations indicate approximately 0.3 to 1.75 inches of settlement could occur during a design earthquake. The results of our analyses are presented in Appendix C.

The site also has a moderate potential for adverse effects due to seismic-induced lateral spreading. Our calculations indicate that lateral displacements at the points of exploration could range from approximately 9 to 80 inches. The results of our analyses are presented in Appendix C.

Based on the thickness and depth of liquefiable layers shown in our liquefaction analysis (Appendix C), the guidelines provided by Southern California Earthquake Center (1999), and the design curves proposed by Ishihara (1985) which provide criteria for identifying conditions causing or not causing damage to foundations, the site is not anticipated to be subject to liquefaction-induced foundation bearing failure.

Although there is the potential for liquefaction-induced settlement and lateral spreading using the very conservative design PGA, the actual probability of a seismic event actually occurring during the short time of service for the proposed temporary pool is essentially zero. However, due to this very small potential, it is recommended that the pool be underlain by a reinforced concrete slab described in a subsequent section of this report. This slab will help mitigate the potential for liquefaction to adversely affect the proposed temporary pool.

STATIC SETTLEMENT/COMPRESSIBILITY

The on-site granular soils were found to be medium dense to dense while the fine-grained soils were found to be firm and are not susceptible to significant consolidation. Total static settlements can be expected to range from approximately ½ to ¾-inch with a differential settlement of ½-inch over a span of 40 feet.

SOIL EXPANSION

The on-site granular soils to depths of at least 8 feet are non-expansive while the underlying clay can be classified as having a moderate expansion potential based on our assessment of the soil classifications provided in the CPT logs in Appendix A and the results of expansion index testing contained in Appendix B. A non-expansive potential should therefore be assumed for planning purposes of the structures proposed on-grade.

SOIL CORROSION

To evaluate the corrosion potential of the on-site soils to both ferrous metals and concrete, representative samples were tested for pH, minimum resistivity, soluble chlorides, and soluble sulfates. The results of chemical testing contained in Appendix B indicate that the soil sample tested contains a negligible concentration of sulfates and severe concentrations of chlorides. In addition, due to the proximity of the site to the nearby ocean, there is a high potential for onsite structures to come in contact with seawater. Thus, the onsite soils should be considered moderately corrosive to concrete and severely corrosive to ferrous metals.

EXCAVATION CHARACTERISTICS

Rippability

The soil materials underlying the site can be easily excavated with conventional grading equipment such as loaders, excavators, and backhoes.

Trenching

We expect that excavation of new utility trenches can be accomplished utilizing conventional trenching machines and backhoes. Trench support requirements will be limited to those required by safety laws or other locations where trench slopes will need to be flattened or supported by shoring designed to suit the specific conditions exposed.

Volume Change

For the rough determination of earthwork quantities, we estimate that the change in volume of on-site disturbed surficial fills that are excavated and placed as new compacted fill at an average relative compaction of 92% will result in an average of about 5% loss in volume. It should be noted that the aforementioned value is approximate and is for rough planning purposes only.

CONCLUSIONS AND RECOMMENDATIONS

DEVELOPMENT FEASIBILITY

Based on the geologic and geotechnical findings, it is our opinion that proposed grading and construction is feasible and practical from a geotechnical standpoint if accomplished in accordance with the City of Long Beach grading and building requirements and the recommendations presented herein. It is also the opinion of GMU Geotechnical that proposed grading and construction will not adversely affect the geologic stability of adjoining properties provided grading and construction are performed in accordance with the recommendations provided in this report.

A summary of conclusions is as follows:

1. The site should be considered developable and not expected to adversely impact adjacent properties from a geotechnical perspective utilizing standard grading techniques.

2. Site soils are artificial fill materials overlying native alluvial and estuarine deposits. The upper 12 to 18 inches of the fill materials are medium dense and will require re-processing.

3. Groundwater was measured at 6 to 6.8 feet below existing grade, which agrees with the historic high groundwater level.

4. There are no known active faults within the subject site. The site seismicity is typical for the Long Beach area. Structure design should be in accordance with the current CBC.

5. Based on visual observations and laboratory testing of the on-site materials, corrective grading at the site will be limited to the overexcavation and recompaction of the surficial engineer fill materials that are expected to be disturbed during demolition operations within the site. Additional removals may be necessary depending on the materials encountered during grading.

6. Some of the existing asphalt pavement sections will need to be demolished. Due to the limited amount of grading and fill placement that will occur, the old asphalt and base materials generated from the removal of the existing pavement sections should be collected and hauled off-site.

7. Existing subsurface utility lines, depending on their depths and locations in relation to the proposed development, may need to be excavated and removed, or abandoned in-place.

8. The potential for liquefaction and lateral spreading is conservatively estimated to be low to

moderate. Due to the short service life of the temporary pool, the probability is essentially zero. Estimated vertical seismic settlements range from 0.3 to 1.75 inches with a differential seismic settlement of less than ½-inch over a span of 40 feet. Lateral displacements at the points of exploration could range from approximately 9 to 80 inches. Due to the very remote possibility of seismic-induced settlement and lateral spreading as a result of liquefaction, the temporary pool should be constructed on a reinforced concrete slab.

9. Site soils to a depth of at least 8 feet are non-expansive. Future site improvements will not require any special design for expansive soil conditions.

10. Corrosion testing indicates that the on-site soils are severely corrosive to ferrous metals. Consequently, any metal exposed to the soil will need protection and all reinforcing steel will need to be properly covered by concrete.

11. The on-site testing indicates negligible amounts of sulfate. However, due to the proximity of the site to the nearby ocean, there is a high potential for onsite structures to come in contact with seawater. Therefore, it is recommended that a moderate level of sulfate exposure (i.e., Type II/V cement with a water/cement ratio of 0.50) be assumed for proposed concrete slabs.

SITE PREPARATION AND GRADING

General

The subject site should be precise graded in accordance with the City of Long Beach grading code requirements (and all other applicable codes and ordinances) and the recommendations as outlined in the following sections of this report. The geotechnical aspects of future grading plans and improvement plans should be reviewed by GMU Geotechnical prior to grading and construction. Particular care should be taken to confirm that all project plans conform to the recommendations provided in this report. All planned and corrective grading should also be monitored by GMU Geotechnical to verify general compliance with the recommendations outlined in this report.

Demolition and Clearing

Prior to the start of the planned improvements, some of the existing asphalt pavement will need to be demolished. The old asphalt and base materials generated from the removal of the existing pavement sections may be collected and used as compacted fill provided that it is thoroughly crushed and broken down with no fragments greater than 3 inches in maximum diameter.

The on-site soils are suitable for use as compacted fill from a geotechnical perspective if care is taken to remove all significant organic and other decomposable debris.

Cavities and excavations created upon removal of subsurface obstructions, such as existing buried utilities, should be cleared of loose soil, shaped to provide access for backfilling and compaction equipment, and then backfilled with properly compacted fill.

The project geotechnical consultant should provide periodic observation and testing services during demolition operations to document compliance with the above recommendations. In addition, should unusual or adverse soil conditions or buried structures be encountered during grading that are not described herein, these conditions should be brought to the immediate attention of the project geotechnical consultant for corrective recommendations.

Corrective Grading – Existing Grades

Existing soils that comprise the upper 12 to 18 inches feet of the site are damp to moist and medium dense. In addition, it is expected that the surficial soils will be disturbed during the demolition of the existing asphalt pavement sections. Therefore, to provide adequate support of proposed improvements, the subgrade soils exposed after demolition should be overexcavated to a depth of at least 18 inches, moisture conditioned (as necessary) to at least 2% above the optimum moisture content, and then replaced as properly compacted fill at a minimum relative compaction of 90%.

FILL MATERIAL AND PLACEMENT

Suitability

All on-site soils are considered suitable for use as compacted fill from a geotechnical perspective if care is taken to remove all significant organic and other decomposable debris, and separate and stockpile rock materials larger than 6 inches in maximum diameter.

Compaction Standard and Methodology

All soil material used as compacted fill, or material processed in-place or used to backfill trenches, should be moistened, dried, or blended as necessary and densified to at least 90% relative compaction as determined by ASTM Test Method D 1557. It is recommended that fills be placed a minimum of 2% above optimum moisture content.

Material Blending

The existing surficial engineered fill materials are expected to be generally slightly below optimum moisture content but may have variable moisture content depending on the season in which work is performed. The majority of the materials to be handled during grading will require some blending and addition of water to meet acceptable moisture ranges for sufficient compaction (i.e., minimum 2% above optimum moisture content).

Use of Rock or Broken Asphalt

As described previously, the existing asphalt and base materials may be used as new fill provided that it is thoroughly crushed and broken down with no fragments greater than 3 inches in maximum diameter. In addition, these materials should also be blended with the onsite soils prior to being placed as compacted fill.

TEMPORARY EXCAVATION STABILITY

Trench excavations will also be required for new utility lines, if any. The sidewalls of these temporary excavations are expected to expose non-cohesive granular silty sands and sands.

Based on the anticipated engineering characteristics of these materials, temporary excavations for any new utility trench walls to a depth of 3 feet may be made vertically without shoring subject to verification of safety by the contractor. Deeper excavations should be braced, shored, or sloped back no steeper than 1:1 (horizontal to vertical). In addition, no surcharge loads should be allowed within 5 feet of the trench walls.

We anticipate the trench walls to be temporarily stable to a height of 3 feet provided the above recommendations are followed. However, deeper excavations will encounter saturated conditions or groundwater which will adversely affect the stability of the trench bottoms and sidewalls. Modifications to our recommendations may be required based on our observations of the actual conditions exposed in the field.

Our temporary excavation recommendations are provided only as general guidelines and all work associated with temporary excavations should meet the minimal requirements as set forth by CAL-OSHA. Temporary slope and trench excavation construction, maintenance, and safety are the responsibility of the contractor.

POST-GRADING CONSIDERATIONS

Utility Trench Backfill Considerations

Backfill compaction of utility trenches should be such that no significant settlement will occur. Backfill for all of these trenches should be compacted to at least 90% relative compaction subject to sufficient observation and testing. In the event that granular material having a sand equivalent of 30 or greater is used for backfill and this material is thoroughly flooded into place, extensive testing is not required. If native material with a sand equivalent less than 30 is used for backfill, it should be placed at near-optimum moisture content and mechanically compacted.

Jetting or flooding will not densify native soil materials with a sand equivalent less than 30 due to its silty to clayey nature. Also, jetting or flooding of granular material should not be used to consolidate backfill in trenches adjacent to any foundation elements.

Where trenches closely parallel a footing (i.e., for retaining walls) and the trench bottom is located within a 1 horizontal to 1 vertical plane projected downward and outward from any structure footing, concrete slurry backfill should be utilized to backfill the portion of the trench below this plane. The use of concrete slurry is not required for backfill where a narrow trench crosses a footing at about right angles.

We suggest that these recommendations be included as a specification in all subcontracts for underground improvements. In addition, the design of all underground conduits, pipelines, or utilities should also consider the potentially corrosive nature of the on-site soils to metals, as previously described in this report.

Surface Drainage

Surface drainage should be carefully controlled to prevent runoff over graded slope surfaces and ponding of water on flat pad areas. Positive drainage away from graded slopes is essential to reduce the potential for erosion or saturation of slope surfaces. All drainage at the site should be in minimum conformance with the applicable City of Long Beach codes and standards.

PRELIMINARY FOUNDATION DESIGN RECOMMENDATIONS

Structure Seismic Design

No active or potentially active faults are known to cross the site, therefore, the potential for primary ground rupture due to faulting on-site is very low to negligible. However, the site will likely be subject to seismic shaking at some time in the future. For design of future buildings, retaining walls, or other structural improvements, site-specific seismic design parameters were determined using the USGS computer program titled "Seismic Hazard Curves and Uniform Hazard Response Spectra, Version 5.0.8." The site coordinates used in the analysis were 33.7579° North Latitude and 118.1441° West Longitude and the site class designation "D" was determined by the shear wave testing performed within the CPT-1 sounding. On-site structures should be designed in accordance with the following 2010 CBC criteria:

Parameter	Factor	Value
0.2s Period Spectral Response	S_s	1.742g
1.0s Period Spectral Response	S_1	0.665g
Soil Profile Type	Site Class	D
Site Coefficient	F_a	1.0
Site Coefficient	F_v	1.5
Adjusted Spectral Response	SM_s	1.742g
	SM_1	0.998g
Adjusted Spectral Response	SD_s	1.161g
	SD_1	0.665g

It should be recognized that much of southern California is subject to some level of damaging ground shaking as a result of movement along the major active (and potentially active) fault zones that characterize this region. Design utilizing the 2010 CBC is not meant to completely protect against damage or loss of function. Therefore, the preceding parameters should be considered as minimum design criteria.

CONCRETE SLAB DESIGN

Modulus of Subgrade Reaction

For the design of the concrete slab to support the temporary pool, a modulus of subgrade reaction of 150 pci may be used.

Thickness and Reinforcement

The temporary pool and surrounding pool decking and bleachers will be supported on a new concrete slab. Since this new slab may be exposed to future movements (including liquefaction-induced settlement and lateral spreading), it should have a minimum thickness of 12 inches and be minimally reinforced with No. 4 bars at 18 inches on center.

Final determination of slab thickness and reinforcement should be determined by the structural engineer based on actual loading conditions.

Subgrade Soil Moisture Content

The foundation subgrade should be moisture conditioned/pre-saturated as necessary to at least 2% over the optimum moisture content to a minimum depth of 18 inches. The moisture content of the subgrade soils should be verified by GMU prior to initiating foundation construction.

CONCRETE

It is anticipated that the onsite soils will have a moderate sulfate exposure per Section 1904.3 of the 2010 CBC. Therefore, Type II/V cement along with a maximum water/cement ratio of 0.50 should be used for all concrete in contact with the onsite soils. This recommendation will serve to minimize the potential of water and/or vapor transmission through the concrete and minimize the potential for physical attack to concrete from non-sulfate based salts. In addition, wet curing of the concrete as described in ACI Publication 308 should be considered.

The aforementioned recommendations in regards to concrete are made from a soils perspective only. Final concrete mix design as well as any concrete testing is outside our purview. All applicable codes, ordinances, regulations, and guidelines should be followed in regard to designing a durable concrete with respect to the potential for detrimental exposure from the on-site soils and/or changes in the environment.

CORROSION PROTECTION OF METAL STRUCTURES

The results of the laboratory chemical tests performed on soil samples collected within and adjacent to the subject area indicate that the on-site soils are severely corrosive to ferrous metals. Consequently, metal structures which will be in direct contact with the soil (i.e., underground metal conduits, pipelines, metal sign posts, metal door frames, etc.) and/or in close proximity to the soil (wrought iron fencing, etc.) may be subject to corrosion. The use of special coatings or cathodic protection around buried metal structures has been shown to be beneficial in reducing corrosion potential. The potential for corrosion of ferrous metal reinforcing elements embedded in structural concrete will be reduced by the use of the recommended maximum water/cement ratio for concrete.

The laboratory testing program performed for this project does not address the potential for corrosion to copper piping. In this regard, a corrosion engineer should be consulted to perform more detailed testing and develop appropriate mitigation measures (if necessary). Otherwise, the on-site soils should be considered corrosive to copper.

The above discussion is provided for general guidance in regards to the corrosiveness of the on-site soils to typical metal structures used for construction. Detailed corrosion testing and recommendations for protecting buried ferrous metal and/or copper elements is beyond our purview.

FOUNDATIONS FOR RAISED DECKS, BLEACHERS AND FENCING

The raised decks and bleachers and the fencing around the pool will be supported on individual footings. Recommendations for these footings are provided in the following section.

Foundation Design Parameters

• Minimum Foundation Width	18 inches
• Minimum Depth	18 inches below lowest outside adjacent grade
• Bearing Materials	Engineered fill
• Minimum Footing Reinforcement	Four #4 bars; two at top and two at bottom of footing
• Allowable Bearing Capacity	2,000 psf with minimum embedment of 18 inches (may be increased 20% for each additional foot of width or embedment to a maximum of 3,000 psf).
• Coefficient of Friction	0.35
• Unit Weight of Backfill	125 pcf
• Passive Earth Pressure	250 pcf on flat ground (disregard upper 6 inches and reduce passive by one-third when combining friction and passive pressure).
• Concrete	0.50 w/c ratio; Type II/V cement (geotechnical perspective only).

POLE FOUNDATIONS

Pole foundations will be required for new light bollards within the subject site. As a minimum, the pole foundations should be at least 18 inches in diameter and at least 3 feet deep; however, the actual dimensions should be determined by the project structural engineer based on anticipated lateral loads and on the following design parameters.

Bearing Materials. The pole foundations may bear into competent native soils approved by a representative from GMU.

Bearing Values. End-bearing capacity and skin friction may be combined to determine the allowable bearing capacities of the pole foundations. An allowable bearing pressure of 2000 pounds per square foot (psf) may be used for pole foundations at least 18 inches in diameter and embedded a minimum of 3 feet below the lowest adjacent grade. A value of

250 pounds per square foot may be used to determine the skin friction between the concrete and surrounding soil.

Lateral Load Design. Lateral loads may be resisted by friction at the base of the foundations and by passive resistance within the adjacent earth materials. A coefficient of friction of 0.35 may be used between the foundations and the recommended bearing material. For passive resistance, an allowable passive earth pressure of 200 pounds per foot of pile diameter per foot of depth into competent bearing material may be used; however, passive resistance should be disregarded within the upper 2 feet due to possible disturbance during drilling. The passive resistance may be assumed to be acting over an area equivalent to two pile diameters.

Construction Considerations. It should be noted that the site is underlain by shallow groundwater. Groundwater can be expected to be encountered at a depth of approximately 6 feet below the existing ground surface. As a result of capillary action, the subsurface soils can be expected to be saturated at a depth of 5 feet below the existing ground surface. Based on these conditions, severe caving can be expected to occur within the pole foundation excavations below a depth of 5 feet. Therefore, temporary casing will be required to advance the pole foundation excavations to their required depths.

NEW ASPHALT PAVEMENT AND SLURRY

It is proposed to construct new asphalt walkways on top of the existing asphalt pavement to support pedestrian traffic. New asphalt will also be placed on top of the existing asphalt pavement to support the new restroom/shower trailers and office trailer.

It is recommended that this new asphalt be at least 3 inches thick and that the existing asphalt be cleaned and tack coated prior to the placement of the new asphalt.

It is also proposed to slurry a portion of the existing parking lot that will serve as the main access to the existing parking lot. Since this area of proposed slurry will serve as the main access, it is expected that it will experience a significant amount of traffic. In addition, during our site reconnaissance end subsurface exploration, it was noted that the existing asphalt is in very poor condition with extensive cracking, depressions, and areas where the asphalt has completely fragmented and broken apart. Therefore, in lieu of conventional slurry, it is recommended that the existing pavement be covered with a higher strength "chip" seal or "cape" seal. Specific recommendations for these products can be provided, if requested.

FUTURE PLAN REVIEW

GMU should review future project plans to check for conformance to the recommendations provided herein, and to provide additional recommendations as needed. Specifically, GMU should review the final grading plans and landscape plans.

GEOTECHNICAL OBSERVATION AND TESTING

It is recommended that geotechnical observation and testing be performed by this firm during the following stages of grading and construction:

- During site clearing and grubbing.
- During all phases of grading including corrective grading, scarification, ground preparation, moisture conditioning, and placement and compaction of all fill materials.
- During placement and compaction of aggregate base.
- During excavation of foundations for new walls and similar structures.
- When any unusual conditions are encountered.

LIMITATIONS

All parties reviewing or utilizing this report should recognize that the findings, conclusions, and recommendations presented represent the results of our professional geological and geotechnical engineering efforts and judgments. Due to the inexact nature of the state of the art of these professions and the possible occurrence of undetected variables in subsurface conditions, we cannot guarantee that the conditions actually encountered during grading and site construction will be identical to those observed, sampled, and interpreted during our study, or that there are no unknown subsurface conditions which could have an adverse effect on the use of the property.

We have exercised a degree of care comparable to the standard of practice presently maintained by other professionals in the fields of geotechnical engineering and engineering geology, and believe that our findings present a reasonably representative description of geotechnical conditions and their probable influence on the grading and use of the property.

Because our conclusions and recommendations are based on a limited amount of current and previous geotechnical exploration and analysis, all parties should recognize the need for possible revisions to our conclusions and recommendations during grading of the project.

Additionally, our conclusions and recommendations are based on the assumption that our firm will act as the geotechnical engineer of record during construction and grading of the project to observe the actual conditions exposed, to verify our design concepts and the grading contractor's general compliance with the project geotechnical specifications, and to provide our revised conclusions and recommendations should subsurface conditions differ significantly from those used as the basis for our conclusions and recommendations presented in this report.

It should be further noted that the recommendations presented herein are intended solely to minimize the effects of post-construction soil movements. Consequently, minor cracking and/or distortion of all on-site improvements should be anticipated.

SUPPORTING DATA

The following Plates and Appendices which complete this report are listed in the Table of Contents.

Respectfully submitted,

GMU GEOTECHNICAL, INC.

David Hansen, M.Sc., RCE 56591
Senior Geotechnical Engineer

Gregory Silver, M.Sc., PE, GE 2336
Principal Geotechnical Engineer

dwh/12-137-00R (4-3-13)

REFERENCES

SITE-SPECIFIC REFERENCE

(1) "Report of Preliminary Geotechnical Investigation, Proposed Belmont Plaza Olympic Pool Revitalization Project, 4000 East Olympic Plaza, Long Beach, California," report by MACTEC, dated April 14, 2009.

TECHNICAL REFERENCES

Boore, D.M. and Atkinson, G.M., 2008, Ground-Motion Prediction Equations for the Average Horizontal Component of PGA, PGV, and 5%-Damped PSA at Spectral Periods between 0.01 s and 10 s: Earthquake Spectra, Vol. 24, No. 1, p. 99-138.

California Geologic Survey, 2008, Guidelines for Evaluating and Mitigating Seismic Hazards in California: CGS Special Publication 117A.

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Chiou, B.S., and Youngs, R.R., 2008, An NGA Model for the Average Horizontal Component of Peak Ground Motion and Response Spectra: Earthquake Spectra, Vol. 24, No. 1, p. 173-215.

"Seismic Hazard Zone Report for the Long Beach 7.5-Minute Quadrangle, Los Angeles County, California," prepared by the Department of Conservation, Division of Mines and Geology, Seismic Hazard Zone Report 028, dated 1998.

"State of California Seismic Hazard Zones Map; Long Beach Quadrangle," base map prepared by U.S. Geologic Survey and dated 1964 (Photo revised 1981), Official Map Released March 3, 1999, scale: 1 inch = 2000 feet.

PRELIMINARY GEOTECHNICAL REPORT

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PRELIMINARY GEOTECHNICAL REPORT
BELMONT PLAZA POOL REBUILD-REVITALIZATION
4000 EAST OLYMPIC PLAZA
LONG BEACH,, CALIFORNIA
AESCO PROJECT NO. 20140185-C8050

Prepared for:

Harley Ellis Devereaux
601 South Figueroa Street, Suite 500
Los Angeles, CA 90017

Attention: Mr. Diego Matzkin

Prepared By:

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Adam Chamaa, MSCE, P.E., Manager

April 24, 2014

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April 24, 2014

Mr. Diego Matzkin
Harley Ellis Devereaux
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Subject: **Preliminary Geotechnical Report**
Belmont Plaza pool Rebuild-Revitalization
4000 East Olympic Plaza
Long Beach, California
AESCO Project No. 20140185-C8050

Dear Mr. Matzkin:

AESCO is pleased to provide you with the preliminary geotechnical report for the above-referenced pool facility to be constructed at the subject site. This initial report is to assist in the preliminary design evaluation and cannot be used for the final design. The project generally consists of constructing an indoor pool which is approximately 85 feet by 190 feet in plan dimension housed inside an approximately 60, 000 square foot structure. The structure will include a second-story banquet facility, locker rooms, restrooms, pool storage, offices and a basement level mechanical room. An outdoor pool with a plan dimension of approximately 85 feet by 185 feet will be located just east of the structure. There will also be a restaurant near the southwest side of the structure. Two small pools will also be constructed; a teaching pool just south of the indoor pool and an outdoor recreation pool just south of the outdoor pool.

Please do not hesitate to contact us if you have any questions or if we may be of any additional assistance. We look forward to assisting you during the construction of the proposed facility.

Sincerely,

AESCO, Inc.

Debra L. Perez
Project Manager

Russell J. Scharlin, MSCE, P.E., G.E.
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Preliminary Geotechnical Report
Belmont Plaza Pool Rebuild-Revitalization
4000 East Olympic Plaza
Long Beach, California
AESCO Project No. 20140185-C8050

This report (authorized by Harley Ellis Devereaux), presents the preliminary results of a geotechnical investigation performed by AESCO for the Belmont Plaza Pool Rebuild-Revitalization at 4000 East Olympic Plaza, Long Beach, California. The layout of the proposed facility is shown on the Site Plan, Figure 1.

We understand that the project generally consists of constructing an indoor pool which is approximately 85 feet by 190 feet in plan dimension housed inside an approximately 60,000 square foot structure. The structure will include a second-story banquet facility, locker rooms, restrooms, pool storage, offices and a basement level mechanical room. An outdoor pool with a plan dimension of approximately 85 feet by 185 feet will be located just east of the structure. There will also be a restaurant near the southwest side of the structure. Two small pools will also be constructed; a teaching pool just south of the indoor pool and an outdoor recreation pool just south of the outdoor pool.

The purpose of this study was to provide preliminary geotechnical input for design of the new pool facility. The scope of our services included the following:

- Coordinating site access for the field investigation;
- Obtaining utility clearances for the field investigation;
- Performing geotechnical drilling and sampling at the site;
- Performing monitoring during drilling with a PID monitor (photoionization detector);
- Obtaining samples for environmental testing and analysis;
- Performing laboratory testing of representative samples;
- Conducting a seismic hazards screening;
- Engineering analyses; and
- Preparing this preliminary report.

This preliminary report summarizes our findings and presents geotechnical recommendations for the design of this facility. Additional borings will be drilled once the existing building is demolished and/or the building location is finalized and a final geotechnical report will be prepared.

Preliminary Field Investigation

A preliminary field investigation was conducted at the site between April 3 and April 9, 2014 to obtain information on the subsurface conditions. The borings (B-1 through B-10) were placed as close to the footprint of the new facility as possible and were drilled with a hollow stem auger and rotary drilling methods. Drilling mud was introduced into the boreholes to minimize disturbance of granular soils and to keep the borings open during drilling operations. The borings ranged in depth from 35 feet to 80 feet below the existing ground surface. The boring location is shown on the Site Plan, Figure 1. The site plan is based on a proposed site layout drawing by Hastings and Chivetta, dated April 21, 2014. AESCO's field engineer logged the borings and visually classified and collected samples of the subsurface materials encountered in the borings. The borings were backfilled with cement grout and cuttings were transported from the site. The Logs of Borings B-1 through B-10 are presented in the attached Appendix. Additional borings are planned for the final geotechnical investigation. All samples were monitored with a photoionization detector (PID) and results are recorded on the boring logs.

All equipment that came into contact with potentially impacted soil or water was decontaminated before sampling and between borings to prevent cross-contamination of samples. Disposable equipment intended for single-use was packaged for appropriate disposal. Decontamination of equipment occurred prior to, and after, each use. Decontamination was performed using a non-phosphate detergent and water wash and a deionized/distilled water rinse. All soil samples collected for laboratory analysis were placed in appropriate sample containers, properly labeled and preserved, immediately placed in an iced cooler and submitted to the Associated testing laboratories along with the chain-of-custody.

Drive samples were taken in the borings using either a Standard Penetration Test (SPT) sampler or a Modified California (MC) sampler. The sampler was driven 18 inches into the bottom of the borehole using a 140-pound hammer falling a distance of 30 inches. The MC sampler barrel was lined with stainless steel liners to collect relatively undisturbed soil samples. All of the samples were sealed and packaged to help preserve the natural moisture content and to protect them from further disturbance.

Laboratory Testing

Geotechnical Testing

All testing was performed in accordance with ASTM Standards and California Test Methods. Laboratory testing performed in our Huntington Beach, California geotechnical laboratory consisted of water content (ASTM D4959), dry density (ASTM D2937), direct shear (ASTM

D3080), Atterberg Limits (ASTM D4318), and washed sieve analysis (ASTM D1140). Results of the laboratory tests are summarized on the Boring Log and are included in the attached Appendix. Chemical analyses, including pH (ASTM D1293), soluble sulfates (CT417) and soluble chlorides (CT422), and minimum resistivity (CT 301) were also performed. The results of the chemical testing will be presented in the final report.

Environmental Testing

Selected soils samples and groundwater grab samples were preserved and sent to Associated Laboratories for hydrocarbon and heavy metals testing. The test results and the Chain-of-Custody forms are included in the Appendix.

Grab Groundwater Sampling

On April 9, 2014, AESCO collected a grab sample of the water in borings B-3, B-5, B-6, and B-9. The water samples were analyzed for:

- TPHg by EPA Method 8015m,
- TPHd by EPA Method 8015m,
- TPH motor oil by EPA Method 8015m.

Grab Soil Sampling

On April 9, 2014, grab soil samples were collected from borings B-3, B-5, B-6, and B-9. A total of 10 soil samples were collected (two from B-3, B-6, and B-9 and four from B-5) and analyzed for:

- pH by EPA Method 9045,
- CAM 17 Metals by EPA Method 6010B and 7471A,
- VOC by EPA Method 8260B,
- TPH by EPA Method 418.1,
- TPH by EPA Method 8015B, and
- BTEX by EPA Method, 8021B.

Regional Geologic Setting

The project site is located in Long Beach, California within the coastal margin of the Los Angeles basin. The site is located at the transition between the northern portion of the Peninsular Ranges Physiographic Province and the southern portion of the Transverse Ranges Physiographic Province. The project area is considered to be within the Transverse Ranges physiographic province by Norris and Webb (1990) and within the Peninsular Ranges physiographic province by Yerkes, et al. (1965). These two physiographic provinces have contrasting tectonic characteristics that overlap within the Los Angeles basin resulting in a complex tectonic environment marked by active faulting and historic seismicity.

Local Geologic Setting

The Belmont Pool site is located adjacent to the beach and is underlain by 3 feet of fill material generally comprised of silty sand. Alluvial sediments beneath the fill are generally composed of sands, silty sands, sandy silt, and sandy clays. The AMSL is approximately 5 feet or less. The site slopes very gently in a southerly direction.

Site and Subsurface Conditions

The proposed improvements are located just south of the beach and will encompass the entire area of the existing Belmont Plaza. The site is currently covered with the existing structure on the south side and a park which is located on the north side of the site. The existing structure will be demolished prior to construction. The site is relatively flat. Existing underground utilities are present within the site boundary.

Based on our preliminary findings, the material underlying the borings (B-1 through B-10) generally consist of 3 feet of silty sand fill material which is underlain by medium dense to very dense sand, very soft to very stiff sandy silt, very soft to very stiff sandy clay and silty clay, medium dense to very dense sand/silty sand, and medium dense to dense silty sand.

Groundwater was encountered within the borings at depths ranging from 6 feet to 9 feet below the existing ground surface. Based on regional data, historical high groundwater is anticipated to occur at a depth of less than 10 feet (CGS 1998). The depth to groundwater may fluctuate and perched groundwater may occur, depending on rainfall and possible groundwater recharge or pumping activity in the site vicinity.

Seismic Design

A seismic hazards screening was performed for this site to evaluate potential seismic hazards. The seismic hazards screening consisted of reviewing available data published by the California Geological Survey (CGS), the 2013 California Building Code (CBC), and the 2012 International Building Code (IBC). The site is located in the United States Geological Survey Long Beach Quadrangle.

Site Class	D
Spectral Response 'Ss'	1.561g
Spectral Response 'SMs'	1.561g
Spectral Response 'S1'	0.582g
Spectral Response 'SM1'	0.873g

The computer program (EQFAULT, Version 3.00b) and data published by the CGS "The Revised 2002 California Probabilistic Seismic Hazard Maps," June 2003, were reviewed. Results of the fault search are presented in the Appendix. The search indicates that the Newport-Inglewood (L.A. Basin) fault is approximately 3.8 kilometers from the site. The CGS (CDMG, 2000-003) does not delineate this site as being within an Alquist-Priolo Earthquake Fault Zone. However, with the active faults in the region, the site could be subjected to future strong ground shaking that may result from earthquakes on local to distant sources.

Liquefaction Potential

Liquefaction is a mode of ground failure that results from the generation of high pore water pressures during earthquake ground shaking, causing loss of shear strength. Liquefaction is typically a hazard where loose sandy soils exist below groundwater. The CGS has designated certain areas within southern California as potential liquefaction hazard zones. These are areas considered at a risk of liquefaction-related ground failure during a seismic event, based upon mapped surficial deposits and the presence of a relatively shallow water table. The project site is located within a potential liquefaction hazard zone as designated by the CGS (1999). Materials encountered at the project site generally consist of medium dense to very dense granular material and very soft to very stiff cohesive soil. Groundwater was encountered within the borings at depths ranging between 6 feet and 9 feet below the existing ground surface. Historical high groundwater in the project vicinity is less than 10 feet below the ground surface (CGS, 1998). Based on this, we conclude that the potential for liquefaction at the site is high. Other geologic hazards related to liquefaction, such as lateral spreading, are therefore also high. A more in-depth liquefaction analysis will be provided within the final geotechnical report.

Environmental Test Results, Evaluations and Recommendations

Grab Groundwater Test Results

The test results indicated that TPHg, TPHd, and TPH motor oil was not detected in the grab groundwater samples collect from borings B-3, B-6, and B-9.

TPH was detected in B-5 at the following concentrations:

- TPHg at 0.60 mg/l,
- TPHd at 0.94 mg/l, and
- TPHmotor oil at 0.37 mg/l.

Grab Soil Sampling Test Results

Arsenic was detected above California Human Health Screening Levels (CHHSL) and Regional Screening Levels (RSL) in all samples collected. Lead was detected at or slightly above the RSL in all samples collected. TPHg was not detected in any of the samples. TPHd was detected in boring B-5 at 13 feet to 15 feet below the existing ground surface, in boring B-5 at 5 feet to 7 feet, and in boring B-6 at 5 feet to 7 feet. TPH motor oil was detected in boring B-5 at 13 feet to 15 feet and in boring B-6 at 5 feet to 7 feet below the existing ground surface.

Conclusions

Although arsenic was detected above the RSL and CHHSL it remains below the RSL determined by the Department of Toxic Substance Control (DTSC) in their document *Determination of a Southern California Regional Background Arsenic Concentration in Soil* and is not considered a constituent of concern based on the future use of the site. A review of the Draft Phase I report prepared by Ninyo and Moore, dated June 7, 2013, indicated two open-case Leaking Underground Storage Tank (LUST) sites up-gradient of the site, one closed-case site up-gradient of the site, and one closed-case site cross-gradient of the site. The two open-case LUST sites up-gradient of the site were determined to be potential environmental concerns.

Therefore, additional sampling in the vicinity of borings B-5 and B-6 is warranted. At a minimum, two borings should be placed up-gradient of borings B-5 and B-6 to further evaluate the potential environmental concern of on-site migration of TPH from potential up-gradient sources and two borings cross- and down-gradient of the borings to further define the extent of the current on-site conditions.

Structural Loads

The structural loads were not available at this time but are anticipated to be relatively high.

Foundation Recommendations

Based on the anticipated column loads for the structure, prestressed concrete piles or drilled cast-in-place concrete piers should be used to support the structure. Steel pipe piles were not considered due to the high corrosion potential of the salt water environment.

Prestressed Concrete Piles

The concrete piles derive their axial load resistance by skin friction between the piles and the soil. The design axial loads for various sizes of the piles based on a safety factor of 2.0 are presented in the Appendix. These loads are based on anticipated settlements of less than ½ inch total and ¼ inch differential. Lateral loads rely on passive resistance of the soils against the face of the pile. As a minimum, the upper three feet below the existing surface should be over-excavated and re-compacted to at least 95 percent relative compaction as determined by ASTM D1557.

For preliminary evaluation of lateral loads an equivalent fluid with a density of 150 pounds per cubic foot may be assumed for determining the lateral resistance of the soils against the projected width of the pier to a depth of 10 feet. The maximum lateral resistance should be limited to 1500 pounds per square foot at depths greater than 10 feet below the ground surface. The contribution of lateral resistance to a depth equal to four feet should be neglected. Once actual loading conditions are identified a lateral load analysis can be performed using p-y analysis. If lateral loads are high, batter piles can be considered for lateral resistance.

The hammer shall be either a single or double acting air, steam, or diesel hammer having a minimum energy rating of 15,000 foot pounds, however, prior to casting of productive piles, we recommended that test program of indicator piles be performed. The number of indicator piles should be approximately 5 percent of the total production piles. Further, we recommend that a Pile Driving Analyzer (PDA) and Case Pile Wave Analysis Program (CAPWAP) be used for each of the indicator piles to evaluate the design, to evaluate the appropriate size of hammer, and to establish refusal criteria for the project. Indicator piles should be 10 feet longer than the preliminary design and should be reinforced to allow cut-off at any length. Upon completion of the indicator pile program, AESCO can provide pile driving recommendations for the project. Swinging or fixed leads should be used to hold the piles vertical. All piles shall be driven their full length into the ground in a continuous operation. Piles shall be driven at the specified location and at a vertical tolerance of no more than 2 percent. If any piles do not meet the above requirements then the foundation shall be redesigned. The "as driven" locations shall be surveyed by a licensed surveyor. The minimum spacing for these piles should be 2 to 2½ diameters on center; larger spacing will increase the group efficiency.

The equation for determining the group factors for axial loads is presented below.

$$\eta = 1 - \theta \frac{(n-1)m + (m-1)n}{90mn}$$

η = group efficiency factor

m = number of rows of piles

n = number of piles per row

$\theta = \tan^{-1}(B/S)$

B = diameter of single pile

S = center to center spacing of piles

$$P_{ag} = \eta \, N P_a$$

N = number of piles in group

P_a = allowable upward or downward capacity of single isolated pile

P_{ag}= allowable upward or downward capacity of si pile group

Group effects for lateral loads will be highly dependent on the size and spacing of the group and the lateral loads and should be evaluated once loads and layout have been established. The soil engineer and structural engineer shall design the foundation as necessary.

An accurate record of blow counts shall be maintained by a qualified pile inspector under supervision of the Soil Engineer and shall have, as a minimum, the following information: type of piles, dimension, date and time of start and completion of driving, penetration resistance of pile in blows per foot, the operation speed of the hammer, height of ram drop, and any unusual driving phenomenon. The test pile should be supervised by the Soil Engineer to establish driving criteria.

Since pile driving may cause remote vibrations to existing structures, vibration monitoring of adjacent structures is required. Pilot holes with a diameter of 90 percent of the pile dimension drilled to a minimum depth of 10 feet below the existing ground surface are necessary to minimize vibrations to structures less than 50 feet from the pile driving location. Refusal is considered when driving resistance is more than 50 blows per foot for the specified hammer. If the refusal occurs with a minimum penetration of 20 feet, then load test the pile for twice the designed load. If the pile load test is passed then the pile can be used for the support. When a failure occurs, another pile must be driven adjacent to the refusal with a pilot hole 90% of the pile smallest width to a depth of 30 feet.

Drilled Pier Foundations

As an option, the proposed structures may be supported on typical, reinforced concrete drilled piers. The support from the piers for axial loads will be derived from side friction for axial loads, and from passive soil resistance for lateral and over-turning forces.

Based on our exploratory borings, design parameters are provided in the Load Data for Drilled Piers table in the Appendix. (The table provides for shafts ranging between 18 inches to 60 inches in diameter). The allowable axial loads for the drilled piers are tabulated for various sizes of shafts to a depth of 80 feet. The allowable load is calculated for a safety factor of 2.0. It should be noted that the axial capacity is based on the static strengths of the materials, assuming no liquefaction occurs. The results of liquefaction are typically loss of shear strength. This typically equates to large total and differential settlements should the design earthquake occur. We estimate that settlement of the pier would be less than ½ inch. The minimum spacing for these piers should be 3 diameters on center.

The minimum spacing for these piers should be 3 diameters on center; larger spacing will increase the group efficiency. For clusters greater than 4, the group efficiency should be checked using the "perimeter-shear" method which is the ratio of the perimeter of the group for axial loading given for driven piles.

For preliminary evaluation of lateral loads an equivalent fluid with a density of 150 pounds per cubic foot may be assumed for determining the lateral resistance of the soils against the projected width of the pier to a depth of 10 feet. The maximum lateral resistance should be increased to 1500 pounds per square foot at depths greater than 10 feet below the ground surface. The contribution of lateral resistance to a depth equal to four feet should be neglected. Once actual loading conditions are identified a lateral load analysis can be performed using p-y analysis.

The pier foundation should be designed and constructed in accordance with applicable procedures established by the 2013 CBC and the American Concrete Institute (ACI). The specifications should be patterned after recommendations included in the "Standards and Specifications for the Drilled Shaft Industry" published by the Association for Drilled Shaft Contractors (ADSC). We recommend that potential foundation contractors be pre-qualified with a heavy emphasis on local experience as recommended by ADSC.

Special drilling equipment will likely be required for excavating the pier shaft. Drilling difficulties and caving may be expected due to the sandy material and a high groundwater (6 to 9 feet). The contractor should be prepared to control caving by using temporary casing and/or drilling mud. If temporary casing is used it should be removed as concrete is generally placed with at least a 3-foot head of concrete maintained within the casing to ensure the minimum required shaft diameter and prevent side wall collapse. If the excavation cannot be pumped dry, concrete may be pumped below the water table using a tremie pipe. Because the foundation design counts on side friction and passive resistance for bearing capacity and lateral stability, casing must be removed. The use of temporary casing is at the discretion of the contractor. The pier shaft should not be left open for any prolonged period of time. Drilling of the piers should be continuously inspected by a representative of AESCO.

Shallow Foundations

Lightly loaded structures outside the main structure, such as possibly the restaurant, may be founded on shallow foundations. To mitigate the potential for settlement and/or liquefaction impact to these structures, the upper 5 feet below the existing surface or 4 feet below the bottom of the footing, whichever is deeper, should be over-excavated. The excavation should extend 5 feet beyond the footprint of the entire slab (where possible). The bottom 3 feet of the excavation should be backfilled with crushed aggregate material. The crushed aggregate should be compacted to a minimum of 95 percent of the maximum dry density (relative compaction) as determined by ASTM D1557. The aggregate material should be wrapped (top, bottom and sides) with geofabric, such as Mirafi 1120N. The remainder of the excavation should then be backfilled and recompacted to at least 95 percent relative compaction as determined by ASTM D1557. Select engineered fill with an Expansion Index of less than 20 may be used as recommended in the "Site Preparation and Earthwork," section below. The side slopes of shallow excavations less than 5 feet high should be cut to a gradient no steeper than 1½:1 (h:v). Steeper excavations should be supported by shoring. Excavations should not extend below an imaginary 1½:1 inclined plane projecting below the bottom edge of adjacent existing foundations and/or utilities unless properly shored or specifically analyzed further. All excavations should be observed by AESCO to confirm that all unsuitable material is removed from beneath the planned construction prior to placing fill.

AESCO recommends continuous and spread footings be a minimum of 18 inches and 24 inches wide, respectively, to mitigate the potential for shear failure. All footings shall have a minimum embedment of 24 inches below the lowest adjacent finished grade in properly placed and compacted fill. The final design of foundation reinforcement shall be performed by the structural engineer.

Assuming these recommendations are followed, an allowable bearing pressure, for dead plus live loads, of 1800 psf is recommended in the design of shallow spread footings and 1400 psf for continuous footings supported on engineered fill. These pressures can be increased by 33% for temporary loads, such as, seismic loads and wind loads. A passive soil resistance of 150 pcf and a coefficient of friction of 0.35 may be assumed for design against lateral forces.

Any undocumented fill should be removed and replaced with compacted engineered fill. A representative of AESCO should confirm the depth of fill at the time of construction.

All foundations adjacent to any existing buildings, walkways and separately poured porches should be tied into the adjacent slabs with #5 rebar, 30 inches in length, on 18-inch centers, embedded a minimum of 8 inches into the existing, or adjacent slabs, to reduce separation and differential settlement.

Total settlement of the footings is estimated to be 1 inch or less. Differential settlement between similarly loaded footings is expected to be about one-half the total settlement. This estimate is applicable for static conditions.

Concrete Slabs on Grade

We anticipate that concrete slabs on grade for the new structures will extend 5 inches above the final adjacent grade and will be have an 18-inch thickened edge on non-bearing walls. We recommend that the slab sections be properly reinforced with a minimum of #4 bars, at 16 inches, on center, positioned mid height placed on prepared subgrade. The actual reinforcement should be designed by the structural engineer. Slabs on grade should be underlain by the prepared subgrade as recommended in the "Site Preparation and Earthwork," section below. Selective grading will be required to choose the most granular material to place beneath the slabs. A ten mil PVC or polyethylene membrane (vapor barrier) shall be placed on top of a 4-inch thick gravel layer which should be provided beneath all interior slabs to prevent moisture migration. Outside slabs (sidewalks, drives, etc.) should be constructed with expansion joints placed at maximum 12 foot spacing each way to minimize cracking due to shrinkage and expansion of the concrete.

Recommendations for Walls Below Grade

Portions of the structure will be below grade, such as, the mechanical room and the bottoms of the pools. These should be designed for buoyant conditions below an elevation of +5' (AMSL).

Lateral Earth Pressures

Walls below grade will be subjected to lateral earth pressures from the retained soils and surcharge loads. Accordingly, these structures should be designed to resist appropriate lateral earth pressures.

For design purposes, a triangular distribution of lateral earth pressures with an equivalent fluid pressure of 80 pounds per cubic foot (pcf) should be used in design of walls below grade for a restrained condition. This assumes a horizontal grade behind the wall.

Total lateral earth pressures acting on the wall during a seismic event will likely include the static force and the dynamic increment. Using the Mononobe-Okabe procedure, a dynamic lateral earth pressure increment (for a 0.43g) peak ground acceleration based on 10% probability of being exceeded in 50 years, (CGS) of 35H may be assumed for design purposes, where H (in units of feet) is the height of the soil behind the wall. This dynamic increment should be applied to the wall as a triangle pressure over the wall height starting from the bottom of the wall to the top, and are added to the static earth pressures. The lateral earth pressures recommended above are based upon the assumption that the backfill is granular, the ground surface behind the wall is level, and the wall backfill is well drained. The pressure should be increased by 35 percent for sloping backfill with a 2:1 (H:V) slope.

The design values assume free-draining backfill materials are placed behind the wall. Surcharge pressures (dead or live) should be added to the above lateral earth pressures where surcharge loads may be located adjacent to the wall. Surcharge pressures should be applied as a uniform (rectangular) pressure distribution by using a pressure equal to 0.5 times the surcharge pressures. Vertical surcharges set back behind the wall a horizontal distance greater than the wall height need not be added to the design pressure. The above coefficient assumes a uniform surcharge load.

Wall Backfill

Backfill behind walls below grade should consist of granular backfill that is placed directly above and behind the drain material. To reduce the potential for settlement of backfill, it is essential that wall backfill be properly compacted in lifts. The minimum compaction standard for wall backfill should be 90 percent relative compaction in accordance with ASTM D1557. In the event that the wall backfill will support structures or facilities, the compaction standard should be increased to 95 percent relative compaction. Heavy compaction equipment should not be used within 5 feet of the wall. Small hand-operated compaction equipment should be used adjacent to the wall so as not to overstress the wall. The lift thickness with the smaller equipment should not be more than six inches.

Excavation and Shoring

The material can be classified as soil type (C) based on CAL-OSHA classification. Temporary construction slopes should not be steeper than 1½:1 (H:V). Alternatively, shoring may be used to support the excavation. For the proposed foundation excavation, shoring may consist of soldier piles and lagging or another suitable system to retain the sides of the excavation. Shoring should be designed by a licensed engineer experienced in shoring design and submitted for our review.

For the design of cantilever shoring, a minimum equivalent fluid pressure of 35H psf per foot of depth below grade may be used, where (H) is the height in feet. For the design of braced shoring supporting a sloping grade, we recommend such shoring be designed using a rectangular-shaped distribution of lateral earth pressure for a maximum earth pressure of 25 (in psf).

For the design of soldier piles spaced at least three diameters on centers, the passive resistance of the soils adjacent to the piles may be assumed to be 150 psf per foot of embedment depth for the projected width of the pile, up to 1500 psf maximum. The effective width of soldier piles installed can be increased by an adjustment factor of 1.6. The soldier piles may be installed in drilled excavations. Soldier pile members placed in drilled holes should be properly backfilled with sand/cement slurry or lean concrete in order to develop the required passive resistance.

The design of the shored excavation should be performed by an engineer knowledgeable and experienced with the on-site soil conditions. The contractor should be aware that slope height, slope inclination or excavation depths should in no case exceed those specified in local, state or federal safety regulations, e.g. OSHA Health and Safety Standards for Excavation, 29 CFR Part 1926, or successor regulations. Such regulations are strictly enforced and, if not followed, the owner or the contractor could be liable for substantial penalties.

Site Preparation and Earthwork

All grading and site preparation should be observed by experienced personnel reporting to the project Geotechnical Engineer. Field monitoring services are an essential continuation of prior studies to confirm and correlate the findings and prior recommendations with the actual subsurface conditions exposed during construction, and to confirm that suitable fill soils are placed and properly compacted.

The site should be cleared of vegetation, debris, concrete, organic matter, abandoned utility lines, contaminated soils (if any), and unsuitable material. Any existing fill encountered during site preparation should be excavated to the depth of the fill and to a horizontal distance equal to the depth of excavation. A California Licensed Geotechnical Engineer should confirm the depth of fill at the time of construction. As a minimum, the upper three feet below the existing or finished surface should be over-excavated and recompacted to at least 90 percent relative compaction as determined by ASTM D1557 at moisture contents 1 to 3 percent above optimum moisture. For the shallow foundation alternative, a deeper excavation will be required, as described in the Shallow Foundations section, above. The bottom of the excavation shall be inspected by the Geotechnical Engineer to confirm competent soil is reached. The side slopes of shallow excavations should be cut at a gradient no steeper than 1:1 (horizontal to vertical), while excavations greater than 5 feet high should be cut to a gradient no steeper than 1½:1. Excavations should not extend below an imaginary 1.5:1 inclined plane projecting below the bottom edge of adjacent existing foundations and/or utilities unless properly shored or specifically analyzed further. All excavations should be observed by a California Licensed Geotechnical Engineer to confirm that all unsuitable material is removed from beneath the planned construction prior to placing fill.

The bottom of all excavations should be lightly compacted and inspected by the Geotechnical Engineer prior to the placement of any fill. Excavations below the final grade level should be properly backfilled using approved fill material. The backfill and any additional fill should be placed in loose lifts less than 8 inches thick, moisture conditioned to 0 to 4 percent above optimum water content, and compactedto a minimum of 90 percent relative compaction in accordance with ADTM D1557. Engineered fill should consist of soils with a maximum particle size of 3 inches, at least 80 percent passing the ¾-inch sieve and with an expansion index not greater than 20. Fill materials should be free of construction debris, roots, organic matter, rubble, contaminated soils, and any other unsuitable or deleterious material as determined by the Geotechnical Engineer. Any imported fill material used shall be analyzed for acceptability by the Geotechncial Engineer prior to importing it to the site for use as engineered fill.

A representative of the Geotechncial Engineer should observe all footing and slab subgrade surfaces and confirm that the exposed materials are firm. If loose, spongy, soft or other unacceptable materials, including undocumented fill, are encountered in the subgrade they should be removed to firm materials as determined by the Geotechnical Engineer's representative and replaced with either concrete or compacted engineered fill.

Utility Trenches

It is anticipated that the on-site soils will provide suitable support for underground utilities and piping that may be installed. Any soft and/or unsuitable material encountered at the bottom of excavations for such facilities should be removed and be replaced with an adequate bedding material. A non-expansive granular material with a sand equivalent greater than 30 should be used for bedding and shading of utilities.

On-site material should be suitable for backfill of utility and pipe trenches from one foot above the top of the pipe to the final ground surface, provided the material is free of organic matter, deleterious substances, and contamination. Trench backfill should be mechanically placed and compacted in maximum 8-inch lifts to at least 90 percent of the maximum dry density as determined by ASTM Test Method D 1557 (i.e. 90 percent relative compaction) at 1 to 2 percent above optimum moisture content. Where trenches are placed beneath slabs or footings the backfill shall satisfy the gradation and expansion index requirements of engineered fill (see "Site Preparation and Earthwork" section, above). Trenches in the footprint of the pavement shall be backfilled and compacted to a minimum of 90 percent. Flooding or jetting for placement and compaction of backfill is not recommended.

Limitations

It must be recognized that conclusions reached in this report are based on conditions, which exist at the boring location and are assumed to exist over the entire site. In any subsoil investigation, it is necessary to assume that the subsoil conditions between boring(s) do not change significantly. The number of the borings, locations, and spacing are chosen in such a manner as to decrease the possibility of undiscovered anomalies, while considering the nature of loading, size, existing structures, and cost of the project. Note that the boring(s) were placed as close to the location of the proposed structure(s) as possible. The boring locations are approximate and surveying is beyond the scope of our work. Consequently, careful observations must be made during construction to detect significant deviations of actual conditions throughout the construction area from those inferred from the exploratory borings.

In the event that significant changes in design loads or structural characteristics are made, AESCO should be retained to review our original design recommendations and their applicability to the revised design plans. In this way, any required supplemental recommendations can be made in a timely manner.

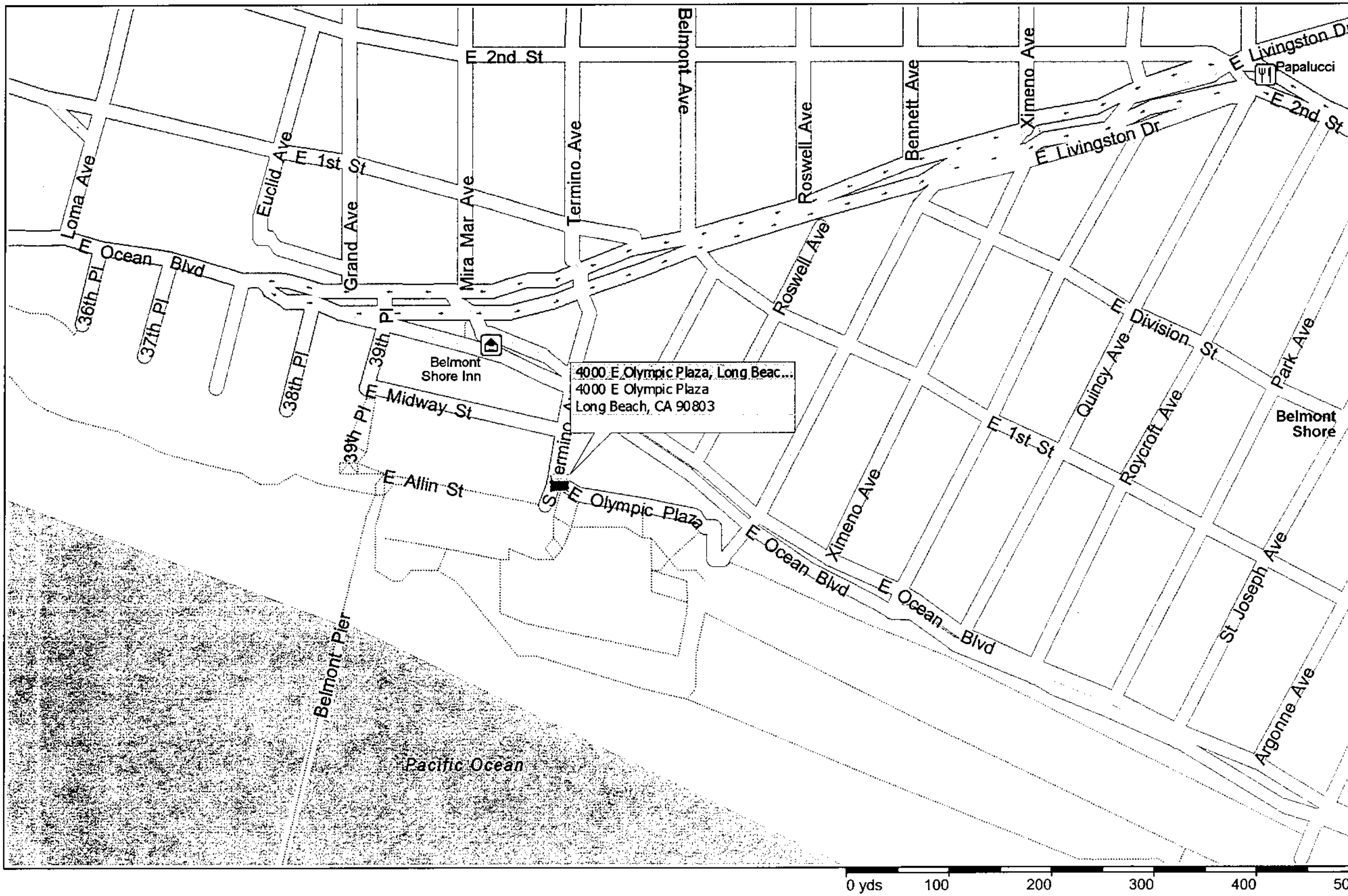
Should any unusual conditions be encountered during construction, this office should be notified immediately so that further investigations and supplemental recommendations can be made. Geotechnical observations and testing should be provided on a continuous basis during grading, excavation, and installation of the foundations. If parties other than AESCO are engaged to provide geotechnical services during construction they will be required to assume the full responsibility for the geotechnical phase of the project by adhering to the recommendations of this report.

Analysis by:

Russell J. Scharlin, P.E., GE

APPENDIX
SITE VICINITY PLAN
SITE PLAN

20140185



E 2nd St
Belmont Ave
Ximeno Ave
Bennett Ave
Roswell Ave
Termino Ave
Mira Mar Ave
Grand Ave
Euclid Ave
Loma Ave
E 1st St
E Livingston Dr
Papalucci
E 2nd St
E Livingston Dr
E Ocean Blvd
36th Pl
37th Pl
38th Pl
39th Pl
39th Pl
Belmont Shore Inn
E Midway St
E Allin St
4000 E Olympic Plaza, Long Beac...
4000 E Olympic Plaza
Long Beach, CA 90803
S Termino Ave
E Olympic Plaza
E Ocean Blvd
E Ocean Blvd
Roswell Ave
Ximeno Ave
E Division St
Quincy Ave
Roycroft Ave
Park Ave
Belmont Shore
E 1st St
St Joseph Ave
Argonne Ave
Belmont Pier
Pacific Ocean
0 yds
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200
300
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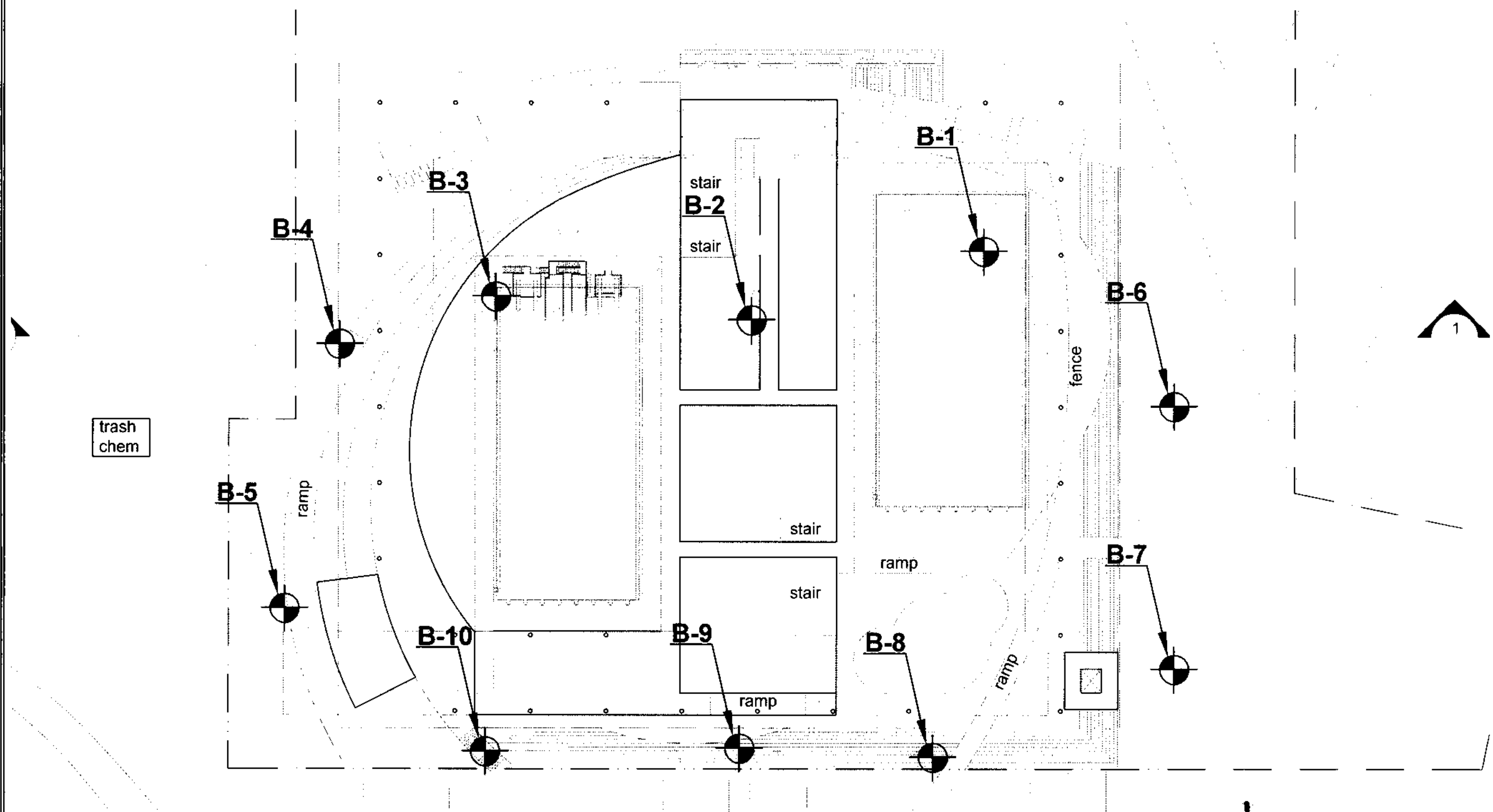


LEGEND

B-1 Approximate Location of Boring

AESCO	**City of Long Beach**	
	Project No. : 20140185-C8050	Scale: *1 inch ≅ 75 feet*
	Site Name: Harley Ellis Devereaux Belmont Plaza Pool Rebuild-Revitalization	
	Site Address: 4000 Olympic Plaza, Long Beach, CA	
	SITE PLAN	Date: 4-24-2014 / Figure 1

APPENDIX
LOGS OF BORINGS B-1 through B-10

MAJOR DIVISION			GRAPHIC SYMBOL	LETTER SYMBOL	TYPICAL DESCRIPTIONS
COARSE GRAINED SOILS	GRAVEL AND GRAVELLY SOILS	CLEAN GRAVEL (LITTLE OR NO FINES)		GW	WELL GRADED GRAVELS, GRAVEL SAND MIXTURES, LITTLE OR NO FINES
				GP	POORLY GRADED GRAVELS, GRAVEL SAND MIXTURES, LITTLE OR NO FINES
	MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH FINES (APPRECIABLE AMOUNT OF FINES)		GM	SILTY GRAVELS, GRAVEL SAND SILT MIXTURE
				GC	CLAYEY GRAVELS, GRAVEL SAND CLAY MIXTURES
MORE THAN 50% BY WEIGHT OF MATERIAL IS LARGER THAN 200 SIEVE	SAND AND SANDY SOILS	CLEAN SAND (LITTLE OR NO FINES)		SW	WELL GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
				SP	POORLY GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
	MORE THAN 50% OF COARSE FRACTION PASSING NO. 4 SIEVE	SANDS WITH FINE (APPRECIABLE AMOUNT OF FINES)		SM	SILTY SANDS, SAND-SILT MIXTURES
				SC	CLAYEY SANDS, SAND-CLAY MIXTURES
FINE GRAINED SOILS	SILTS AND CLAYS	LIQUID LIMIT <50		ML	INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS OR CLAYEY SILTS WITH SLIGHT PLASTICITY
				CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
				OL	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY
MORE THAN 50% BY WEIGHT OF MATERIAL IS SMALLER THAN 200 SIEVE	SILTS AND CLAYS	LIQUID LIMIT >50		MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SAND OR SILTY SOILS
				CH	INORGANIC CLAYS OF HIGH PLATICITY, FAT CLAYS
				OH	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS
HIGHLY ORGANIC SOILS				PT	PEAT, SWAMP SOILS WITH HIGH ORGANIC CONTENTS

AESCO Technologies, Inc.

UNIFIED SOIL CLASSIFICATION SYSTEM

KEY

- ☒ Split Spoon Sample (SPT)
- C California Modified Sample
- Hand Auger Sample
- ▼ Ground Water Level
- N SPT Blows/ft
- P Penetrometer TSF

LOG OF BORING NO. B - 1	AESCO
Project: Belmont Plaza Pool Rebuild-Revitalization **Location:** 4000 East Olympic Plaza, Long Beach, CA	WATER: Encountered at 6 Feet
Client: Harley Ellis Devereaux **Logger:**	DRILLING:
Date: 04/03/14 **Project No.** 20140185-C8050	Hollow Stem Auger with Drilling Mud

FIELD DATA		TESTS	LABORATORY DATA											DESCRIPTION OF STRATUM
Sampler	DEPTH (FT)	N= T= P=	MOISTURE CONTENT %	DRY DENSITY PCF	LIQUID LIMITS %	PLASTIC LIMITS %	PLASTICITY INDEX %	Unconfined Comp. TSF	Unconfined Comp. Strain %	PASSING 200 SIEVE %	DIRECT SHEAR COHESION PSF	DIRECT SHEAR ANGLE Deg	EXPANSION INDEX	
	3		6.1											FILL-Red-brown silty SAND (SM), moist, 0.1ppm
X	5	N=27	3.6											Gray-brown SAND (SP), medium dense, dry, coarse grained, 0.3 ppm
C	7	N=19 P=0.5	13.9	107.1						1.2				Saturated below 6', 0.2 ppm
	8													Gray-brown sandy SILT (ML), very soft, saturated
X	10	N=PUSH/ 18"	24.3							78.5				0.2 ppm
	13													
C	15	N=1												No sample recovery at 13'
	18													
X	20	N=PUSH/ 18"	35.4											Brown silty CLAY (CL), very soft, saturated, 0.1 ppm
	23													
C	25	N=19	27.2	103.4						81.3				Very stiff at 23', 0.2 ppm
	28													
X	30	N=27	30.8											Increase in density at 28', 0.2 ppm
	33													
C	35	N=9 P=0.5	30.3	98.6										Stiff, w/interbedded gray sand at 35', 0.2 ppm
														Gray SAND/silty SAND (SP/SM), dense, saturated, 0.6 ppm
	38													
X	40	N=40	15.2							9.6				
	43													
C	45	N=26	18.4											Medium dense at 43', 0.2 ppm
	48													
X	50	N=72	12.3							7.6				Very dense, coarse grained at 48', 0.3 ppm
														Boring Terminated at 50 Feet

TUBE SAMPLE
AUGER SAMPLE
C CALIFORNIA MODIFIED SAMPLER
SPLIT SPOON
NO RECOVERY

Ground Water Level
Hydrostatic Ground Water Level

N= SPT, BLOWS/FT
T= THD,BLOWS/FT
P= HAND PEN.,TSF
0.1 ppm=PID READING

SM SP ML CL SP/SM

REMARKS:
NP: Non Plastic Materials
* Remolded Samples

LOG OF BORING NO. B - 3

AESCO

Project: Belmont Plaza Pool Rebuild-Revitalization
Location: 4000 East Olympic Plaza, Long Beach, CA
WATER: Encountered at 7 Feet

Client: Harley Ellis Devereaux
Date: 04/08/14
Logger:
Project No. 20140185-C8050
DRILLING: Hollow Stem Auger with Drilling Mud

FIELD DATA			TESTS	LABORATORY DATA											DESCRIPTION OF STRATUM
SOIL SYMBOL		DEPTH (FT)	N= T= P=	MOISTURE CONTENT %	DRY DENSITY PCF	LIQUID LIMITS %	PLASTIC LIMITS %	PLASTICITY INDEX %	Unconfined Comp. TSF	Unconfined Comp. Strain %	PASSING 200 SIEVE %	DIRECT SHEAR COHESION PSF	DIRECT SHEAR ANGLE Deg	EXPANSION INDEX	
SM		3		10.4											FILL-Brown silty SAND (SM), moist, 0.0 ppm
SP	X	5	N=33	1.4											Gray-brown SAND (SP), dense, dry, 0.1 ppm
SP	C	7	N=21 P=0.5	5.3	102.4						4.9				Medium dense, moist at 5', 0.1 ppm
SP		8													Saturated below 7'
SP	X	10	N=19	21.1											Medium grained at 8', 0.1 ppm
CL		13													Brown sandy CLAY (CL), very stiff, saturated
CL	C	15	N=17	15.9	120.4						87.0				0.0 ppm
CL	X	18, 20	N=16	27.0											0.0 ppm
CL	C	23, 25	N=20	21.0	113.1										0.0 ppm
CL	X	28, 30	N=27	23.9							65.9				Increase in sand and density at 28', 0.1 ppm
CL	C	33, 35	N=19 P=2.5	28.7	96.8										Decrease in sand and density at 33', 0.1 ppm
SM															Brown silty SAND (SM), medium dense, saturated, 0.1 ppm
SM	X	38, 40	N=30	27.5							40.0				
SM	C	43, 45	N=28	26.5	104.6										Dark gray at 43', 0.1 ppm
SM	X	48, 50	N=44	19.2							21.2				Dense, increase in sand at 48', 0.0 ppm

TUBE SAMPLE
AUGER SAMPLE
C CALIFORNIA MODIFIED SAMPLER
SPLIT SPOON
NO RECOVERY

Ground Water Level — Hydrostatic Ground Water Level

N= SPT, BLOWS/FT
T= THD,BLOWS/FT
P= HAND PEN.,TSF
0.1 ppm=PID READING

SM — SP — CL — SP/SM — ML

REMARKS:
NP: Non Plastic Materials
* Remolded Samples

LOG OF BORING NO. B - 3 (continued)	AESCO
Project: Belmont Plaza Pool Rebuild-Revitalization — Location: 4000 East Olympic Plaza, Long Beach, CA	WATER: Encountered at 6 Feet
Client: Harley Ellis Devereaux — Logger: — Date: 04/08/14 — Project No. 20140185-C8050	DRILLING: Hollow Stem Auger with Drilling Mud

SOIL SYMBOL (FIELD DATA)		DEPTH (FT)	TESTS N= T= P=	MOISTURE CONTENT %	DRY DENSITY PCF	LIQUID LIMITS %	PLASTIC LIMITS %	PLASTICITY INDEX %	Unconfined Comp. TSF	Unconfined Comp. Strain %	PASSING 200 SIEVE %	DIRECT SHEAR COHESION PSF	DIRECT SHEAR ANGLE Deg	EXPANSION INDEX	DESCRIPTION OF STRATUM
SM															Dark gray silty SAND (SM), dense, saturated
		53													
	C	55	N=30	24.3	107.3										Medium dense, coarse grained, w/interbedded sandy clay at 53', 0.0 ppm
SP/SM		58													Brown-gray SAND/silty SAND (SP/SM), very dense, saturated, 0.1 ppm
	X	60	N=50	15.6							9.5				
		63													
	C	65	N=38	16.8	120.7						10.0				Dense at 63', 0.0 ppm
		68													
ML	X	70	N=29	26.9							50.1				Dark gray sandy SILT (ML), very stiff, saturated, w/interbedded sand, 0.0 ppm
		73													
	C	75	N=30	19.1	113.2										Increase in sand at 73', 0.1 ppm
SP															Dark gray SAND (SP), very dense, saturated
		78													
	X	80	N=64	16.7							11.8				

Boring Terminated at 80 Feet

TUBE SAMPLE
AUGER SAMPLE
C CALIFORNIA MODIFIED SAMPLER
SPLIT SPOON
NO RECOVERY

Ground Water Level — Hydrostatic Ground Water Level

SM — SP — ML — CL — SP/SM

N= SPT, BLOWS/FT
T= THD,BLOWS/FT
P= HAND PEN.,TSF
0.1 ppm=PID READING

REMARKS:
NP: Non Plastic Materials
* Remolded Samples

LOG OF BORING NO. B - 4

AESCO

Project: Belmont Plaza Pool Rebuild-Revitalization
Location: 4000 East Olympic Plaza, Long Beach, CA
WATER: Encountered at 9 Feet

Client: Harley Ellis Devereaux
Date: 04/03/14
Logger:
Project No. 20140185-C8050
DRILLING: Hollow Stem Auger with Drilling Mud

FIELD DATA			TESTS	LABORATORY DATA											DESCRIPTION OF STRATUM
SOIL SYMBOL		DEPTH (FT)	N= T= P=	MOISTURE CONTENT %	DRY DENSITY PCF	LIQUID LIMITS %	PLASTIC LIMITS %	PLASTICITY INDEX %	Unconfined Comp TSF	Unconfined Comp Strain %	PASSING 200 SIEVE %	DIRECT SHEAR COHESION PSF	DIRECT SHEAR ANGLE Deg	EXPANSION INDEX	
SM		3		12.2											FILL-Brown silty SAND (SM), moist, 0.1 ppm
SP	X	5	N=25	5.8											Light gray-brown SAND (SP), medium dense, moist, 0.2 ppm
SP/SM	C	7	N=15 P=0.5	6.4	108.7						5.9				Light gray-brown SAND/silty SAND (SP/SM), medium dense, moist, medium grained, 0.2 ppm
		8													
	X	10	N=23	15.8											Coarse grained at 8', 0.2 ppm Saturated below 9'
CL															Brown sandy CLAY (CL), stiff, satruated
		13													
	C	15	N=14	18.6	117.8						82.2				0.2 ppm
		18													
	X	20	N=11	25.7											W/seashells at 18', 0.2 ppm
		23													
	C	25	N=16	22.6	107.8										0.1 ppm
		28													
ML	X	30	N=29	19.0							75.7				Dark gray sandy SILT (ML), very stiff, saturated, 0.2 ppm
		33													
	C	35	N=14 P=0.5	26.4	99.6										Stiff, w/interbedded sand at 33', 0.2 ppm

Boring Terminated at 35 Feet

TUBE SAMPLE
AUGER SAMPLE
C CALIFORNIA MODIFIED SAMPLER
SPLIT SPOON
NO RECOVERY
Ground Water Level
Hydrostatic Ground Water Level
N= SPT, BLOWS/FT
T= THD,BLOWS/FT
P= HAND PEN ,TSF
0.1 ppm=PID READING
SM SP SP/SM CL ML

REMARKS:
NP: Non Plastic Materials
* Remolded Samples

LOG OF BORING NO. B - 5

AESCO

Project: Belmont Plaza Pool Rebuild-Revitalization **Location:** 4000 East Olympic Plaza, Long Beach, CA

WATER: Encountered at 7 Feet

Client: Harley Ellis Devereaux **Logger:**

Date: 04/08/14 **Project No.** 20140185-C8050

DRILLING: Hollow Stem Auger with Drilling Mud

FIELD DATA: SOIL SYMBOL		DEPTH (FT)	TESTS: N= T= P=	MOISTURE CONTENT %	DRY DENSITY PCF	LIQUID LIMITS %	PLASTIC LIMITS %	PLASTICITY INDEX %	Unconfined Comp. TSF	Unconfined Comp. Strain %	PASSING 200 SIEVE %	DIRECT SHEAR COHESION PSF	DIRECT SHEAR ANGLE Deg	EXPANSION INDEX	DESCRIPTION OF STRATUM
		3													FILL-Brown silty SAND (SM), 0.3 ppm
		5	N=33												Gray-brown SAND (SP), dense, wet, 5.7 ppm
	C	7	N=18												Medium dense, 4.3 ppm
		8													Saturated below 7'
		10	N=7												Gray, loose, coarse grained, w/seashells at 8', 41.0 ppm
		13													
	C	15	N=31												Dense, 59.0 ppm
		18													Gray silty SAND (SM), medium dense, saturated, w/interbedded silt, w/seashells, 16.5 ppm
		20	N=20												
		23													Gray SAND (SP), medium dense, saturated, 0.7 ppm
	C	25	N=11												
		28													Gray sandy SILT (ML), very stiff, saturated, 0.7 ppm
		30	N=26												
		33													
	C	35	N=31												0.2 ppm
		38													Gray SAND (SP), dense, saturated, 0.5 ppm
		40	N=34												
		43													
	C	45	N=34												0.2 ppm
		48													
		50	N=31												0.6 ppm

TUBE SAMPLE
AUGER SAMPLE
C CALIFORNIA MODIFIED SAMPLER
SPLIT SPOON
NO RECOVERY
SM SP ML

Ground Water Level Hydrostatic Ground Water Level

N= SPT, BLOWS/FT
T= THD,BLOWS/FT
P= HAND PEN ,TSF
0.1 ppm=PID READING

REMARKS:
NP: Non Plastic Materials
* Remolded Samples

LOG OF BORING NO. B - 5 (continued) | *AESCO*

Project: Belmont Plaza Pool Rebuild-Revitalization | Location: 4000 East Olympic Plaza, Long Beach, CA

WATER: Encountered at 6 Feet

Client: Harley Ellis Devereaux | Logger:

Date: 04/03/14 | Project No. 20140185-C8050

DRILLING: Hollow Stem Auger with Drilling Mud

FIELD DATA			TESTS	LABORATORY DATA											
SOIL SYMBOL		DEPTH (FT)	N= T= P=	MOISTURE CONTENT %	DRY DENSITY PCF	LIQUID LIMITS %	PLASTIC LIMITS %	PLASTICITY INDEX %	Unconfined Comp. TSF	Unconfined Comp. Strain %	PASSING 200 SIEVE %	DIRECT SHEAR COHESION PSF	DIRECT SHEAR ANGLE Deg	EXPANSION INDEX	DESCRIPTION OF STRATUM
															Gray SAND (SP), dense, saturated
		53													
	C	55	N=41												Coarse grained at 53', 0.6 ppm
		58													
		60	N=27												Medium dense at 58', 0.2 ppm
		63													
	C	65	N=38												Dense at 63', 0.1 ppm
		68													
		70	N=31												0.3 ppm
		73													
	C	75	N=50/3"												Very dense at 73', 0.1 ppm
		78													
		80	N=50/6"												0.1 ppm

Boring Terminated at 80 Feet

TUBE SAMPLE
AUGER SAMPLE
C CALIFORNIA MODIFIED SAMPLER
SPLIT SPOON
NO RECOVERY
SP

Ground Water Level
Hydrostatic Ground Water Level

N= SPT, BLOWS/FT
T= THD,BLOWS/FT
P= HAND PEN.,TSF
0.1 ppm=PID READING

REMARKS:
NP: Non Plastic Materials
* Remolded Samples

LOG OF BORING NO. B - 6

AESCO

Project: Belmont Plaza Pool Rebuild-Revitalization	Location: 4000 East Olympic Plaza, Long Beach, CA
Client: Harley Ellis Devereaux	Logger:
Date: 04/03/14	Project No. 20140185-C8050

WATER: Encountered at 7 Feet

DRILLING: Hollow Stem Auger with Drilling Mud

SOIL SYMBOL	SAMPLE	DEPTH (FT)	TESTS N= T= P=	MOISTURE CONTENT %	DRY DENSITY PCF	LIQUID LIMITS %	PLASTIC LIMITS %	PLASTICITY INDEX %	Unconfined Comp. TSF	Unconfined Comp. Strain %	PASSING 200 SIEVE %	DIRECT SHEAR COHESION PSF	DIRECT SHEAR ANGLE Deg	EXPANSION INDEX	DESCRIPTION OF STRATUM
SM		3		8.2											FILL-Brown silty SAND (SM), moist, 0.1 ppm
SP/SM	X	5	N=22	12.8											Gray-brown SAND/silty SAND (SP/SM), medium dense, moist, 0.1 ppm
	C	7	N=18 P=0.5	12.6	111.4						5.4				0.1 ppm
		8													Saturated below 7'
	X	10	N=17	20.4											0.1 ppm
CL															Brown sandy CLAY (CL),soft, saturated, 0.1 ppm
		13													
	C	15	N=4	21.9	111.4						73.8				
		18													
	X	20	N=4	21.8											0.1 ppm
		23													
	C	25	N=23	21.8	107.8										Very stiff, 0.1 ppm
		28													
	X	30	N=19	27.5							84.9				0.1 ppm
		33													
	C	35	N=17 P=1.0	29.9	99.1										0.1 ppm
SM															Gray-brown silty SAND (SM), medium dense, saturated, 0.1 ppm
		38													
	X	40	N=26	27.1							32.4				
		43													
	C	45	N=17	28.2	99.5										0.1 ppm
		48													
	X	50	N=25	27.8							14.6				Increase in sand, 0.1 ppm

TUBE SAMPLE
AUGER SAMPLE
C CALIFORNIA MODIFIED SAMPLER
SPLIT SPOON
NO RECOVERY
SM SP/SM CL

▼ Ground Water Level ▽ Hydrostatic Ground Water Level

N= SPT, BLOWS/FT
T= THD,BLOWS/FT
P= HAND PEN.,TSF
0.1 ppm=PID READING

REMARKS:
NP: Non Plastic Materials
* Remolded Samples

LOG OF BORING NO. B - 6 (continued) | *AESCO*

Project: Belmont Plaza Pool Rebuild-Revitalization
Location: 4000 East Olympic Plaza, Long Beach, CA
WATER: Encountered at 6 Feet

Client: Harley Ellis Devereaux
Date: 04/03/14
Logger:
Project No. 20140165-C8050
DRILLING: Hollow Stem Auger with Drilling Mud

FIELD DATA			TESTS	LABORATORY DATA											DESCRIPTION OF STRATUM
SOIL SYMBOL		DEPTH (FT)	N= T= P=	MOISTURE CONTENT %	DRY DENSITY PCF	LIQUID LIMITS %	PLASTIC LIMITS %	PLASTICITY INDEX %	Unconfined Comp TSF	Unconfined Comp Strain %	PASSING 200 SIEVE %	DIRECT SHEAR COHESION PSF	DIRECT SHEAR ANGLE Deg	EXPANSION INDEX	
SM															Gray-brown silty SAND (SM), medium dense, saturated
SM		53													
SM	C	55	N=30	20.4	110.4										Coarse grained, w/interbedded brown clay at 53', 0.1 ppm
SM		58													
SM	X	60	N=24	16.7							13.4				Gray at 58', 0.1 ppm
SM		63													
SM	C	65	N=29 P=2.0	23.6	108.3										Gray-brown, w/interbedded brown clay at 63', 0.1 ppm
SM		68													
SM	X	70	N=42	20.1							47.7				Gray, dense, 0.1 ppm
SM		73													
SM	C	75	N=50/6"	21.7	115.7										Brown, very dense, coarse grained at 73', 0.1 ppm
SP/SM															Gray SAND/silty SAND (SP/SM), very dense, 0.1 ppm
SP/SM		78													
SP/SM	X	80	N=50/6"	14.5							11.5				

Boring Terminated at 80 Feet

TUBE SAMPLE
AUGER SAMPLE
C CALIFORNIA MODIFIED SAMPLER
SPLIT SPOON
NO RECOVERY
SM
SP/SM

Ground Water Level
Hydrostatic Ground Water Level

N= SPT, BLOWS/FT
T= THD,BLOWS/FT
P= HAND PEN.,TSF
0.1 ppm=PID READING

REMARKS:
NP: Non Plastic Materials
* Remolded Samples

LOG OF BORING NO. B - 7

AESCO

Project: Belmont Plaza Pool Rebuild-Revitalization

Location: 4000 East Olympic Plaza
Long Beach, CA

WATER: Encountered at 5 Feet

Client: Harley Ellis Devereaux

Date: 04/03/14

Logger:

Project No. 20140185-C8050

DRILLING:
Hollow Stem Auger with Drilling Mud

FIELD DATA			TESTS	LABORATORY DATA												
SOIL SYMBOL		DEPTH (FT)	N= T= P=	MOISTURE CONTENT %	DRY DENSITY PCF	LIQUID LIMITS %	PLASTIC LIMITS %	PLASTICITY INDEX %	Unconfined Comp TSF	Unconfined Comp Strain %	PASSING 200 SIEVE %	DIRECT SHEAR COHESION PSF	DIRECT SHEAR ANGLE Deg	EXPANSION INDEX	DESCRIPTION OF STRATUM
SM		3		10.1											FILL-Brown silty SAND (SM), moist, w/gravel, 0.1 ppm
SC		5	N=8	14.0							40.2				Brown clayey SAND (SC), loose, moist, 0.1 ppm
SM	C	7 8	N=13 P=1.0	21.3	102.9						5.0				Brown silty SAND (SM), medium dense, saturated, 0.1 ppm
SP		10	N=15	23.9							4.8				Gray SAND (SP), medium dense, saturated, 0.1 ppm
SP/SM		13													Gray SAND/silty SAND (SP/SM), medium dense, saturated, coarse grained, 0.1 ppm
	C	15	N=26	25.4	99.0										W/organics at 13'
SP		18													Gray SAND (SP), medium dense, saturated, 0.1 ppm
		20	N=20	22.7											
SM		23													Gray silty SAND (SM), medium dense, saturated
	C	25	N=11 P=0.5	24.9	103.6						38.5				0.0 ppm
		28													
		30	N=19	23.5											W/seashells and interbedded sandy clay at 28', 0.1 ppm
		33													
	C	35	N=31	22.7	108.2						24.9				Dark gray, dense at 33', 0.1 ppm

Boring Terminated at 35 Feet

TUBE SAMPLE
AUGER SAMPLE
C CALIFORNIA MODIFIED SAMPLER
SPLIT SPOON
NO RECOVERY

Ground Water Level
Hydrostatic Ground Water Level

SM SC SP SP/SM

N= SPT, BLOWS/FT
T= THD,BLOWS/FT
P= HAND PEN.,TSF
0.1 ppm=PID READING

REMARKS:
NP: Non Plastic Materials
* Remolded Samples

LOG OF BORING NO. B - 8

AESCO

Project: Belmont Plaza Pool Rebuild-Revitalization
Location: 4000 East Olympic Plaza, Long Beach, CA
WATER: Encountered at 5 Feet

Client: Harley Ellis Devereaux
Date: 04/04/14
Logger:
Project No. 20140185-C805(
DRILLING: Hollow Stem Auger with Drilling Mud

FIELD DATA: SOIL SYMBOL	Sample	DEPTH (FT)	TESTS: N= T= P=	MOISTURE CONTENT %	DRY DENSITY PCF	LIQUID LIMITS %	PLASTIC LIMITS %	PLASTICITY INDEX %	Unconfined Comp. TSF	Unconfined Comp. Strain %	PASSING 200 SIEVE %	DIRECT SHEAR COHESION PSF	DIRECT SHEAR ANGLE Deg	EXPANSION INDEX	DESCRIPTION OF STRATUM
SM		3		8.2											FILL-Brown silty SAND (SM), moist, 0.1 ppm
SP ▼	X	5	N=26	5.9											Gray-brown SAND (SP), medium dense, moist, 0.1 ppm
	C	7	N=18	11.5	104.7						1.8				Gray at 5', 0. 1ppm
		8													
	X	10	N=20	23.3											Gray-brown at 8', 0.1 ppm
SP/SM		13													Gray SAND/silty SAND (SP/SM), loose, saturated, 0.1 ppm
	C	15	N=10 P=0.5	28.4	98.7						9.7				
		18													
	X	20	N=17	22.1											Medium dense at 18', 0.1 ppm
		23													
	C	25	N=9 P=0.5	26.0	103.5										Loose, w/seashells at 23', 0.1 ppm
ML		28													Brown sandy SILT (ML), stiff, saturated, 0.0 ppm
	X	30	N=12	23.2							56.7				
SP/SM		33													Gray SAND/silty SAND (SP/SM), medium dense,saturated, 0.1 ppm
	C	35	N=19	24.1	105.9						8.4				

Boring Terminated at 35 Feet

TUBE SAMPLE
AUGER SAMPLE
C CALIFORNIA MODIFIED SAMPLER
SPLIT SPOON
NO RECOVERY
▼ Ground Water Level
▽ Hydrostatic Ground Water Level
N= SPT, BLOWS/FT
T= THD,BLOWS/FT
P= HAND PEN.,TSF
0.1 ppm=PID READING
SM SP SP/SM ML

REMARKS:
NP: Non Plastic Materials
* Remolded Samples

LOG OF BORING NO. B - 9

AESCO

Project: Belmont Plaza Pool Rebuild-Revitalization

Location: 4000 East Olympic Plaza
Long Beach, CA

WATER: Encountered at 7 Feet

Client: Harley Ellis Devereaux

Date: 04/08/14

Logger:

Project No. 20140185-C8050

DRILLING:
Hollow Stem Auger with Drilling Mud

SOIL SYMBOL	DEPTH (FT)	TESTS N= T= P=	MOISTURE CONTENT %	DRY DENSITY PCF	LIQUID LIMITS %	PLASTIC LIMITS %	PLASTICITY INDEX %	Unconfined Comp. TSF	Unconfined Comp. Strain %	PASSING 200 SIEVE %	DIRECT SHEAR COHESION PSF	DIRECT SHEAR ANGLE Deg	EXPANSION INDEX	DESCRIPTION OF STRATUM
SM	3													FILL-Brown silty SAND (SM), 0.1 ppm
SM	5	N=12												NATIVE-Gray-brown silty SAND (SM), medium dense, 0.1 ppm
SP	C 7	N=23												Gray SAND (SP), medium dense, wet, 0.1 ppm
	8													Saturated below 7'
	10	N=19												Gray-brown, 0.1 ppm
	13													
	C 15	N=15												Gray, w/some interbedded gray silt, saturated, 0.0 ppm
SM	18													Brown silty SAND (SM), medium dense, saturated, 0.1 ppm
	20	N=14												
ML	23													Dark gray sandy SILT (ML), stiff, saturated, 0.1 ppm
	C 25	N=10												
	28													
SM	30	N=15												Brown silty SAND (SM), medium dense, saturated, 0.0 ppm
	33													
	C 35	N=23												Gray, 0.1 ppm
SP	38													Gray SAND (SP), dense,saturated, coarse grained, 0.0 ppm
	40	N=37												
	43													
	C 45	N=39												Dark gray, 0.0 ppm
	48													
	50	N=40												0.0 ppm

TUBE SAMPLE
AUGER SAMPLE
C CALIFORNIA MODIFIED SAMPLER
SPLIT SPOON
NO RECOVERY

SM SP ML

Ground Water Level

Hydrostatic Ground Water Level

N= SPT, BLOWS/FT
T= THD,BLOWS/FT
P= HAND PEN.,TSF
0.1 ppm=PID READING

REMARKS:
NP: Non Plastic Materials
* Remolded Samples

LOG OF BORING NO. B - 9 (continued)	AESCO
Project: Belmont Plaza Pool Rebuild-Revitalization **Location:** 4000 East Olympic Plaza, Long Beach, CA	WATER: Encountered at 6 Feet
Client: Harley Ellis Devereaux **Logger:** **Date:** 04/03/14 **Project No.** 20140185-C8050	DRILLING: Hollow Stem Auger with Drilling Mud

SOIL SYMBOL		DEPTH (FT)	N= T= P=	MOISTURE CONTENT %	DRY DENSITY PCF	LIQUID LIMITS %	PLASTIC LIMITS %	PLASTICITY INDEX %	Unconfined Comp. TSF	Unconfined Comp. Strain %	PASSING 200 SIEVE %	DIRECT SHEAR COHESION PSF	DIRECT SHEAR ANGLE Deg	EXPANSION INDEX	DESCRIPTION OF STRATUM
															Gray SAND (SP), dense, saturated, coarse grained
		53													
	C	55	N=32												
		58													
		60	N=28												W/interbedded gray silt at 58', 0.1 ppm
		63													
	C	65	N=50/4"												Very dense at 63', 0.1 ppm
		68													
		70	N=56												
		73													
	C	75	N=20												Medium dense at 73'
		78													
		80	N=56												Very dense at 78'

Boring Terminated at 80 Feet

TUBE SAMPLE
AUGER SAMPLE
C CALIFORNIA MODIFIED SAMPLER
SPLIT SPOON
NO RECOVERY
SP

Ground Water Level
Hydrostatic Ground Water Level

N= SPT, BLOWS/FT
T= THD,BLOWS/FT
P= HAND PEN.,TSF
0.1 ppm=PID READING

REMARKS:
NP: Non Plastic Materials
* Remolded Samples

LOG OF BORING NO. B - 10

AESCO

Project: Belmont Plaza Pool Rebuild-Revitalization
Location: 4000 East Olympic Plaza, Long Beach, CA

WATER: Encountered at 4 Feet

Client: Harley Ellis Devereaux
Date: 04/03/14
Logger:
Project No. 20140185-C8050

DRILLING: Hollow Stem Auger with Drilling Mud

FIELD DATA			TESTS	LABORATORY DATA											DESCRIPTION OF STRATUM
SOIL SYMBOL		DEPTH (FT)	N= T= P=	MOISTURE CONTENT %	DRY DENSITY PCF	LIQUID LIMITS %	PLASTIC LIMITS %	PLASTICITY INDEX %	Unconfined Comp. TSF	Strain %	PASSING 200 SIEVE %	DIRECT SHEAR COHESION PSF	DIRECT SHEAR ANGLE Deg	EXPANSION INDEX	
		3		10.7											FILL-Brown silty SAND (SM), moist, 0.0 ppm
		5	N=25	9.9											Gray-brown SAND/silty SAND (SP/SM), medium dense, saturated, 0.1 ppm
	C	7	N=19	8.9	97.9						2.2				Gray-brown SAND (SP), medium dense, saturated, 0.1 ppm
		8													
		10	N=23	21.2											0.1 ppm
		13													
	C	15	N=13 P=1.0	17.9	113.9						0.6				Gray, coarse grained at 13', 0.1 ppm
		18													
		20	N=18	18.9											0.1 ppm
		23													Gray-brown sandy SILT (ML), stiff, saturated, 0.1 ppm
	C	25	N=10 P=0.5	27.4							61.3				
		28													
		30	N=15	18.7							22.8				Gray silty SAND (SM), medium dense, saturated, 0.1 ppm
		33													
	C	35	N=18	26.7							15.2				0.1 ppm

Boring Terminated at 35 Feet

TUBE SAMPLE
AUGER SAMPLE
C CALIFORNIA MODIFIED SAMPLER
SPLIT SPOON
NO RECOVERY
SM SP/SM SP ML
Ground Water Level
Hydrostatic Ground Water Level
N= SPT. BLOWS/FT
T= THD.BLOWS/FT
P= HAND PEN.,TSF
0.1 ppm=PID READING

REMARKS:
NP: Non Plastic Materials
* Remolded Samples

APPENDIX
SEISMIC DESIGN DATA

USGS Design Maps Summary Report

User–Specified Input

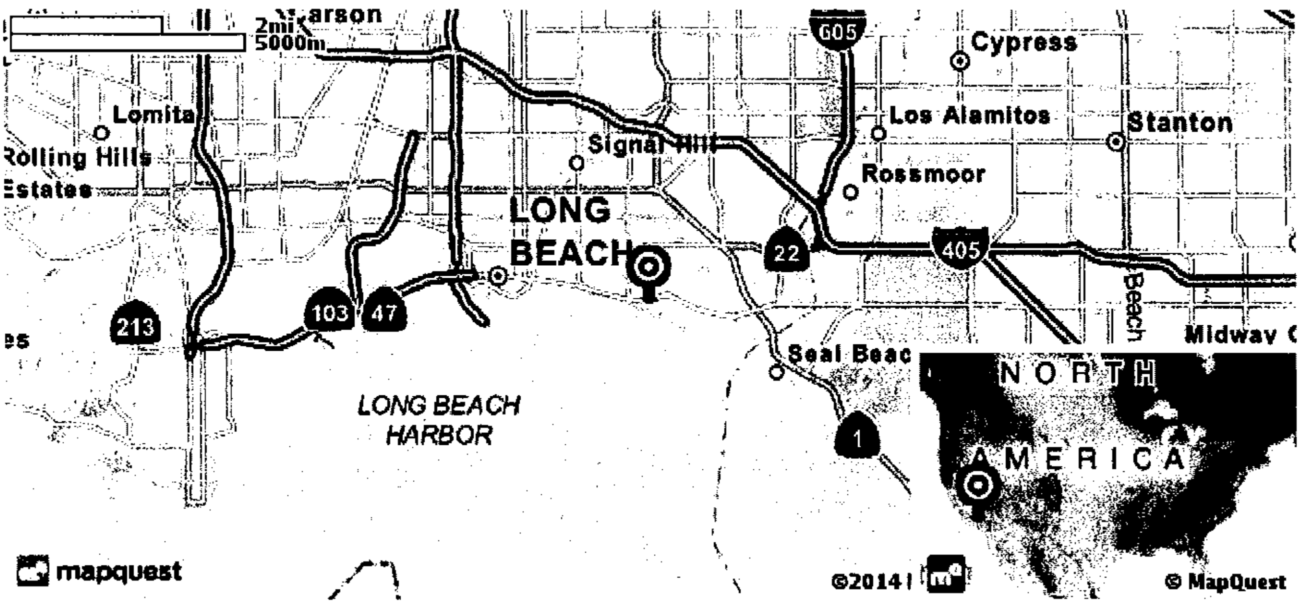
Report Title Belmont Plaza Pool Rebuild-Revitalization
Thu April 24, 2014 22:41:14 UTC

Building Code Reference Document 2012 International Building Code
(which utilizes USGS hazard data available in 2008)

Site Coordinates 33.7593°N, 118.1449°W

Site Soil Classification Site Class D – "Stiff Soil"

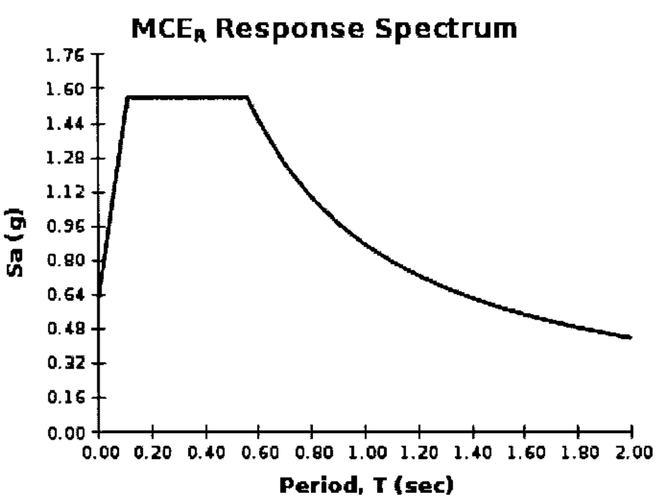
Risk Category I/II/III

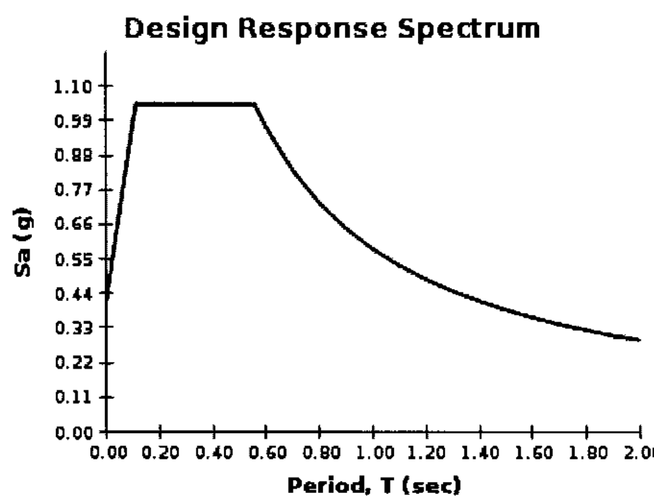


USGS–Provided Output

S_S =	1.561 g	S_{MS} =	1.561 g	S_{DS} =	1.041 g
S_1 =	0.582 g	S_{M1} =	0.873 g	S_{D1} =	0.582 g

For information on how the SS and S1 values above have been calculated from probabilistic (risk-targeted) and deterministic ground motions in the direction of maximum horizontal response, please return to the application and select the "2009 NEHRP" building code reference document.





knowledge.

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***********************
*                     *
*   E Q F A U L T     *
*                     *
*   Version 3.00      *
*                     *
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```

DETERMINISTIC ESTIMATION OF
PEAK ACCELERATION FROM DIGITIZED FAULTS

JOB NUMBER: 20140185-C8050

DATE: 04-24-2014

JOB NAME: Belmont Plaza Pool Rebuild

CALCULATION NAME: Test Run Analysis

FAULT-DATA-FILE NAME: CDMGFLTE.DAT

SITE COORDINATES:
   SITE LATITUDE: 33.7593
   SITE LONGITUDE: 118.1449

SEARCH RADIUS: 62.1 mi

ATTENUATION RELATION: 14) Campbell & Bozorgnia (1997 Rev.) - Alluvium
   UNCERTAINTY (M=Median, S=Sigma): M   Number of Sigmas: 0.0
   DISTANCE MEASURE: cdist
   SCOND: 0
   Basement Depth: 5.00 km   Campbell SSR: 0   Campbell SHR: 0
   COMPUTE PEAK HORIZONTAL ACCELERATION

FAULT-DATA FILE USED: CDMGFLTE.DAT

MINIMUM DEPTH VALUE (km): 3.0

EQFAULT SUMMARY

DETERMINISTIC SITE PARAMETERS

Page 1

ABBREVIATED FAULT NAME	APPROXIMATE DISTANCE mi (km)	ESTIMATED MAX. EARTHQUAKE EVENT: MAXIMUM EARTHQUAKE MAG.(Mw)	PEAK SITE ACCEL. g	EST. SITE INTENSITY MOD.MERC.
NEWPORT-INGLEWOOD (L.A.Basin)	2.4(3.8)	6.9	0.482	X
COMPTON THRUST	3.4(5.4)	6.8	0.598	X
PALOS VERDES	6.6(10.7)	7.1	0.388	X
ELYSIAN PARK THRUST	13.7(22.1)	6.7	0.205	VIII
WHITTIER	17.4(28.0)	6.8	0.149	VIII
NEWPORT-INGLEWOOD (Offshore)	17.7(28.5)	6.9	0.158	VIII
SAN JOSE	24.9(40.1)	6.5	0.083	VII
RAYMOND	25.9(41.7)	6.5	0.079	VII
HOLLYWOOD	26.1(42.0)	6.4	0.072	VII
CHINO-CENTRAL AVE. (Elsinore)	27.0(43.4)	6.7	0.087	VII
VERDUGO	27.3(44.0)	6.7	0.085	VII
SANTA MONICA	27.5(44.2)	6.6	0.078	VII
MALIBU COAST	29.5(47.4)	6.7	0.077	VII
ELSINORE-GLEN IVY	30.0(48.2)	6.8	0.078	VII
SIERRA MADRE	31.1(50.0)	7.0	0.090	VII
CLAMSHELL-SAWPIT	31.4(50.5)	6.5	0.060	VI
NORTHRIDGE (E. Oak Ridge)	35.5(57.2)	6.9	0.069	VI
CUCAMONGA	35.6(57.3)	7.0	0.075	VII
CORONADO BANK	36.2(58.2)	7.4	0.102	VII
ANACAPA-DUME	36.7(59.0)	7.3	0.090	VII
SIERRA MADRE (San Fernando)	38.7(62.3)	6.7	0.053	VI
SAN GABRIEL	39.4(63.4)	7.0	0.066	VI
SANTA SUSANA	45.1(72.6)	6.6	0.039	V
ELSINORE-TEMECULA	46.5(74.9)	6.8	0.044	VI
HOLSER	49.3(79.4)	6.5	0.032	V
SAN JACINTO-SAN BERNARDINO	49.7(80.0)	6.7	0.037	V
SAN ANDREAS - Mojave	50.0(80.4)	7.1	0.053	VI
SAN ANDREAS - 1857 Rupture	50.0(80.4)	7.8	0.096	VII
SAN ANDREAS - San Bernardino	51.9(83.5)	7.3	0.060	VI
SAN ANDREAS - Southern	51.9(83.5)	7.4	0.065	VI
SIMI-SANTA ROSA	53.1(85.5)	6.7	0.034	V
OAK RIDGE (Onshore)	53.2(85.6)	6.9	0.039	V
CLEGHORN	54.6(87.9)	6.5	0.028	V
SAN JACINTO-SAN JACINTO VALLEY	55.1(88.7)	6.9	0.039	V
SAN CAYETANO	59.8(96.2)	6.8	0.031	V
ROSE CANYON	60.0(96.6)	6.9	0.035	V

****

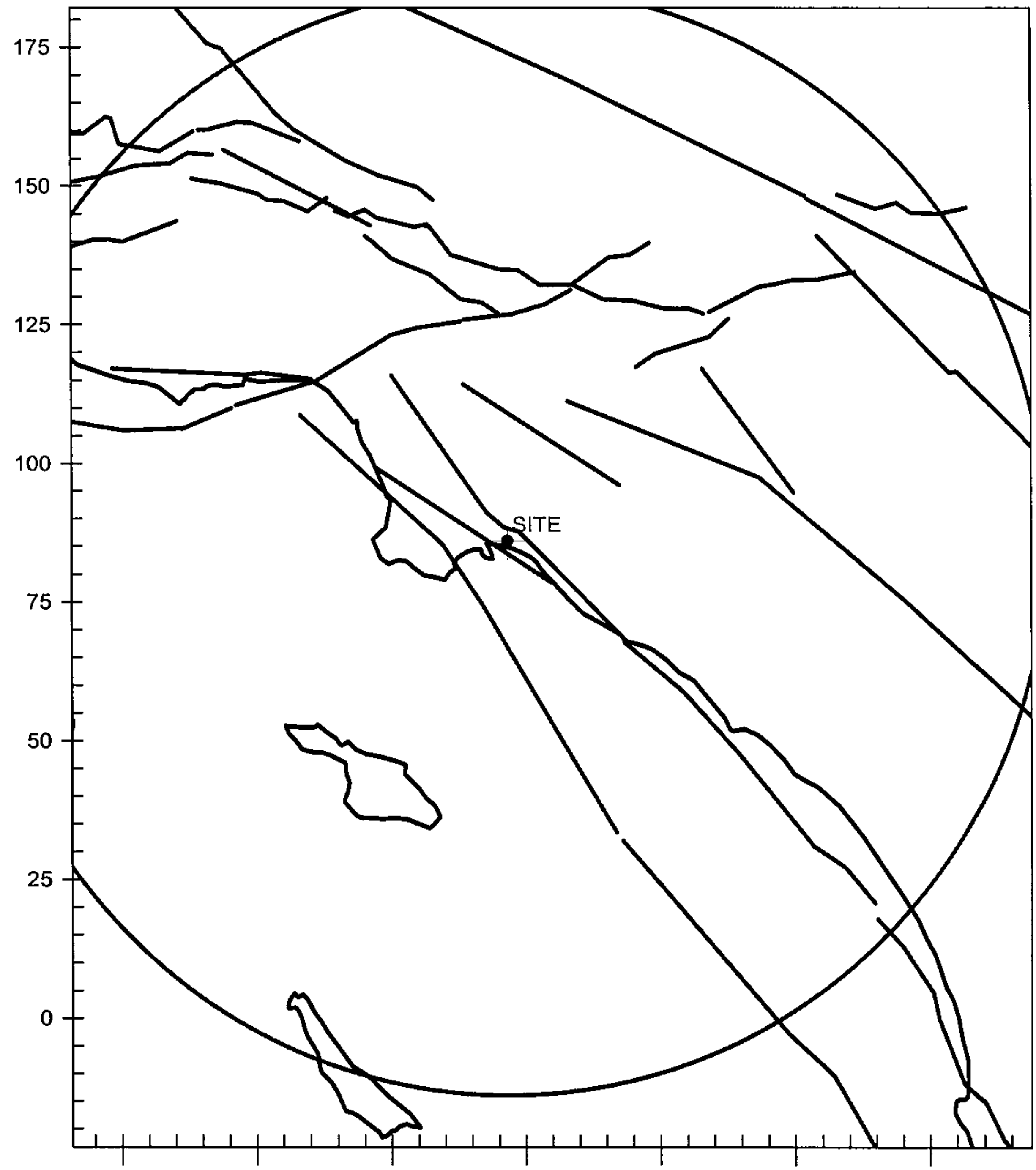
-END OF SEARCH- 36 FAULTS FOUND WITHIN THE SPECIFIED SEARCH RADIUS.

THE NEWPORT-INGLEWOOD (L.A.Basin) FAULT IS CLOSEST TO THE SITE.
IT IS ABOUT 2.4 MILES (3.8 km) AWAY.

LARGEST MAXIMUM-EARTHQUAKE SITE ACCELERATION: 0.5982 g

CALIFORNIA FAULT MAP

Belmont Plaza Pool Rebuild



APPENDIX
LABORATORY TEST RESULTS

Associated Laboratories

806 N. Batavia - Orange, CA 92868
Tel (714)771-6900 Fax (714)538-1209
www.associatedlabs.com
Info@associatedlabs.com

ACCREDITED IN ACCORDANCE WITH nelac 04232CA

Client:	AESCO Technologies
Address:	17782 Georgetown Lane Huntington Beach, CA 92647
Attn:	Debra Perez
Comments:	Harley Ellis #20140185-C8480 4000 Olympic Plaza, Long Beach, CA

Lab Request:	339200
Report Date:	04/23/2014
Date Received:	04/09/2014
Client ID:	9650

This laboratory request covers the following listed samples which were analyzed for the parameters indicated on the attached Analytical Result Report. All analyses were conducted using the appropriate methods. Methods accredited by NELAC are indicated on the report. This cover letter is an integral part of the final report.

Sample #	Client Sample ID
339200-001	B-6 Water
339200-002	B-3 Water
339200-003	B-5 Water
339200-004	B-9 Water
339200-005	B-6 5-7' Sample A,B
339200-006	B-5 13-15' Sample A,B
339200-007	B-9 5-7' Sample A,B
339200-008	B-3 5-7' Sample A,B
339200-009	B-5 5-7' Sample A,B

Thank you for the opportunity to be of service to your company. Please feel free to call if there are any questions regarding this report or if we can be of further service.

ASSOCIATED LABORATORIES by,

Nina Prasad
President

NOTE: Unless notified in writing , all samples will be discarded by appropriate disposal protocol 45 days from date reported.

TESTING & CONSULTING
Chemical
Microbiological
Environmental

Matrix: Water	**Client:** AESCO Technologies	**Collector:** Client
Sampled: 04/09/2014 15:15	**Site:**	
Sample #: 339200-001	**Client Sample #:** B-6 Water	**Sample Type:**

Analyte	Result	DF	RDL	Units	Analyzed	By	Notes
Method: EPA 8015 *NELAC*	**Prep Method: EPA 3535A**					**QCBatchID:**	QC1145584
TPH Gasoline	ND	1	0.2	mg/L	04/11/14	lyt	
TPH Diesel	ND	1	0.1	mg/L	04/11/14	lyt	
TPH Motor Oil	ND	1	0.3	mg/L	04/11/14	lyt	

Analyte	% Recovery	Limits	Notes
Triacontane (SUR)	*80*	*60-140*	

Matrix: Water **Client:** AESCO Technologies **Collector:** Client
Sampled: 04/09/2014 15:15 **Site:**
Sample #: 339200-002 **Client Sample #:** B-3 Water **Sample Type:**

Analyte	Result	DF	RDL	Units	Analyzed	By	Notes
Method: EPA 8015 *NELAC*	Prep Method: EPA 3535A					QCBatchID:	QC1145584
TPH Gasoline	ND	1	0.2	mg/L	04/14/14	lyt	
TPH Diesel	ND	1	0.1	mg/L	04/14/14	lyt	
TPH Motor Oil	ND	1	0.3	mg/L	04/14/14	lyt	

Analyte	% Recovery	Limits	Notes
Triacontane (SUR)	*135*	*60-140*	

Matrix: Water	Client: AESCO Technologies	Collector: Client
Sampled: 04/09/2014 15:15	Site:	
Sample #: 339200-003	Client Sample #: B-5 Water	Sample Type:

Analyte	Result	DF	RDL	Units	Analyzed	By	Notes
Method: EPA 8015 NELAC	Prep Method: EPA 3535A					QCBatchID:	QC1145584
TPH Gasoline	**0.60**	1	0.2	mg/L	04/11/14	lyt	
TPH Diesel	**0.94**	1	0.1	mg/L	04/11/14	lyt	
TPH Motor Oil	**0.37**	1	0.3	mg/L	04/11/14	lyt	

Analyte	% Recovery	Limits	Notes
Triacontane (SUR)	*140*	*60-140*	

Matrix: Water	**Client:** AESCO Technologies	**Collector:** Client	
Sampled: 04/09/2014 15:15	**Site:**		
Sample #: 339200-004	**Client Sample #:** B-9 Water	**Sample Type:**	

Analyte	Result	DF	RDL	Units	Analyzed	By	Notes
Method: EPA 8015 *NELAC*	**Prep Method:** EPA 3535A					**QCBatchID:**	QC1145584
TPH Gasoline	ND	1	0.2	mg/L	04/11/14	lyt	
TPH Diesel	ND	1	0.1	mg/L	04/11/14	lyt	
TPH Motor Oil	ND	1	0.3	mg/L	04/11/14	lyt	

Analyte	% Recovery	Limits	Notes
Triacontane (SUR)	*135*	*60-140*	

Matrix: Solid	Client: AESCO Technologies	Collector: Client
Sampled: 04/09/2014 15:15	Site:	
Sample #: 339200-005	Client Sample #: B-6 5-7' Sample A,B	Sample Type:

Analyte	Result	DF	RDL	Units	Analyzed	By	Notes
Method: EPA 418.1 NELAC	**Prep Method: Method**					QCBatchID:	QC1145660
Total Recoverable Petroleum Hydrocarbons	20	1	10	mg/Kg	04/15/14	thun	
Method: EPA 6010 NELAC	**Prep Method: EPA 3050B**					QCBatchID:	QC1145553
Antimony	ND	1	3	mg/Kg	04/11/14	wyu	
Arsenic	2.75	1	1	mg/Kg	04/11/14	wyu	
Barium	13.0	1	1	mg/Kg	04/11/14	wyu	
Beryllium	ND	1	0.5	mg/Kg	04/11/14	wyu	
Cadmium	ND	1	0.5	mg/Kg	04/11/14	wyu	
Chromium	5.20	1	1	mg/Kg	04/11/14	wyu	
Cobalt	2.24	1	0.5	mg/Kg	04/11/14	wyu	
Copper	5.68	1	1	mg/Kg	04/11/14	wyu	
Lead	1.49	1	0.5	mg/Kg	04/11/14	wyu	
Molybdenum	ND	1	1	mg/Kg	04/11/14	wyu	
Nickel	2.59	1	1.5	mg/Kg	04/11/14	wyu	
Selenium	ND	1	1	mg/Kg	04/11/14	wyu	
Silver	ND	1	0.5	mg/Kg	04/11/14	wyu	L
Thallium	ND	1	1	mg/Kg	04/11/14	wyu	
Vanadium	10.3	1	0.5	mg/Kg	04/11/14	wyu	
Zinc	10.2	1	5	mg/Kg	04/11/14	wyu	
Method: EPA 7471 NELAC	**Prep Method: EPA 7471A**					QCBatchID:	QC1145564
Mercury	ND	1	0.14	mg/Kg	04/11/14	wei	
Method: EPA 8015 NELAC	**Prep Method: EPA 3545**					QCBatchID:	QC1145550
TPH Gasoline	ND	1	3	mg/Kg	04/11/14	lyt	
TPH Diesel	2.05	1	1	mg/Kg	04/11/14	lyt	
TPH Motor Oil	6.15	1	5	mg/Kg	04/11/14	lyt	

Analyte	% Recovery	Limits	Notes
Triacontane (SUR)	*138*	*60-140*	

Analyte	Result	DF	RDL	Units	Analyzed	By	Notes
Method: EPA 8260 NELAC	**Prep Method: EPA 5035**					QCBatchID:	QC1145577
1,1,1,2-Tetrachloroethane	ND	1	5	ug/Kg	04/10/14	nicollez	
1,1,1-Trichloroethane	ND	1	5	ug/Kg	04/10/14	nicollez	
1,1,2,2-Tetrachloroethane	ND	1	5	ug/Kg	04/10/14	nicollez	
1,1,2-Trichloroethane	ND	1	5	ug/Kg	04/10/14	nicollez	
1,1,2-Trichlorotrifluoroethane	ND	1	5	ug/Kg	04/10/14	nicollez	
1,1-Dichloroethane	ND	1	5	ug/Kg	04/10/14	nicollez	
1,1-Dichloroethene	ND	1	5	ug/Kg	04/10/14	nicollez	
1,1-Dichloropropene	ND	1	5	ug/Kg	04/10/14	nicollez	
1,2,3-Trichlorobenzene	ND	1	5	ug/Kg	04/10/14	nicollez	
1,2,3-Trichloropropane	ND	1	5	ug/Kg	04/10/14	nicollez	
1,2,4-Trichlorobenzene	ND	1	5	ug/Kg	04/10/14	nicollez	
1,2,4-Trimethylbenzene	ND	1	5	ug/Kg	04/10/14	nicollez	
1,2-Dibromo-3-chloropropane	ND	1	5	ug/Kg	04/10/14	nicollez	
1,2-Dibromoethane	ND	1	5	ug/Kg	04/10/14	nicollez	
1,2-Dichlorobenzene	ND	1	5	ug/Kg	04/10/14	nicollez	
1,2-Dichloroethane	ND	1	5	ug/Kg	04/10/14	nicollez	
1,2-Dichloropropane	ND	1	5	ug/Kg	04/10/14	nicollez	
1,3,5-Trimethylbenzene	ND	1	5	ug/Kg	04/10/14	nicollez	
1,3-Dichlorobenzene	ND	1	5	ug/Kg	04/10/14	nicollez	
1,3-Dichloropropane	ND	1	5	ug/Kg	04/10/14	nicollez	
1,4-Dichlorobenzene	ND	1	5	ug/Kg	04/10/14	nicollez	
2,2-Dichloropropane	ND	1	5	ug/Kg	04/10/14	nicollez	
2-Butanone (MEK)	ND	1	100	ug/Kg	04/10/14	nicollez	
2-Chloroethyl Vinyl Ether	ND	1	5	ug/Kg	04/10/14	nicollez	

Matrix: Solid | Client: AESCO Technologies | Collector: Client
Sampled: 04/09/2014 15:15 | Site: |
Sample #: 339200-005 | Client Sample #: B-6 5-7' Sample A;B | Sample Type:

Analyte	Result	DF	RDL	Units	Analyzed	By	Notes
2-Chlorotoluene	ND	1	5	ug/Kg	04/10/14	nicollez	
4-Chlorotoluene	ND	1	5	ug/Kg	04/10/14	nicollez	
4-Isopropyltoluene	ND	1	5	ug/Kg	04/10/14	nicollez	
4-Methyl-2-pentanone (MIBK)	ND	1	5	ug/Kg	04/10/14	nicollez	
Acetone	ND	1	100	ug/Kg	04/10/14	nicollez	
Allyl Chloride	ND	1	5	ug/Kg	04/10/14	nicollez	
Benzene	ND	1	5	ug/Kg	04/10/14	nicollez	
Bromobenzene	ND	1	5	ug/Kg	04/10/14	nicollez	
Bromochloromethane	ND	1	5	ug/Kg	04/10/14	nicollez	
Bromodichloromethane	ND	1	5	ug/Kg	04/10/14	nicollez	
Bromoform	ND	1	5	ug/Kg	04/10/14	nicollez	
Bromomethane	ND	1	5	ug/Kg	04/10/14	nicollez	
Carbon Tetrachloride	ND	1	5	ug/Kg	04/10/14	nicollez	
Chlorobenzene	ND	1	5	ug/Kg	04/10/14	nicollez	
Chlorodibromomethane	ND	1	5	ug/Kg	04/10/14	nicollez	
Chloroethane	ND	1	5	ug/Kg	04/10/14	nicollez	
Chloroform	ND	1	5	ug/Kg	04/10/14	nicollez	
Chloromethane	ND	1	5	ug/Kg	04/10/14	nicollez	
cis-1,2-Dichloroethene	ND	1	5	ug/Kg	04/10/14	nicollez	
cis-1,3-dichloropropene	ND	1	5	ug/Kg	04/10/14	nicollez	
cis-1,4-dichloro-2-butene	ND	1	5	ug/Kg	04/10/14	nicollez	
Dibromomethane	ND	1	5	ug/Kg	04/10/14	nicollez	
Dichlorodifluoromethane	ND	1	5	ug/Kg	04/10/14	nicollez	
Di-isopropyl ether (DIPE)	ND	1	5	ug/Kg	04/10/14	nicollez	
Ethylbenzene	ND	1	5	ug/Kg	04/10/14	nicollez	
Ethyl-tertbutylether (ETBE)	ND	1	5	ug/Kg	04/10/14	nicollez	
Hexachlorobutadiene	ND	1	5	ug/Kg	04/10/14	nicollez	
Isopropylbenzene	ND	1	5	ug/Kg	04/10/14	nicollez	
m and p-Xylene	ND	1	5	ug/Kg	04/10/14	nicollez	
Methylene chloride	ND	1	5	ug/Kg	04/10/14	nicollez	
Methyl-t-butyl Ether (MTBE)	ND	1	5	ug/Kg	04/10/14	nicollez	
Naphthalene	ND	1	5	ug/Kg	04/10/14	nicollez	
N-butylbenzene	ND	1	5	ug/Kg	04/10/14	nicollez	
N-propylbenzene	ND	1	5	ug/Kg	04/10/14	nicollez	
o-Xylene	ND	1	5	ug/Kg	04/10/14	nicollez	
Sec-butylbenzene	ND	1	5	ug/Kg	04/10/14	nicollez	
Styrene	ND	1	5	ug/Kg	04/10/14	nicollez	
t-Butyl alcohol (TBA)	ND	1	10	ug/Kg	04/10/14	nicollez	
Tert-amylmethylether (TAME)	ND	1	5	ug/Kg	04/10/14	nicollez	
Tert-butylbenzene	ND	1	5	ug/Kg	04/10/14	nicollez	
Tetrachloroethene	ND	1	5	ug/Kg	04/10/14	nicollez	
Toluene	ND	1	5	ug/Kg	04/10/14	nicollez	
trans-1,2-dichloroethene	ND	1	5	ug/Kg	04/10/14	nicollez	
trans-1,3-dichloropropene	ND	1	5	ug/Kg	04/10/14	nicollez	
trans-1,4-dichloro-2-butene	ND	1	5	ug/Kg	04/10/14	nicollez	
Trichloroethene	ND	1	5	ug/Kg	04/10/14	nicollez	
Trichlorofluoromethane	ND	1	5	ug/Kg	04/10/14	nicollez	
Vinyl Chloride	ND	1	5	ug/Kg	04/10/14	nicollez	
Xylenes (Total)	ND	1	5	ug/Kg	04/10/14	nicollez	

Matrix: Solid	**Client:** AESCO Technologies	**Collector:** Client			
Sampled: 04/09/2014 15:15	**Site:**				
Sample #: 339200-005	**Client Sample #:** B-6 5-7' Sample A,B	**Sample Type:**			

Analyte	Result	DF	RDL	Units	Analyzed	By	Notes

Analyte	% Recovery	Limits	Notes
1,2-Dichloroethane-d4 (SUR)	*103*	*70-145*	
4-Bromofluorobenzene (SUR)	*104*	*70-145*	
Dibromodifluoromethane (SUR)	*103*	*70-145*	
Toluene-d8 (SUR)	*104*	*70-145*	

Method: EPA 9045 *NELAC* **Prep Method:** Method **QCBatchID:**

Analyte	Result	DF	RDL	Units	Analyzed	By	Notes
pH	**9.02**	1			04/16/14	mmegaly	
Temperature (°C)	**24.8**	1		°C	04/16/14	mmegaly	

Matrix: Solid	**Client:** AESCO Technologies	**Collector:** Client
Sampled: 04/09/2014 15:15	**Site:**	
Sample #: 339200-006	**Client Sample #:** B-5 13-15' Sample A,B	**Sample Type:**

Analyte	Result	DF	RDL	Units	Analyzed	By	Notes
Method: EPA 418.1 NELAC	**Prep Method:** Method					QCBatchID:	QC1145660
Total Recoverable Petroleum Hydrocarbons	28	1	10	mg/Kg	04/15/14	thun	
Method: EPA 6010 NELAC	**Prep Method:** EPA 3050B					QCBatchID:	QC1145553
Antimony	ND	1	3	mg/Kg	04/11/14	wyu	
Arsenic	**2.43**	1	1	mg/Kg	04/11/14	wyu	
Barium	**47.1**	1	1	mg/Kg	04/11/14	wyu	
Beryllium	ND	1	0.5	mg/Kg	04/11/14	wyu	
Cadmium	ND	1	0.5	mg/Kg	04/11/14	wyu	
Chromium	**9.60**	1	1	mg/Kg	04/11/14	wyu	
Cobalt	**5.31**	1	0.5	mg/Kg	04/11/14	wyu	
Copper	**11.3**	1	1	mg/Kg	04/11/14	wyu	
Lead	**2.48**	1	0.5	mg/Kg	04/11/14	wyu	
Molybdenum	ND	1	1	mg/Kg	04/11/14	wyu	
Nickel	**6.23**	1	1.5	mg/Kg	04/11/14	wyu	
Selenium	**4.41**	1	1	mg/Kg	04/11/14	wyu	
Silver	ND	1	0.5	mg/Kg	04/11/14	wyu	L
Thallium	ND	1	1	mg/Kg	04/11/14	wyu	
Vanadium	**21.2**	1	0.5	mg/Kg	04/11/14	wyu	
Zinc	**28.9**	1	5	mg/Kg	04/11/14	wyu	
Method: EPA 7471 NELAC	**Prep Method:** EPA 7471A					QCBatchID:	QC1145564
Mercury	ND	1	0.14	mg/Kg	04/11/14	wei	
Method: EPA 8015 NELAC	**Prep Method:** EPA 3545					QCBatchID:	QC1145550
TPH Gasoline	ND	1	3	mg/Kg	04/11/14	lyt	
TPH Diesel	**4.48**	1	1	mg/Kg	04/11/14	lyt	
TPH Motor Oil	**6.29**	1	5	mg/Kg	04/11/14	lyt	

Analyte	% Recovery	Limits	Notes
Triacontane (SUR)	*135*	*60-140*	

Analyte	Result	DF	RDL	Units	Analyzed	By	Notes
Method: EPA 8260 NELAC	**Prep Method:** EPA 5035					QCBatchID:	QC1145577
1,1,1,2-Tetrachloroethane	ND	1	5	ug/Kg	04/10/14	nicollez	
1,1,1-Trichloroethane	ND	1	5	ug/Kg	04/10/14	nicollez	
1,1,2,2-Tetrachloroethane	ND	1	5	ug/Kg	04/10/14	nicollez	
1,1,2-Trichloroethane	ND	1	5	ug/Kg	04/10/14	nicollez	
1,1,2-Trichlorotrifluoroethane	ND	1	5	ug/Kg	04/10/14	nicollez	
1,1-Dichloroethane	ND	1	5	ug/Kg	04/10/14	nicollez	
1,1-Dichloroethene	ND	1	5	ug/Kg	04/10/14	nicollez	
1,1-Dichloropropene	ND	1	5	ug/Kg	04/10/14	nicollez	
1,2,3-Trichlorobenzene	ND	1	5	ug/Kg	04/10/14	nicollez	
1,2,3-Trichloropropane	ND	1	5	ug/Kg	04/10/14	nicollez	
1,2,4-Trichlorobenzene	ND	1	5	ug/Kg	04/10/14	nicollez	
1,2,4-Trimethylbenzene	ND	1	5	ug/Kg	04/10/14	nicollez	
1,2-Dibromo-3-chloropropane	ND	1	5	ug/Kg	04/10/14	nicollez	
1,2-Dibromoethane	ND	1	5	ug/Kg	04/10/14	nicollez	
1,2-Dichlorobenzene	ND	1	5	ug/Kg	04/10/14	nicollez	
1,2-Dichloroethane	ND	1	5	ug/Kg	04/10/14	nicollez	
1,2-Dichloropropane	ND	1	5	ug/Kg	04/10/14	nicollez	
1,3,5-Trimethylbenzene	ND	1	5	ug/Kg	04/10/14	nicollez	
1,3-Dichlorobenzene	ND	1	5	ug/Kg	04/10/14	nicollez	
1,3-Dichloropropane	ND	1	5	ug/Kg	04/10/14	nicollez	
1,4-Dichlorobenzene	ND	1	5	ug/Kg	04/10/14	nicollez	
2,2-Dichloropropane	ND	1	5	ug/Kg	04/10/14	nicollez	
2-Butanone (MEK)	ND	1	100	ug/Kg	04/10/14	nicollez	
2-Chloroethyl Vinyl Ether	ND	1	5	ug/Kg	04/10/14	nicollez	

Matrix: Solid	Client: AESCO Technologies	Collector: Client
Sampled: 04/09/2014 15:15	Site:	
Sample #: 339200-006	Client Sample #: B-5 13-15' Sample A;B	Sample Type:

Analyte	Result	DF	RDL	Units	Analyzed	By	Notes
2-Chlorotoluene	ND	1	5	ug/Kg	04/10/14	nicollez	
4-Chlorotoluene	ND	1	5	ug/Kg	04/10/14	nicollez	
4-Isopropyltoluene	ND	1	5	ug/Kg	04/10/14	nicollez	
4-Methyl-2-pentanone (MIBK)	ND	1	5	ug/Kg	04/10/14	nicollez	
Acetone	ND	1	100	ug/Kg	04/10/14	nicollez	
Allyl Chloride	ND	1	5	ug/Kg	04/10/14	nicollez	
Benzene	ND	1	5	ug/Kg	04/10/14	nicollez	
Bromobenzene	ND	1	5	ug/Kg	04/10/14	nicollez	
Bromochloromethane	ND	1	5	ug/Kg	04/10/14	nicollez	
Bromodichloromethane	ND	1	5	ug/Kg	04/10/14	nicollez	
Bromoform	ND	1	5	ug/Kg	04/10/14	nicollez	
Bromomethane	ND	1	5	ug/Kg	04/10/14	nicollez	
Carbon Tetrachloride	ND	1	5	ug/Kg	04/10/14	nicollez	
Chlorobenzene	ND	1	5	ug/Kg	04/10/14	nicollez	
Chlorodibromomethane	ND	1	5	ug/Kg	04/10/14	nicollez	
Chloroethane	ND	1	5	ug/Kg	04/10/14	nicollez	
Chloroform	ND	1	5	ug/Kg	04/10/14	nicollez	
Chloromethane	ND	1	5	ug/Kg	04/10/14	nicollez	
cis-1,2-Dichloroethene	ND	1	5	ug/Kg	04/10/14	nicollez	
cis-1,3-dichloropropene	ND	1	5	ug/Kg	04/10/14	nicollez	
cis-1,4-dichloro-2-butene	ND	1	5	ug/Kg	04/10/14	nicollez	
Dibromomethane	ND	1	5	ug/Kg	04/10/14	nicollez	
Dichlorodifluoromethane	ND	1	5	ug/Kg	04/10/14	nicollez	
Di-isopropyl ether (DIPE)	ND	1	5	ug/Kg	04/10/14	nicollez	
Ethylbenzene	ND	1	5	ug/Kg	04/10/14	nicollez	
Ethyl-tertbutylether (ETBE)	ND	1	5	ug/Kg	04/10/14	nicollez	
Hexachlorobutadiene	ND	1	5	ug/Kg	04/10/14	nicollez	
Isopropylbenzene	ND	1	5	ug/Kg	04/10/14	nicollez	
m and p-Xylene	ND	1	5	ug/Kg	04/10/14	nicollez	
Methylene chloride	ND	1	5	ug/Kg	04/10/14	nicollez	
Methyl-t-butyl Ether (MTBE)	ND	1	5	ug/Kg	04/10/14	nicollez	
Naphthalene	ND	1	5	ug/Kg	04/10/14	nicollez	
N-butylbenzene	ND	1	5	ug/Kg	04/10/14	nicollez	
N-propylbenzene	ND	1	5	ug/Kg	04/10/14	nicollez	
o-Xylene	ND	1	5	ug/Kg	04/10/14	nicollez	
Sec-butylbenzene	ND	1	5	ug/Kg	04/10/14	nicollez	
Styrene	ND	1	5	ug/Kg	04/10/14	nicollez	
t-Butyl alcohol (TBA)	ND	1	10	ug/Kg	04/10/14	nicollez	
Tert-amylmethylether (TAME)	ND	1	5	ug/Kg	04/10/14	nicollez	
Tert-butylbenzene	ND	1	5	ug/Kg	04/10/14	nicollez	
Tetrachloroethene	ND	1	5	ug/Kg	04/10/14	nicollez	
Toluene	ND	1	5	ug/Kg	04/10/14	nicollez	
trans-1,2-dichloroethene	ND	1	5	ug/Kg	04/10/14	nicollez	
trans-1,3-dichloropropene	ND	1	5	ug/Kg	04/10/14	nicollez	
trans-1,4-dichloro-2-butene	ND	1	5	ug/Kg	04/10/14	nicollez	
Trichloroethene	ND	1	5	ug/Kg	04/10/14	nicollez	
Trichlorofluoromethane	ND	1	5	ug/Kg	04/10/14	nicollez	
Vinyl Chloride	ND	1	5	ug/Kg	04/10/14	nicollez	
Xylenes (Total)	ND	1	5	ug/Kg	04/10/14	nicollez	

Matrix: Solid	**Client:** AESCO Technologies	**Collector:** Client
Sampled: 04/09/2014 15:15	**Site:**	
Sample #: 339200-006	**Client Sample #:** B-5 13-15' Sample A,B	**Sample Type:**

Analyte	Result	DF	RDL	Units	Analyzed	By	Notes

Analyte	% Recovery	Limits	Notes
1,2-Dichloroethane-d4 (SUR)	*108*	*70-145*	
4-Bromofluorobenzene (SUR)	*128*	*70-145*	
Dibromodifluoromethane (SUR)	*104*	*70-145*	
Toluene-d8 (SUR)	*104*	*70-145*	

Method: EPA 9045 *NELAC* **Prep Method:** Method **QCBatchID:**

Analyte	Result	DF	RDL	Units	Analyzed	By	Notes
pH	**9.11**	1			04/16/14	mmegaly	
Temperature (°C)	**25.0**	1		°C	04/16/14	mmegaly	

Matrix: Solid	Client: AESCO Technologies	Collector: Client
Sampled: 04/09/2014 15:15	Site:	
Sample #: 339200-007	Client Sample #: B-9 5-7' Sample A,B	Sample Type:

Analyte	Result	DF	RDL	Units	Analyzed	By	Notes
Method: EPA 418.1 NELAC	**Prep Method:** Method					QCBatchID:	QC1145660
Total Recoverable Petroleum Hydrocarbons	**16**	1	10	mg/Kg	04/15/14	thun	
Method: EPA 6010 NELAC	**Prep Method:** EPA 3050B					QCBatchID:	QC1145553
Antimony	ND	1	3	mg/Kg	04/11/14	wyu	
Arsenic	**3.27**	1	1	mg/Kg	04/11/14	wyu	
Barium	**21.0**	1	1	mg/Kg	04/11/14	wyu	
Beryllium	ND	1	0.5	mg/Kg	04/11/14	wyu	
Cadmium	ND	1	0.5	mg/Kg	04/11/14	wyu	
Chromium	**8.17**	1	1	mg/Kg	04/11/14	wyu	
Cobalt	**3.50**	1	0.5	mg/Kg	04/11/14	wyu	
Copper	**25.8**	1	1	mg/Kg	04/11/14	wyu	
Lead	**1.72**	1	0.5	mg/Kg	04/11/14	wyu	
Molybdenum	ND	1	1	mg/Kg	04/11/14	wyu	
Nickel	**4.25**	1	1.5	mg/Kg	04/11/14	wyu	
Selenium	**1.46**	1	1	mg/Kg	04/11/14	wyu	
Silver	ND	1	0.5	mg/Kg	04/11/14	wyu	L
Thallium	ND	1	1	mg/Kg	04/11/14	wyu	
Vanadium	**18.8**	1	0.5	mg/Kg	04/11/14	wyu	
Zinc	**19.8**	1	5	mg/Kg	04/11/14	wyu	
Method: EPA 7471 NELAC	**Prep Method:** EPA 7471A					QCBatchID:	QC1145564
Mercury	ND	1	0.14	mg/Kg	04/11/14	wei	
Method: EPA 8015 NELAC	**Prep Method:** EPA 3545					QCBatchID:	QC1145550
TPH Gasoline	ND	1	3	mg/Kg	04/11/14	lyt	
TPH Diesel	ND	1	1	mg/Kg	04/11/14	lyt	
TPH Motor Oil	ND	1	5	mg/Kg	04/11/14	lyt	

Analyte	% Recovery	Limits	Notes
Triacontane (SUR)	*90*	*60-140*	

Analyte	Result	DF	RDL	Units	Analyzed	By	Notes
Method: EPA 8260 NELAC	**Prep Method:** EPA 5035					QCBatchID:	QC1145577
1,1,1,2-Tetrachloroethane	ND	1	5	ug/Kg	04/10/14	nicollez	
1,1,1-Trichloroethane	ND	1	5	ug/Kg	04/10/14	nicollez	
1,1,2,2-Tetrachloroethane	ND	1	5	ug/Kg	04/10/14	nicollez	
1,1,2-Trichloroethane	ND	1	5	ug/Kg	04/10/14	nicollez	
1,1,2-Trichlorotrifluoroethane	ND	1	5	ug/Kg	04/10/14	nicollez	
1,1-Dichloroethane	ND	1	5	ug/Kg	04/10/14	nicollez	
1,1-Dichloroethene	ND	1	5	ug/Kg	04/10/14	nicollez	
1,1-Dichloropropene	ND	1	5	ug/Kg	04/10/14	nicollez	
1,2,3-Trichlorobenzene	ND	1	5	ug/Kg	04/10/14	nicollez	
1,2,3-Trichloropropane	ND	1	5	ug/Kg	04/10/14	nicollez	
1,2,4-Trichlorobenzene	ND	1	5	ug/Kg	04/10/14	nicollez	
1,2,4-Trimethylbenzene	ND	1	5	ug/Kg	04/10/14	nicollez	
1,2-Dibromo-3-chloropropane	ND	1	5	ug/Kg	04/10/14	nicollez	
1,2-Dibromoethane	ND	1	5	ug/Kg	04/10/14	nicollez	
1,2-Dichlorobenzene	ND	1	5	ug/Kg	04/10/14	nicollez	
1,2-Dichloroethane	ND	1	5	ug/Kg	04/10/14	nicollez	
1,2-Dichloropropane	ND	1	5	ug/Kg	04/10/14	nicollez	
1,3,5-Trimethylbenzene	ND	1	5	ug/Kg	04/10/14	nicollez	
1,3-Dichlorobenzene	ND	1	5	ug/Kg	04/10/14	nicollez	
1,3-Dichloropropane	ND	1	5	ug/Kg	04/10/14	nicollez	
1,4-Dichlorobenzene	ND	1	5	ug/Kg	04/10/14	nicollez	
2,2-Dichloropropane	ND	1	5	ug/Kg	04/10/14	nicollez	
2-Butanone (MEK)	ND	1	100	ug/Kg	04/10/14	nicollez	
2-Chloroethyl Vinyl Ether	ND	1	5	ug/Kg	04/10/14	nicollez	

Matrix: Solid	Client: AESCO Technologies	Collector: Client
Sampled: 04/09/2014 15:15	Site:	
Sample #: 339200-007	Client Sample #: B-9 5-7' Sample A,B	Sample Type:

Analyte	Result	DF	RDL	Units	Analyzed	By	Notes
2-Chlorotoluene	ND	1	5	ug/Kg	04/10/14	nicollez	
4-Chlorotoluene	ND	1	5	ug/Kg	04/10/14	nicollez	
4-Isopropyltoluene	ND	1	5	ug/Kg	04/10/14	nicollez	
4-Methyl-2-pentanone (MIBK)	ND	1	5	ug/Kg	04/10/14	nicollez	
Acetone	ND	1	100	ug/Kg	04/10/14	nicollez	
Allyl Chloride	ND	1	5	ug/Kg	04/10/14	nicollez	
Benzene	ND	1	5	ug/Kg	04/10/14	nicollez	
Bromobenzene	ND	1	5	ug/Kg	04/10/14	nicollez	
Bromochloromethane	ND	1	5	ug/Kg	04/10/14	nicollez	
Bromodichloromethane	ND	1	5	ug/Kg	04/10/14	nicollez	
Bromoform	ND	1	5	ug/Kg	04/10/14	nicollez	
Bromomethane	ND	1	5	ug/Kg	04/10/14	nicollez	
Carbon Tetrachloride	ND	1	5	ug/Kg	04/10/14	nicollez	
Chlorobenzene	ND	1	5	ug/Kg	04/10/14	nicollez	
Chlorodibromomethane	ND	1	5	ug/Kg	04/10/14	nicollez	
Chloroethane	ND	1	5	ug/Kg	04/10/14	nicollez	
Chloroform	ND	1	5	ug/Kg	04/10/14	nicollez	
Chloromethane	ND	1	5	ug/Kg	04/10/14	nicollez	
cis-1,2-Dichloroethene	ND	1	5	ug/Kg	04/10/14	nicollez	
cis-1,3-dichloropropene	ND	1	5	ug/Kg	04/10/14	nicollez	
cis-1,4-dichloro-2-butene	ND	1	5	ug/Kg	04/10/14	nicollez	
Dibromomethane	ND	1	5	ug/Kg	04/10/14	nicollez	
Dichlorodifluoromethane	ND	1	5	ug/Kg	04/10/14	nicollez	
Di-isopropyl ether (DIPE)	ND	1	5	ug/Kg	04/10/14	nicollez	
Ethylbenzene	ND	1	5	ug/Kg	04/10/14	nicollez	
Ethyl-tertbutylether (ETBE)	ND	1	5	ug/Kg	04/10/14	nicollez	
Hexachlorobutadiene	ND	1	5	ug/Kg	04/10/14	nicollez	
Isopropylbenzene	ND	1	5	ug/Kg	04/10/14	nicollez	
m and p-Xylene	ND	1	5	ug/Kg	04/10/14	nicollez	
Methylene chloride	ND	1	5	ug/Kg	04/10/14	nicollez	
Methyl-t-butyl Ether (MTBE)	ND	1	5	ug/Kg	04/10/14	nicollez	
Naphthalene	ND	1	5	ug/Kg	04/10/14	nicollez	
N-butylbenzene	ND	1	5	ug/Kg	04/10/14	nicollez	
N-propylbenzene	ND	1	5	ug/Kg	04/10/14	nicollez	
o-Xylene	ND	1	5	ug/Kg	04/10/14	nicollez	
Sec-butylbenzene	ND	1	5	ug/Kg	04/10/14	nicollez	
Styrene	ND	1	5	ug/Kg	04/10/14	nicollez	
t-Butyl alcohol (TBA)	ND	1	10	ug/Kg	04/10/14	nicollez	
Tert-amylmethylether (TAME)	ND	1	5	ug/Kg	04/10/14	nicollez	
Tert-butylbenzene	ND	1	5	ug/Kg	04/10/14	nicollez	
Tetrachloroethene	ND	1	5	ug/Kg	04/10/14	nicollez	
Toluene	ND	1	5	ug/Kg	04/10/14	nicollez	
trans-1,2-dichloroethene	ND	1	5	ug/Kg	04/10/14	nicollez	
trans-1,3-dichloropropene	ND	1	5	ug/Kg	04/10/14	nicollez	
trans-1,4-dichloro-2-butene	ND	1	5	ug/Kg	04/10/14	nicollez	
Trichloroethene	ND	1	5	ug/Kg	04/10/14	nicollez	
Trichlorofluoromethane	ND	1	5	ug/Kg	04/10/14	nicollez	
Vinyl Chloride	ND	1	5	ug/Kg	04/10/14	nicollez	
Xylenes (Total)	ND	1	5	ug/Kg	04/10/14	nicollez	

Matrix: Solid		Client: AESCO Technologies		Collector: Client	
Sampled: 04/09/2014 15:15		Site:			
Sample #: 339200-007		Client Sample #: B-9 5-7' Sample A,B		Sample Type:	

Analyte	Result	DF	RDL	Units	Analyzed	By	Notes

Analyte	% Recovery	Limits	Notes
1,2-Dichloroethane-d4 (SUR)	*104*	*70-145*	
4-Bromofluorobenzene (SUR)	*100*	*70-145*	
Dibromodifluoromethane (SUR)	*101*	*70-145*	
Toluene-d8 (SUR)	*102*	*70-145*	

Method: EPA 9045 NELAC Prep Method: Method QCBatchID:

Analyte	Result	DF	RDL	Units	Analyzed	By	Notes
pH	**9.59**	1			04/16/14	mmegaly	
Temperature (°C)	**24.7**	1		°C	04/16/14	mmegaly	

Matrix:	Solid	**Client:**	AESCO Technologies	**Collector:**	Client
Sampled:	04/09/2014 15:15	**Site:**			
Sample #:	339200-008	**Client Sample #:**	B-3 5-7' Sample A,B	**Sample Type:**	

Analyte	Result	DF	RDL	Units	Analyzed	By	Notes
Method: EPA 418.1 NELAC	**Prep Method:** Method					**QCBatchID:**	QC1145660
Total Recoverable Petroleum Hydrocarbons	**16**	1	10	mg/Kg	04/15/14	thun	
Method: EPA 6010 NELAC	**Prep Method:** EPA 3050B					**QCBatchID:**	QC1145553
Antimony	ND	1	3	mg/Kg	04/11/14	wyu	
Arsenic	**3.17**	1	1	mg/Kg	04/11/14	wyu	
Barium	**15.9**	1	1	mg/Kg	04/11/14	wyu	
Beryllium	ND	1	0.5	mg/Kg	04/11/14	wyu	
Cadmium	ND	1	0.5	mg/Kg	04/11/14	wyu	
Chromium	**5.95**	1	1	mg/Kg	04/11/14	wyu	
Cobalt	**2.64**	1	0.5	mg/Kg	04/11/14	wyu	
Copper	**14.3**	1	1	mg/Kg	04/11/14	wyu	
Lead	**1.44**	1	0.5	mg/Kg	04/11/14	wyu	
Molybdenum	ND	1	1	mg/Kg	04/11/14	wyu	
Nickel	**2.75**	1	1.5	mg/Kg	04/11/14	wyu	
Selenium	ND	1	1	mg/Kg	04/11/14	wyu	
Silver	ND	1	0.5	mg/Kg	04/11/14	wyu	L
Thallium	ND	1	1	mg/Kg	04/11/14	wyu	
Vanadium	**14.7**	1	0.5	mg/Kg	04/11/14	wyu	
Zinc	**22.8**	1	5	mg/Kg	04/11/14	wyu	
Method: EPA 7471 NELAC	**Prep Method:** EPA 7471A					**QCBatchID:**	QC1145564
Mercury	ND	1	0.14	mg/Kg	04/11/14	wei	
Method: EPA 8015 NELAC	**Prep Method:** EPA 3545					**QCBatchID:**	QC1145550
TPH Gasoline	ND	1	3	mg/Kg	04/11/14	lyt	
TPH Diesel	ND	1	1	mg/Kg	04/11/14	lyt	
TPH Motor Oil	ND	1	5	mg/Kg	04/11/14	lyt	

Analyte	% Recovery	Limits	Notes
Triacontane (SUR)	*103*	*60-140*	

Analyte	Result	DF	RDL	Units	Analyzed	By	Notes
Method: EPA 8260 NELAC	**Prep Method:** EPA 5035					**QCBatchID:**	QC1145577
1,1,1,2-Tetrachloroethane	ND	1	5	ug/Kg	04/10/14	nicollez	
1,1,1-Trichloroethane	ND	1	5	ug/Kg	04/10/14	nicollez	
1,1,2,2-Tetrachloroethane	ND	1	5	ug/Kg	04/10/14	nicollez	
1,1,2-Trichloroethane	ND	1	5	ug/Kg	04/10/14	nicollez	
1,1,2-Trichlorotrifluoroethane	ND	1	5	ug/Kg	04/10/14	nicollez	
1,1-Dichloroethane	ND	1	5	ug/Kg	04/10/14	nicollez	
1,1-Dichloroethene	ND	1	5	ug/Kg	04/10/14	nicollez	
1,1-Dichloropropene	ND	1	5	ug/Kg	04/10/14	nicollez	
1,2,3-Trichlorobenzene	ND	1	5	ug/Kg	04/10/14	nicollez	
1,2,3-Trichloropropane	ND	1	5	ug/Kg	04/10/14	nicollez	
1,2,4-Trichlorobenzene	ND	1	5	ug/Kg	04/10/14	nicollez	
1,2,4-Trimethylbenzene	ND	1	5	ug/Kg	04/10/14	nicollez	
1,2-Dibromo-3-chloropropane	ND	1	5	ug/Kg	04/10/14	nicollez	
1,2-Dibromoethane	ND	1	5	ug/Kg	04/10/14	nicollez	
1,2-Dichlorobenzene	ND	1	5	ug/Kg	04/10/14	nicollez	
1,2-Dichloroethane	ND	1	5	ug/Kg	04/10/14	nicollez	
1,2-Dichloropropane	ND	1	5	ug/Kg	04/10/14	nicollez	
1,3,5-Trimethylbenzene	ND	1	5	ug/Kg	04/10/14	nicollez	
1,3-Dichlorobenzene	ND	1	5	ug/Kg	04/10/14	nicollez	
1,3-Dichloropropane	ND	1	5	ug/Kg	04/10/14	nicollez	
1,4-Dichlorobenzene	ND	1	5	ug/Kg	04/10/14	nicollez	
2,2-Dichloropropane	ND	1	5	ug/Kg	04/10/14	nicollez	
2-Butanone (MEK)	ND	1	100	ug/Kg	04/10/14	nicollez	
2-Chloroethyl Vinyl Ether	ND	1	5	ug/Kg	04/10/14	nicollez	

Matrix: Solid	**Client:** AESCO Technologies	**Collector:** Client
Sampled: 04/09/2014 15:15	**Site:**	
Sample #: 339200-008	**Client Sample #:** B-3 5-7' Sample A,B	**Sample Type:**

Analyte	Result	DF	RDL	Units	Analyzed	By	Notes
2-Chlorotoluene	ND	1	5	ug/Kg	04/10/14	nicollez	
4-Chlorotoluene	ND	1	5	ug/Kg	04/10/14	nicollez	
4-Isopropyltoluene	ND	1	5	ug/Kg	04/10/14	nicollez	
4-Methyl-2-pentanone (MIBK)	ND	1	5	ug/Kg	04/10/14	nicollez	
Acetone	ND	1	100	ug/Kg	04/10/14	nicollez	
Allyl Chloride	ND	1	5	ug/Kg	04/10/14	nicollez	
Benzene	ND	1	5	ug/Kg	04/10/14	nicollez	
Bromobenzene	ND	1	5	ug/Kg	04/10/14	nicollez	
Bromochloromethane	ND	1	5	ug/Kg	04/10/14	nicollez	
Bromodichloromethane	ND	1	5	ug/Kg	04/10/14	nicollez	
Bromoform	ND	1	5	ug/Kg	04/10/14	nicollez	
Bromomethane	ND	1	5	ug/Kg	04/10/14	nicollez	
Carbon Tetrachloride	ND	1	5	ug/Kg	04/10/14	nicollez	
Chlorobenzene	ND	1	5	ug/Kg	04/10/14	nicollez	
Chlorodibromomethane	ND	1	5	ug/Kg	04/10/14	nicollez	
Chloroethane	ND	1	5	ug/Kg	04/10/14	nicollez	
Chloroform	ND	1	5	ug/Kg	04/10/14	nicollez	
Chloromethane	ND	1	5	ug/Kg	04/10/14	nicollez	
cis-1,2-Dichloroethene	ND	1	5	ug/Kg	04/10/14	nicollez	
cis-1,3-dichloropropene	ND	1	5	ug/Kg	04/10/14	nicollez	
cis-1,4-dichloro-2-butene	ND	1	5	ug/Kg	04/10/14	nicollez	
Dibromomethane	ND	1	5	ug/Kg	04/10/14	nicollez	
Dichlorodifluoromethane	ND	1	5	ug/Kg	04/10/14	nicollez	
Di-isopropyl ether (DIPE)	ND	1	5	ug/Kg	04/10/14	nicollez	
Ethylbenzene	ND	1	5	ug/Kg	04/10/14	nicollez	
Ethyl-tertbutylether (ETBE)	ND	1	5	ug/Kg	04/10/14	nicollez	
Hexachlorobutadiene	ND	1	5	ug/Kg	04/10/14	nicollez	
Isopropylbenzene	ND	1	5	ug/Kg	04/10/14	nicollez	
m and p-Xylene	ND	1	5	ug/Kg	04/10/14	nicollez	
Methylene chloride	ND	1	5	ug/Kg	04/10/14	nicollez	
Methyl-t-butyl Ether (MTBE)	ND	1	5	ug/Kg	04/10/14	nicollez	
Naphthalene	ND	1	5	ug/Kg	04/10/14	nicollez	
N-butylbenzene	ND	1	5	ug/Kg	04/10/14	nicollez	
N-propylbenzene	ND	1	5	ug/Kg	04/10/14	nicollez	
o-Xylene	ND	1	5	ug/Kg	04/10/14	nicollez	
Sec-butylbenzene	ND	1	5	ug/Kg	04/10/14	nicollez	
Styrene	ND	1	5	ug/Kg	04/10/14	nicollez	
t-Butyl alcohol (TBA)	ND	1	10	ug/Kg	04/10/14	nicollez	
Tert-amylmethylether (TAME)	ND	1	5	ug/Kg	04/10/14	nicollez	
Tert-butylbenzene	ND	1	5	ug/Kg	04/10/14	nicollez	
Tetrachloroethene	ND	1	5	ug/Kg	04/10/14	nicollez	
Toluene	ND	1	5	ug/Kg	04/10/14	nicollez	
trans-1,2-dichloroethene	ND	1	5	ug/Kg	04/10/14	nicollez	
trans-1,3-dichloropropene	ND	1	5	ug/Kg	04/10/14	nicollez	
trans-1,4-dichloro-2-butene	ND	1	5	ug/Kg	04/10/14	nicollez	
Trichloroethene	ND	1	5	ug/Kg	04/10/14	nicollez	
Trichlorofluoromethane	ND	1	5	ug/Kg	04/10/14	nicollez	
Vinyl Chloride	ND	1	5	ug/Kg	04/10/14	nicollez	
Xylenes (Total)	ND	1	5	ug/Kg	04/10/14	nicollez	

Matrix: Solid **Client:** AESCO Technologies **Collector:** Client
Sampled: 04/09/2014 15:15 **Site:**
Sample #: 339200-008 **Client Sample #:** B-3.5-7' Sample A,B **Sample Type:**

Analyte	Result	DF	RDL	Units	Analyzed	By	Notes

Analyte	% Recovery	Limits	Notes
1,2-Dichloroethane-d4 (SUR)	*104*	*70-145*	
4-Bromofluorobenzene (SUR)	*97*	*70-145*	
Dibromodifluoromethane (SUR)	*103*	*70-145*	
Toluene-d8 (SUR)	*106*	*70-145*	

Method: EPA 9045 *NELAC* **Prep Method:** Method **QCBatchID:**

Analyte	Result	DF	RDL	Units	Analyzed	By	Notes
pH	**9.61**	1			04/16/14	mmegaly	
Temperature (°C)	**24.8**	1		°C	04/16/14	mmegaly	

Matrix: Solid	Client: AESCO Technologies	Collector: Client
Sampled: 04/09/2014 15:15	Site:	
Sample #: 339200-009	Client Sample #: B-5 5-7' Sample A,B	Sample Type:

Analyte	Result	DF	RDL	Units	Analyzed	By	Notes
Method: EPA 418.1 NELAC	**Prep Method: Method**					QCBatchID:	QC1145660
Total Recoverable Petroleum Hydrocarbons	20	1	10	mg/Kg	04/15/14	thun	
Method: EPA 6010 NELAC	**Prep Method: EPA 3050B**					QCBatchID:	QC1145553
Antimony	ND	1	3	mg/Kg	04/11/14	wyu	
Arsenic	3.07	1	1	mg/Kg	04/11/14	wyu	
Barium	17.6	1	1	mg/Kg	04/11/14	wyu	
Beryllium	ND	1	0.5	mg/Kg	04/11/14	wyu	
Cadmium	ND	1	0.5	mg/Kg	04/11/14	wyu	
Chromium	6.79	1	1	mg/Kg	04/11/14	wyu	
Cobalt	3.24	1	0.5	mg/Kg	04/11/14	wyu	
Copper	13.8	1	1	mg/Kg	04/11/14	wyu	
Lead	1.86	1	0.5	mg/Kg	04/11/14	wyu	
Molybdenum	ND	1	1	mg/Kg	04/11/14	wyu	
Nickel	4.30	1	1.5	mg/Kg	04/11/14	wyu	
Selenium	ND	1	1	mg/Kg	04/11/14	wyu	
Silver	ND	1	0.5	mg/Kg	04/11/14	wyu	L
Thallium	ND	1	1	mg/Kg	04/11/14	wyu	
Vanadium	13.1	1	0.5	mg/Kg	04/11/14	wyu	
Zinc	44.1	1	5	mg/Kg	04/11/14	wyu	
Method: EPA 7471 NELAC	**Prep Method: EPA 7471A**					QCBatchID:	QC1145564
Mercury	ND	1	0.14	mg/Kg	04/11/14	wei	
Method: EPA 8015 NELAC	**Prep Method: EPA 3545**					QCBatchID:	QC1145550
TPH Gasoline	ND	1	3	mg/Kg	04/11/14	lyt	
TPH Diesel	1.20	1	1	mg/Kg	04/11/14	lyt	
TPH Motor Oil	ND	1	5	mg/Kg	04/11/14	lyt	

Analyte	% Recovery	Limits	Notes
Triacontane (SUR)	*126*	*60-140*	

Analyte	Result	DF	RDL	Units	Analyzed	By	Notes
Method: EPA 8260 NELAC	**Prep Method: EPA 5035**					QCBatchID:	QC1145577
1,1,1,2-Tetrachloroethane	ND	1	5	ug/Kg	04/10/14	nicollez	
1,1,1-Trichloroethane	ND	1	5	ug/Kg	04/10/14	nicollez	
1,1,2,2-Tetrachloroethane	ND	1	5	ug/Kg	04/10/14	nicollez	
1,1,2-Trichloroethane	ND	1	5	ug/Kg	04/10/14	nicollez	
1,1,2-Trichlorotrifluoroethane	ND	1	5	ug/Kg	04/10/14	nicollez	
1,1-Dichloroethane	ND	1	5	ug/Kg	04/10/14	nicollez	
1,1-Dichloroethene	ND	1	5	ug/Kg	04/10/14	nicollez	
1,1-Dichloropropene	ND	1	5	ug/Kg	04/10/14	nicollez	
1,2,3-Trichlorobenzene	ND	1	5	ug/Kg	04/10/14	nicollez	
1,2,3-Trichloropropane	ND	1	5	ug/Kg	04/10/14	nicollez	
1,2,4-Trichlorobenzene	ND	1	5	ug/Kg	04/10/14	nicollez	
1,2,4-Trimethylbenzene	ND	1	5	ug/Kg	04/10/14	nicollez	
1,2-Dibromo-3-chloropropane	ND	1	5	ug/Kg	04/10/14	nicollez	
1,2-Dibromoethane	ND	1	5	ug/Kg	04/10/14	nicollez	
1,2-Dichlorobenzene	ND	1	5	ug/Kg	04/10/14	nicollez	
1,2-Dichloroethane	ND	1	5	ug/Kg	04/10/14	nicollez	
1,2-Dichloropropane	ND	1	5	ug/Kg	04/10/14	nicollez	
1,3,5-Trimethylbenzene	ND	1	5	ug/Kg	04/10/14	nicollez	
1,3-Dichlorobenzene	ND	1	5	ug/Kg	04/10/14	nicollez	
1,3-Dichloropropane	ND	1	5	ug/Kg	04/10/14	nicollez	
1,4-Dichlorobenzene	ND	1	5	ug/Kg	04/10/14	nicollez	
2,2-Dichloropropane	ND	1	5	ug/Kg	04/10/14	nicollez	
2-Butanone (MEK)	ND	1	100	ug/Kg	04/10/14	nicollez	
2-Chloroethyl Vinyl Ether	ND	1	5	ug/Kg	04/10/14	nicollez	

Matrix: Solid | Client: AESCO Technologies | Collector: Client

Sampled: 04/09/2014 15:15 | Site:

Sample #: 339200-009 | Client Sample #: B-5 5-7' Sample A,B | Sample Type:

Analyte	Result	DF	RDL	Units	Analyzed	By	Notes
2-Chlorotoluene	ND	1	5	ug/Kg	04/10/14	nicollez	
4-Chlorotoluene	ND	1	5	ug/Kg	04/10/14	nicollez	
4-Isopropyltoluene	ND	1	5	ug/Kg	04/10/14	nicollez	
4-Methyl-2-pentanone (MIBK)	ND	1	5	ug/Kg	04/10/14	nicollez	
Acetone	ND	1	100	ug/Kg	04/10/14	nicollez	
Allyl Chloride	ND	1	5	ug/Kg	04/10/14	nicollez	
Benzene	ND	1	5	ug/Kg	04/10/14	nicollez	
Bromobenzene	ND	1	5	ug/Kg	04/10/14	nicollez	
Bromochloromethane	ND	1	5	ug/Kg	04/10/14	nicollez	
Bromodichloromethane	ND	1	5	ug/Kg	04/10/14	nicollez	
Bromoform	ND	1	5	ug/Kg	04/10/14	nicollez	
Bromomethane	ND	1	5	ug/Kg	04/10/14	nicollez	
Carbon Tetrachloride	ND	1	5	ug/Kg	04/10/14	nicollez	
Chlorobenzene	ND	1	5	ug/Kg	04/10/14	nicollez	
Chlorodibromomethane	ND	1	5	ug/Kg	04/10/14	nicollez	
Chloroethane	ND	1	5	ug/Kg	04/10/14	nicollez	
Chloroform	ND	1	5	ug/Kg	04/10/14	nicollez	
Chloromethane	ND	1	5	ug/Kg	04/10/14	nicollez	
cis-1,2-Dichloroethene	ND	1	5	ug/Kg	04/10/14	nicollez	
cis-1,3-dichloropropene	ND	1	5	ug/Kg	04/10/14	nicollez	
cis-1,4-dichloro-2-butene	ND	1	5	ug/Kg	04/10/14	nicollez	
Dibromomethane	ND	1	5	ug/Kg	04/10/14	nicollez	
Dichlorodifluoromethane	ND	1	5	ug/Kg	04/10/14	nicollez	
Di-isopropyl ether (DIPE)	ND	1	5	ug/Kg	04/10/14	nicollez	
Ethylbenzene	ND	1	5	ug/Kg	04/10/14	nicollez	
Ethyl-tertbutylether (ETBE)	ND	1	5	ug/Kg	04/10/14	nicollez	
Hexachlorobutadiene	ND	1	5	ug/Kg	04/10/14	nicollez	
Isopropylbenzene	ND	1	5	ug/Kg	04/10/14	nicollez	
m and p-Xylene	ND	1	5	ug/Kg	04/10/14	nicollez	
Methylene chloride	ND	1	5	ug/Kg	04/10/14	nicollez	
Methyl-t-butyl Ether (MTBE)	ND	1	5	ug/Kg	04/10/14	nicollez	
Naphthalene	ND	1	5	ug/Kg	04/10/14	nicollez	
N-butylbenzene	ND	1	5	ug/Kg	04/10/14	nicollez	
N-propylbenzene	ND	1	5	ug/Kg	04/10/14	nicollez	
o-Xylene	ND	1	5	ug/Kg	04/10/14	nicollez	
Sec-butylbenzene	ND	1	5	ug/Kg	04/10/14	nicollez	
Styrene	ND	1	5	ug/Kg	04/10/14	nicollez	
t-Butyl alcohol (TBA)	ND	1	10	ug/Kg	04/10/14	nicollez	
Tert-amylmethylether (TAME)	ND	1	5	ug/Kg	04/10/14	nicollez	
Tert-butylbenzene	ND	1	5	ug/Kg	04/10/14	nicollez	
Tetrachloroethene	ND	1	5	ug/Kg	04/10/14	nicollez	
Toluene	ND	1	5	ug/Kg	04/10/14	nicollez	
trans-1,2-dichloroethene	ND	1	5	ug/Kg	04/10/14	nicollez	
trans-1,3-dichloropropene	ND	1	5	ug/Kg	04/10/14	nicollez	
trans-1,4-dichloro-2-butene	ND	1	5	ug/Kg	04/10/14	nicollez	
Trichloroethene	ND	1	5	ug/Kg	04/10/14	nicollez	
Trichlorofluoromethane	ND	1	5	ug/Kg	04/10/14	nicollez	
Vinyl Chloride	ND	1	5	ug/Kg	04/10/14	nicollez	
Xylenes (Total)	ND	1	5	ug/Kg	04/10/14	nicollez	

Matrix: Solid **Client:** AESCO Technologies **Collector:** Client
Sampled: 04/09/2014 15:15 **Site:**
Sample #: 339200-009 **Client Sample #:** B-5 5-7' Sample A,B **Sample Type:**

Analyte	Result	DF	RDL	Units	Analyzed	By	Notes

Analyte	% Recovery	Limits	Notes
1,2-Dichloroethane-d4 (SUR)	*102*	*70-145*	
4-Bromofluorobenzene (SUR)	*99*	*70-145*	
Dibromodifluoromethane (SUR)	*104*	*70-145*	
Toluene-d8 (SUR)	*108*	*70-145*	

Method: EPA 9045 *NELAC* **Prep Method:** Method **QCBatchID:**

Analyte	Result	DF	RDL	Units	Analyzed	By	Notes
pH	9.67	1			04/16/14	mmegaly	
Temperature (°C)	24.6	1		°C	04/16/14	mmegaly	

QCBatchID: QC1145550 | Analyst: lytagas | Method: EPA 8015B
Matrix: Solid | Analyzed: 04/10/2014 | Instrument: SVOA-GC (group)

Blank Summary

Analyte	Blank Result	Units		RDL	Notes
QC1145550MB1					
TPH (C10 to C22)	ND	mg/Kg		3	
TPH (C22 to C36)	ND	mg/Kg		5	
TPH (C6 to C10)	ND	mg/Kg		3	
TPH Diesel	ND	mg/Kg		1	
TPH Gasoline	ND	mg/Kg		3	
TPH Motor Oil	ND	mg/Kg		5	

Lab Control Spike/ Lab Control Spike Duplicate Summary

Analyte	Spike Amount		Spike Result		Units	Recoveries		RPD	Limits		Notes
	LCS	LCSD	LCS	LCSD		LCS	LCSD		%Rec	RPD	
QC1145550LCS1											
TPH Diesel	25		17.8		mg/Kg	71			70-130		

Matrix Spike/Matrix Spike Duplicate Summary

Analyte	Sample Amount	Spike Amount		Spike Result		Units	Recoveries		RPD	Limits		Notes
		MS	MSD	MS	MSD		MS	MSD		%Rec	RPD	
QC1145550MS1, QC1145550MSD1											**Source:**	339082-004
TPH Diesel		25	25	25.6	18.4	mg/Kg	102	74	32.7	70-130	30	M

QCBatchID: QC1145553	Analyst: wyu	Method: EPA 6010B
Matrix: Solid	Analyzed: 04/10/2014	Instrument: AAICP (group)

Blank Summary

Analyte	Blank Result	Units		RDL	Notes
QC1145553MB1					
Antimony	ND	mg/Kg		3	
Arsenic	ND	mg/Kg		1	
Barium	ND	mg/Kg		1	
Beryllium	ND	mg/Kg		0.5	
Cadmium	ND	mg/Kg		0.5	
Chromium	ND	mg/Kg		1	
Cobalt	ND	mg/Kg		0.5	
Copper	ND	mg/Kg		1	
Lead	ND	mg/Kg		0.5	
Molybdenum	ND	mg/Kg		1	
Nickel	ND	mg/Kg		1.5	
Selenium	ND	mg/Kg		1	
Silver	ND	mg/Kg		0.5	
Thallium	ND	mg/Kg		1	
Vanadium	ND	mg/Kg		0.5	
Zinc	ND	mg/Kg		5	

Lab Control Spike/ Lab Control Spike Duplicate Summary

Analyte	Spike Amount LCS	Spike Amount LCSD	Spike Result LCS	Spike Result LCSD	Units	Recoveries LCS	Recoveries LCSD	RPD	Limits %Rec	Limits RPD	Notes
QC1145553LCS1											
Antimony	200		196		mg/Kg	98			80-120		
Arsenic	200		201		mg/Kg	101			80-120		
Barium	200		200		mg/Kg	100			80-120		
Beryllium	200		209		mg/Kg	105			80-120		
Cadmium	200		198		mg/Kg	99			80-120		
Chromium	200		201		mg/Kg	101			80-120		
Cobalt	200		204		mg/Kg	102			80-120		
Copper	200		194		mg/Kg	97			80-120		
Lead	200		205		mg/Kg	103			80-120		
Molybdenum	200		189		mg/Kg	95			80-120		
Nickel	200		204		mg/Kg	102			80-120		
Selenium	200		195		mg/Kg	98			80-120		
Silver	100		77.6		mg/Kg	78			80-120		L
Thallium	200		205		mg/Kg	103			80-120		
Vanadium	200		196		mg/Kg	98			80-120		
Zinc	200		203		mg/Kg	102			80-120		

Matrix Spike/Matrix Spike Duplicate Summary

Analyte	Sample Amount	Spike Amount MS	Spike Amount MSD	Spike Result MS	Spike Result MSD	Units	Recoveries MS	Recoveries MSD	RPD	Limits %Rec	Limits RPD	Notes
QC1145553MS1, QC1145553MSD1										Source:	339200-005	
Antimony	ND	100	100	78.4	77.5	mg/Kg	78	78	1.2	75-125	20	
Arsenic	2.75	100	100	108	105	mg/Kg	105	102	2.8	75-125	20	
Barium	13.0	100	100	118	128	mg/Kg	105	115	8.1	75-125	20	
Beryllium	0.2	100	100	107	115	mg/Kg	107	115	7.2	75-125	20	
Cadmium	ND	100	100	98.3	107	mg/Kg	98	107	8.5	75-125	20	
Chromium	5.20	100	100	102	111	mg/Kg	97	106	8.5	75-125	20	
Cobalt	2.24	100	100	101	108	mg/Kg	99	106	6.7	75-125	20	
Copper	5.68	100	100	101	109	mg/Kg	95	103	7.6	75-125	20	

QCBatchID: QC1145553	Analyst: wyu	Method: EPA 6010B
Matrix: Solid	Analyzed: 04/10/2014	Instrument: AAICP (group)

Analyte	Sample Amount	Spike Amount MS	Spike Amount MSD	Spike Result MS	Spike Result MSD	Units	Recoveries MS	Recoveries MSD	RPD	Limits %Rec	Limits RPD	Notes
QC1145553MS1, QC1145553MSD1												**Source: 339200-005**
Lead	1.49	100	100	102	99.9	mg/Kg	101	98	2.1	75-125	20	
Molybdenum	0.2	100	100	91.0	90.1	mg/Kg	91	90	1.0	75-125	20	
Nickel	2.59	100	100	102	110	mg/Kg	99	107	7.5	75-125	20	
Selenium	0.9	100	100	104	102	mg/Kg	103	101	1.9	75-125	20	
Silver	ND	50	50	21.5	21.4	mg/Kg	43	43	0.5	75-125	20	M
Thallium	ND	100	100	105	104	mg/Kg	105	104	1.0	75-125	20	
Vanadium	10.3	100	100	109	119	mg/Kg	99	109	8.8	75-125	20	
Zinc	10.2	100	100	109	115	mg/Kg	99	105	5.4	75-125	20	

QCBatchID: QC1145564	Analyst: wei	Method: EPA 7471A
Matrix: Solid	Analyzed: 04/11/2014	Instrument: AAICP-HG1

Blank Summary

Analyte	Blank Result	Units		RDL	Notes
QC1145564MB1					
Mercury	ND	mg/Kg		0.14	

Lab Control Spike/ Lab Control Spike Duplicate Summary

Analyte	Spike Amount LCS	Spike Amount LCSD	Spike Result LCS	Spike Result LCSD	Units	Recoveries LCS	Recoveries LCSD	RPD	Limits %Rec	Limits RPD	Notes
QC1145564LCS1											
Mercury	0.83		0.88		mg/Kg	106			80-120		

Matrix Spike/Matrix Spike Duplicate Summary

Analyte	Sample Amount	Spike Amount MS	Spike Amount MSD	Spike Result MS	Spike Result MSD	Units	Recoveries MS	Recoveries MSD	RPD	Limits %Rec	Limits RPD	Notes
QC1145564MS1, QC1145564MSD1												**Source: 339110-001**
Mercury	ND	0.83	0.83	0.85	0.75	mg/Kg	102	90	12.5	75-125	20	

QCBatchID: QC1145577	Analyst: nicollez	Method: EPA 8260B
Matrix: Solid	Analyzed: 04/10/2014	Instrument: VOA-MS (group)

Blank Summary

Analyte	Blank Result	Units		RDL	Notes
QC1145577MB1					
1,1,1,2-Tetrachloroethane	ND	ug/Kg		5	
1,1,1-Trichloroethane	ND	ug/Kg		5	
1,1,2,2-Tetrachloroethane	ND	ug/Kg		5	
1,1,2-Trichloroethane	ND	ug/Kg		5	
1,1,2-Trichlorotrifluoroethane	ND	ug/Kg		5	
1,1-Dichloroethane	ND	ug/Kg		5	
1,1-Dichloroethene	ND	ug/Kg		5	
1,1-Dichloropropene	ND	ug/Kg		5	
1,2,3-Trichlorobenzene	ND	ug/Kg		5	
1,2,3-Trichloropropane	ND	ug/Kg		5	
1,2,4-Trichlorobenzene	ND	ug/Kg		5	
1,2,4-Trimethylbenzene	ND	ug/Kg		5	
1,2-Dibromo-3-chloropropane	ND	ug/Kg		5	
1,2-Dibromoethane	ND	ug/Kg		5	
1,2-Dichlorobenzene	ND	ug/Kg		5	
1,2-Dichloroethane	ND	ug/Kg		5	
1,2-Dichloropropane	ND	ug/Kg		5	
1,3,5-Trimethylbenzene	ND	ug/Kg		5	
1,3-Dichlorobenzene	ND	ug/Kg		5	
1,3-Dichloropropane	ND	ug/Kg		5	
1,4-Dichlorobenzene	ND	ug/Kg		5	
2,2-Dichloropropane	ND	ug/Kg		5	
2-Butanone (MEK)	ND	ug/Kg		100	
2-Chloroethyl Vinyl Ether	ND	ug/Kg		5	
2-Chlorotoluene	ND	ug/Kg		5	
4-Chlorotoluene	ND	ug/Kg		5	
4-Isopropyltoluene	ND	ug/Kg		5	
4-Methyl-2-pentanone (MIBK)	ND	ug/Kg		5	
Acetone	ND	ug/Kg		100	
Allyl Chloride	ND	ug/Kg		5	
Benzene	ND	ug/Kg		5	
Bromobenzene	ND	ug/Kg		5	
Bromochloromethane	ND	ug/Kg		5	
Bromodichloromethane	ND	ug/Kg		5	
Bromoform	ND	ug/Kg		5	
Bromomethane	ND	ug/Kg		5	
Carbon Tetrachloride	ND	ug/Kg		5	
Chlorobenzene	ND	ug/Kg		5	
Chlorodibromomethane	ND	ug/Kg		5	
Chloroethane	ND	ug/Kg		5	
Chloroform	ND	ug/Kg		5	
Chloromethane	ND	ug/Kg		5	
cis-1,2-Dichloroethene	ND	ug/Kg		5	
cis-1,3-dichloropropene	ND	ug/Kg		5	
cis-1,4-dichloro-2-butene	ND	ug/Kg		5	
Dibromomethane	ND	ug/Kg		5	
Dichlorodifluoromethane	ND	ug/Kg		5	
Di-isopropyl ether (DIPE)	ND	ug/Kg		5	
Ethylbenzene	ND	ug/Kg		5	
Ethyl-tertbutylether (ETBE)	ND	ug/Kg		5	

QCBatchID: QC1145577	Analyst: nicollez	Method: EPA 8260B
Matrix: Solid	Analyzed: 04/10/2014	Instrument: VOA-MS (group)

Analyte	Blank Result	Units		RDL	Notes
QC1145577MB1					
Hexachlorobutadiene	ND	ug/Kg		5	
Isopropylbenzene	ND	ug/Kg		5	
m and p-Xylene	ND	ug/Kg		5	
Methylene chloride	ND	ug/Kg		5	
Methyl-t-butyl Ether (MTBE)	ND	ug/Kg		5	
Naphthalene	ND	ug/Kg		5	
N-butylbenzene	ND	ug/Kg		5	
N-propylbenzene	ND	ug/Kg		5	
o-Xylene	ND	ug/Kg		5	
Sec-butylbenzene	ND	ug/Kg		5	
Styrene	ND	ug/Kg		5	
t-Butyl alcohol (TBA)	ND	ug/Kg		10	
Tert-amylmethylether (TAME)	ND	ug/Kg		5	
Tert-butylbenzene	ND	ug/Kg		5	
Tetrachloroethene	ND	ug/Kg		5	
Toluene	ND	ug/Kg		5	
TPH Gasoline	ND	ug/Kg		100	
trans-1,2-dichloroethene	ND	ug/Kg		5	
trans-1,3-dichloropropene	ND	ug/Kg		5	
trans-1,4-dichloro-2-butene	ND	ug/Kg		5	
Trichloroethene	ND	ug/Kg		5	
Trichlorofluoromethane	ND	ug/Kg		5	
Vinyl Chloride	ND	ug/Kg		5	
Xylenes (Total)	ND	ug/Kg		5	

Lab Control Spike/ Lab Control Spike Duplicate Summary

Analyte	Spike Amount LCS	Spike Amount LCSD	Spike Result LCS	Spike Result LCSD	Units	Recoveries LCS	Recoveries LCSD	RPD	Limits %Rec	Limits RPD	Notes
QC1145577LCS1											
1,1-Dichloroethene	50		47		ug/Kg	94			59-172		
Benzene	50		49		ug/Kg	98			62-137		
Chlorobenzene	50		50		ug/Kg	100			60-133		
Methyl-t-butyl Ether (MTBE)	50		47		ug/Kg	94			62-137		
Toluene	50		52		ug/Kg	104			59-139		
Trichloroethene	50		49		ug/Kg	98			66-142		

Matrix Spike/Matrix Spike Duplicate Summary

Analyte	Sample Amount	Spike Amount MS	Spike Amount MSD	Spike Result MS	Spike Result MSD	Units	Recoveries MS	Recoveries MSD	RPD	Limits %Rec	Limits RPD	Notes
QC1145577MS1, QC1145577MSD1										Source:	339200-009	
1,1-Dichloroethene	ND	50	50	43	43	ug/Kg	86	86	0.0	59-172	22	
Benzene	ND	50	50	46	45	ug/Kg	92	90	2.2	62-137	24	
Chlorobenzene	ND	50	50	48	46	ug/Kg	96	92	4.3	60-133	24	
Methyl-t-butyl Ether (MTBE)	ND	50	50	44	43	ug/Kg	88	86	2.3	62-137	21	
Toluene	ND	50	50	48	48	ug/Kg	96	96	0.0	59-139	21	
Trichloroethene	ND	50	50	46	44	ug/Kg	92	88	4.4	66-142	21	

QCBatchID: QC1145584	Analyst: lytagas	Method: EPA 8015B
Matrix: Water	Analyzed: 04/11/2014	Instrument: SVOA-GC (group)

Blank Summary

Analyte	Blank Result	Units		RDL	Notes	
QC1145584MB1						
TPH (C10 to C22)	ND	mg/L		0.2		
TPH (C22 to C36)	ND	mg/L		0.3		
TPH (C6 to C10)	ND	mg/L		0.2		
TPH Diesel	ND	mg/L		0.1		
TPH Gasoline	ND	mg/L		0.2		
TPH Motor Oil	ND	mg/L		0.3		

Lab Control Spike/ Lab Control Spike Duplicate Summary

	Spike Amount		Spike Result			Recoveries			Limits		
Analyte	LCS	LCSD	LCS	LCSD	Units	LCS	LCSD	RPD	%Rec	RPD	Notes
QC1145584LCS1, QC1145584LCSD1											
TPH Diesel	1	1	0.85	0.90	mg/L	85	90	6	57-122	30	

QCBatchID: QC1145660 Analyst: lytagas Method: EPA 418.1
Matrix: Solid Analyzed: 04/15/2014 Instrument: SVOA-GC (group)

Blank Summary

Analyte	Blank Result	Units		RDL	Notes
QC1145660MB1					
Total Recoverable Petroleum Hydrocarbons	ND	mg/Kg		10	

Lab Control Spike/ Lab Control Spike Duplicate Summary

Analyte	Spike Amount LCS	Spike Amount LCSD	Spike Result LCS	Spike Result LCSD	Units	Recoveries LCS	Recoveries LCSD	RPD	Limits %Rec	Limits RPD	Notes
QC1145660LCS1, QC1145660LCSD1											
Total Recoverable Petroleum Hydrocarbons	82	82	80	72	mg/Kg	98	88	11	80-120		

Notes and Definitions

B	Analyte was present in an associated method blank. Associated sample data was reported with qualifier.
BQ1	No valid test replicates. Result may be greater. Best result was reported with qualifier. Sample toxicity possible.
BQ2	No valid test replicates.
BQ3	Minimum DO is less than 1.0 mg/L. Result may be greater and reported with qualifier.
C	Laboratory Contamination.
D	The sample duplicate RPD was not within control limits, the sample data was reported without further clarification.
DF	Dilution Factor
DW	Sample result is calculated on a dry weigh basis
J	Reported value is estimated
L	The laboratory control sample (LCS) or laboratory control sample duplicate (LCSD) was out of control limits. Associated sample data was reported with qualifier.
M	The matrix spike (MS) or matrix spike duplicate (MSD) was not within control limits due to matrix interference. The associated LCS and/or LCSD was within control limits and the sample data was reported without further clarification.
MDL	Method Detection Limit
NC	The analyte concentration in the sample exceeded the spike level by a factor of four or greater, spike recovery and limits do not apply.
ND	Analyte was not detected or was less than the detection limit.
P	Sample was received without proper preservation according to EPA guidelines.
Q1	Analyte Calibration Verification exceeds criteria and the result was reported with qualifier.
Q2	Analyte calibration was not verified and the result was estimated and reported with qualifier.
Q3	Analyte initial calibration was not available or exceeds criteria. The result was estimated and reported with qualifier.
Q4	Analyte result out of calibration range and was reported with qualifier
RDL	Reporting Detection Limit
S	The surrogate recovery was out of control limits due to matrix interference. The associated method blank surrogate recovery was within control limits and the sample data was reported without further clarification.
T	Sample was extracted/analyzed past the holding time.
T2	Sample was analyzed ASAP but received and analyzed past the 15 minute holding time.
TIC	Tentatively Identified Compounds

ASSOCIATED LABORATORIES
806 North Batavia – Orange, California 92868 – 714-771-6900 FAX 714-538-1209

SAMPLE ACCEPTANCE CHECKLIST

Section 1
Client: AESCO.
Project: HARLEY ELLIS
Date Received: 4/09/14
Sampler's Name: Yes No
Sample temperature: ______
Sample(s) received in cooler: Yes No (Skip Section 2)
Shipping Information: ______

Section 2
Was the cooler packed with: ✓ Ice ___ Ice Packs ___ Bubble Wrap ___ Styrofoam ___ Paper ___ None ___ Other______
Cooler Temperature: 4°C

(*Acceptance range is 0 to 6 Deg. C. or arrival on ice; For Microbiology sample ≤10 Deg. C or arrival on ice*)

Section 3	YES	NO	N/A
Was a COC received?	✓		
Is it properly completed? (IDs, sampling date and time, signature, test)	✓		
Were custody seals present?		✓	
If Yes – were they intact?			✓
Were all samples sealed in plastic bags?		✓	
Did all samples arrive intact? If no, indicate below.	✓		
Did all bottle labels agree with COC? (ID, dates and times)	✓		
Were correct containers used for the tests required?	✓		
Was a sufficient amount of sample sent for tests indicated?	✓		
Was there headspace in VOA vials?			✓
Were the containers labeled with correct preservatives?			✓
Was total residual chlorine measured (Fish Bioassay samples only)? *			✓

*: If the answer is no, please inform Fish Bioassay Dept. immediately.

Section 4
Explanations/Comments

Section 5
Was Project Manager notified of discrepancies: Y / N N/A
Project Manager's response: ______

Completed By: [signature] Date: 4/09/14

ASSOCIATED LABORATORIES

806 North Batavia • Orange, CA 92868
Phone: (714) 771-6900 • Fax: (714) 538-1209

Chain of Custody Record

Lab Job No. 339200
Page ____ of ____

REQUIRED TURN AROUND TIME: Standard: X
72 Hours: ____ 48 Hours: ____ 24 Hours: ____

CUSTOMER INFORMATION		PROJECT INFORMATION	
COMPANY	AESCO	PROJECT NAME:	Harley Ellis
SEND REPORT TO:	Debra Perez	NUMBER:	20140188 - C8480
EMAIL:	Debra.Perez@Aescotech.com	ADDRESS:	4000 Olympic Plaza
ADDRESS:	17782 Georgetown Ln		Long Beach, CA
	Huntington Beach, CA	P.O. #:	
PHONE:	(714) 375-3830	SAMPLED BY:	JJ

ANALYSIS REQUEST

#	Sample ID	Date	Time	Matrix	Container Number/Size	Pres.	PH EPA Meth 9045	CAM 17 EPA 6010B 7471A	VOC EPA 8260B	TPH EPA 418.1	TPH EPA 8015B	BTEX EPA 8021B	TPH (water)			
1	B-6 water	4/9/14	3115	W	1 lit.								X			
2	B-3 water	4/9/14		W									X			
3	B-5 water			W									X			
4	B-9 water			W									X			
5	B-6 5-7' Sample A			S	8oz jar		X	X	X	X	X	X				
6	B-6 5-7' Sample B			S			X	X	X	X	X	X				
7	B-5 13-15' Sample A			S			X	X	X	X	X	X				
8	B-5 13-15' Sample B			S			X	X	X	X	X	X				
9	B-9 5-7' Sample A			S			X	X	X	X	X	X				
10	B-9 5-7' Sample B			S			X	X	X	X	X	X				
11	B-3 5-7' Sample A			S			X	X	X	X	X	X				
12	B-3 5-7' Sample B			S			X	X	X	X	X	X				
13	B-5 5-7' Sample A			S			X	X	X	X	X	X				
14	B-5 5-7' Sample B			S			X	X	X	X	X	X				
15																

Test Instructions & Comments

8015 D:O GAS. on soil and water

Total No. of Samples:
Method of Shipment:
Preservative: 1 = Ice 2 = HCl 3 = HNO_3 4 = H_2SO_4 5 = NaOH 6 = Other

Relinquished by 1.	Received By: 1.	Relinquished by 2.	Received By: 2.	Relinquished by 3.	Received By: 3.
JJ Harrington					
Signature: [signature]	Signature: [signature]	Signature:	Signature:	Signature:	Signature:
Printed Name:	Printed Name: ZAIN	Printed Name:	Printed Name:	Printed Name:	Printed Name:
Date: 4/09/14 Time: 1530	Date: 4/09/14 Time: 1530	Date: Time:	Date: Time:	Date: Time:	Date: Time:

Distribution: White - Laboratory Canary - Laboratory Pink - Project/Account Manager Goldenrod - Sampler/Originator

APPENDIX
LOAD DATA FOR DRILLED PIERS and DRIVEN PILES

AESCO TECHNOLOGIES
18548 Beach Blvd.
Huntington Beach, California 92648

(714) 593-2567
Fax (714) 593-0022

25 Apr 14
2014085-C8050

Belmont Plaza Pool Rebuild
4000 East Olympic Plaza, Long Beach

ALLOWABLE UPLIFT LOADS (TONS)
FOR SQUARE/RECTANGULAR PILES
FACTOR OF SAFETY = 2.0

TIP DEPTH BELOW SURFACE (FT.)	PILE DIMENSIONS (IN.) (TOP NO. = WIDTH - BOTTOM NO. = LENGTH)							
	12 12	14 14	16 16	18 18	0 0	0 0	0 0	0 0
0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0
10	1	1	1	1	0	0	0	0
20	3	3	4	4	0	0	0	0
30	7	8	9	10	0	0	0	0
40	13	15	18	20	0	0	0	0
50	24	28	32	36	0	0	0	0
60	37	43	49	55	0	0	0	0
70	52	61	69	78	0	0	0	0
80	69	81	93	104	0	0	0	0

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(714) 593-2567
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25 Apr 14
2014085-C8050

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4000 East Olympic Plaza, Long Beach

ALLOWABLE DOWNWARD LOADS (TONS)
FOR SQUARE/RECTANGULAR PILES
FACTOR OF SAFETY = 2.0

TIP DEPTH BELOW SURFACE (FT.)	PILE DIMENSIONS (IN.) (TOP NO. = WIDTH - BOTTOM NO. = LENGTH)							
	12	14	16	18	0	0	0	0
	12	14	16	18	0	0	0	0
0								
4	0	0	0	0	0	0	0	0
5	0	1	1	1	0	0	0	0
10	2	2	3	3	0	0	0	0
20	5	6	8	9	0	0	0	0
30	12	15	18	22	0	0	0	0
40	25	32	40	48	0	0	0	0
50	39	49	59	71	0	0	0	0
60	56	68	82	98	0	0	0	0
70	74	91	109	128	0	0	0	0
80	95	116	138	161	0	0	0	0

17782 Georgetown Lane
Huntington Beach, CA 92647

(714) 375-3830
Fax (714) 375-3831

AESCO

25 Apr 14
2014085-C8050

Belmont Plaza Pool Rebuild
4000 East Olympic Plaza, Long Beach

ALLOWABLE UPLIFT LOADS (KIPS)
FOR DRILLED SHAFTS
FACTOR OF SAFETY = 2.0

TIP DEPTH BELOW SURFACE (FT.)	SHAFT DIAMETER (IN.) 18	24	30	36	42	48	54	60
0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0
5	0	0	0	1	1	1	1	1
10	2	2	3	3	4	4	5	5
20	7	9	11	14	16	18	20	23
30	16	21	26	31	36	41	47	52
40	31	41	52	62	73	83	93	104
50	56	75	93	112	131	149	168	186
60	86	115	144	173	201	230	259	288
70	122	163	204	244	285	326	366	407
80	164	218	273	327	382	436	491	545

25 Apr 14
2014085-C8050

Belmont Plaza Pool Rebuild
4000 East Olympic Plaza, Long Beach

ALLOWABLE DOWNWARD LOADS (KIPS)
FOR DRILLED SHAFTS
FACTOR OF SAFETY = 2.0

TIP DEPTH BELOW SURFACE (FT.)	SHAFT DIAMETER (IN.) 18	24	30	36	42	48	54	60
0								
4	0	0	0	0	0	0	0	0
5	1	3	4	6	9	13	17	22
10	5	8	12	17	22	29	36	45
20	14	23	33	45	58	74	92	111
30	34	54	79	107	140	178	220	267
40	75	119	174	238	313	398	494	600
50	111	173	247	335	435	547	673	812
60	153	234	331	442	569	711	869	1043
70	201	303	423	560	716	890	1082	1292
80	254	380	527	695	884	1095	1327	1582

APPENDIX F

HAZARDOUS BUILDING MATERIAL SURVEY AND CORROSION STUDY, UPDATES TO THE PHASE I, PHASE I HAZARDOUS MATERIALS ASSESSMENT, & GROUNDWATER SAMPLING MEMORANDUM

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HAZARDOUS BUILDING MATERIAL SURVEY AND CORROSION STUDY

HAZARDOUS BUILDING MATERIAL SURVEY AND CORROSION STUDY BELMONT PLAZA POOL FACILITY REBUILD/REVITALIZATION PROJECT 4000 EAST OLYMPIC PLAZA LONG BEACH, CALIFORNIA 90803

PREPARED FOR:
Harley Ellis Devereaux
601 South Figueroa Street, Suite 500
Los Angeles, California 90017

PREPARED BY:
Ninyo & Moore
Geotechnical and Environmental Sciences Consultants
475 Goddard, Suite 200
Irvine, California 92618

July 10, 2014
Project No. 209120001

Ninyo & Moore
Geotechnical and Environmental Sciences Consultants

July 10, 2014
Project No. 209120001

Mr. Diego Matzkin
Harley Ellis Devereaux
601 South Figueroa Street, Suite 500
Los Angeles, California 90017

Subject: Hazardous Building Material Survey and Corrosion Study
Belmont Plaza Pool Facility Rebuild/Revitalization Project
4000 East Olympic Plaza
Long Beach, California 90803

Dear Mr. Matzkin:

In accordance with your authorization, Ninyo & Moore has performed a Hazardous Building Material Survey and a Corrosion Study at the Belmont Plaza Pool Facility at 4000 East Olympic Plaza in Long Beach, California. The attached report presents our methodology, findings, conclusions, and recommendations regarding our survey.

We appreciate this opportunity to be of service to you on this important project.

Sincerely,
NINYO & MOORE

Pedro Rodriguez-Mendez
Senior Staff Scientist
Site Surveillance Technician No. 13-5109
CDPH Lead Sampling Technician #23793

Michael S. Cushner
Project Environmental Scientist
Certified Asbestos Consultant No. 11-4711
Lead Inspector/Risk Assessor #16953

Nancy J. Anglin
Principal Engineer

PRM/PJC/MSC/NA/sc

Distribution: (1) Addressee (via e-mail)

TABLE OF CONTENTS

Appendices

1. INTRODUCTION

In accordance with your request and authorization, Ninyo & Moore has performed a hazardous building material survey (HBMS), and a corrosion study at the Belmont Plaza Pool Facility at 4000 East Olympic Plaza in Long Beach, California (site; Figure 1). The corrosion study (including discussion and conclusions) is provided as Appendix A of this report.

The HBMS was performed in support of upcoming demolition activities associated with the revitalization project. Our services included performing an asbestos-containing materials (ACM) survey, a lead-containing surfaces (LCS) survey, and survey of miscellaneous hazardous building materials including potentially polychlorinated biphenyls (PCBs) containing materials and materials listed under the California Department of Toxic Substances Control (DTSC) Universal Waste Rule (UWR). This report has been prepared in accordance with generally accepted environmental science and engineering practices. This report is based upon conditions at the site at the time of the sampling activities and provides documentation of our findings and recommendations.

2. PURPOSE AND SCOPE OF SERVICES

The objective of the HBMS is to provide information about current conditions of the site buildings regarding the potential presence of ACMs, LCSs, and other hazardous building materials. For the purposes of this assessment, LCS refers to both lead-bearing substances (LBS) and lead-based paint (LBP), as defined by the California Department of Public Health (CDPH) and United States Department of Housing and Urban Development (HUD), and other potential lead-containing materials, including, but not limited to, ceramic tile and porcelain bathroom fixtures.

Our scope of services is identified as follows.

- Perform a visual reconnaissance of the interior and exterior areas of the site structures to evaluate the possible presence of ACMs and LCS.
- Collect 127 samples comprising 59 homogeneous building material bulk samples and submittal of these samples to an independent laboratory for analysis of asbestos content. Samples were analyzed via the United States Environmental Protection Agency (EPA)

recommended method of Polarized Light Microscopy (PLM) in accordance with EPA Test Method 600/R-93/116 July 93.

- Collect 688 X-ray fluorescence (XRF) readings of potential LCS (including calibrations).
- Prepare a site plan and figures showing suspect asbestos bulk sample and LCS sample locations.
- Perform a visual assessment and quantification of miscellaneous hazardous building materials including but not limited to wet electrical transformers (possible PCB containing oils), fluorescent light bulbs (possible mercury), fluorescent light ballasts (possible PCB-containing oils), high intensity light bulbs (possible mercury), thermostat switches (possible liquid mercury and/or batteries), emergency lighting and exit signs (possible lead acid or other metal containing batteries or tritium), heating, ventilation, and air conditioning (HVAC) and refrigeration systems (possible chlorofluorocarbon [CFC] gas), and other possible hazardous materials.
- Performed a limited asbestos and lead paint survey for the Beach Maintenance Building.
- Prepare this HBMS report which summarized our field activities, presents our survey data, and summarizes descriptions and estimated quantities of assessed materials. This report includes sample location maps, a site description of the structures, a summary of our field activities, laboratory testing information, general photographic documentation, conclusions and recommendations.
- Perform a corrosion study (Appendix A) to evaluate the site soil conditions with respect to corrosivity.

3. SITE DESCRIPTION

The Belmont Plaza Pool Facility is at 4000 East Olympic Plaza in Long Beach, California. The site includes a main building, old swimming pool area, and a new swimming pool area. Only the structures within the main building and old swimming pool area are planned for demolition. The main building visually appears to be one building but it was observed that there are three separate buildings which have been connected to each other by either constructed interior walkways or previous renovations. The buildings include: Locker Room and Office Building; Main Pool Building; and Restaurant Buildings. The old swimming pool area includes a chemical building; storage building; and two swimming pools. The buildings were reported to be constructed in approximately 1968. A site plan of the facility structures is presented as Figure 2. General descriptions of the site structures planned for demolition are described below.

Locker Room and Office Building

The building is an approximate 10,500-square-foot, single-story structure. It is used as a men's and women's locker room and miscellaneous office locations. The concrete flooring substrate is finished with ceramic tiles or carpeting. Interior walls are either plaster, button-board (drywall & plaster), or concrete. Interior ceilings are plaster and are either unfinished or have acoustic ceiling tiles. The exterior walls are concrete or metal. The roof area is comprised of asphalt shingles, insulation, and is encapsulated with a rubber membrane.

Main Pool Building

The building is an approximate 40,000-square-foot, single-story structure with a basement. It was used as the main interior swimming pool location, and (the basement areas) include storage and mechanical rooms associated with the pool maintenance operations. The concrete flooring substrate is unfinished. Interior walls are either plaster or concrete. Interior ceilings are plaster or concrete, and are finished with acoustic ceiling tiles in most areas. The exterior walls are concrete or metal. The roof area is comprised of asphalt shingles, insulation, and is encapsulated with a rubber membrane.

Restaurant Building

The building is an approximate 15,000-square-foot, two-story structure. The first floor includes a kitchen, dining area, and restrooms. The second floor includes a kitchen, banquet dining and bar locations, and restrooms. The concrete flooring substrate is finished with wood, carpeting, or vinyl floor tiles. Interior walls are either plaster or drywall. Interior ceilings are plaster and are finished with acoustic ceiling tiles in some areas. The exterior walls are concrete or metal. The roof area is comprised of asphalt shingles, insulation, and is encapsulated with a rubber membrane.

Old Pool Area (Chemical and Storage Buildings, Swimming Pools)

The exterior pool location contains two swimming pools (1,250- and 3,300-square-foot), and two structures (Storage Building, and Chemical Building). The Storage Building is an approximate 135-square-foot wood framed structure. The storage room interior walls and ceilings are finished with plaster. The flooring area is exposed concrete. The roofing area is covered with asphalt sheeting. The Chemical Building is an approximate 360-square-foot wood framed structure. The storage room interior walls and ceilings are either finished with plaster or drywall. The flooring area is either exposed concrete or finished with vinyl floor tiles. The roofing area is covered with asphalt sheeting.

4. FIELD LIMITATIONS

The two swimming pools at the Old Pool Area, were filled with water at the time of the inspection. The interior of the filter tanks in the Main Pool Building were inaccessible.

Since non-destructive sampling techniques were used, there is a possibility that additional ACMs and LCS may be encountered in inaccessible areas (e.g., interstitial wall and ceiling spaces as well as roof areas) during building demolition activities.

5. SAMPLE COLLECTION

The surveys followed EPA and HUD guidelines, within the limits of the project scope of work. The asbestos survey was conducted and performed by a California Department of Occupational Safety and Health-Certified Asbestos Consultant, which consisted of visually locating suspected ACMs, inventorying and quantifying homogenous sampling areas, and collecting suspect building materials from the homogeneous sampling areas. The LCS survey was performed by a CDPH Lead Sampling Technician under the supervision of a CDPH Lead-Related Construction Inspector/Assessor. The surveys were performed on March 31, and April 1 of 2014. Inspector certification documentation is presented in Appendix B.

5.1. Asbestos Survey

A preliminary visual assessment and bulk-sampling survey of suspect ACMs within the designated interior structures and exterior roofing areas was performed. Representative samples of the suspect ACMs were collected after identification of homogeneous sampling areas (areas in which the materials are uniform in color, texture, construction or application date, and general appearance). Each homogeneous area was observed for material type, location, condition, and friability. Representative samples were collected from each homogeneous area except areas that were inaccessible or areas of assumed ACM, within the limits of the project scope of work. Samples were collected using EPA-recommended sampling procedures.

A total of 137 samples comprising 59 homogeneous building materials of suspect ACMs were collected and transferred to LA Testing for asbestos analysis. LA Testing is an accredited laboratory in the National Voluntary Laboratory Accreditation Program for bulk asbestos fiber analysis. Samples were analyzed with a *First Positive Stop* criteria per homogeneous group of building material within a sampling area. The samples were analyzed using PLM with dispersion staining for the presence and quantification of asbestos fibers, in general accordance with EPA method 600/R-93/116 July 93. The lower limit of reliable detection for asbestos using the PLM method is approximately one (1) percent by volume. California regulations define asbestos containing construction materials (ACCMs) as those materials having asbestos content of greater than one tenth of 0.1 percent. Materials in which no asbestos was detected are defined in the laboratory report as "None detected." Materials containing asbestos, but in amounts less than 1 percent, are defined as containing "trace" amounts and for the purpose of this report are assumed to be ACCM.

Building materials which were sampled and analyzed for the presence of asbestos are presented in Table 1. The locations of suspect bulk asbestos samples are presented in Figures 3 through 10. Copies of the laboratory analytical reports and chain-of-custody records are presented in Appendix C. General photographic documentation of the ACMs and Assumed ACMs found during this survey is provided in Appendix D.

5.2. LCS Survey

The CDPH stipulates that paint or other surface coatings containing an amount equal to or in excess of one milligram per square centimeter (1.0 mg/cm^2), or more than one-half of one percent (0.5 percent) by weight, constitute a LBP. The HUD guideline for designating a painted surface as lead-containing is consistent with the CDPH. In the County of Los Angeles, Title 11 Health and Safety Chapter 11.28 "Lead Hazards" stipulate that materials containing lead or its compounds in excess of 0.7 mg/cm^2, constitutes a LBS. For the purpose of this survey a LBS is also considered a LCS. In addition, under California

Occupational Safety and Health Administration Construction Safety Orders, Lead Title 8, Section 1532.1 CA, "Lead In Construction Standard," specific worker protection measures are required in construction projects where lead is present. The standard covers construction work where employees may be exposed to lead during such activities as demolition, removal, surface preparation for repainting, renovation, clean-up, and routine maintenance.

Lead testing was conducted using a portable NITON XLp 300A XRF spectrum analyzer in accordance with accepted environmental science and engineering practices for renovation projects. The testing methodology used is presented in Appendix E. A total of 688 XRF readings (including calibrations) were collected from the representative testing combinations (e.g., unique combination of room equivalent, building component, and substrate) within the five structures designated for demolition. Components that were tested for the presence of lead are presented in the attached Table 2. The XRF testing orientation (A, B, C, and D wall orientations) used and surfaces found to be LCS are depicted on the Figures 3 through 10. General photographic documentation of the LCSs and Assumed LCSs found during this survey is provided in Appendix D.

5.3. Miscellaneous Hazardous Building Materials Survey

Ninyo & Moore conducted a visual survey and inventory of miscellaneous hazardous building materials. Materials of potential concern including but not limited to wet electrical transformers (possible PCB-containing oils), fluorescent light bulbs (possible mercury), fluorescent light ballasts (possible PCB-containing oils), high intensity light bulbs (possible mercury), thermostat switches (possible liquid mercury and/or batteries), emergency lighting and exit signs (possible lead acid or other metal containing batteries or tritium), HVAC and refrigeration systems (possible CFC gas). In accordance with the scope of work, positive identification of the suspect miscellaneous hazardous materials, via analytical testing, was not performed.

6. SURVEY RESULTS

The following sections present the survey results.

6.1. Asbestos

Based on observations and the analytical results of bulk samples collected during this survey, ACMs, and Assumed ACMs identified at the site as part of the scope of work are generally described in the following sections for each building within the site. Asbestos analytical results are summarized in the attached Table 1. Suspect asbestos bulk sample locations are shown in Figures 3 through 10. A limited asbestos survey was performed separately for the Beach Maintenance Building, and the results are summarized in Appendix G.

6.1.1. Restaurant Building

Approximately 21 cloth wrapped thermal system insulation elbows from 3- and 4-inch piping within the ceiling plenum areas of the first floor women's restroom and mechanical rooms are ACM. Approximately 8,000 square feet (SF) of 12- by 12-inch white floor tile with black streaks which is exposed and beneath the carpeting throughout the second floor hallway, foyer, and janitor closet is ACM. Approximately 60 SF of roofing penetration mastic at the vents throughout the roof is ACM. Approximately 25 SF of beige caulking at the roof vents is ACM. The vibration damper in the mechanical room is assumed to be ACM. The ACM and Assumed ACMs were noted to be in a good condition.

6.1.2. Main Pool Building

Approximately 18 cloth wrapped thermal system insulation elbows from 6-inch piping in the basement storage room and filter tank rooms are ACM. Approximately 150 SF of roofing penetration mastic at the hatches and skylight are ACM. Approximately 70 SF of the beige and gray caulkings at the roof skylights are ACM. The ACMs were noted to be in a good condition. Approximately 100 assumed gaskets are present in the filter tank room and basement locations.

6.1.3. Locker Room and Offices Building

Approximately 12 cloth wrapped thermal system insulation elbows from the 2- and 3-inch piping in the men's and women's locker rooms are ACM. Approximately 10 SF of white caulking at the east walkway is ACM. Approximately 20 SF of roofing penetration mastic at the vents is ACM. Approximately 30 SF of beige caulking at the roof vents is ACM.

6.1.4. Old Pool Area (Chemical and Storage Buildings)

Chemical building – Approximately 2 SF of mastic at the vent pipe on the roof is ACM. Approximately 5 SF of gray caulking along the north edge of the roofing area is ACM. Approximately 5 cloth wrapped thermal system insulation elbows from the 2-inch piping is ACM.

Old Pool Storage building – Approximately 5 SF of mastic at the edges of the roofing area is ACM.

Please note that quantities of ACMs and Assumed ACMs, are approximate. It is the abatement contractor's responsibility to confirm quantities prior to bidding and removal activities.

The presence of ACMs, and Assumed ACMs, in a building does not necessarily mean that the health of the occupants is endangered. If these materials are in good condition and have not been disturbed or deteriorated, exposures are expected to be negligible. However, when ACM deteriorates, is disturbed, or is in damaged condition, such as during renovation or demolition operations, asbestos fibers may be released creating a potential health hazard for building occupants, maintenance personnel, and contractors.

6.2. Lead-Containing Surfaces

The LCS detection limit used for the survey was 0.7 mg/cm^2. XRF analytical results are presented in Table 2. The CDPH Form 8552 is presented in Appendix F. A limited lead paint survey was performed for the BMB and the results are summarized in Appendix G. Based on the analytical results of XRF analysis during our survey, LCSs which will either require removal or paint film stabilization within the scope of work are generally summarized below for each building location within the site:

6.2.1. Restaurant Building

Approximately 25 SF of paint in fair condition was found at the roofing area parapet walls. Approximately 260 SF of beige ceramic wall tiles in the second floor men's restroom is LCS. Approximately 115 SF of white ceramic wall tiles in the second floor kitchen is LCS. Approximately 260 SF of white ceramic wall tiles in the second floor women's restroom is LCS.

6.2.2. Main Pool Building

Approximately 18,725 SF of intact LCS was found on the various white, blue, and light green ceramic tiles within the flooring and wall areas of the swimming pool. Approximately 50 SF of paint in fair condition was found at the roofing area parapet walls. Approximately 1,000 linear feet of metal overhead plumbing pipes in the basement pool equipment storage, basement hallway, and basement filter tank rooms contain LCS in a poor to intact condition.

6.2.3. Locker Room and Offices Building

Approximately 25 SF of paint in fair condition was found at the roofing area parapet walls. Approximately 10,070 SF of intact LCS was found on various white, brown, yellow, tan/white, cream, and gray ceramic wall tiles within the men's and women's locker rooms, men's and women's executive locker rooms, and men's and women's employee locker rooms.

6.2.4. Old Pool Area (Chemical and Storage Buildings)

Two swimming pools are present in this location. Ceramic tiles are present at both pool wall areas. The concrete wall and flooring area of the pools is also painted. At the time of the inspection, the pools were filled with water. XRF sampling was not performed, therefore, the ceramic tiles at both swimming pool walls are assumed to be lead containing.

Please note that quantities of LCS are approximate. It is the abatement contractor's responsibility to confirm quantities prior to bidding and removal activities.

6.3. Miscellaneous Hazardous Building Materials

Miscellaneous potential hazardous building materials observed within the scope of work areas included fluorescent light bulbs, light ballasts, air conditioning units, mercury-containing thermostat switches, and various swimming pool chemicals. An inventory of miscellaneous building materials is included in Table 3.

Fluorescent light bulbs are classified as light tubes under the DTSC UWR materials (i.e., containing mercury gases). Light ballasts manufactured until the late 1970s commonly contained PCBs. Possible freon or CFC gases are suspected in refrigeration units and the air conditioning units.

7. RECOMMENDATIONS

Since ACMs, Assumed ACMs, LCSs, Assumed LCSs, and hazardous materials were identified at the site, the following recommendations are provided:

- The identified ACMs and LCSs should not be disturbed. Prior to demolition activities which would disturb identified ACMs, Assumed ACMs, and LCSs (ceramic tiles, and loose and flaking paint), and Assumed LCSs a licensed abatement removal contractor should remove the ACMs and LCS, and perform paint stabilization activities as needed. The licensed abatement contractor must maintain current licenses as required by applicable state or local jurisdictions for the removal, transporting, disposal, or other regulated activities.

- Applicable laws and regulations should be followed, including those provisions requiring notification to regulatory agencies, building occupants, renovation contractors, and workers of the presence of asbestos and LCSs.

- Abatement activities will be performed in accordance with the abatement specifications prepared by Ninyo & Moore.

- The identified LCSs should not be disturbed. Any painted LCSs in a non-intact condition should be abated or the component properly removed or encapsulated. Lead containing ceramic tiles should be removed prior to demolition activities. Any lead related removal activities should be performed in accordance with the OSHA Lead in Construction Standard, Title 8 California Code of Regulations (CCR) 1532.1.

- After the water is drained from the two swimming pools within the Old Pool Area, the ceramic wall tiles should be tested for lead content.

- Interior areas of the water filter tanks should be analyzed for lead content upon access.

- Proper LCS waste stream categorization is required. Prior to any demolition activities, a composite sample of the representative LCS material (ceramic tiles and loose and flaking paint) should be analyzed for total lead for comparison with the Total Threshold Limit Concentration in accordance with EPA reference method SW-846. If the concentration of total lead is greater than or equal to 1,000 milligrams per kilogram (mg/kg), the LCS waste material must be disposed at a landfill which can receive such wastes. If the concentration is less than 50 mg/kg the sample may be disposed as construction debris, if it is to remain in California. If the total lead result is greater than or equal to 50 mg/kg and less than 1,000 mg/kg, the sample must be further analyzed for soluble lead by the Waste Extraction Test for comparison with the Soluble Threshold Limit Concentration (STLC) as described in Title 22 CCR 66261.24a. Additionally, if the result is greater than or equal to 100 mg/kg the sample must be further analyzed for leachable lead by the Toxicity Characteristic Leaching Procedure (TCLP) for comparison with the Resource Conservation and Recovery Act (RCRA) limits. Based on the results of the soluble and leachable analysis the waste material may require disposal as a RCRA-Hazardous waste or non-RCRA- (California-) Hazardous waste.

- Miscellaneous hazardous building materials discussed in this report (Table 3), should be removed and properly recycled or disposed by the licensed abatement contractor prior to demolition activities. Contractor should provide proper manifesting for all hazardous materials removed and recycled to prove the disposal of all materials was completed in accordance with local including the Fire Department, state, and federal requirements.

- Abatement monitoring consulting services should be performed by a third party environmental consultant, to include oversight of abatement contractor activities to be performed in accordance with the abatement specifications, daily air monitoring, clearances (asbestos and lead), verification of complete removal of hazardous materials, and preparation of a closeout report summarizing the abatement activities.

8. LIMITATIONS

Ninyo & Moore's opinions and recommendations regarding environmental conditions, as presented in this report, are based on limited sampling and chemical analysis. Further assessment of potential adverse environmental impacts may be accomplished by a more comprehensive assessment. The samples collected and used for testing, and the observations made, are believed to be representative of the area(s) evaluated. However, if additional suspect ACMs or LCSs are encountered during renovation/demolition activities, these materials should be sampled by a qualified person, and analyzed for content prior to further disturbance. In addition, please note that quantities of ACMs and LCSs are approximate. These numbers should be confirmed prior to removal or repair activities.

The environmental services described in this report have been conducted in general accordance with current regulatory guidelines and the standard-of-care exercised by environmental consultants performing similar work in the project area. No warranty, expressed or implied, is made regarding the professional opinions presented in this report. Variations in site conditions may exist and conditions not observed or described in this report may be encountered during subsequent activities.

This document is intended to be used only in its entirety. No portion of the document, by itself, is designed to completely represent any aspect of the project described herein. Ninyo & Moore should be contacted if the reader requires any additional information, or has questions regarding content, interpretations presented, or completeness of this document.

The environmental interpretations and opinions contained in this report are based on the results of laboratory tests and analyses intended to detect the presence and concentration of specific chemical or physical constituents in samples collected from the subject site. The testing and analyses have been conducted by an independent laboratory which is certified by the State of California to conduct such tests. Ninyo & Moore has no involvement in, or control over, such testing and analysis. Ninyo & Moore, therefore, disclaims responsibility for any inaccuracy in such laboratory results.

Our conclusions, recommendations, and opinions are based on an analysis of the observed site conditions. It should be understood that the conditions of a site can change with time as a result of natural processes or the activities of man at the subject site or nearby sites. In addition, changes to the applicable laws, regulations, codes, and standards of practice may occur due to government action or the broadening of knowledge. The findings of this report may, therefore, be invalidated over time, in part or in whole, by changes over which Ninyo & Moore has no control.

Table 1 – Asbestos Survey Results

Sample ID No.	Sample Location	HA No.	Sampled Material	Result	Approximate Quantity (SF/LF)
Locker Rooms & Offices Building					
1	Women's locker room – south wall	1	Wall & ceiling plaster (coarse & smooth)	None detected	NA
2	Executive women's locker room – east wall	1	Wall & ceiling plaster (coarse & smooth)	None detected	
3	Northeast office – west wall	1	Wall & ceiling plaster (coarse & smooth)	None detected	
4	electrical room – north wall	1	Wall & ceiling plaster (coarse & smooth)	None detected	
5	Hallway – north wall	1	Wall & ceiling plaster (coarse & smooth)	None detected	
6	Men's locker room – north wall	1	Wall & ceiling plaster (coarse & smooth)	None detected	
7	Executive men's locker room – east wall	1	Wall & ceiling plaster (coarse & smooth)	None detected	
8	Women's locker room – south wall	2	Button board	None detected	NA
9	Water tank in electrical room	3	Cloth-wrapped fiberglass insulation	None detected	NA
10	Water tank in electrical room	3	Cloth-wrapped fiberglass insulation	None detected	
11	Water tank in electrical room	3	Cloth-wrapped fiberglass insulation	None detected	
12	**Women's locker room – 2" elbow**	**4**	**Cloth-wrapped elbow insulation**	**5% chrysotile asbestos**	**12 Each ACM**
13	**Men's locker room – 3" elbow**	**4**	**Cloth-wrapped elbow insulation**	**NA**	
14	Women's locker room – 2" pipe	5	Cloth-wrapped pipe insulation	None detected	NA
15	Men's locker room – 3" pipe	6	White/silver paper pipe insulation	None detected	NA
16	Entry lobby	7	1'x1' Acoustic ceiling tile	None detected	NA
17	Entry lobby	8	Carpet glue	None detected	NA
18	Weight room	9	Black vinyl cove base & glue	None detected	NA
19	Electrical room	10	Brittle black cove base & glue	None detected	NA
20	Exterior east entry plaza	11	Gray sidewalk caulk	None detected	NA
21	Exterior southwest corner	12	Stone & concrete panels	None detected	NA
22	Exterior southeast corner	12	Stone & concrete panels	None detected	
23	Exterior northwest corner	12	Stone & concrete panels	None detected	
101	North	42	Roof core	None detected	NA
102	West	42	Roof core	None detected	
103	South	42	Roof core	None detected	
104	**West vent**	**37**	**Beige caulking**	**5% chrysotile asbestos**	**30 SF ACM**
105	**South vent**	**43**	**Penetration mastic**	**5% chrysotile asbestos**	**20 SF ACM**
106	**Center sleeper**	**43**	**Penetration mastic**	**NA**	
107	**Center pitch pocket**	**43**	**Penetration mastic**	**NA**	
108	**East walkway**	**44**	**White caulking**	**4% chrysotile asbestos**	**10 SF ACM**

Table 1 – Asbestos Survey Results

Sample ID No.	Sample Location	HA No.	Sampled Material	Result	Approximate Quantity (SF/LF)
Main Pool Building					
24	Diving Platform	13	Diving mat & glue	None detected	NA
25	Above Diving Platform (ceiling area)	14	2’x2’ Acoustic ceiling panels	None detected	NA
26	South wall	15	2’x2’ Acoustic wall panels	None detected	NA
27	East walkway	16	Walkway caulk	None detected	NA
28	West Pool window	17	Window caulk	None detected	NA
29	Expansion joints between pool building & restaurant building – north	18	Black tar	None detected	NA
30	Expansion joints between pool building & restaurant building – center	18	Black tar	None detected	
31	Expansion joints between pool building & restaurant building – south	18	Black tar	None detected	
32	North storage	1	Wall & ceiling plaster (coarse & smooth)	None detected	NA
33	South stairwell – up	1	Wall & ceiling plaster (coarse & smooth)	None detected	
34	South stairwell – down	1	Wall & ceiling plaster (coarse & smooth)	None detected	
35	Basement hall – south	1	Wall & ceiling plaster (coarse & smooth)	None detected	
36	Basement hall – north	1	Wall & ceiling plaster (coarse & smooth)	None detected	
37	South stairwell	19	Black brittle cove base & glue	None detected	NA
38	Basement storage	20	Gray brittle cove & glue	None detected	NA
39	Filter tank room	21	Green gasket	None detected	NA
40	**Basement storage 6” elbow**	**4**	**Cloth-wrapped elbow insulation**	**NA**	**18 Each ACM**
41	**Northeast Filter tank room 6” elbow**	**4**	**Cloth-wrapped elbow insulation**	**NA**	
42	**Northwest Filter tank room 6” elbow**	**4**	**Cloth-wrapped elbow insulation**	**NA**	
43	Basement Storage 6” pipe	5	Cloth-wrapped pipe insulation	None detected	NA
44	Northeast filter tank room 6” pipe	5	Cloth-wrapped pipe insulation	None detected	
45	Northwest filter tank room 6” pipe	5	Cloth-wrapped pipe insulation	None detected	
46	Northeast filter tank pipe ends	22	Tan bridging encapsulant	None detected	NA
47	Northeast filter tank pipe ends	22	Tan bridging encapsulant	None detected	
48	Northeast filter tank pipe ends	22	Tan bridging encapsulant	None detected	
49	Heater room 2” pipe	6	White/silver paper pipe insulation	None detected	NA

Table 1 – Asbestos Survey Results

Sample ID No.	Sample Location	HA No.	Sampled Material	Result	Approximate Quantity (SF/LF)
50	Heater room pipe ends	23	White bridging encapsulant	None detected	
51	Heater room pipe ends	23	White bridging encapsulant	None detected	NA
52	Heater room pipe ends	23	White bridging encapsulant	None detected	
92	West	39	Roof core	None detected	
93	Center	39	Roof core	None detected	NA
94	Northeast	39	Roof core	None detected	
95	Southeast patch	40	Roof patch core	None detected	NA
96	**North pitch pocket**	**41**	**Penetration mastic**	**None detected**	**150 SF ACM**
97	**Center hatch**	**41**	**Penetration mastic**	**None detected**	
98	**South skylight**	**41**	**Penetration mastic**	**5% chrysotile asbestos**	
99	**East skylight**	**37**	**Beige caulking**	**5% chrysotile asbestos**	**20 SF ACM**
100	**Center skylight**	**38**	**Gray caulking**	**7% chrysotile asbestos**	**50 SF ACM**
NS	**Filter tank room**	**60**	**Gaskets (various)**	**ASSUMED**	**100 Each**
			Restaurant Building		
53	Kitchen north	1	Wall & ceiling plaster (coarse & smooth)	None detected	
54	Kitchen southeast	1	Wall & ceiling plaster (coarse & smooth)	None detected	
55	Kitchen south	1	Wall & ceiling plaster (coarse & smooth)	None detected	
56	2nd Floor roof access	1	Wall & ceiling plaster (coarse & smooth)	None detected	NA
57	2nd Floor center	1	Wall & ceiling plaster (coarse & smooth)	None detected	
58	2nd Floor janitor closet	1	Wall & ceiling plaster (coarse & smooth)	None detected	
59	2nd Floor employee restroom	1	Wall & ceiling plaster (coarse & smooth)	None detected	
60	2nd Floor janitor closet	2	Button board	None detected	NA
61	Dance floor ceiling beam	24	Drywall with joint compound	None detected	
62	Southwest wall	24	Drywall with joint compound	None detected	NA
63	Northwest wall	24	Drywall with joint compound	None detected	
64	Kitchen	25	2'x4' Acoustic ceiling panel (drywall)	None detected	NA
65	Kitchen north	26	Green flooring resin	None detected	
66	Kitchen center	26	Green flooring resin	None detected	NA
67	Kitchen south side	26	Green flooring resin	None detected	
68	West exterior north wall	27	Exterior pink wall plaster	None detected	
69	West exterior wall center	27	Exterior pink wall plaster	None detected	NA
70	West exterior wall south	27	Exterior pink wall plaster	None detected	
71	**1st Floor above women's restroom 3" elbow**	**4**	**Cloth-wrapped elbow insulation**	**5% chrysotile**	**15 Each ACM**

Table 1 – Asbestos Survey Results

Sample ID No.	Sample Location	HA No.	Sampled Material	Result	Approximate Quantity (SF/LF)
72	**1st Floor mechanical room 4” elbow**	**4**	**Cloth-wrapped elbow insulation**	**NA**	
73	**1st Floor mechanical room 4” end**	**28**	**Cloth-wrapped pipe end insulation**	**5% chrysotile**	**6 Each ACM**
74	1st Floor above women’s restroom 2” pipe	5	Cloth-wrapped pipe insulation	None detected	NA
75	1st Floor above women’s restroom 4” pipe	29	Cloth/silver paper pipe insulation	None detected	NA
76	1st Floor mechanical room 4” pipe	29	Cloth/silver Paper pipe insulation	None detected	
77	1st Floor mechanical room 2” pipe	30	Painted cloth wrap pipe insulation	None detected	NA
78	2nd Floor above kitchen	31	Cloth AC duct tape	None detected	NA
79	2nd Floor kitchen northwest	32	1’x1’ Acoustic ceiling tile w/holes	None detected	NA
80	2nd Floor north office	33	1’x1’ Acoustic ceiling tile w/crevices	None detected	NA
81	**2nd Floor women’s foyer**	**34**	**12” Floor tile white w/black streaks & black mastic**	**Floor tile – 3% chrysotile asbestos Mastic – 6% chrysotile asbestos**	**8,000 SF ACM**
82	**2nd Floor northwest hall**	**34**	**12” Floor tile white w/black streaks & black mastic**	**NA**	
83	**2nd Floor janitor closet**	**34**	**12” Floor tile white w/black streaks & black mastic**	**NA**	
84	Northwest	35	Roof core	None detected	NA
85	Center	35	Roof core	None detected	
86	Southeast	35	Roof core	None detected	
87	**North vent**	**36**	**Penetration mastic**	**6% chrysotile**	**60 SF ACM**
88	**East pitch pocket**	**36**	**Penetration mastic**	**NA**	
89	**Southeast vent**	**36**	**Penetration mastic**	**NA**	
90	**Northeast vent**	**37**	**Beige caulking**	**5% chrysotile**	**25 SF ACM**
91	North AC unit	38	Gray caulking	None detected	NA
NS	**Mechanical room**	**60**	**Vibration damper**	**ASSUMED**	**1 each**
Old Pool Chemical Building					
109	Roof center	45	Roof core	None detected	NA
110	Roof southeast	46	Roof core	None detected	
111	Roof west	47	Base flashing	None detected	
112	**West vent pipe roofing area**	**48**	**Black mastic**	**5% chrysotile asbestos**	**2 SF ACM**
113	Southwest heater vent pipe	49	Gray mastic	None detected	NA
114	West vent pipe	50	Gray caulking	None detected	NA
115	**North edge roofing area**	**51**	**Gray caulking (old)**	**10% chrysotile asbestos**	**5 SF ACM**
118	Southwest ceiling	54	Wall & ceiling plaster (coarse & smooth)	None detected	NA
119	West wall	54	Wall & ceiling plaster (coarse & smooth)	None detected	

Table 1 – Asbestos Survey Results

Sample ID No.	Sample Location	HA No.	Sampled Material	Result	Approximate Quantity (SF/LF)
120	North wall	54	Wall & ceiling plaster (coarse & smooth)	None detected	
121	Pipe – 2”	55	Cloth-wrapped pipe insulation	None detected	NA
122	**Elbow – 2”**	**56**	**Cloth-wrapped elbow insulation**	**2% chrysotile asbestos**	**5 Each ACM**
Old Pool Storage Building					
116	Center	52	Roof core	None detected	Not applicable
117	**North edge roofing area**	**53**	**Black mastic**	**5% chrysotile asbestos**	**5 SF ACM**
123	East wall	57	Drywall with joint compound	None detected	NA
124	Center wall	57	Drywall with joint compound	None detected	
125	West wall	57	Drywall with joint compound	None detected	
126	East floor	58	12” Blue floor tile & glue	None detected	NA
127	East wall	59	4” Gray cove base & glue	None detected	NA

Notes:
” - inch
ACM - asbestos containing material
HA - homogeneous area
ID - identification
LF - linear feet
NA - not applicable
NO - number
NS - not sampled
SF - square feet
SNA - sample not analyzed

Table 2 - XRF Readings for Lead Containing Substances

Reading No.	Room	Floor	Side	Component	Substrate	Condition	Color	Action Level (mg/cm^2)	Results	Approximate Quantity	Lead Reading (mg/cm^2)
Main Pool Building											
1	Mail pool area	First	A	Diving platform	Concrete	Intact	White	0.7	Negative		0.02
2	Mail pool area	First	B	Diving platform	Metal	Intact	White	0.7	Negative		0.05
3	Mail pool area	First	A	Diving platform	Concrete	Intact	Blue	0.7	Negative		0.02
4	Mail pool area	First	B	Diving platform railing	Metal	Intact	Blue	0.7	Negative		0.01
5	Mail pool area	First	0	Beam	Concrete	Intact	White	0.7	Negative		0.03
6	Mail pool area	First	0	Beam	Concrete	Intact	Brown	0.7	Negative		0.01
7	Mail pool area	First	0	Floor	Concrete	Intact	Green	0.7	Negative		0.01
8	Mail pool area	First	A	Door	Metal	Intact	Brown	0.7	Negative		0.02
9	Mail pool area	First	0	Floor	Ceramic tile	Intact	Blue/light blue	0.7	Negative		0.1
10	Mail pool area	First	0	Floor	Ceramic tile	Intact	White	0.7	Negative		0.01
11	Mail pool area	First	0	Floor	Ceramic tile	Intact	Blue	0.7	Negative		0.03
12	Mail pool area	First	0	Floor	Concrete	Intact	Red	0.7	Negative		0.03
13	**Swimming pool**	**First**	**0**	**Floor**	**Ceramic tile**	**Intact**	**White**	**0.7**	**Positive**	**14,125 SF**	**2.29**
14	**Swimming pool**	**First**	**0**	**Floor**	**Ceramic tile**	**Intact**	**White**	**0.7**	**Positive**	**Same as 13**	**2.45**
15	Swimming pool	First	0	Floor (small tile)	Ceramic tile	Intact	Blue	0.7	Negative		0.01
16	**Swimming pool**	**First**	**C**	**Wall**	**Ceramic tile**	**Intact**	**Blue**	**0.7**	**Positive**	**600 SF**	**6.26**
17	**Swimming pool**	**First**	**C**	**Wall**	**Ceramic tile**	**Intact**	**Light green**	**0.7**	**Positive**	**4,000 SF**	**7.9**
18	**Swimming pool**	**First**	**C**	**Wall**	**Ceramic tile**	**Intact**	**White**	**0.7**	**Positive**	**Same as 13**	**2.26**
19	**Swimming pool**	**First**	**0**	**Floor**	**Ceramic tile**	**Intact**	**Blue**	**0.7**	**Positive**	**Same as 16**	**6.45**
20	**Roof**	**Roof**	**B**	**Parapet wall**	**Concrete**	**Fair**	**White**	**0.7**	**Positive**	**3,700 SF**	**4.82**
21	Roof	Roof	0	Vent	Plaster	Intact	Silver	0.7	Negative		0.02
22	Roof	Roof	0	Pipe	Metal	Poor	Silver	0.7	Negative		0.05
23	Roof	Roof	0	Pipe	Metal	Poor	Silver	0.7	Negative		0.07
24	Roof	Roof	0	Hatch	Metal	Intact	Silver	0.7	Negative		0.06
25	Roof access	Second	B	Wall	Plaster	Fair	Beige	0.7	Negative		0.15
26	Roof access	Second	C	Wall	Plaster	Fair	Beige	0.7	Negative		0.12
27	Roof access	Second	D	Wall	Plaster	Fair	Beige	0.7	Negative		0.1
28	Roof access	Second	C	Door	Metal	Intact	White	0.7	Negative		0.08
29	Roof access	Second	C	Door jamb	Metal	Intact	Beige	0.7	Negative		0.11
30	Exterior	Exterior	A	Wall	Concrete	Intact	White	0.7	Negative		0.02
31	Exterior	Exterior	B	Wall	Concrete	Intact	White	0.7	Negative		0.02
32	Exterior	Exterior	C	Wall	Concrete	Intact	White	0.7	Negative		0.02
33	Exterior	Exterior	D	Wall	Concrete	Intact	White	0.7	Negative		0.02
34	Exterior	Exterior	C	Door	Metal	Intact	Brown	0.7	Negative		0.03
35	Exterior	Exterior	C	Bench	Concrete	Intact	White	0.7	Negative		0.4
36	Exterior	Exterior	0	Floor	Concrete	Poor	Green	0.7	Negative		0.03
37	Exterior	Exterior	B	Wall	Concrete	Intact	White	0.7	Negative		0.34
38	Swimming pool	First	B	Pool separator	Plastic	Intact	White	0.7	Negative		0.03
39	Swimming pool	First	B	Pool separator	Plastic	Intact	Blue	0.7	Negative		0.06
40	**Swimming pool**	**First**	**A**	**Wall**	**Ceramic tile**	**Intact**	**White**	**0.7**	**Positive**	**Same as 13**	**3.85**
41	**Diving pool**	**First**	**C**	**Wall**	**Ceramic tile**	**Intact**	**Light green**	**0.7**	**Positive**	**Same as 17**	**7.48**
42	**Diving pool**	**First**	**B**	**Wall**	**Ceramic tile**	**Intact**	**Blue**	**0.7**	**Positive**	**Same as 16**	**6.46**
43	**Diving pool**	**First**	**0**	**Floor**	**Ceramic tile**	**Intact**	**White**	**0.7**	**Positive**	**Same as 13**	**3.11**
44	Diving pool	First	0	Floor (small tile)	Ceramic tile	Intact	Blue	0.7	Negative		0.03
45	**Diving pool**	**First**	**C**	**Wall**	**Ceramic tile**	**Intact**	**White**	**0.7**	**Positive**	**Same as 13**	**3.41**
46	Main pool area	First	C	Bleachers	Metal	Intact	Gold	0.7	Negative		0.04
47	Main pool area	First	C	Bleachers	Metal	Intact	Red	0.7	Negative		0.03
48	Main pool area	First	C	Bleacher guard rail	Wood	Intact	Blue	0.7	Negative		0.02
49	Main pool area	First	A	Wall	Concrete	Intact	White	0.7	Negative		0.02
50	Main pool area	First	B	Wall	Concrete	Intact	White	0.7	Negative		0.02
51	Main pool area	First	C	Wall	Concrete	Intact	White	0.7	Negative		0.02
52	Main pool area	First	D	Wall	Concrete	Intact	White	0.7	Negative		0.02
53	**Main pool area**	**First**	**B**	**Wall overhang**	**Concrete**	**Intact**	**White**	**0.7**	**Positive**	**320 SF**	**1.9**
54	Main pool area	First	B	Wall overhang	Concrete	Intact	Blue	0.7	Negative		0.05
55	Main pool area	First	B	Railing	Metal	Intact	Black	0.7	Negative		0.03
56	Main pool area	First	B	Wall	Concrete	Intact	White	0.7	Negative		0.02
57	Main pool area	First	B	Wall	Wood	Intact	White	0.7	Negative		0.4
58	Main pool area	First	B	Wall	Metal	Intact	Black	0.7	Negative		0.01
59	Main pool area	First	B	Door barrier	Wood	Intact	White	0.7	Negative		0.01
60	Main pool area	First	B	Pulley pole	Metal	Poor	Yellow	0.7	Negative		0.03
61	Main pool area	First	B	Wall	Concrete	Poor	White	0.7	Negative		0.13
62	Main pool area	First	B	Air duct	Metal	Poor	White	0.7	Negative		0.1
63	Main pool area	First	0	Floor	Concrete	Poor	Green	0.7	Negative		0.03
64	**Main pool area**	**First**	**0**	**Floor hatch**	**Metal**	**Intact**	**Green**	**0.7**	**Positive**	**20 SF**	**1.93**
65	Main pool area	First	B	Wall	Concrete	Intact	White	0.7	Negative		0.1
66	Main pool area	First	D	Wall	Metal	Intact	Beige	0.7	Negative		0.12
67	Main pool area	First	D	Cabinet	Metal	Intact	Beige	0.7	Negative		0.08
68	Main pool area	First	D	Cabinet	Wood	Intact	Beige	0.7	Negative		0.03
69	Main pool area	First	B	Baseboard	Concrete	Intact	Green	0.7	Negative		0.02
70	Main pool area	First	0	Floor	Concrete	Intact	Green	0.7	Negative		0.04
71	Main pool area	First	B	Roll-up door	Metal	Intact	White	0.7	Negative		0.01

Table 2 - XRF Readings for Lead Containing Substances

Reading No.	Room	Floor	Side	Component	Substrate	Condition	Color	Action Level (mg/cm^2)	Results	Approximate Quantity	Lead Reading (mg/cm^2)
72	**Main pool area**	**First**	**D**	**Wall overhang**	**Concrete**	**Intact**	**White**	**0.7**	**Positive**	**Same as 52**	**1.33**
73	Main pool area	First	D	Wall overhang	Concrete	Intact	Blue	0.7	Negative		0.02
74	Main pool area	First	D	Wall overhang sign	Metal	Intact	Black	0.7	Negative		0.08
75	Main pool area	First	D	Wall	Concrete	Intact	White	0.7	Negative		0.01
76	Main pool area	First	B	Column	Concrete	Intact	White	0.7	Negative		0.01
77	Basement access	First/Basement	B	Wall	Concrete	Intact	White	0.7	Negative		0.12
78	Basement access	First/Basement	B	Wall	Concrete	Intact	Beige	0.7	Negative		0.13
79	Basement access	First/Basement	B	Wall	Plaster	Intact	Beige	0.7	Negative		0.1
80	Basement access	First/Basement	B	Wall	Plaster	Intact	White	0.7	Negative		0.09
81	Basement access	First/Basement	0	Stairs	Concrete	Intact	Green	0.7	Negative		0.09
82	Basement access	First/Basement	D	Railing	Metal	Intact	Green	0.7	Negative		0.11
83	Basement access	First/Basement	A	Wall	Concrete	Intact	White	0.7	Negative		0.09
84	Basement access	First/Basement	B	Wall	Concrete	Intact	White	0.7	Negative		0.09
85	Basement access	First/Basement	D	Wall	Concrete	Intact	Black	0.7	Negative		0.29
86	Basement access	First/Basement	0	Ceiling	Metal	Intact	White	0.7	Negative		0.06
87	Basement access	First/Basement	D	Door	Wood	Intact	Beige	0.7	Negative		0.1
88	Basement access	First/Basement	D	Door frame	Metal	Intact	Brown	0.7	Negative		0.1
89	Basement access	First/Basement	D	Door jamb	Metal	Intact	Brown	0.7	Negative		0.08
90	Hallway	Basement	C	Wall	Metal	Intact	White	0.7	Negative		0.13
91	Hallway	Basement	A	Wall	Concrete	Intact	White	0.7	Negative		0.12
92	Hallway	Basement	A	Hatch	Metal	Intact	White	0.7	Negative		0.18
93	Hallway	Basement	D	Column	Concrete	Intact	White	0.7	Negative		0.05
94	Hallway	Basement	B	Wall	Concrete	Poor	White	0.7	Negative		0.05
95	Hallway	Basement	C	Wall	Concrete	Poor	White	0.7	Negative		0.05
96	Hallway	Basement	D	Wall	Concrete	Poor	White	0.7	Negative		0.05
97	Hallway	Basement	D	Window sill	Concrete	Fair	White	0.7	Negative		0.01
98	Hallway	Basement	B	Electrical panel	Metal	Intact	White	0.7	Negative		0.12
99	Pool equipment storage	Basement	A	Door	Wood	Intact	Green	0.7	Negative		0.01
100	Pool equipment storage	Basement	A	Door frame	Metal	Intact	White	0.7	Negative		0.1
101	Pool equipment storage	Basement	A	Door jamb	Metal	Intact	White	0.7	Negative		0.08
102	Pool equipment storage	Basement	0	Air duct	Metal	Intact	White	0.7	Negative		0.07
103	**Pool equipment storage**	**Basement**	**0**	**Pipe**	**Metal**	**Fair**	**White**	**0.7**	**Positive**	**1,000 LF**	**1.23**
104	**Pool equipment storage**	**Basement**	**0**	**Pipe**	**Metal**	**Poor**	**White**	**0.7**	**Positive**	**Same as 103**	**0.87**
105	Pool equipment storage	Basement	A	Wall	Concrete	Intact	Blue	0.7	Negative		0.15
106	Pool equipment storage	Basement	B	Wall	Concrete	Intact	Blue	0.7	Negative		0.18
107	Pool equipment storage	Basement	C	Wall	Concrete	Intact	Green	0.7	Negative		0.13
108	Pool equipment storage	Basement	D	Wall	Concrete	Intact	Blue	0.7	Negative		0.23
109	Pool equipment storage	Basement	C	Air duct	Metal	Intact	Green	0.7	Negative		0.08
110	**Pool equipment storage**	**Basement**	**0**	**Pipe**	**Metal**	**Intact**	**White**	**0.7**	**Positive**	**Same as 103**	**1.67**
111	**Pool equipment storage**	**Basement**	**0**	**Pipe**	**Metal**	**Intact**	**White**	**0.7**	**Positive**	**Same as 103**	**1.91**
112	Pool equipment storage	Basement	0	Ceiling	Concrete	Intact	White	0.7	Negative		0.04
113	**Pool equipment storage**	**Basement**	**0**	**Pipe**	**Metal**	**Fair**	**White**	**0.7**	**Positive**	**Same as 103**	**3.02**
114	Pool equipment storage	Basement	0	Pipe insulation	Foam	Intact	White	0.7	Negative		0.05
115	Pool equipment storage	Basement	0	Pipe insulation	Foam	Intact	White	0.7	Negative		0.26
116	Hallway	Basement	0	Air duct	Metal	Intact	White	0.7	Negative		0.4
117	**Hallway**	**Basement**	**0**	**Pipe**	**Metal**	**Fair**	**White**	**0.7**	**Positive**	**Same as 103**	**1.3**
118	**Hallway**	**Basement**	**0**	**Pipe**	**Metal**	**Fair**	**White**	**0.7**	**Positive**	**Same as 103**	**1.79**
119	Hallway	Basement	C	Door	Metal	Intact	Green	0.7	Negative		0.03
120	Hallway	Basement	C	Door frame	Metal	Intact	White	0.7	Negative		0.19
121	Hallway	Basement	C	Door jamb	Metal	Intact	White	0.7	Negative		0.12
122	Filter tank room	Basement	D	Column	Concrete	Intact	White	0.7	Negative		0.16
123	Filter tank room	Basement	A	Wall	Concrete	Intact	White	0.7	Negative		0.16
124	Filter tank room	Basement	B	Wall	Concrete	Intact	White	0.7	Negative		0.16
125	Filter tank room	Basement	C	Wall	Concrete	Intact	White	0.7	Negative		0.16
126	Filter tank room	Basement	D	Wall	Concrete	Intact	White	0.7	Negative		0.16
127	**Filter tank room**	**Basement**	**D**	**Pipe**	**Metal**	**Intact**	**White**	**0.7**	**Positive**	**1,000 LF**	**1.37**
128	**Filter tank room**	**Basement**	**D**	**Pipe**	**Metal**	**Intact**	**White**	**0.7**	**Positive**	**Same as 127**	**1.29**
129	**Filter tank room**	**Basement**	**D**	**Pipe**	**Metal**	**Intact**	**White**	**0.7**	**Positive**	**Same as 127**	**1.71**
130	**Filter tank room**	**Basement**	**D**	**Pipe**	**Metal**	**Intact**	**White**	**0.7**	**Positive**	**Same as 127**	**2.29**
131	**Filter tank room**	**Basement**	**D**	**Control panel**	**Metal**	**Intact**	**Yellow**	**0.7**	**Positive**	**10 SF**	**4.58**
132	Filter tank room	Basement	0	Air duct	Metal	Intact	White	0.7	Negative		0.06
133	Filter tank room	Basement	0	Ceiling	Concrete	Intact	White	0.7	Negative		0.2
134	Filter tank room	Basement	A	Filter tank	Metal	Intact	White	0.7	Negative		0.13
135	Filter tank room	Basement	C	Filter tank	Metal	Intact	White	0.7	Negative		0.12
136	Filter tank room	Basement	A	Vent	Metal	Intact	White	0.7	Negative		0.11
137	Filter tank room	Basement	A	Vent	Wood	Intact	White	0.7	Negative		0.13
138	Filter tank room	Basement	C	Electrical control panel	Metal	Intact	Blue	0.7	Negative		0.07
139	Filter tank room	Basement	B	Railing	Metal	Intact	Green	0.7	Negative		0.16
140	Filter tank room	Basement	B	Door	Wood	Intact	Gray	0.7	Negative		0.24
141	Filter tank room	Basement	B	Door frame	Metal	Intact	Gray	0.7	Negative		0.14
142	Electrical panel room	Basement	B	Wall	Plaster	Intact	Tan	0.7	Negative		0.13
143	Electrical panel room	Basement	B	Column	Concrete	Intact	Tan	0.7	Negative		0.12

Table 2 - XRF Readings for Lead Containing Substances

Reading No.	Room	Floor	Side	Component	Substrate	Condition	Color	Action Level (mg/cm^2)	Results	Approximate Quantity	Lead Reading (mg/cm^2)
144	Electrical panel room	Basement	B	Pipe	Metal	Intact	Tan	0.7	Negative		0.17
145	Electrical panel room	Basement	C	Electrical panel	Metal	Poor	Tan	0.7	Negative		0.1
146	Electrical panel room	Basement	C	Control panel	Metal	Intact	Blue	0.7	Negative		0.06
147	Electrical panel room	Basement	C	Pipe	Metal	Intact	White	0.7	Negative		0.14
148	Electrical panel room	Basement	C	Pipe	Metal	Intact	White	0.7	Negative		0.14
149	Electrical panel room	Basement	D	Wall	Wood	Intact	White	0.7	Negative		0.02
150	Electrical panel room	Basement	B	Railing	Metal	Intact	Yellow	0.7	Negative		0.23
151	Electrical panel room	Basement	A	Wall	Plaster	Intact	White	0.7	Negative		0.12
152	Electrical panel room	Basement	B	Wall	Concrete	Intact	Tan	0.7	Negative		0.12
153	Electrical panel room	Basement	B	Stairs	Metal	Intact	Gray	0.7	Negative		0.25
154	Water heater room	Basement	C	Wall	Concrete	Intact	White	0.7	Negative		0.1
155	Water heater room	Basement	C	Pipe	Metal	Intact	White	0.7	Negative		0.18
156	Water heater room	Basement	B	Pipe	Metal	Intact	White	0.7	Negative		0.16
157	Water heater room	Basement	D	Pipe	Metal	Intact	White	0.7	Negative		0.17
158	Water heater room	Basement	A	Pipe	Metal	Intact	White	0.7	Negative		0.18
159	Water heater room	Basement	0	Ceiling	Concrete	Intact	White	0.7	Negative		0.09
160	Chlorine room	Basement	A	Vent	Metal	Poor	Tan	0.7	Negative		0.02
161	Chlorine room	Basement	A	Wall	Concrete	Intact	Tan	0.7	Negative		0.09
162	Chlorine room	Basement	B	Wall	Concrete	Intact	Tan	0.7	Negative		0.09
163	Chlorine room	Basement	C	Wall	Concrete	Intact	Tan	0.7	Negative		0.09
164	Chlorine room	Basement	D	Wall	Concrete	Intact	Tan	0.7	Negative		0.09
165	Chlorine room	Basement	B	Door	Wood	Intact	Tan	0.7	Negative		0.46
166	Chlorine room	Basement	0	Ceiling	Metal	Intact	Tan	0.7	Negative		0.03
167	Chlorine room	Basement	D	Door	Metal	Intact	Tan	0.7	Negative		0.16
168	Chlorine room	Basement	D	Door frame	Metal	Intact	Tan	0.7	Negative		0.09
169	Chlorine room	Basement	D	Door jamb	Metal	Intact	Tan	0.7	Negative		0.14
170	Store room	Basement	C	Wall	Concrete	Intact	White	0.7	Negative		0.12
171	Store room	Basement	C	Wall	Concrete	Intact	Blue	0.7	Negative		0.13
172	Store room	Basement	C	Pipe	Metal	Intact	White	0.7	Negative		0.14
173	Store room	Basement	B	Door kick	Metal	Intact	Green	0.7	Negative		0.03
174	Store room	Basement	B	Door	Metal	Intact	Brown	0.7	Negative		0.23
Restaurant Building											
175	Dining area	First	0	Floor	Ceramic tile	Intact	Light green	0.7	Negative		0.54
176	Dining area	First	B	Wall	Wood	Intact	Beige	0.7	Negative		0.01
177	Dining area	First	B	Window frame	Metal	Intact	White	0.7	Negative		0.02
178	Dining area	First	B	Window frame	Wood	Intact	White	0.7	Negative		0.01
179	Dining area	First	B	Column	Concrete	Intact	White	0.7	Negative		0.03
180	Dining area	First	B	Column	Ceramic tile	Intact	Light green	0.7	Negative		0.55
181	Dining area	First	B	Wall	Plaster	Intact	White	0.7	Negative		0.02
182	Dining area	First	C	Column	Concrete	Intact	Brown	0.7	Negative		0.05
183	Dining area	First	C	Baseboard	Ceramic tile	Intact	Light green	0.7	Negative		0.64
184	Dining area	First	B	Cabinet	Wood	Intact	Beige	0.7	Negative		0.04
185	Dining area	First	C	Electric box	Metal	Intact	White	0.7	Negative		0.01
186	Dining area	First	B	Column	Concrete	Intact	White	0.7	Negative		0.07
187	Dining area	First	C	Wall	Metal	Intact	Yellow	0.7	Negative		0.01
188	Dining area	First	C	Wall	Metal	Intact	Red	0.7	Negative		0.03
189	Dining area	First	C	Wall	Metal	Intact	Blue	0.7	Negative		0.01
190	Dining area	First	D	Wall	Plaster	Intact	Pink	0.7	Negative		0.03
191	Dining area	First	D	Wall	Plaster	Intact	Yellow	0.7	Negative		0.01
192	Women's restroom	First	D	Door	Wood	Intact	Green	0.7	Negative		0.01
193	Women's restroom	First	D	Door frame	Wood	Intact	Green	0.7	Negative		0.02
194	Entry hall	First	C	Wall	Concrete	Intact	Pink	0.7	Negative		0.02
195	Entry hall	First	A	Window frame	Metal	Intact	Green	0.7	Negative		0.01
196	Entry hall	First	B	Window frame	Metal	Intact	Green	0.7	Negative		0.01
197	Entry hall	First	C	Window frame	Metal	Intact	Green	0.7	Negative		0.01
198	Entry hall	First	D	Wall	Concrete	Intact	White	0.7	Negative		0.09
199	Men's restroom	First	D	Door	Wood	Intact	Blue	0.7	Negative		0.47
200	Women's restroom	First	D	Door	Wood	Intact	Pink	0.7	Negative		0.05
201	Men's restroom	First	D	Door frame	Metal	Intact	White	0.7	Negative		0.05
202	Men's restroom	First	D	Door jamb	Metal	Intact	White	0.7	Negative		0.06
203	Men's restroom	First	0	Floor	Ceramic tile	Intact	Gray	0.7	Negative		0.11
204	Men's restroom	First	B	Wall	Ceramic tile	Intact	Gray	0.7	Negative		0.04
205	Men's restroom	First	B	Wall	Ceramic tile	Intact	Black	0.7	Negative		0.04
206	Men's restroom	First	A	Wall	Ceramic tile	Intact	Gray	0.7	Negative		0.04
207	Men's restroom	First	A	Wall	Ceramic tile	Intact	Black	0.7	Negative		0.04
208	Men's restroom	First	D	Wall	Ceramic tile	Intact	Gray	0.7	Negative		0.04
209	Men's restroom	First	D	Wall	Ceramic tile	Intact	Black	0.7	Negative		0.04
210	Men's restroom	First	C	Wall	Ceramic tile	Intact	Gray	0.7	Negative		0.04
211	Men's restroom	First	C	Wall	Ceramic tile	Intact	Black	0.7	Negative		0.04
212	Men's restroom	First	C	Sink	Porcelain	Intact	White	0.7	Negative		0.01
213	Men's restroom	First	A	Urinal	Porcelain	Intact	White	0.7	Negative		0.03
214	Men's restroom	First	A	Toilet	Porcelain	Intact	White	0.7	Negative		0.03

Table 2 - XRF Readings for Lead Containing Substances

Reading No.	Room	Floor	Side	Component	Substrate	Condition	Color	Action Level (mg/cm^2)	Results	Approximate Quantity	Lead Reading (mg/cm^2)
215	Men's restroom	First	0	Ceiling	Plaster	Intact	White	0.7	Negative		0.08
216	Men's restroom	First	0	Ceiling vent	Metal	Intact	White	0.7	Negative		0.1
217	Women's restroom	First	A	Wall	Ceramic tile	Intact	Gray	0.7	Negative		0.04
218	Women's restroom	First	A	Wall	Ceramic tile	Intact	Black	0.7	Negative		0.04
219	Women's restroom	First	B	Wall	Ceramic tile	Intact	Gray	0.7	Negative		0.04
220	Women's restroom	First	B	Wall	Ceramic tile	Intact	Black	0.7	Negative		0.04
221	Women's restroom	First	C	Wall	Ceramic tile	Intact	Gray	0.7	Negative		0.04
222	Women's restroom	First	C	Wall	Ceramic tile	Intact	Black	0.7	Negative		0.04
223	Women's restroom	First	D	Wall	Ceramic tile	Intact	Gray	0.7	Negative		0.04
224	Women's restroom	First	D	Wall	Ceramic tile	Intact	Black	0.7	Negative		0.04
225	Women's restroom	First	0	Floor	Ceramic tile	Intact	Gray	0.7	Negative		0.11
226	Women's restroom	First	0	Ceiling	Plaster	Intact	White	0.7	Negative		0.08
227	Women's restroom	First	A	Sink	Porcelain	Intact	White	0.7	Negative		0.01
228	Women's restroom	First	C	Toilet	Porcelain	Intact	White	0.7	Negative		0.03
229	Entry hall	First	A	Door	Metal	Intact	White	0.7	Negative		0.01
230	Entry hall	First	A	Door jamb	Metal	Intact	Green	0.7	Negative		0.03
231	Entry hall	First	C	Trim	Metal	Intact	Gray	0.7	Negative		0.01
232	Women's private restroom	First	D	Door	Metal	Intact	Green	0.7	Negative		0.02
233	Women's private restroom	First	0	Floor	Tile	Intact	Brown	0.7	Negative		0.02
234	Women's private restroom	First	C	Wall	Ceramic tile	Intact	Brown	0.7	Negative		0.33
235	Women's private restroom	First	C	Wall	Ceramic tile	Intact	White	0.7	Negative		0.04
236	Women's private restroom	First	0	Ceiling	Plaster	Intact	White	0.7	Negative		0.03
237	Women's private restroom	First	A	Wall	Ceramic tile	Intact	Brown	0.7	Negative		0.33
238	Women's private restroom	First	A	Wall	Ceramic tile	Intact	White	0.7	Negative		0.04
239	Women's private restroom	First	B	Wall	Ceramic tile	Intact	Brown	0.7	Negative		0.33
240	Women's private restroom	First	B	Wall	Ceramic tile	Intact	White	0.7	Negative		0.04
241	Women's private restroom	First	D	Wall	Ceramic tile	Intact	Brown	0.7	Negative		0.33
242	Women's private restroom	First	D	Wall	Ceramic tile	Intact	White	0.7	Negative		0.04
243	Dining area	First	D	Cabinet	Wood	Intact	Green	0.7	Negative		0.02
244	Dining area	First	D	Wall	Plaster	Intact	Green	0.7	Negative		0.03
245	Dining area	First	A	Wall	Plaster	Intact	Green	0.7	Negative		0.03
246	Dining area	First	D	Bar trim	Ceramic tile	Intact	Blue	0.7	Negative		0.03
247	Dining area	First	B	Bar cabinet	Wood	Intact	White	0.7	Negative		0.05
248	Dining area	First	D	Pipe	Metal	Intact	White	0.7	Negative		0.01
249	Dining area	First	0	Ceiling	Plaster	Intact	Gold	0.7	Negative		0.01
250	Kitchen	First	C	Door	Metal	Intact	Beige	0.7	Negative		0.03
251	Kitchen	First	D	Wall	Plaster	Intact	Gold	0.7	Negative		0.01
252	Kitchen	First	D	Trim	Metal	Intact	Blue	0.7	Negative		0.01
253	Kitchen	First	C	Wall	Plaster	Intact	White	0.7	Negative		0.04
254	Kitchen	First	A	Wall	Plaster	Intact	White	0.7	Negative		0.04
255	Kitchen	First	B	Wall	Plaster	Intact	White	0.7	Negative		0.04
256	Kitchen	First	D	Wall	Plaster	Intact	White	0.7	Negative		0.04
257	Supply room	First	A	Wall	Concrete	Intact	White	0.7	Negative		0.06
258	Supply room	First	B	Wall	Concrete	Intact	White	0.7	Negative		0.06
259	Supply room	First	C	Wall	Concrete	Intact	White	0.7	Negative		0.06
260	Supply room	First	D	Wall	Concrete	Intact	White	0.7	Negative		0.06
261	Supply room	First	A	Door	Metal	Intact	White	0.7	Negative		0.01
262	Supply room	First	A	Door jamb	Metal	Intact	White	0.7	Negative		0.01
263	Supply room	First	A	Door frame	Metal	Intact	White	0.7	Negative		0.32
264	Kitchen	First	D	Column	Concrete	Intact	White	0.7	Negative		0.06
265	Exterior	Exterior	A	Railing	Metal	Fair	Green	0.7	Negative		0.01
266	Exterior	Exterior	A	Wall	Metal	Intact	Green	0.7	Negative		0.03
267	Exterior	Exterior	B	Wall	Metal	Intact	Green	0.7	Negative		0.03
268	Exterior	Exterior	C	Wall	Metal	Intact	Green	0.7	Negative		0.03
269	Promenade	Second	D	Wall	Plaster	Intact	Red	0.7	Negative		0.02
270	Promenade	Second	A	Wall	Concrete	Intact	Beige	0.7	Negative		0.09
271	Promenade	Second	D	Column	Concrete	Intact	Beige	0.7	Negative		0.08
272	Promenade	Second	0	Floor	Tile	Intact	White	0.7	Negative		0.03
273	Promenade	Second	C	Door	Metal	Intact	Brown	0.7	Negative		0.02
274	Office	Second	C	Door	Wood	Intact	Beige	0.7	Negative		0.06
275	Office	Second	C	Door frame	Metal	Intact	Brown	0.7	Negative		0.02
276	Office	Second	C	Door jamb	Metal	Intact	Brown	0.7	Negative		0.02
277	Roof	Roof	D	Wall	Concrete	Intact	White	0.7	Negative		0.04
278	**Roof**	**Roof**	**B**	**Parapet wall**	**Concrete**	**Intact**	**White**	**0.7**	**Positive**	**1,800 SF**	**3.15**
279	**Roof**	**Roof**	**A**	**Parapet wall**	**Concrete**	**Intact**	**White**	**0.7**	**Positive**	**Same as 278**	**3.15**
280	**Roof**	**Roof**	**C**	**Parapet wall**	**Concrete**	**Intact**	**White**	**0.7**	**Positive**	**Same as 278**	**3.15**
281	Roof	Roof	0	Vent	Metal	Fair	White	0.7	Negative		0.04
282	Roof	Roof	0	Hatch	Metal	Poor	Brown	0.7	Negative		0.04
283	Roof	Roof	D	Ladder	Metal	Fair	Black	0.7	Negative		0.09
284	Men's restroom	Second	0	Floor	Ceramic tile	Intact	White	0.7	Negative		0.01
285	Men's restroom	Second	C	Wall	Ceramic tile	Intact	White	0.7	Negative		0.02
286	**Men's restroom**	**Second**	**A**	**Wall**	**Ceramic tile**	**Intact**	**Beige**	**0.7**	**Positive**	**260 SF**	**3.62**

Table 2 - XRF Readings for Lead Containing Substances

Reading No.	Room	Floor	Side	Component	Substrate	Condition	Color	Action Level (mg/cm^2)	Results	Approximate Quantity	Lead Reading (mg/cm^2)
287	Men's restroom	Second	A	Wall	Plaster	Intact	Beige	0.7	Negative		0.02
288	Men's restroom	Second	B	Stall	Metal	Intact	White	0.7	Negative		0.07
289	Men's restroom	Second	C	Urinal	Porcelain	Intact	White	0.7	Negative		0.02
290	Men's restroom	Second	C	Sink	Porcelain	Intact	White	0.7	Negative		0.04
291	Men's restroom	Second	C	Sink	Porcelain	Intact	White	0.7	Negative		0.02
292	Men's restroom	Second	C	Toilet	Porcelain	Intact	White	0.7	Negative		0.09
293	Men's restroom	Second	0	Ceiling vent	Metal	Intact	White	0.7	Negative		0.05
294	Men's restroom	Second	A	Wall	Plaster	Intact	White	0.7	Negative		0.11
295	Men's restroom	Second	D	Wall	Plaster	Intact	White	0.7	Negative		0.11
296	Men's restroom	Second	A	Column	Concrete	Intact	Brown	0.7	Negative		0.1
297	Men's restroom	Second	D	Door	Wood	Intact	White	0.7	Negative		0.01
298	Men's restroom	Second	D	Door jamb	Wood	Intact	Brown	0.7	Negative		0.01
299	Men's restroom	Second	D	Door jamb	Metal	Intact	Brown	0.7	Negative		0.28
300	Men's restroom	Second	D	Door frame	Metal	Intact	Brown	0.7	Negative		0.03
301	Men's restroom	Second	B	Door	Wood	Intact	Beige	0.7	Negative		0.01
302	Men's restroom	Second	B	Wall	Plaster	Intact	Beige	0.7	Negative		0.07
303	Office	Second	A	Wall	Plaster	Intact	Beige	0.7	Negative		0.05
304	Office	Second	B	Wall	Plaster	Intact	Beige	0.7	Negative		0.05
305	Office	Second	C	Wall	Plaster	Intact	Beige	0.7	Negative		0.05
306	Office	Second	D	Wall	Metal	Poor	White	0.7	Negative		0.08
307	Office	Second	D	Baseboard	Wood	Intact	Pink	0.7	Negative		0.02
308	Conference room	Second	A	Wall	Wood	Intact	Beige	0.7	Negative		0.01
309	Conference room	Second	C	Wall	Wood	Intact	Beige	0.7	Negative		0.01
310	Conference room	Second	B	Window frame	Metal	Intact	Brown	0.7	Negative		0.03
311	Conference room	Second	A	Door	Wood	Intact	Beige	0.7	Negative		0.03
312	Storage room 1	Second	C	Door	Wood	Intact	Gray	0.7	Negative		0.22
313	Storage room 1	Second	C	Door frame	Metal	Poor	Gray	0.7	Negative		0.21
314	Storage room 1	Second	C	Door jamb	Metal	Intact	Brown	0.7	Negative		0.09
315	Storage room 1	Second	C	Wall	Plaster	Intact	Gray	0.7	Negative		0.22
316	Storage room 1	Second	A	Wall	Plaster	Intact	Gray	0.7	Negative		0.22
317	Storage room 1	Second	B	Wall	Plaster	Intact	Gray	0.7	Negative		0.22
318	Storage room 1	Second	D	Wall	Plaster	Intact	Gray	0.7	Negative		0.22
319	Resource room	Second	B	Wall	Plaster	Intact	Red	0.7	Negative		0.03
320	Resource room	Second	A	Wall	Plaster	Intact	Red	0.7	Negative		0.03
321	Resource room	Second	C	Wall	Plaster	Intact	Red	0.7	Negative		0.03
322	Kitchen	Second	A	Wall	Plaster	Intact	White	0.7	Negative		0.1
323	Kitchen	Second	B	Wall	Plaster	Intact	White	0.7	Negative		0.1
324	Kitchen	Second	D	Wall	Plaster	Intact	White	0.7	Negative		0.1
325	Kitchen	Second	A	Door	Metal	Intact	Green	0.7	Negative		0.01
326	Kitchen	Second	A	Door frame	Metal	Intact	Green	0.7	Negative		0.17
327	Kitchen	Second	A	Door jamb	Metal	Intact	Green	0.7	Negative		0.18
328	Kitchen	Second	C	Electrical panel	Metal	Intact	White	0.7	Negative		0.07
329	Kitchen	Second	0	Floor	Concrete	Intact	Blue	0.7	Negative		0.01
330	**Kitchen**	**Second**	**C**	**Wall**	**Ceramic tile**	**Intact**	**White**	**0.7**	**Positive**	**115 SF**	**10.17**
331	Kitchen	Second	C	Door	Wood	Intact	White	0.7	Negative		0.13
332	**Women's restroom**	**Second**	**C**	**Wall**	**Ceramic tile**	**Intact**	**White**	**0.7**	**Positive**	**260 SF**	**12.42**
333	Women's restroom	Second	0	Floor	Ceramic tile	Intact	White	0.7	Negative		0.01
334	Women's restroom	Second	A	Toilet	Porcelain	Intact	White	0.7	Negative		0.09
335	Women's restroom	Second	A	Sink	Porcelain	Intact	White	0.7	Negative		0.04
336	Kitchen	Second	C	Wall	Wood	Intact	Green	0.7	Negative		0.11
337	Storage room 2	Second	B	Column	Concrete	Intact	White	0.7	Negative		0.1
338	Storage room 2	Second	D	Wall	Metal	Intact	Beige	0.7	Negative		0.12
339	Employee restroom	Second	0	Floor	Ceramic tile	Intact	White	0.7	Negative		0.03
340	Employee restroom	Second	C	Wall	Metal	Intact	White	0.7	Negative		0.14
341	Employee restroom	Second	D	Sink	Porcelain	Intact	White	0.7	Negative		0.04
342	Employee restroom	Second	D	Toilet	Porcelain	Intact	White	0.7	Negative		0.08
343	Employee restroom	Second	C	Door	Wood	Intact	Green	0.7	Negative		0.03
344	Employee restroom	Second	C	Door jamb	Wood	Intact	Green	0.7	Negative		0.18
345	Exterior ramp	Exterior ramp	B	Railing	Concrete	Intact	White	0.7	Negative		0.06
346	Exterior ramp	Exterior ramp	B	Railing	Metal	Intact	Black	0.7	Negative		0.37
347	Exterior ramp	Exterior ramp	0	Floor	Concrete	Intact	Red	0.7	Negative		0.03
348	Exterior ramp	Exterior ramp	B	Light fixture	Metal	Intact	White	0.7	Negative		0.05
349	Exterior ramp	Exterior ramp	D	Railing	Concrete	Intact	White	0.7	Negative		0.08
350	Exterior ramp	Exterior ramp	C	Wall	Concrete	Intact	Beige	0.7	Negative		0.12
351	Exterior ramp	Exterior ramp	C	Light fixture	Metal	Intact	Beige	0.7	Negative		0.07
352	Exterior ramp	Exterior ramp	D	Wall	Metal	Intact	Beige	0.7	Negative		0.08
353	Exterior ramp	Exterior ramp	B	Gate	Metal	Intact	Black	0.7	Negative		0.04
354	Exterior ramp	Exterior ramp	A	Fence post	Metal	Intact	Black	0.7	Negative		0.14
355	Exterior ramp	Exterior ramp	A	Fence post	Wood	Intact	Brown	0.7	Negative		0.04
356	Exterior stairway	Exterior stairway	B	Railing	Metal	Intact	Black	0.7	Negative		0.01
357	Exterior stairway	Exterior stairway	C	Riser	Ceramic tile	Intact	Green	0.7	Negative		0.04
358	Exterior stairway	Exterior stairway	0	Stairs	Concrete	Intact	Pink	0.7	Negative		0.01

Table 2 - XRF Readings for Lead Containing Substances

Reading No.	Room	Floor	Side	Component	Substrate	Condition	Color	Action Level (mg/cm^2)	Results	Approximate Quantity	Lead Reading (mg/cm^2)
359	Exterior stairway	Exterior stairway	B	Railing	Concrete	Intact	White	0.7	Negative		0.12
360	Exterior stairway	Exterior stairway	B	Light fixture	Plaster	Intact	White	0.7	Negative		0.02
361	Exterior stairway	Exterior stairway	C	Wall	Concrete	Intact	White	0.7	Negative		0.02
362	Exterior stairway	Exterior stairway	0	Stairs	Concrete	Intact	Gray	0.7	Negative		0.04
363	Exterior stairway	Exterior stairway	C	Gate	Metal	Poor	Black	0.7	Negative		0.04
364	Exterior stairway	Exterior stairway	B	Wall	Concrete	Intact	White	0.7	Negative		0.04
365	Exterior stairway	Exterior stairway	B	Flashing	Metal	Intact	Beige	0.7	Negative		0.03
366	Exterior stairway	Exterior stairway	A	Wall	Concrete	Intact	White	0.7	Negative		0.05
367	Exterior	Exterior	D	Wall	Concrete	Intact	Pink	0.7	Negative		0.03
368	Exterior	Exterior	D	Wall	Concrete	Intact	White	0.7	Negative		0.21
369	Exterior	Exterior	D	Window frame	Metal	Intact	Green	0.7	Negative		0.31
370	Exterior	Exterior	D	Awning support	Metal	Fair	White	0.7	Negative		0.01
371	Exterior	Exterior	A	Column	Concrete	Intact	White	0.7	Negative		0.09
372	Exterior	Exterior	D	Wall	Concrete	Intact	Pink	0.7	Negative		0.06
373	Exterior	Exterior	D	Wall	Concrete	Intact	Gray	0.7	Negative		0.02
374	Exterior	Exterior	D	Door	Wood	Fair	Gray	0.7	Negative		0.04
375	Exterior	Exterior	D	Vent	Metal	Intact	Gray	0.7	Negative		0.01
376	Exterior	Exterior	D	Drinking fountain	Porcelain	Intact	White	0.7	Negative		0.01
377	Exterior	Exterior	A	Door	Wood	Intact	White	0.7	Negative		0.1
378	Exterior	Exterior	A	Vent	Metal	Intact	White	0.7	Negative		0.02
379	Exterior ramp	Exterior ramp	D	Wall	Concrete	Intact	White	0.7	Negative		0.06
380	Exterior ramp	Exterior ramp	A	Wall sign	Concrete	Intact	Blue	0.7	Negative		0.02
381	Exterior ramp	Exterior ramp	A	Wall sign	Metal	Intact	Blue	0.7	Negative		0.11
382	**Exterior ramp**	**Exterior ramp**	**A**	**Wall sign**	**Concrete**	**Fair**	**Red**	**0.7**	**Positive**	**2 SF**	**1.9**
383	**Exterior ramp**	**Exterior ramp**	**A**	**Wall sign**	**Concrete**	**Intact**	**Green**	**0.7**	**Positive**	**Same as 382**	**1.78**
384	Exterior ramp	Exterior ramp	A	Wall sign	Concrete	Intact	Black	0.7	Negative		0.17
385	**Exterior ramp**	**Exterior ramp**	**A**	**Wall sign**	**Concrete**	**Fair**	**Yellow**	**0.7**	**Positive**	**Same as 382**	**4.92**
386	Exterior ramp	Exterior ramp	A	Wall sign	Concrete	Intact	Blue	0.7	Negative		0.13
387	Exterior ramp	Exterior ramp	A	Wall	Concrete	Intact	White	0.7	Negative		0.06
388	Exterior ramp	Exterior ramp	B	Wall	Concrete	Poor	White	0.7	Negative		0.04
389	Exterior ramp	Exterior ramp	B	Pipe insulation	Foam	Fair	White	0.7	Negative		0.02
390	Exterior ramp	Exterior ramp	B	Door	Wood	Intact	White	0.7	Negative		0.13
391	Exterior ramp	Exterior ramp	B	Door	Metal	Intact	White	0.7	Negative		0.03
392	Exterior ramp	Exterior ramp	A	Vent	Metal	Intact	White	0.7	Negative		0.01
393	Room 1 under ramp	First	D	Wall	Concrete	Poor	Tan	0.7	Negative		0.14
394	Room 2 under ramp	First	B	Wall	Concrete	Fair	Tan	0.7	Negative		0.11
395	**Room 2 under ramp**	**First**	**D**	**Pipe**	**Metal**	**Intact**	**Red**	**0.7**	**Positive**	**40 LF**	**1.58**
396	**Room 2 under ramp**	**First**	**B**	**Pipe valve**	**Metal**	**Intact**	**Yellow**	**0.7**	**Positive**	**3 total / 3 LF**	**1.62**
397	**Room 2 under ramp**	**First**	**B**	**Pipe valve**	**Metal**	**Intact**	**Orange**	**0.7**	**Positive**	**1 LF**	**3.05**
398	Room 2 under ramp	First	B	Pipe	Metal	Intact	Green	0.7	Negative		0.06
399	Room 2 under ramp	First	B	Pipe	Metal	Intact	Gray	0.7	Negative		0.03
400	Room 2 under ramp	First	D	Door	Metal	Intact	White	0.7	Negative		0.01
401	Room 2 under ramp	First	A	Wall	Concrete	Intact	Tan	0.7	Negative		0.14
402	Room 2 under ramp	First	B	Wall	Concrete	Intact	Tan	0.7	Negative		0.14
403	Room 2 under ramp	First	C	Wall	Concrete	Intact	Tan	0.7	Negative		0.14
404	Room 2 under ramp	First	C	Pipe	Metal	Poor	Tan	0.7	Negative		0.07
Locker Rooms and Offices Building											
405	Exterior	Exterior	D	Planter	Concrete	Poor	White	0.7	Negative		0.02
406	Exterior	Exterior	D	Wall	Concrete	Intact	White	0.7	Negative		0.03
407	Exterior	Exterior	D	Wall	Concrete	Intact	White	0.7	Negative		0.02
408	Exterior	Exterior	D	Vent	Metal	Intact	White	0.7	Negative		0.19
409	Exterior	Exterior	C	Wall	Plaster	Intact	White	0.7	Negative		0.02
410	Exterior	Exterior	D	Railing	Concrete	Intact	White	0.7	Negative		0.01
411	Exterior	Exterior	D	Railing	Metal	Intact	Black	0.7	Negative		0.02
412	Exterior	Exterior	D	Bicycle rack	Metal	Intact	Blue-green	0.7	Negative		0.03
413	Exterior	Exterior	D	Door	Metal	Intact	Black	0.7	Negative		0.03
414	Exterior	Exterior	D	Door frame	Metal	Intact	Black	0.7	Negative		0.01
415	Exterior	Exterior	D	Door jamb	Metal	Intact	Black	0.7	Negative		0.03
416	Exterior	Exterior	B	Wall	Concrete	Fair	White	0.7	Negative		0.07
417	Exterior	Exterior	B	Pipe	Metal	Intact	White	0.7	Negative		0.03
418	Exterior	Exterior	B	Door	Metal	Intact	White	0.7	Negative		0.03
419	Exterior	Exterior	B	Door frame	Metal	Intact	White	0.7	Negative		0.13
420	Exterior	Exterior	B	Pipe support	Metal	Intact	White	0.7	Negative		0.05
421	**Exterior**	**Exterior**	**C**	**Wall**	**Metal**	**Intact**	**White**	**0.7**	**Positive**	**60 SF**	**4.39**
422	**Exterior**	**Exterior**	**C**	**Sliding door**	**Metal**	**Intact**	**White**	**0.7**	**Positive**	**2 total / 60 SF**	**6.13**
423	Exterior	Exterior	C	Sliding door frame	Metal	Intact	Black	0.7	Negative		0.03
424	**Exterior**	**Exterior**	**C**	**Wall**	**Metal**	**Intact**	**White**	**0.7**	**Positive**	**Same as 421**	**5.1**
425	Exterior	Exterior	C	Wall frame	Metal	Intact	Black	0.7	Negative		0.05
426	Exterior	Exterior	D	Wall	Concrete	Intact	White	0.7	Negative		0.09
427	**Exterior**	**Exterior**	**A**	**Sliding door**	**Metal**	**Intact**	**White**	**0.7**	**Positive**	**Same as 422**	**3.35**
428	**Exterior**	**Exterior**	**A**	**Wall**	**Metal**	**Intact**	**White**	**0.7**	**Positive**	**Same as 421**	**4.48**
429	Exterior	Exterior	A	Wall frame	Metal	Intact	Black	0.7	Negative		0.02

Table 2 - XRF Readings for Lead Containing Substances

Reading No.	Room	Floor	Side	Component	Substrate	Condition	Color	Action Level (mg/cm^2)	Results	Approximate Quantity	Lead Reading (mg/cm^2)
430	Exterior	Exterior	A	Sliding door frame	Metal	Intact	Black	0.7	Negative		0.01
431	Exterior	Exterior	B	Column	Concrete	Intact	White	0.7	Negative		0.04
432	Exterior	Exterior	0	Stairs	Concrete	Fair	Yellow	0.7	Negative		0.02
433	Exterior	Exterior	0	Stairs	Concrete	Poor	Pink	0.7	Negative		0.43
434	**Roof**	**Roof**	**B**	**Parapet wall**	**Concrete**	**Fair**	**White**	**0.7**	**Positive**	**2,500 SF**	**2.99**
435	Roof	Roof	D	Vent trim	Wood	Poor	Beige	0.7	Negative		0.13
436	Roof	Roof	A	Vent wall	Concrete	Intact	Beige	0.7	Negative		0.13
437	Roof	Roof	A	Vent	Metal	Intact	Beige	0.7	Negative		0.16
438	Roof	Roof	A	Vent	Metal	Intact	White	0.7	Negative		0.26
439	Roof	Roof	A	Vent	Metal	Intact	Silver	0.7	Negative		0.03
440	Roof	Roof	A	Pipe	Metal	Intact	White	0.7	Negative		0.05
441	Roof	Roof	C	Pipe	Plastic	Intact	White	0.7	Negative		0.03
442	Roof	Roof	A	Vent	Metal	Intact	Pink	0.7	Negative		0.07
443	Roof	Roof	D	Wall	Concrete	Poor	White	0.7	Negative		0.03
444	Roof	Roof	0	Overhang	Concrete	Poor	White	0.7	Negative		0.04
445	Roof	Roof	D	Trim	Concrete	Intact	White	0.7	Negative		0.03
446	Roof	Roof	D	Column	Concrete	Intact	White	0.7	Negative		0.05
447	Roof	Roof	D	Column	Concrete	Intact	White	0.7	Negative		0.04
448	**Women's locker room**	**First**	**C**	**Wall**	**Ceramic tile**	**Intact**	**White**	**0.7**	**Positive**	**4,150 SF**	**13.84**
449	**Women's locker room**	**First**	**B**	**Wall**	**Ceramic tile**	**Intact**	**Brown**	**0.7**	**Positive**	**3,000 SF**	**8.49**
450	**Women's locker room**	**First**	**B**	**Wall**	**Ceramic tile**	**Intact**	**Brown**	**0.7**	**Positive**	**Same as 449**	**10**
451	Women's locker room	First	0	Floor	Ceramic tile	Intact	Tan	0.7	Negative		0.02
452	**Women's locker room**	**First**	**B**	**Wall**	**Ceramic tile**	**Intact**	**Yellow**	**0.7**	**Positive**	**850 SF**	**13.03**
453	Women's locker room	First	0	Floor	Ceramic tile	Intact	Yellow	0.7	Negative		0.01
454	Women's locker room	First	D	Wall	Ceramic tile	Intact	Pink	0.7	Negative		0.01
455	**Women's locker room**	**First**	**C**	**Wall**	**Ceramic tile**	**Intact**	**Tan w/ white**	**0.7**	**Positive**	**900 SF**	**4.97**
456	Women's locker room	First	A	Wall	Plaster	Intact	Orange	0.7	Negative		0.02
457	Women's locker room	First	A	Trim	Wood	Intact	Orange	0.7	Negative		0.1
458	Women's locker room	First	A	Door frame	Metal	Intact	White	0.7	Negative		0.09
459	Women's locker room	First	B	Lockers	Metal	Intact	Blue	0.7	Negative		0.41
460	Women's locker room	First	0	Floor	Concrete	Intact	Pink	0.7	Negative		0.02
461	Women's locker room	First	0	Floor	Concrete	Intact	Green	0.7	Negative		0.01
462	Women's locker room	First	0	Floor	Concrete	Intact	Blue	0.7	Negative		0.04
463	Women's locker room	First	0	Overhang	Plaster	Intact	White	0.7	Negative		0.11
464	Women's locker room	First	0	Vent	Metal	Intact	White	0.7	Negative		0.13
465	**Women's locker room**	**First**	**0**	**Bench**	**Plastic**	**Intact**	**Yellow**	**0.7**	**Positive**	**6 total**	**0.88**
466	Women's locker room	First	B	Wall	Wood	Intact	Blue	0.7	Negative		0.02
467	Women's locker room	First	C	Bench	Plastic	Intact	Beige	0.7	Negative		0.08
468	Women's locker room	First	C	Stall	Metal	Intact	Beige	0.7	Negative		0.05
469	Women's locker room	First	B	Door	Metal	Intact	White	0.7	Negative		0.03
470	Women's locker room	First	B	Door frame	Metal	Intact	White	0.7	Negative		0.08
471	Women's locker room	First	B	Sink	Porcelain	Intact	White	0.7	Negative		0.05
472	Women's locker room	First	B	Toilet	Porcelain	Intact	White	0.7	Negative		0.03
473	Women's locker room	First	0	Ceiling	Acoustic tile	Intact	White	0.7	Negative		0.01
474	Women's locker room	First	0	Ceiling	Metal	Intact	White	0.7	Negative		0.15
475	Women's locker room	First	B	Roll-up door	Metal	Intact	Tan	0.7	Negative		0.03
476	**Women's executive locker room**	**First**	**C**	**Wall**	**Ceramic tile**	**Intact**	**Cream**	**0.7**	**Positive**	**720 SF**	**10.79**
477	**Women's executive locker room**	**First**	**B**	**Wall**	**Ceramic tile**	**Intact**	**Cream**	**0.7**	**Positive**	**Same as 476**	**10.79**
478	Women's executive locker room	First	0	Floor	Ceramic tile	Intact	White	0.7	Negative		0.01
479	**Women's executive locker room**	**First**	**D**	**Wall**	**Ceramic tile**	**Intact**	**Brown**	**0.7**	**Positive**	**Same as 449**	**10.27**
480	**Women's executive locker room**	**First**	**C**	**Wall**	**Ceramic tile**	**Intact**	**Yellow**	**0.7**	**Positive**	**Same as 452**	**8.85**
481	**Women's executive locker room**	**First**	**D**	**Wall**	**Ceramic tile**	**Intact**	**White**	**0.7**	**Positive**	**Same as 448**	**12.06**
482	Women's executive locker room	First	0	Locker	Metal	Intact	Blue	0.7	Negative		0.05
483	Women's executive locker room	First	0	Ceiling	Plaster	Intact	White	0.7	Negative		0.11
484	Women's executive locker room	First	0	Ceiling vent	Metal	Intact	White	0.7	Negative		0.07
485	Women's executive locker room	First	D	Wall	Concrete	Intact	White	0.7	Negative		0.36
486	Women's executive locker room	First	A	Wall	Concrete	Intact	White	0.7	Negative		0.24
487	Women's executive locker room	First	A	Column	Concrete	Intact	White	0.7	Negative		0.18
488	**Men's locker room**	**First**	**A**	**Wall**	**Ceramic tile**	**Intact**	**White**	**0.7**	**Positive**	**Same as 448**	**9.07**
489	**Men's locker room**	**First**	**B**	**Wall**	**Ceramic tile**	**Intact**	**Brown**	**0.7**	**Positive**	**Same as 449**	**8.56**
490	**Men's locker room**	**First**	**A**	**Wall**	**Ceramic tile**	**Intact**	**Gray**	**0.7**	**Positive**	**450 SF**	**17.45**
491	**Men's locker room**	**First**	**B**	**Wall**	**Ceramic tile**	**Intact**	**Brown**	**0.7**	**Positive**	**Same as 449**	**8.56**
498	**Men's locker room**	**First**	**D**	**Wall**	**Ceramic tile**	**Intact**	**White**	**0.7**	**Positive**	**Same as 448**	**9.07**
493	Men's locker room	First	0	Floor	Ceramic tile	Intact	White	0.7	Negative		0.03
494	Men's locker room	First	B	Urinal	Porcelain	Intact	White	0.7	Negative		0.04
495	Men's locker room	First	D	Sink	Porcelain	Intact	White	0.7	Negative		0.01
496	Men's locker room	First	D	Toilet	Porcelain	Intact	White	0.7	Negative		0.04
497	Men's locker room	First	D	Stall	Metal	Intact	Beige	0.7	Negative		0.04
498	Men's locker room	First	B	Locker	Metal	Intact	Blue	0.7	Negative		0.04
499	Men's locker room	First	0	Bench	Plastic	Intact	Pink	0.7	Negative		0.07
500	**Men's executive locker room**	**First**	**B**	**Wall**	**Ceramic tile**	**Intact**	**Brown**	**0.7**	**Positive**	**Same as 449**	**5.72**
501	**Men's executive locker room**	**First**	**B**	**Wall**	**Ceramic tile**	**Intact**	**Tan w/ white**	**0.7**	**Positive**	**Same as 455**	**9.76**

Table 2 - XRF Readings for Lead Containing Substances

Reading No.	Room	Floor	Side	Component	Substrate	Condition	Color	Action Level (mg/cm^2)	Results	Approximate Quantity	Lead Reading (mg/cm^2)
502	**Men's executive locker room**	**First**	**A**	**Wall**	**Ceramic tile**	**Intact**	**Yellow**	**0.7**	**Positive**	**Same as 452**	**9.4**
503	Men's executive locker room	First	B	Door	Wood	Poor	White	0.7	Negative		0.01
504	Men's executive locker room	First	B	Door frame	Wood	Poor	White	0.7	Negative		0.02
505	Men's executive locker room	First	B	Door jamb	Metal	Poor	White	0.7	Negative		0.03
506	Men's executive locker room	First	0	Floor	Ceramic tile	Intact	White	0.7	Negative		0.09
507	Men's executive locker room	First	0	Ceiling	Plaster	Intact	White	0.7	Negative		0.1
508	Men's executive locker room	First	D	Wall	Concrete	Intact	White	0.7	Negative		0.47
509	Men's executive locker room	First	C	Wall	Concrete	Intact	White	0.7	Negative		0.19
510	Men's executive locker room	First	C	Column	Concrete	Intact	White	0.7	Negative		0.1
511	Men's executive locker room	First	C	Stall	Metal	Intact	White	0.7	Negative		0.06
512	Men's executive locker room	First	A	Locker	Metal	Intact	Blue	0.7	Negative		0.03
513	Men's executive locker room	First	A	Wash basin	Concrete	Intact	White	0.7	Negative		0.04
514	Entry Lobby	First	D	Wall	Concrete	Intact	White	0.7	Negative		0.07
515	Entry Lobby	First	C	Wall	Plaster	Intact	White	0.7	Negative		0.3
516	Entry Lobby	First	B	Reception cubicle	Wood	Intact	Blue	0.7	Negative		0.05
517	Entry Lobby	First	B	Door	Wood	Intact	Blue	0.7	Negative		0.03
518	Entry Lobby	First	B	Door frame	Wood	Intact	Blue	0.7	Negative		0.13
519	Entry Lobby	First	B	Door jamb	Wood	Intact	Blue	0.7	Negative		0.01
520	Weight room	First	D	Wall	Plaster	Intact	White	0.7	Negative		0.15
521	Weight room	First	D	Wall	Plaster	Intact	Blue	0.7	Negative		0.16
522	Weight room	First	C	Wall	Plaster	Intact	White	0.7	Negative		0.15
523	Weight room	First	C	Wall	Plaster	Intact	Blue	0.7	Negative		0.15
524	Weight room	First	B	Wall	Plaster	Intact	White	0.7	Negative		0.15
525	Weight room	First	B	Wall	Plaster	Intact	Blue	0.7	Negative		0.15
526	Weight room	First	A	Wall	Plaster	Intact	White	0.7	Negative		0.15
527	Weight room	First	A	Wall	Plaster	Intact	Blue	0.7	Negative		0.15
528	Weight room	First	0	Ceiling	Plaster	Intact	White	0.7	Negative		0.08
529	Weight room	First	0	Ceiling hatch	Metal	Intact	White	0.7	Negative		0.04
530	Lobby	First	B	Door jamb	Metal	Intact	Blue	0.7	Negative		0.06
531	Lobby	First	B	Door frame	Wood	Intact	White	0.7	Negative		0.09
532	Lobby	First	C	Wall	Plaster	Intact	White	0.7	Negative		0.13
533	Lobby	First	A	Wall	Plaster	Intact	White	0.7	Negative		0.13
534	Lobby	First	B	Wall	Plaster	Intact	White	0.7	Negative		0.13
535	Lobby	First	0	Ceiling	Plaster	Intact	White	0.7	Negative		0.06
536	Lobby	First	A	Electrical panel	Metal	Intact	White	0.7	Negative		0.09
537	Hallway	First	C	Door	Metal	Intact	Tan	0.7	Negative		0.13
538	Hallway	First	A	Wall	Plaster	Intact	White	0.7	Negative		0.13
539	Hallway	First	C	Wall	Plaster	Intact	White	0.7	Negative		0.13
540	Hallway	First	0	Ceiling vent	Metal	Intact	White	0.7	Negative		0.05
541	**Men's employee locker room**	**First**	**D**	**Wall**	**Ceramic tile**	**Intact**	**Brown**	**0.7**	**Positive**	**Same as 449**	**10**
542	**Men's employee locker room**	**First**	**A**	**Wall**	**Ceramic tile**	**Intact**	**Brown**	**0.7**	**Positive**	**Same as 449**	**10**
543	**Men's employee locker room**	**First**	**C**	**Wall**	**Ceramic tile**	**Intact**	**Brown**	**0.7**	**Positive**	**Same as 449**	**10**
544	Men's employee locker room	First	0	Floor	Ceramic tile	Intact	White	0.7	Negative		0.01
545	Men's employee locker room	First	C	Locker	Metal	Intact	Blue	0.7	Negative		0.03
546	Men's employee locker room	First	B	Wall	Metal	Intact	White	0.7	Negative		0.11
547	Men's employee locker room	First	B	Electrical panel	Metal	Intact	White	0.7	Negative		0.06
548	Men's employee locker room	First	A	Sink	Porcelain	Intact	White	0.7	Negative		0.01
549	Women's employee locker room	First	0	Floor	Ceramic tile	Intact	White	0.7	Negative		0.02
550	**Women's employee locker room**	**First**	**A**	**Wall**	**Ceramic tile**	**Intact**	**White**	**0.7**	**Positive**	**Same as 448**	**9.64**
551	**Women's employee locker room**	**First**	**C**	**Wall**	**Ceramic tile**	**Intact**	**White**	**0.7**	**Positive**	**Same as 448**	**9.64**
552	**Women's employee locker room**	**First**	**D**	**Wall**	**Ceramic tile**	**Intact**	**White**	**0.7**	**Positive**	**Same as 448**	**9.64**
553	Women's employee locker room	First	C	Bench	Plastic	Intact	White	0.7	Negative		0.01
554	Exterior	Exterior	B	Wall mural	Wood	Intact	Blue	0.7	Negative		0.02
555	Exterior	Exterior	B	Wall mural	Wood	Intact	White	0.7	Negative		0.01
556	Exterior	Exterior	B	Wall mural	Wood	Intact	Red	0.7	Negative		0.15
557	Office	First	A	Wall	Plaster	Intact	White	0.7	Negative		0.01
558	Office	First	B	Wall	Plaster	Intact	White	0.7	Negative		0.01
559	Office	First	C	Wall	Plaster	Intact	White	0.7	Negative		0.01
560	Office	First	D	Wall	Plaster	Intact	White	0.7	Negative		0.01
561	Office	First	0	Ceiling	Plaster	Intact	White	0.7	Negative		0.01
562	Mechanical room	First	B	Tank	Metal	Intact	Tan	0.7	Negative		0.21
563	Mechanical room	First	A	Pipe	Metal	Intact	Tan	0.7	Negative		0.22
564	Mechanical room	First	A	Wall	Concrete	Intact	Tan	0.7	Negative		0.2
565	Mechanical room	First	D	Wall	Concrete	Intact	Tan	0.7	Negative		0.26
566	Mechanical room	First	D	Air duct	Metal	Intact	Tan	0.7	Negative		0.17
567	Mechanical room	First	C	Wall	Concrete	Intact	Tan	0.7	Negative		0.19
568	Mechanical room	First	B	Wall	Concrete	Intact	Tan	0.7	Negative		0.19
569	Mechanical room	First	0	Floor	Concrete	Intact	Green	0.7	Negative		0.02
570	Electrical room	First	0	Floor	Concrete	Intact	Green	0.7	Negative		0.03
571	Electrical room	First	D	Wall	Concrete	Intact	Blue	0.7	Negative		0.16
572	Electrical room	First	C	Pipe	Metal	Intact	Blue	0.7	Negative		0.11
573	Electrical room	First	0	Ceiling	Plaster	Intact	Blue	0.7	Negative		0.11

Table 2 - XRF Readings for Lead Containing Substances

Reading No.	Room	Floor	Side	Component	Substrate	Condition	Color	Action Level (mg/cm^2)	Results	Approximate Quantity	Lead Reading (mg/cm^2)
574	Electrical room	First	D	Wall	Plaster	Intact	Tan	0.7	Negative		0.14
575	Electrical room	First	A	Wall	Plaster	Intact	Blue	0.7	Negative		0.14
576	Electrical room	First	B	Wall	Plaster	Intact	Blue	0.7	Negative		0.14
577	Electrical room	First	C	Electrical panel	Metal	Intact	Blue	0.7	Negative		0.01
578	Electrical room	First	C	Wall	Plaster	Intact	Blue	0.7	Negative		0.14
Old Pool Area											
579	Chemical building	First	B	Wall	Metal	Intact	Blue	0.7	Negative		0.04
580	Chemical building	First	B	Door	Wood	Poor	Blue	0.7	Negative		0.03
581	Chemical building	First	B	Door frame	Metal	Poor	Blue	0.7	Negative		0.2
582	Chemical building	First	B	Door jamb	Metal	Poor	Blue	0.7	Negative		0.2
583	Chemical building	First	C	Wall	Concrete	Intact	White	0.7	Negative		0.06
584	Chemical building	First	A	Wall	Concrete	Intact	White	0.7	Negative		0.06
585	Chemical building	First	D	Wall	Concrete	Intact	White	0.7	Negative		0.06
586	Chemical building	First	C	Electrical panel	Metal	Intact	Blue	0.7	Negative		0.04
587	Chemical building	First	C	Pipe	Metal	Intact	Blue	0.7	Negative		0.08
588	Chemical building	First	0	Ceiling	Plaster	Intact	Blue	0.7	Negative		0.03
589	Chemical building	First	C	Pipe	Metal	Poor	Green	0.7	Negative		0.07
590	Chemical building	First	D	Pipe	Metal	Intact	Black	0.7	Negative		0.08
591	Chemical building	First	A	Ladder	Metal	Intact	Black	0.7	Negative		0.5
592	Chemical building	First	B	Door vent	Metal	Intact	Blue	0.7	Negative		0.01
593	Chemical building	First	B	Pipe	Metal	Intact	Blue	0.7	Negative		0.01
594	Chemical building	First	0	Ceiling	Wood	Intact	White	0.7	Negative		0.23
595	Chemical building	First	0	Ceiling	Plaster	Intact	White	0.7	Negative		0.09
596	Chemical building	Exterior	B	Flashing	Metal	Intact	Blue	0.7	Negative		0.16
597	Chemical building	Roof	C	Parapet wall	Concrete	Poor	White	0.7	Negative		0.13
598	Chemical building	Roof	C	Flashing	Metal	Poor	White	0.7	Negative		0.11
599	Chemical building	Exterior	A	Wall	Concrete	Poor	Tan	0.7	Negative		0.15
600	Chemical building	Roof	D	Roof pipe	Metal	Poor	White	0.7	Negative		0.2
601	Chemical building	Exterior	A	Post	Wood	Intact	White	0.7	Negative		0.03
602	Chemical building	Exterior	A	Post brace	Metal	Fair	White	0.7	Negative		0.01
603	Chemical building	Exterior	A	Pipe	Metal	Fair	White	0.7	Negative		0.11
604	Chemical building	Exterior	C	Wall	Concrete	Intact	White	0.7	Negative		0.11
605	Chemical building	Exterior	A	Wall	Concrete	Intact	White	0.7	Negative		0.11
606	Chemical building	Exterior	B	Wall	Concrete	Intact	White	0.7	Negative		0.11
607	Chemical building	Exterior	D	Wall	Concrete	Intact	White	0.7	Negative		0.11
608	Chemical building	Exterior	B	Wall mural	Wood	Intact	White	0.7	Negative		0.03
609	Chemical building	Exterior	B	Wall mural	Wood	Intact	Blue	0.7	Negative		0.01
610	Chemical building	Exterior	B	Wall mural	Wood	Intact	Red	0.7	Negative		0.1
611	Chemical building	Exterior	C	Gate	Metal	Poor	Black	0.7	Negative		0.17
612	Storage building	First	A	Window	Plaster	Intact	White	0.7	Negative		0.01
613	Storage building	First	A	Wall	Wood	Intact	White	0.7	Negative		0.04
614	Storage building	First	B	Wall	Wood	Intact	White	0.7	Negative		0.04
615	Storage building	First	C	Wall	Wood	Intact	White	0.7	Negative		0.04
616	Storage building	First	D	Wall	Wood	Intact	White	0.7	Negative		0.04
617	Storage building	First	A	Window sill	Wood	Intact	White	0.7	Negative		0.01
618	Storage building	First	0	Ceiling	Wood	Intact	White	0.7	Negative		0.01
619	Storage building	First	D	Door	Wood	Intact	White	0.7	Negative		0.01
620	Storage building	First	D	Door jamb	Wood	Intact	White	0.7	Negative		0.03
621	Storage building	First	D	Door frame	Wood	Intact	Blue	0.7	Negative		0.02
622	Storage building	First	A	Wall	Wood	Intact	Orange	0.7	Negative		0.02
623	Storage building	First	0	Floor	Tile	Intact	Blue	0.7	Negative		0.01
624	Storage building	Exterior	D	Cabinet	Wood	Intact	Red	0.7	Negative		0.02
625	Storage building	Exterior	D	Cabinet	Wood	Intact	Blue	0.7	Negative		0.23
626	Storage building	Exterior	D	Cabinet	Wood	Intact	White	0.7	Negative		0.05
627	Exterior	Exterior	0	Floor	Concrete	Intact	Blue	0.7	Negative		0.03
628	Exterior	Exterior	0	Floor	Concrete	Intact	Red	0.7	Negative		0.04
629	**Exterior**	**Exterior**	**0**	**Floor sign**	**Ceramic tile**	**Intact**	**Blue**	**0.7**	**Positive**	**14 total / 7 SF**	**11.41**
630	Exterior	Exterior	C	Fence bumper	Wood	Fair	Blue	0.7	Negative		0.04
631	Chemical building	Exterior	A	Pipe	Metal	Poor	Green	0.7	Negative		0.03
632	Storage building	Exterior	D	Flashing	Metal	Intact	White	0.7	Negative		0.01
633	Storage building	Exterior	D	Fascia	Wood	Intact	Blue	0.7	Negative		0.05
634	Exterior	Exterior	C	Wall	Concrete	Intact	Light blue	0.7	Negative		0.11
635	Exterior	Exterior	C	Wall	Concrete	Intact	Blue	0.7	Negative		0.15
636	Exterior	Exterior	A	Wall	Concrete	Intact	Tan	0.7	Negative		0.08
637	Exterior	Exterior	A	Wall	Concrete	Intact	Blue	0.7	Negative		0.06
638	Exterior	Exterior	A	Wall	Concrete	Intact	White	0.7	Negative		0.08
NS	**Wading pool**	**Exterior**	**NS**	**Wall**	**Ceramic tile**	**Intact**	**Blue**	**0.7**	**Positive**	**75 SF**	**Assumed**
NS	**Wading pool**	**Exterior**	**NS**	**Wall**	**Concrete**	**Intact**	**White**	**0.7**	**Positive**	**2,425 SF**	**Assumed**
NS	**Wading pool**	**Exterior**	**NS**	**Floor**	**Concrete**	**Intact**	**White**	**0.7**	**Positive**	**Same as above**	**Assumed**
NS	**Swimming pool**	**Exterior**	**NS**	**Wall**	**Ceramic tile**	**Intact**	**Blue**	**0.7**	**Positive**	**400 SF**	**Assumed**
NS	**Swimming pool**	**Exterior**	**NS**	**Floor**	**Ceramic tile**	**Intact**	**Blue**	**0.7**	**Positive**	**Same as above**	**Assumed**

Table 2 - XRF Readings for Lead Containing Substances

Reading No.	Room	Floor	Side	Component	Substrate	Condition	Color	Action Level (mg/cm^2)	Results	Approximate Quantity	Lead Reading (mg/cm^2)
NS	Swimming pool	Exterior	NS	Wall	Concrete	Intact	White	0.7	Positive	11,150 SF	Assumed
NS	Swimming pool	Exterior	NS	Floor	Concrete	Intact	White	0.7	Positive	Same as above	Assumed
Calibration											
639	3/31/14 Start	Standard Calibration Check 1.04 +/- 0.06mg/cm^2						0.7	Positive		0.98
640		Standard Calibration Check 1.04 +/- 0.06mg/cm^2						0.7	Positive		1.06
641		Standard Calibration Check 1.04 +/- 0.06mg/cm$_2$						0.7	Positive		1.1
642	3/31/14 End	Standard Calibration Check 1.04 +/- 0.06mg/cm^2						0.7	Positive		0.98
643		Standard Calibration Check 1.04 +/- 0.06mg/cm^2						0.7	Positive		0.98
644		Standard Calibration Check 1.04 +/- 0.06mg/cm^2						0.7	Positive		1.01
645	4/1/14 Start	Standard Calibration Check 1.04 +/- 0.06mg/cm^2						0.7	Positive		1.05
646		Standard Calibration Check 1.04 +/- 0.06mg/cm^2						0.7	Positive		1.04
647		Standard Calibration Check 1.04 +/- 0.06mg/cm^2						0.7	Positive		1.03
648	4/1/14 End	Standard Calibration Check 1.04 +/- 0.06mg/cm^2						0.7	Positive		1.02
649		Standard Calibration Check 1.04 +/- 0.06mg/cm^2						0.7	Positive		0.98
650		Standard Calibration Check 1.04 +/- 0.06mg/cm^2						0.7	Positive		1.04

Notes:
LF - linear feet
mg/cm^2 - milligrams per square centimeter
NS - not sampled
SF - square feet

Table 3 – Universal Waste Inventory

Hazardous Material Location	Hazardous Material Description	Estimated Quantity
Locker Rooms & Offices Building		
Throughout building	Fluorescent light ballasts	140
	PCB containing light ballasts	20
	Fluorescent light bulbs	300
	Compact fluorescent lamps	28
Men's and women's restrooms	Mercury containing thermostats	2
Main Pool Building		
Throughout building	Fluorescent light ballasts	16
	Fluorescent light bulbs	34
	Compact fluorescent lamps	22
Basement	5-gallon calcium increaser	7
	5-gallon clear view	1
	5-gallon sodium thiosulfate	3
	150-gallon hydrochloric acid	1
	350-gallon sodium hypochlorite	1
	55-gallon muriatic acid	4
	55-gallon hydrochloric acid	1
	100-pound sacks of harbolite	40
	5-gallon chem-clean express	4
	50-pound sacks Corrosive salt	15
Restaurant Building		
Throughout building	Fluorescent light ballasts	236
	PCB containing light ballasts	180
	Fluorescent light bulbs	377
	Mercury containing thermostats	1
	Ansul Fire Protection Hood System	1
Roof	Air conditioning units	4
Old Pool Area (Chemical & Storage Building)		
Office, storage and chemical/mechanical room	Fluorescent light ballasts	2
	Fluorescent light bulbs	4
	Compact fluorescent lamps	2
	Industrial heaters	1
	150-gallon tank of hydrochloric acid	1
	150-gallon tank of sodium hypochlorite	1

Notes:
PCB – polychlorinated biphenyls

REFERENCE: 52ND EDITION, THOMAS GUIDE FOR LOS ANGELES/ORANGE COUNTIES, STREET GUIDE AND DIRECTORY.

SCALE IN FEET

0 2,400 4,800

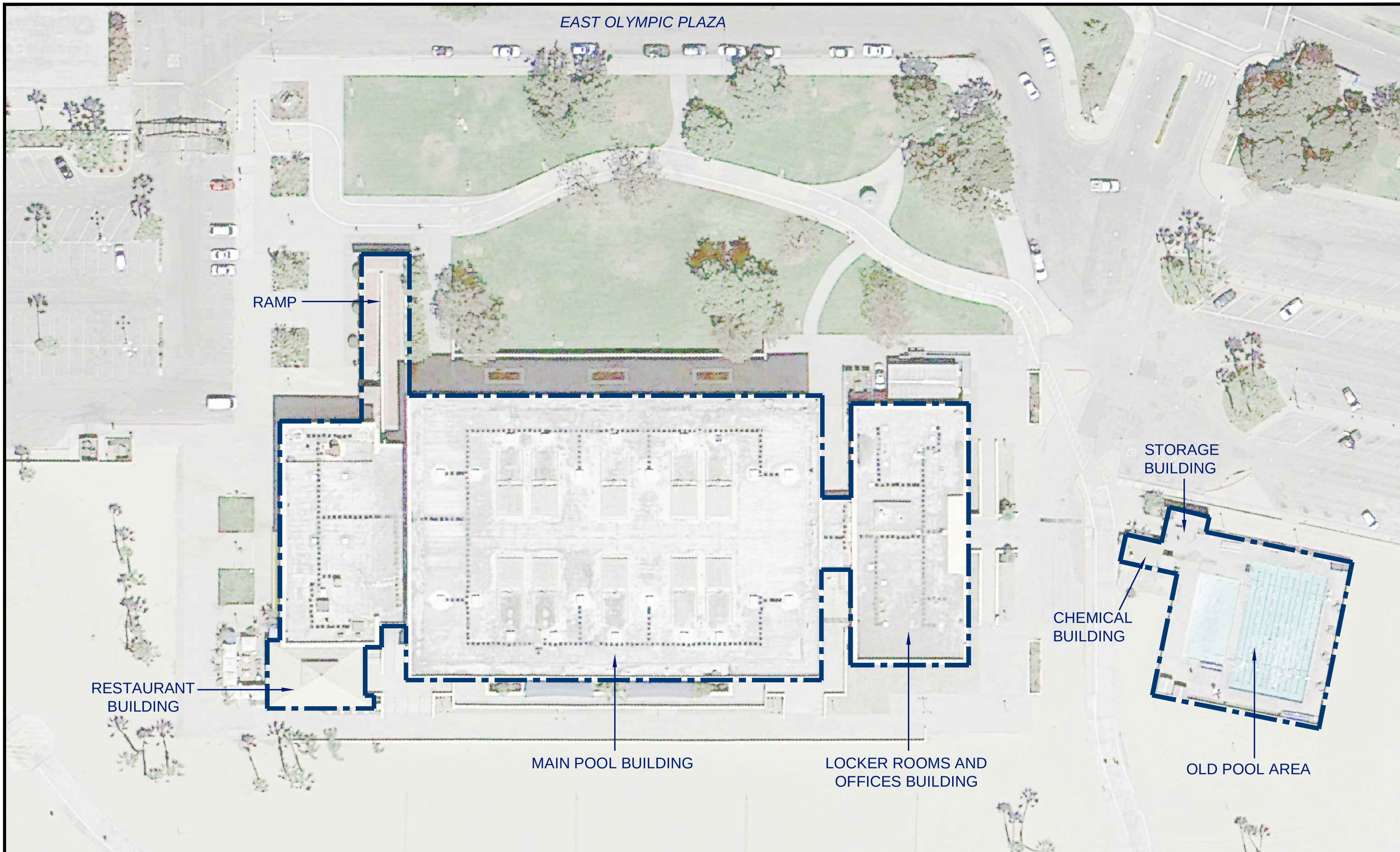
N

NOTE: DIMENSIONS, DIRECTIONS AND LOCATIONS ARE APPROXIMATE.

Map © Rand McNally, R.L.07-S-129

Ninyo & Moore		SITE LOCATION	FIGURE
PROJECT NO.	DATE	4000 EAST OLYMPIC PLAZA LONG BEACH, CALIFORNIA	1
209120001	7/14		

209120001_SL.dwg 15:35:09 07/09/2014 GK



REFERENCE: GOOGLE EARTH IMAGERY, 2014.

LEGEND

SITE BOUNDARY

N

SCALE IN FEET

0 80 160

NOTE: DIMENSIONS, DIRECTIONS AND LOCATIONS ARE APPROXIMATE.

Ninyo & Moore

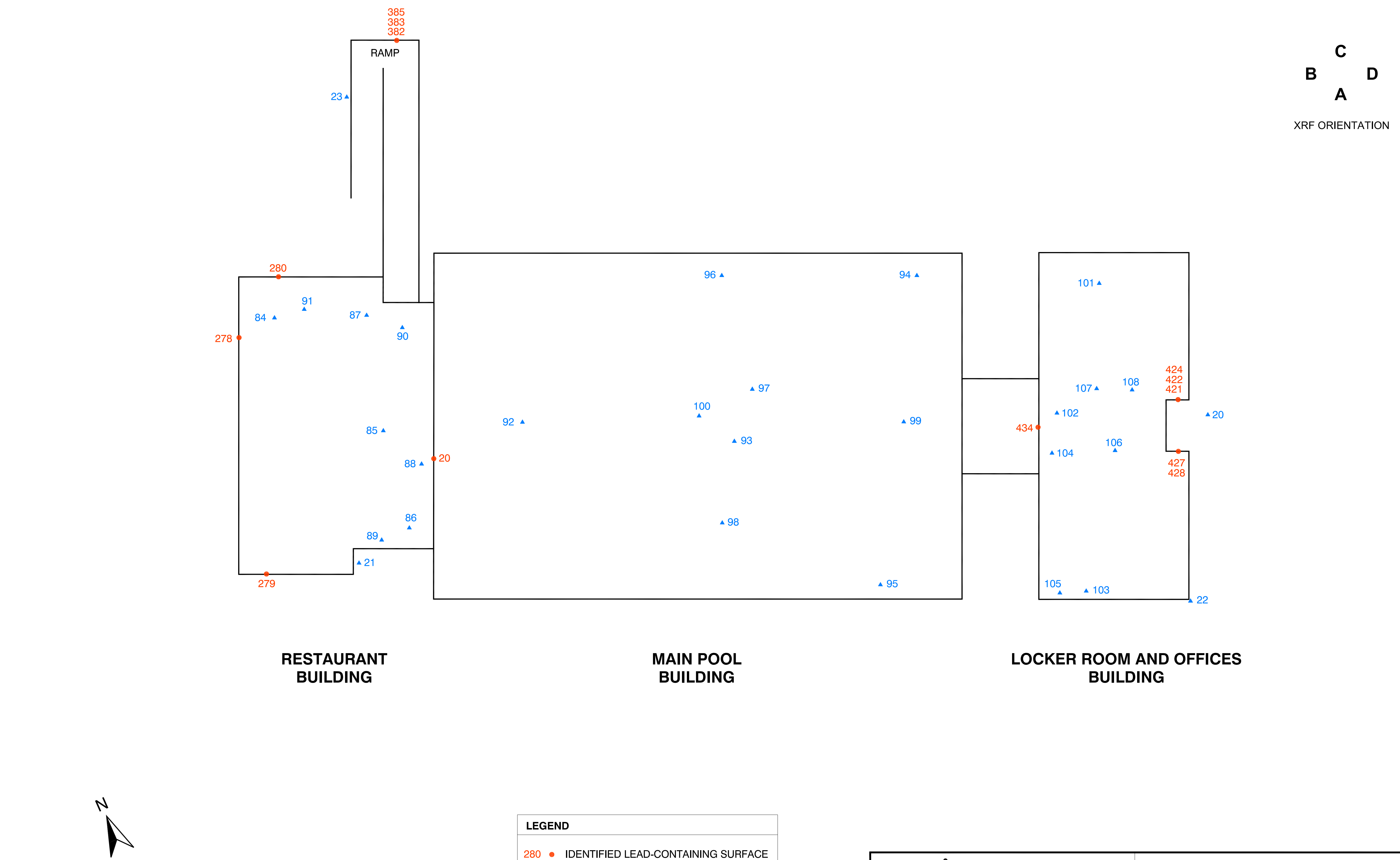
PROJECT NO.	DATE
209120001	7/14

SITE PLAN

4000 EAST OLYMPIC PLAZA
LONG BEACH, CALIFORNIA

FIGURE
2

209120001_SP.dwg, Jul 09, 2014, 3:40pm, SN



NOTE: DIMENSIONS, DIRECTIONS AND LOCATIONS ARE APPROXIMATE.

LEGEND

280 ● IDENTIFIED LEAD-CONTAINING SURFACE

100 ▲ ASBESTOS BULK SAMPLE

Ninyo & Moore

PROJECT NO.	DATE
209120001	7/14

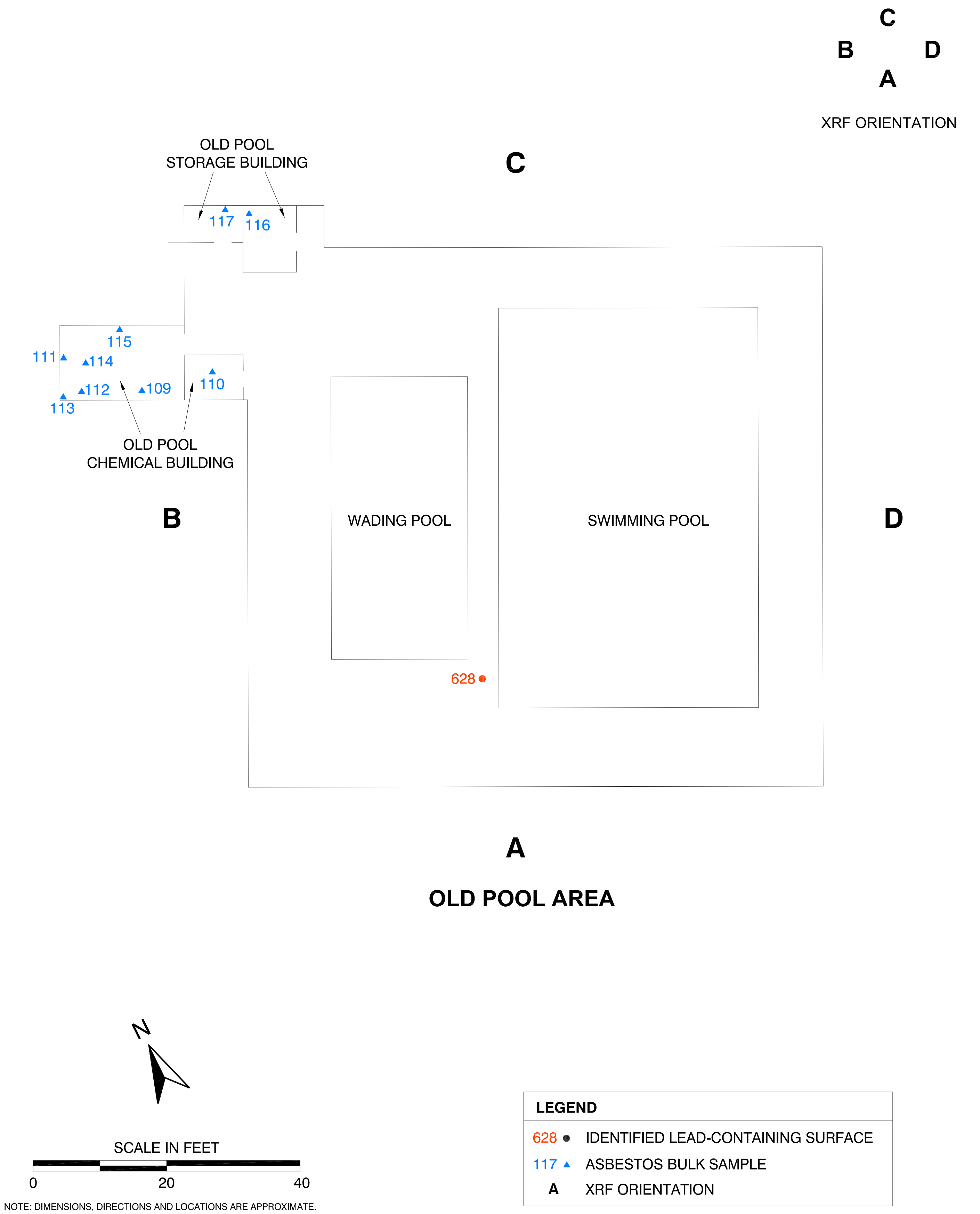
EXTERIOR SAMPLE LOCATIONS

4000 EAST OLYMPIC PLAZA
LONG BEACH, CALIFORNIA

FIGURE

3

209120001_SP4.dwg 15:04:14 04/14/2014 GK



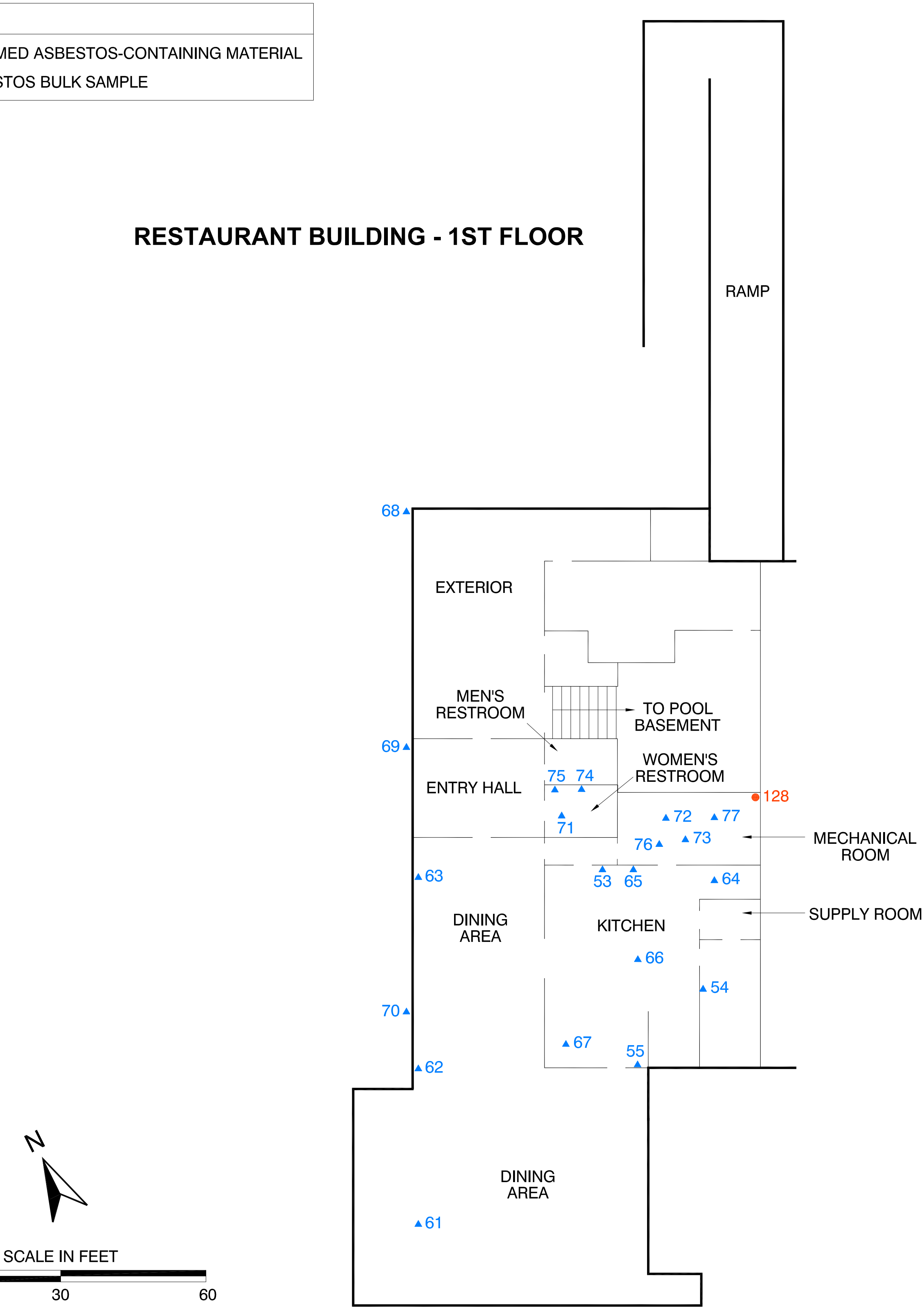
Ninyo & Moore		EXTERIOR SAMPLE LOCATIONS	FIGURE
PROJECT NO.	DATE	4000 EAST OLYMPIC PLAZA LONG BEACH, CALIFORNIA	4
209120001	7/14		

209120001_SP9.dwg 10:37:09 04/09/2014 GK

LEGEND

128 ● ASSUMED ASBESTOS-CONTAINING MATERIAL

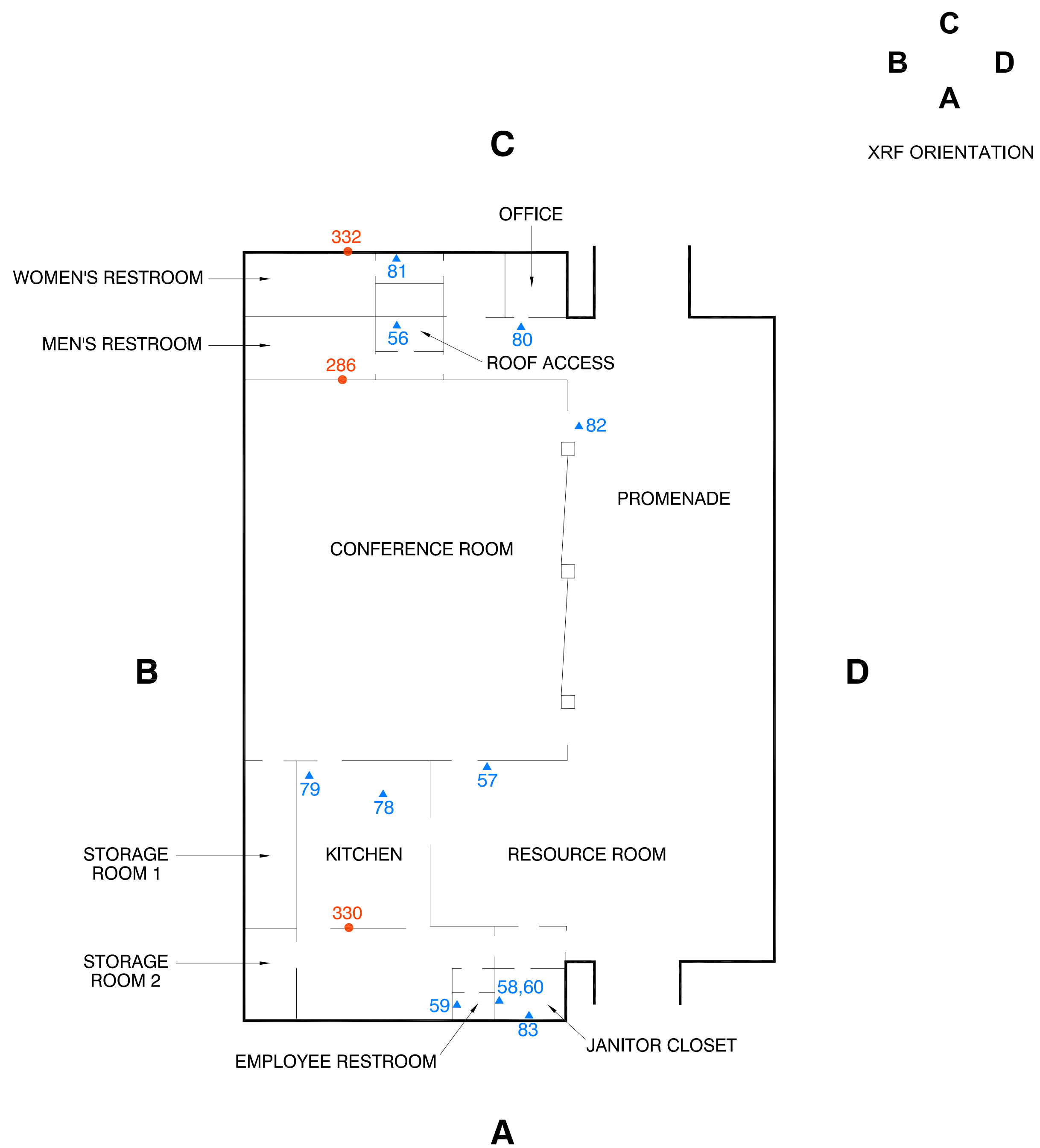
117 ▲ ASBESTOS BULK SAMPLE



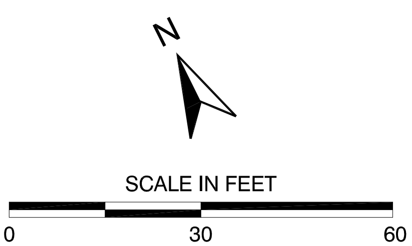
NOTE: DIMENSIONS, DIRECTIONS AND LOCATIONS ARE APPROXIMATE.

209120001_SP3.dwg 15:45:09 07/09/2014 GK

Ninyo & Moore		INTERIOR SAMPLE LOCATIONS	FIGURE
PROJECT NO.	DATE	4000 EAST OLYMPIC PLAZA LONG BEACH, CALIFORNIA	5
209120001	7/14		



RESTAURANT BUILDING - 2ND FLOOR



NOTE: DIMENSIONS, DIRECTIONS AND LOCATIONS ARE APPROXIMATE.

LEGEND

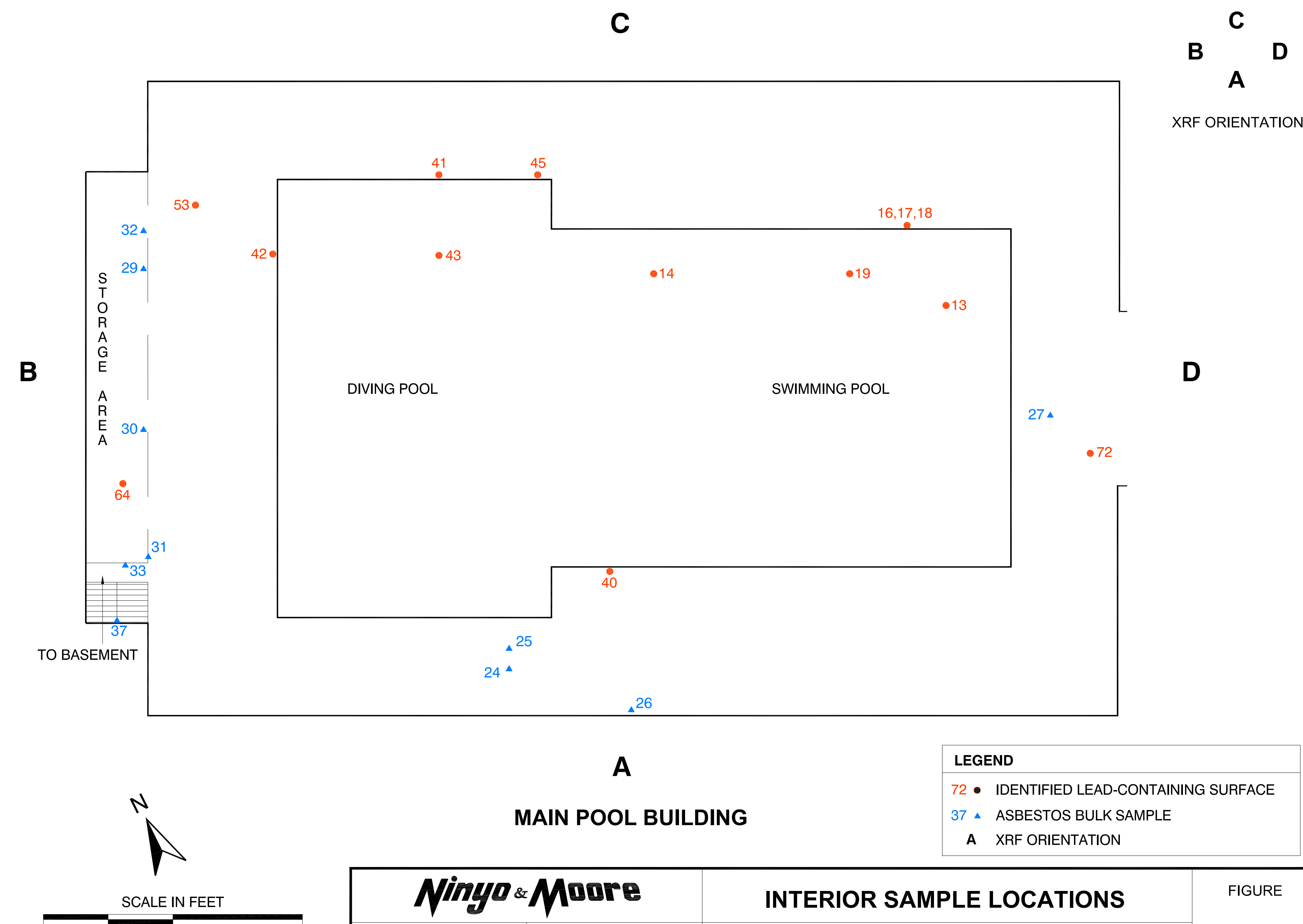
332 ●	IDENTIFIED LEAD-CONTAINING SURFACE
83 ▲	ASBESTOS BULK SAMPLE
A	XRF ORIENTATION

Ninyo & Moore

INTERIOR SAMPLE LOCATIONS

PROJECT NO.	DATE	4000 EAST OLYMPIC PLAZA LONG BEACH, CALIFORNIA	FIGURE
209120001	7/14		6

209120001_SP6.dwg 15:48:09 07/09/2014 GK



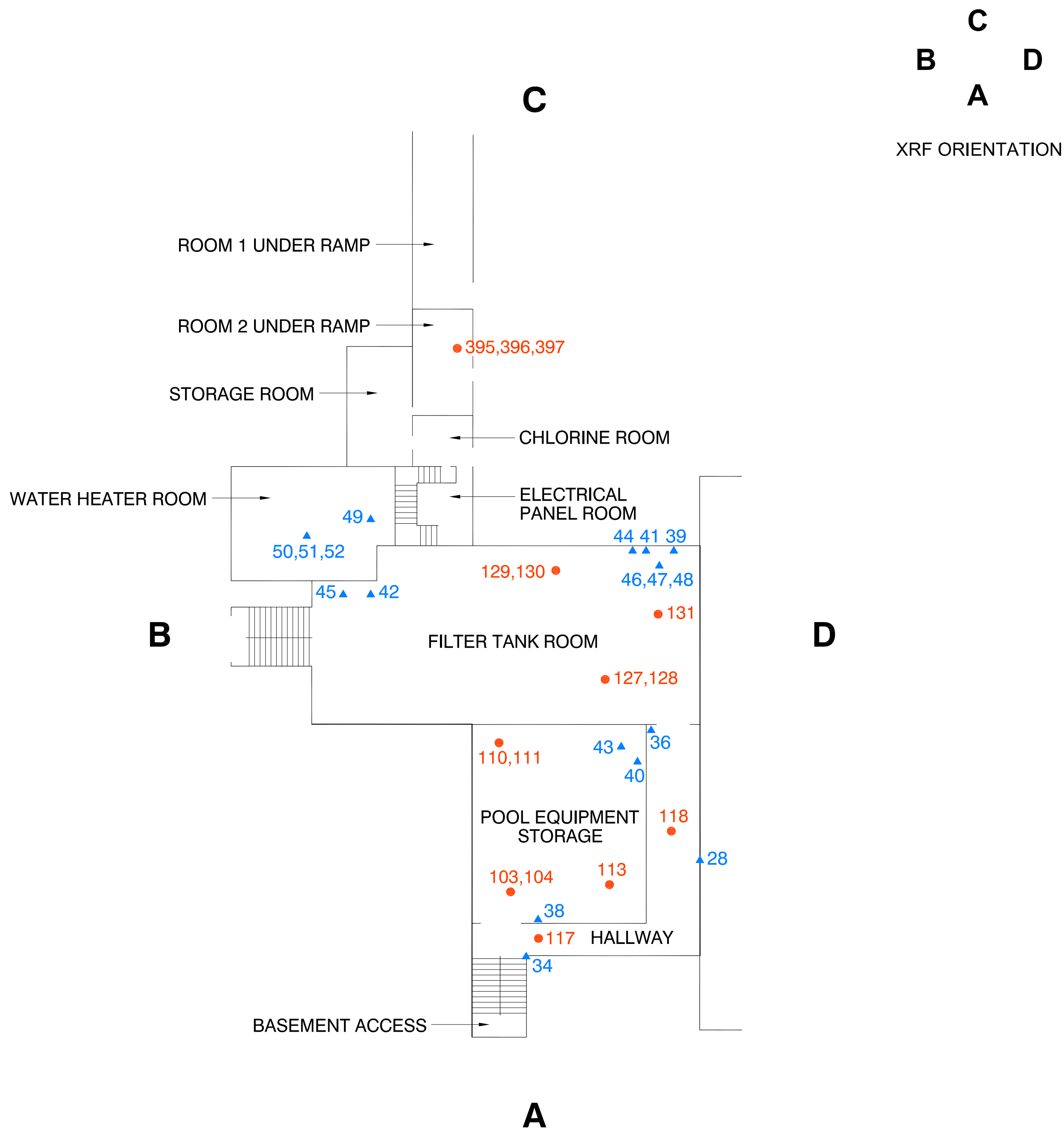
MAIN POOL BUILDING

LEGEND	
72 ●	IDENTIFIED LEAD-CONTAINING SURFACE
37 ▲	ASBESTOS BULK SAMPLE
A	XRF ORIENTATION

NOTE: DIMENSIONS, DIRECTIONS AND LOCATIONS ARE APPROXIMATE.

Ninyo & Moore		INTERIOR SAMPLE LOCATIONS	FIGURE
PROJECT NO.	DATE	4000 EAST OLYMPIC PLAZA LONG BEACH, CALIFORNIA	7
209120001	7/14		

209120001_SP2.dwg 15:44:09 07/09/2014 GK



MAIN POOL BUILDING - BASEMENT/UNDER RAMP

N

SCALE IN FEET

0 30 60

NOTE: DIMENSIONS, DIRECTIONS AND LOCATIONS ARE APPROXIMATE.

LEGEND	
397 ●	IDENTIFIED LEAD-CONTAINING SURFACE
52 ▲	ASBESTOS BULK SAMPLE
A	XRF ORIENTATION

209120001_SP8.dwg 10:37:09 04/09/2014 GK

Ninyo & Moore

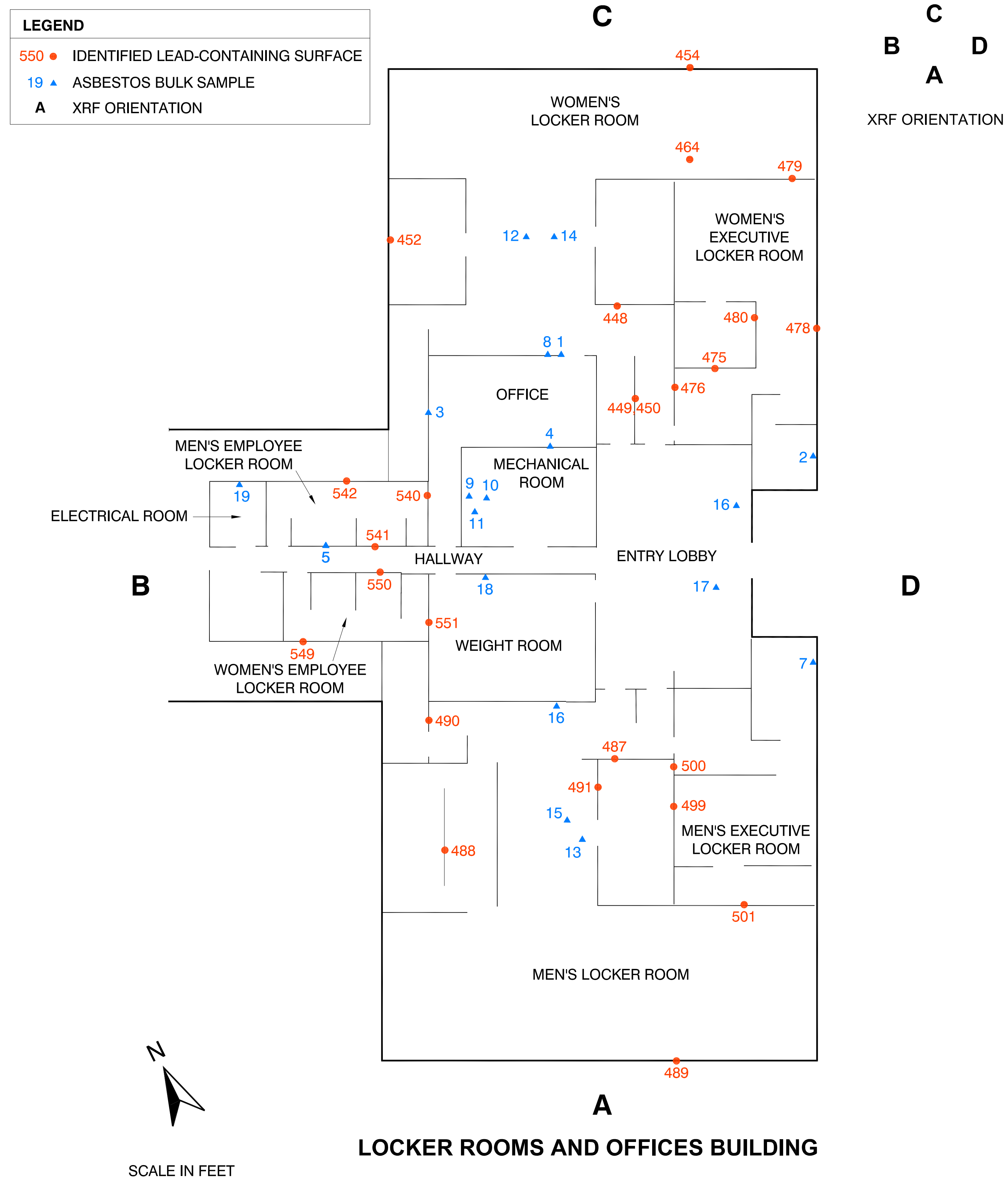
INTERIOR SAMPLE LOCATIONS

4000 EAST OLYMPIC PLAZA
LONG BEACH, CALIFORNIA

PROJECT NO.	DATE
209120001	7/14

FIGURE

8



LOCKER ROOMS AND OFFICES BUILDING

NOTE: DIMENSIONS, DIRECTIONS AND LOCATIONS ARE APPROXIMATE.

Ninyo & Moore	INTERIOR SAMPLE LOCATIONS	FIGURE
PROJECT NO. / 209120001	4000 EAST OLYMPIC PLAZA LONG BEACH, CALIFORNIA	9
DATE / 7/14		

209120001_SP1.dwg 15:42:09 07/09/2014 GK

NOTE: DIMENSIONS, DIRECTIONS AND LOCATIONS ARE APPROXIMATE.

Ninyo & Moore

INTERIOR SAMPLE LOCATIONS

PROJECT NO.	DATE
209120001	7/14

4000 EAST OLYMPIC PLAZA
LONG BEACH, CALIFORNIA

FIGURE
10

209120001_SP5.dwg 10:37:09 04/09/2014 GK

APPENDIX A

CORROSION STUDY

SOIL CORROSIVITY EVALUATION

for the

BELMONT PLAZA POOL FACILITY
REBUILD/REVITALIZATION PROJECT

in

LONG BEACH, CALIFORNIA

prepared for

NINYO & MOORE, INC

Irvine, California

prepared by

HDR | SCHIFF
Consulting Corrosion Engineers
431 West Baseline Road
Claremont, California 91711

HDR #229904

April 23, 2014

Executive Summary

HDR Engineering, Inc. (HDR|Schiff) has completed the study for Belmont Plaza Pool Facility Rebuild/Revitalization Project for the City of Long Beach, California. The proposed facility will be located in the approximate location of the existing Belmont Pool facility. Additionally, a proposed outdoor pool will be constructed immediately north of the existing facility. HDR|Schiff assumes that the ten (10) soil samples provided by Ninyo and Moore from the proposed facility location are representative of the most corrosive soils at the site.

The ground water depth is not reported, but due to the proximity of the site to the ocean the ground water is assumed to be less then ten (10) feet below grade.

The scope of this study is limited to a determination of soil corrosivity and general corrosion control recommendations for materials likely to be used for construction. Our recommendations do not constitute, and are not meant as a substitute for, design documents for the purpose of construction. If the architects and/or engineers desire more specific information, designs, specifications, or review of design, HDR|Schiff will be happy to work with them as a separate phase of this project.

Based on our laboratory analysis, this soil is classified as corrosive to ferrous metals.

HDR|Schiff recommends the following corrosion protection measures.

1. From a corrosion standpoint, any type of cement may be used for concrete structures and pipe because the sulfate concentration is negligible, 0 to 0.1 percent.[1,2,3]

2. Standard concrete cover over reinforcing steel may be used for concrete structures and pipe in contact with these soils due to the low chloride concentration[4] found onsite.

3. Due to the high ground water table anticipated at this site, cyclical or continual wetting may be an issue. Any contact between concrete structures and ground water should be prevented. Contact can be prevented with an impermeable waterproofing system.

For additional recommendations refer to the recommendations section of the report.

---

[1] *2009 International Building Code (IBC) which refers to American Concrete Institute (ACI-318) Table 4.3.1*

[2] *2009 International Residential Code (IRC) which refers to American Concrete Institute (ACI-318) Table 4.3.1*

[3] *2010 California Building Code (CBC) which refers to American Concrete Institute (ACI-318) Table 4.3.1*

[4] *Design Manual 303: Concrete Cylinder Pipe. Ameron. p.65*

Table of Contents

Introduction

HDR Engineering, Inc. (HDR|Schiff) has completed the study for Belmont Plaza Pool Facility Rebuild/Revitalization Project for the City of Long Beach, California. The proposed facility will be located in the approximate location of the existing Belmont Pool facility. Additionally, a proposed outdoor pool will be constructed immediately north of the existing facility. HDR|Schiff assumes that the ten (10) soil samples provided by Ninyo and Moore from the proposed facility location are representative of the most corrosive soils at the site.

The ground water depth is not reported, but due to the proximity of the site to the ocean the ground water is assumed to be less then ten (10) feet below grade.

Photo 1: Belmont Plaza Pool Facility Location

The scope of this study is limited to a determination of soil corrosivity and general corrosion control recommendations for materials likely to be used for construction. Our recommendations do not constitute, and are not meant as a substitute for, design documents for the purpose of construction. If the architects and/or engineers desire more specific information, designs, specifications, or review of design, HDR|Schiff will be happy to work with them as a separate phase of this project.

Test Procedures

Laboratory Tests on Soil Samples

The electrical resistivity of each sample was measured in a soil box per ASTM G187 in its as-received condition and again after saturation with distilled water. Resistivities are at about their lowest value when the soil is saturated. The pH of the saturated samples was measured per CTM 643. A 5:1 water:soil extract from each sample was chemically analyzed for the major soluble salts commonly found in soil per ASTM D4327 and D6919. Laboratory analysis was performed under HDR|Schiff number 229904 and the test results are shown in Table 1.

Discussion

A major factor in determining soil corrosivity is electrical resistivity. The electrical resistivity of a soil is a measure of its resistance to the flow of electrical current. Corrosion of buried metal is an electrochemical process in which the amount of metal loss due to corrosion is directly proportional to the flow of electrical current (DC) from the metal into the soil. Corrosion currents, following Ohm's Law, are inversely proportional to soil resistivity. Lower electrical resistivities result from higher moisture and soluble salt contents and indicate corrosive soil.

A correlation between electrical resistivity and corrosivity toward ferrous metals is (Romanoff, 1989):

Soil Resistivity in ohm-centimeters	Corrosivity Category
Greater than 10,000	Mildly Corrosive
2,001 to 10,000	Moderately Corrosive
1,001 to 2,000	Corrosive
0 to 1,000	Severely Corrosive

Other soil characteristics that may influence corrosivity towards metals are pH, soluble salt content, soil types, aeration, anaerobic conditions, and site drainage.

Electrical resistivities were in the mildly corrosive category with as-received moisture. When saturated, the resistivities were in the mildly corrosive to corrosive categories. The resistivities dropped considerably with added moisture because the samples were dry as-received. The wide variations in soil resistivity can create concentration type corrosion cells that increase corrosion rates above what would be expected from the chemical characteristics alone.

Soil pH values varied from 7.4 to 8.7. This range is mildly alkaline to strongly alkaline (Romanoff, 1989). These values do not particularly increase soil corrosivity. Soil with a pH greater than 8.5 may be aggressive to aluminum.

The soluble salt content of the samples was low.

Nitrate was detected in low concentrations.

Tests were not made for sulfide and negative oxidation-reduction (redox) potential because these samples did not exhibit characteristics typically associated with anaerobic conditions.

The variation in soil types can create differential-aeration corrosion cells that would affect all metals.

Variation in soil resistivity of an order of magnitude or more can create differential-aeration corrosion cells that would affect all metals.

This soil is classified as corrosive to ferrous metals.

Conclusions

This soil is classified as corrosive to ferrous metals.

Recommendations

The life of buried materials depends on thickness, strength, loads, construction details, soil moisture, etc., in addition to soil corrosivity, and is, therefore, difficult to predict. Of more practical value are corrosion control methods that will increase the life of materials that would be subject to significant corrosion.

The following recommendations are based on the soil conditions discussed in the Soil Corrosivity section above. Unless otherwise indicated, these recommendations apply to the entire site.

Steel Pipe

Implement *all* the following measures:

1. Underground steel pipe with rubber gasketed, mechanical, grooved end, or other nonconductive type joints should be bonded for electrical continuity. Electrical continuity is necessary for corrosion monitoring and cathodic protection.
2. Install corrosion monitoring test stations to facilitate corrosion monitoring and the application of cathodic protection:
   a. At each end of the pipeline.
   b. At each end of all casings.
   c. Other locations as necessary so the interval between test stations does not exceed 1,200 feet.
3. To prevent dissimilar metal corrosion cells and to facilitate the application of cathodic protection, electrically isolate each buried steel pipeline per NACE Standard SP0286 from:
   a. Dissimilar metals.
   b. Dissimilarly coated piping (cement-mortar vs. dielectric).

   c. Above ground steel pipe.
   d. All existing piping.

4. Choose one of the following corrosion control options:

   OPTION 1

   a. Apply a suitable dielectric coating intended for underground use such as:
      i. Polyurethane per AWWA C222 *or*
      ii. Extruded polyethylene per AWWA C215 *or*
      iii. A tape coating system per AWWA C214 *or*
      iv. Hot applied coal tar enamel per AWWA C203 *or*
      v. Fusion bonded epoxy per AWWA C213.
   b. Apply cathodic protection to steel piping as per NACE Standard SP0169.

   OPTION 2

   a. As an alternative to dielectric coating and cathodic protection, apply a ¾-inch cement mortar coating per AWWA C205 or encase in concrete 3 inches thick, using any type of cement. Joint bonds, test stations, and insulated joints are still required for these alternatives.

NOTE: Some steel piping systems, such as for oil, gas, and high-pressure piping systems, have special corrosion and cathodic protection requirements that must be evaluated for each specific application.

Iron Pipe

Implement *all* the following measures:

1. Electrically insulate underground iron pipe from dissimilar metals and from above ground iron pipe with insulating joints per NACE Standard SP0286.
2. Bond all nonconductive type joints for electrical continuity. Electrical continuity is necessary for corrosion monitoring and cathodic protection.
3. Install corrosion monitoring test stations to facilitate corrosion monitoring and the application of cathodic protection:
   a. At each end of the pipeline.
   b. At each end of any casings.
   c. Other locations as necessary so the interval between test stations does not exceed 1,200 feet.
4. Choose one of the following corrosion control options:

   OPTION 1

   a. Apply a suitable coating intended for underground use such as:
      i. Polyethylene encasement per AWWA C105; *or*
      ii. Epoxy coating; *or*

iii. Polyurethane; *or*

iv. Wax tape.

NOTE: The thin factory-applied asphaltic coating applied to ductile iron pipe for transportation and aesthetic purposes does not constitute a corrosion control coating.

b. Apply cathodic protection to cast and ductile iron piping as per NACE Standard SP0169.

OPTION 2

a. As an alternative to coating systems described in Option 1 and cathodic protection, concrete encase all buried portions of metallic piping so that there is a minimum of 3 inches of concrete cover provided over and around surfaces of pipe, fittings, and valves using any type of cement.

Copper Tubing

Implement *all* the following measures:

1. Place cold water copper tubing in an 8-mil polyethylene sleeve or encase in double 4-mil thick polyethylene sleeves and bed and backfill with clean sand at least 2 inches thick surrounding the tubing. Clean sand should have a minimum resistivity of no less than 3000 ohm-cm, and a pH of 6.0–8.0. Copper tubing for cold water can also be treated the same as for hot water.
2. Hot water tubing may be subject to a higher corrosion rate. Protect hot copper tubing by one of the following measures:
   a. Preventing soil contact. Soil contact may be prevented by placing the tubing above ground or encasing the tubing with PVC pipe with solvent-welded joints. *or*
   b. Applying cathodic protection per NACE Standard SP0169. The amount of cathodic protection current needed can be minimized by coating the tubing.

Plastic and Vitrified Clay Pipe

1. No special precautions are required for plastic and vitrified clay piping placed underground from a corrosion viewpoint.

2. Protect all metallic fittings and valves with wax tape per AWWA C217 or epoxy.

All Pipe

1. On all pipes, appurtenances, and fittings not protected by cathodic protection, coat bare metal such as valves, bolts, flange joints, joint harnesses, and flexible couplings with wax tape per AWWA C217 after assembly.

2. Where metallic pipelines penetrate concrete structures such as building floors, vault walls, and thrust blocks use plastic sleeves, rubber seals, or other dielectric material to prevent pipe contact with the concrete and reinforcing steel.

Concrete

1. From a corrosion standpoint, any type of cement may be used for concrete structures and pipe because the sulfate concentration is negligible, 0 to 0.1 percent.[5,6,7]
2. Standard concrete cover over reinforcing steel may be used for concrete structures and pipe in contact with these soils due to the low chloride concentration[8] found onsite.
3. Due to the high ground water table anticipated at this site, cyclical or continual wetting may be an issue. Any contact between concrete structures and ground water should be prevented. Contact can be prevented with an impermeable waterproofing system.

Post Tensioning Slabs: Unbonded Single-Stranded Tendons and Anchors

1. Soil is considered an aggressive environment for post-tensioning strands and anchors. Protect post-tensioning strands and anchors against corrosion by implementing *all* the following measures:[9,10,11]
   a. Prior to grouting the pocket, apply a corrosion protection cap filled with corrosion protection material to the strand end that fully encapsulates the strand end and wedge cavity such as Tiger Industries' PocketCap or equal. Ensure the cap fully seats against the anchor face.
   b. All components exposed to the job site should be protected within one working day after their exposure during installation.
   c. Ensure the minimum concrete cover over the tendon tail is 1 inch, or greater if required by the applicable building code.
   d. Caps and sleeves should be installed within one working day after the cutting of the tendon tails and acceptance of the elongation records by the engineer.
   e. Inspect the following to ensure the encapsulated system is completely watertight:
      i. Sheathing: Verify that all damaged areas, including pin-holes, are repaired.
      ii. Stressing tails: After removal, ensure they are cut to a length for proper installation of P/T coating filled end caps.
      iii. End caps: Ensure proper installation before patching the pocket former recesses.

---

[5] 2009 International Building Code (IBC) which refers to American Concrete Institute (ACI-318) Table 4.3.1
[6] 2009 International Residential Code (IRC) which refers to American Concrete Institute (ACI-318) Table 4.3.1
[7] 2010 California Building Code (CBC) which refers to American Concrete Institute (ACI-318) Table 4.3.1
[8] Design Manual 303: Concrete Cylinder Pipe. Ameron. p.65
[9] Post-Tensioning Manual, sixth edition. Post-Tensioning Institute (PTI), Phoenix, AZ, 2006.
[10] Specification for Unbonded Single Strand Tendons. Post-Tensioning Institute (PTI), Phoenix, AZ, 2000.
[11] ACI 423.6-01: Specification for Unbonded Single Strand Tendons. American Concrete Institute (ACI), 2001

iv. Patching: Ensure the patch is of an approved material and mix design, and installed void-free.

Limit the access of direct runoff onto the anchorage area by designing proper drainage.

Concrete Piles

Pre-cast Concrete Piles

1. It is assumed that prestressed concrete piles will contain about 8 sacks of type V cement per cubic yard of concrete, a water/cement ratio not exceeding 0.45, and 2 inches of concrete cover. No further corrosion control measures are required for such piles.

2. If ground water is present, solid steel lifting lugs are recommended to prevent ground water from wicking into the pile interior. If wire rope lifting lugs are used, they should be carefully drilled out 1.5 inches deep and the hole filled with epoxy.

Steel Reinforced Cast in Place Concrete Piles

1. Protect steel reinforced cast-in-place and cast-in-drilled-hole concrete piles the same way as concrete structures mentioned under the concrete structures section in this report.

Steel Piles

1. Steel piles are most susceptible to corrosion in disturbed soil where oxygen is available. Further, a dissimilar environment corrosion cell would exist between the steel embedded in concrete, such as pile caps and the steel in the soil. In the cell, the steel in the soil is the anode (corroding metal), and the steel in concrete is the cathode (protected metal). This cell can be minimized by coating the part of the steel piles that will be embedded in concrete to prevent contact with concrete and reinforcing steel.

Alternative 1: Coated Piles

Coat the piles with coal tar epoxy or polyurethane recommended by the manufacturer for the steel piles; apply to 25 mil thickness per manufacturer's recommendations.

Alternative 2: Coat Upper Portion of Pile

Coat the piles from the top to 10 feet below the water table. For the remainder use a corrosion allowance of 0.05 inches.

Alternative 3: Bare Piles

Uniform corrosion rates in disturbed soil, such as fill and loose native soil, and/or within 3 feet of the water table are estimated to be 0.96 mils per year or 0.00096 inches per year. Therefore, for a fifty-year design life provide a corrosion allowance of 0.192 inches above what is required for structural capacity for H-piles and 0.096 inches for sealed pipe piles. In undisturbed soil use a corrosion allowance of 0.05 inches.

All Steel Piles

1. After driving, cutoff, and welding any steel to be welded to the piles, coat exposed steel in the piles and bare steel welded to the piles to prevent pile/concrete contact and to prevent electrical contact between the piles and bare steel such as reinforcing steel and anchor bolts. Abrasive blast and use at least 8 mils dry film thickness of polyurethane or coal tar epoxy intended for underground use or coat with a tape system such as Polyken 900 12-mil tape wrap with a 1027 primer or equivalent. Irregular shaped surfaces that can't be coated with the tape wrap can be coated with wax tape per AWWA C217. The coating should be allowed to cure at least hard enough to prevent damage by the placement of reinforcing steel and concrete before those materials are placed.

2. Steel pipe pile interiors may be protected by filling them with concrete or hermetically sealing the ends.

Closure

Our services have been performed with the usual thoroughness and competence of the engineering profession. No other warranty or representation, either expressed or implied, is included or intended.

Please call is you have any question.

Respectfully Submitted,
HDR ENGINEERING, INC.

DRAFT

Marc E. N. Wegner, P.E.
Engineering Services Manager

Reviewed by,

DRAFT

Steven Fox, P.E.
NACE Corrosion/CP Specialist #7883
Vice President

Enc: Laboratory Testing

229904-Belmont_Pool_SCS-MW-Rev00.docx

Table 1 - Laboratory Tests on Soil Samples

Ninyo & Moore
Belmont Pool
Your #229904, HDR|Schiff #14-0139ENG
4-Apr-14

Sample ID			#1	#2	#3	#4	#5
Resistivity		**Units**					
as-received		ohm-cm	11,600	272,000	124,000	72,000	12,400
saturated		ohm-cm	1,600	44,000	28,400	18,800	4,000
pH			7.5	8.3	8.5	8.2	8.0
Electrical Conductivity		mS/cm	0.20	0.02	0.02	0.03	0.12
Chemical Analyses							
Cations							
calcium	Ca^{2+}	mg/kg	36	17	22	21	39
magnesium	Mg^{2+}	mg/kg	5.5	2.1	2.0	2.0	8.7
sodium	Na^{1+}	mg/kg	182	16	24	24	92
potassium	K^{1+}	mg/kg	4.3	8.3	7.0	7.4	13
Anions							
carbonate	CO_3^{2-}	mg/kg	ND	ND	ND	ND	ND
bicarbonate	HCO_3^{1-}	mg/kg	201	34	70	55	134
fluoride	F^{1-}	mg/kg	13	ND	ND	0.6	1.6
chloride	Cl^{1-}	mg/kg	100	1.7	3.6	5.7	74
sulfate	SO_4^{2-}	mg/kg	147	2.3	2.2	3.8	40
phosphate	PO_4^{3-}	mg/kg	2.7	1.6	2.6	2.6	7.2
Other Tests							
ammonium	NH_4^{1+}	mg/kg	ND	ND	ND	ND	ND
nitrate	NO_3^{1-}	mg/kg	1.4	2.5	3.0	6.5	35
sulfide	S^{2-}	qual	ND	ND	ND	ND	ND
Redox		mV	ND	ND	ND	ND	ND

Electrical conductivity in millisiemens/cm and chemical analysis were made on a 1:5 soil-to-water extract.
mg/kg = milligrams per kilogram (parts per million) of dry soil.
Redox = oxidation-reduction potential in millivolts
ND = not detected
na = not analyzed

Table 1 - Laboratory Tests on Soil Samples

Ninyo & Moore
Belmont Pool
Your #229904, HDR|Schiff #14-0139ENG
4-Apr-14

Sample ID

			#6	#7	#8	#9	#10
Resistivity		**Units**					
as-received		ohm-cm	128,000	84,000	88,000	72,000	21,600
saturated		ohm-cm	28,800	20,800	14,000	3,320	2,880
pH			8.6	8.4	8.7	7.5	7.4
Electrical Conductivity		mS/cm	0.02	0.03	0.05	0.12	0.11
Chemical Analyses							
Cations							
calcium	Ca^{2+}	mg/kg	18	21	36	52	39
magnesium	Mg^{2+}	mg/kg	2.0	2.2	1.6	5.7	5.1
sodium	Na^{1+}	mg/kg	19	29	39	91	87
potassium	K^{1+}	mg/kg	10	8.8	6.0	9.1	7.6
Anions							
carbonate	CO_3^{2-}	mg/kg	ND	ND	12	ND	ND
bicarbonate	HCO_3^{1-}	mg/kg	43	70	73	250	168
fluoride	F^{1-}	mg/kg	ND	ND	0.7	12	8.6
chloride	Cl^{1-}	mg/kg	2.6	4.7	11	26	43
sulfate	SO_4^{2-}	mg/kg	2.0	3.6	6.2	40	35
phosphate	PO_4^{3-}	mg/kg	2.4	4.1	2.4	5.0	7.7
Other Tests							
ammonium	NH_4^{1+}	mg/kg	ND	ND	ND	ND	ND
nitrate	NO_3^{1-}	mg/kg	1.6	7.0	9.5	6.6	15
sulfide	S^{2-}	qual	ND	ND	ND	ND	ND
Redox		mV	ND	ND	ND	ND	ND

Electrical conductivity in millisiemens/cm and chemical analysis were made on a 1:5 soil-to-water extract.
mg/kg = milligrams per kilogram (parts per million) of dry soil.
Redox = oxidation-reduction potential in millivolts
ND = not detected
na = not analyzed

431 West Baseline Road · Claremont, CA 91711
Phone: 909.626.0967 · Fax: 909.626.3316

APPENDIX B

INSPECTOR CERTIFICATION DOCUMENTATION

State of California
Division of Occupational Safety and Health

Certified Asbestos Consultant

Michael S Cushner
Name

Certification No. **11-4711**

Expires on **07/20/14**

This certification was issued by the Division of Occupational Safety and Health as authorized by Sections 7180 et seq. of the Business and Professions Code.

State of California Department of Public Health

Lead-Related Construction Certificate

Certificate Type	Expiration Date
Inspector/Assessor	**09/26/2014**
Project Monitor	**09/26/2014**

Michael S. Cushner ID #: **16953**

State of California
Division of Occupational Safety and Health

Certified Asbestos Consultant

Andrew B Hoyer
Name

Certification No. **05-3837**

Expires on **07/21/14**

This certification was issued by the Division of Occupational Safety and Health as authorized by Sections 7180 et seq. of the Business and Professions Code.

State of California Department of Public Health

Lead-Related Construction Certificate

Certificate Type	Expiration Date
Sampling Technician	01/09/2015

26090

Pedro Rodriguez ID #: 23793

State of California
Division of Occupational Safety and Health
Certified Site Surveillance Technician

Pedro Rodriguez-Mendez

Name

Certification No. 13-5109

Expires on 01/15/15

This certification was issued by the Division of Occupational Safety and Health as authorized by Sections 7180 et seq. of the Business and Professions Code.

State of California Department of Public Health

Lead-Related Construction Certificate

Certificate Type	Expiration Date
Sampling Technician	02/25/2015

25746

Patrick J. Cullip

ID #: 24783

APPENDIX C

ASBESTOS ANALYTICAL RESULTS AND CHAIN-OF-CUSTODY RECORDS

EMSL Analytical, Inc.
706 Gralin Street, Kernersville, NC 27284
Phone/Fax: (336) 992-1025 / (336) 992-4175
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EMSL Order:	021401743
CustomerID:	32ninm50
CustomerPO:	
ProjectID:	

Attn: **Michael Cushner**
Ninyo & Moore
475 Goddard
Suite 200
Irvine, CA 92618

Phone:	(949) 753-7070
Fax:	
Received:	04/07/14 10:15 AM
Analysis Date:	4/7/2014
Collected:	

Project: **2091200001 Belmont Pool Facility 4000 East Olympic Plaza Long Beach CA**

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
01-Skim Coat *021401743-0001*	Wall/ Ceiling Plaster	White/Grayish Non-Fibrous Homogeneous		10% Quartz 90% Non-fibrous (other)	**None Detected**
01-Rough Coat *021401743-0001A*	Wall/ Ceiling Plaster	Gray/Tan Non-Fibrous Heterogeneous	3% Cellulose <1% Glass	15% Quartz 5% Mica 77% Non-fibrous (other)	**None Detected**
02 *021401743-0002*	Wall/ Ceiling Plaster	Gray/Beige Non-Fibrous Heterogeneous		10% Quartz 90% Non-fibrous (other)	**None Detected**
03 *021401743-0003*	Wall/ Ceiling Plaster	Gray/Tan/White Non-Fibrous Heterogeneous	<1% Cellulose	10% Quartz 2% Mica 88% Non-fibrous (other)	**None Detected**
04 *021401743-0004*	Wall/ Ceiling Plaster	Gray/Tan/White Non-Fibrous Heterogeneous	<1% Cellulose <1% Synthetic <1% Glass	10% Quartz 2% Mica 88% Non-fibrous (other)	**None Detected**
05 *021401743-0005*	Wall/ Ceiling Plaster	Gray/White/Blue Non-Fibrous Heterogeneous	<1% Cellulose <1% Fibrous (other)	10% Quartz 1% Mica 89% Non-fibrous (other)	**None Detected**
06-Skim Coat *021401743-0006*	Wall/ Ceiling Plaster	White/Grayish Non-Fibrous Heterogeneous		15% Quartz 85% Non-fibrous (other)	**None Detected**

Analyst(s)
Stephen Bennett (10)
Scott Combs (52)

Stephen Bennett, Laboratory Manager
or other approved signatory

Initial report from 04/07/2014 15:29:08

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Project: **2091200001 Belmont Pool Facility 4000 East Olympic Plaza Long Beach CA**

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos % Fibrous	Non-Asbestos % Non-Fibrous	Asbestos % Type
06-Rough Coat *021401743-0006A*	Wall/ Ceiling Plaster	Gray/Tan Non-Fibrous Heterogeneous	3% Cellulose <1% Glass	15% Quartz 2% Mica 80% Non-fibrous (other)	**None Detected**
07 *021401743-0007*	Wall/ Ceiling Plaster	Gray/White Non-Fibrous Heterogeneous	<1% Cellulose	2% Mica 30% Ca Carbonate 68% Non-fibrous (other)	**None Detected**
08 *021401743-0008*	Button Board	Brown/Gray Fibrous Heterogeneous	8% Cellulose	92% Non-fibrous (other)	**None Detected**
09-Wrap *021401743-0009*	Cloth Wrapped FiberGlass Insulation	Tan/Cream Fibrous Heterogeneous	90% Cellulose	10% Non-fibrous (other)	**None Detected**
09-Insulation *021401743-0009A*	Cloth Wrapped FiberGlass Insulation	Yellow Fibrous Homogeneous	100% Glass	0% Non-fibrous (other)	**None Detected**
10-Wrap *021401743-0010*	Cloth Wrapped FiberGlass Insulation	Tan/Beige/Cream Fibrous Heterogeneous	55% Cellulose 2% Glass	43% Non-fibrous (other)	**None Detected**
10-Insulation *021401743-0010A*	Cloth Wrapped FiberGlass Insulation	Yellow Fibrous Homogeneous	100% Glass	0% Non-fibrous (other)	**None Detected**
11-Wrap *021401743-0011*	Cloth Wrapped FiberGlass Insulation	Tan/Beige Fibrous Heterogeneous	85% Cellulose	15% Non-fibrous (other)	**None Detected**

Analyst(s)

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Scott Combs (52)

Stephen Bennett, Laboratory Manager
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Initial report from 04/07/2014 15:29:08

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Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
11-Insulation *021401743-0011A*	Cloth Wrapped FiberGlass Insulation	Yellow Fibrous Homogeneous	99% Min. Wool	1% Non-fibrous (other)	**None Detected**
12 *021401743-0012*	Elbow Cloth Wrapped Insulation	Gray/White Fibrous Heterogeneous	40% Min. Wool 15% Cellulose	40% Non-fibrous (other)	**5% Chrysotile**
13 *021401743-0013*	Elbow Cloth Wrapped Insulation				**Stop Positive (Not Analyzed)**
14 *021401743-0014*	Cloth Wrapped Pipe Insulation	Tan/Orange Fibrous Heterogeneous	80% Glass 20% Cellulose	0% Non-fibrous (other)	**None Detected**
15 *021401743-0015*	Paper Pipe Silver Insulation	Tan/Silver/Beige Fibrous Heterogeneous	50% Cellulose 10% Glass	40% Non-fibrous (other)	**None Detected**
16 *021401743-0016*	Acoustic Ceiling Tile	Gray/White Fibrous Heterogeneous	85% Min. Wool <1% Cellulose	15% Non-fibrous (other)	**None Detected**
17 *021401743-0017*	Carpet Glue	Gold/Orange Non-Fibrous Homogeneous	3% Synthetic <1% Cellulose	97% Non-fibrous (other)	**None Detected**
18-Cove Base *021401743-0018*	Vinyl Cove Base/ Glue	Black Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**

Analyst(s)
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Fax:
Received: 04/07/14 10:15 AM
Analysis Date: 4/7/2014
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Project: **2091200001 Belmont Pool Facility 4000 East Olympic Plaza Long Beach CA**

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos % Fibrous	Non-Asbestos % Non-Fibrous	Asbestos % Type
18-Mastic *021401743-0018A*	Vinyl Cove Base/ Glue	Yellow Non-Fibrous Homogeneous	<1% Cellulose <1% Synthetic	100% Non-fibrous (other)	**None Detected**
19-Cove Base *021401743-0019*	Cove/ Base Glue	Brown/Grayish Non-Fibrous Homogeneous		15% Quartz 85% Non-fibrous (other)	**None Detected**
19-Mastic *021401743-0019A*	Cove/ Base Glue	Yellow/Gold Non-Fibrous Homogeneous	<1% Cellulose	100% Non-fibrous (other)	**None Detected**
20 *021401743-0020*	Sidewalk Caulk	Brown/Gray Non-Fibrous Heterogeneous	<1% Cellulose <1% Synthetic	100% Non-fibrous (other)	**None Detected**
21 *021401743-0021*	Stone Concrete Panels	Gray/Green/Beige Non-Fibrous Heterogeneous	<1% Cellulose	20% Quartz 1% Mica 79% Non-fibrous (other)	**None Detected**
22 *021401743-0022*	Stone Concrete Panels	Gray/Tan Non-Fibrous Heterogeneous		15% Quartz 1% Mica 84% Non-fibrous (other)	**None Detected**
23 *021401743-0023*	Stone Concrete Panels	Gray/Beige Non-Fibrous Heterogeneous		15% Quartz 2% Mica 83% Non-fibrous (other)	**None Detected**
24-Mat *021401743-0024*	Dive Mat/ Glue	Gray/Blue Non-Fibrous Heterogeneous	<1% Cellulose	100% Non-fibrous (other)	**None Detected**

Analyst(s)
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Collected:	

Project: **2091200001 Belmont Pool Facility 4000 East Olympic Plaza Long Beach CA**

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
24-Glue *021401743-0024A*	Dive Mat/ Glue	Yellow Non-Fibrous Homogeneous	<1% Cellulose	100% Non-fibrous (other)	**None Detected**
25 *021401743-0025*	Acoustic Ceiling Panels	Beige/Orange Fibrous Heterogeneous	90% Glass	10% Non-fibrous (other)	**None Detected**
26 *021401743-0026*	Acoustic Ceiling Panels	Gray/White Fibrous Heterogeneous	65% Min. Wool 1% Cellulose	34% Non-fibrous (other)	**None Detected**
27 *021401743-0027*	Walkway Caulk	Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
28 *021401743-0028*	Walkway Caulk	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
29 *021401743-0029*	Black Tar	Black Non-Fibrous Homogeneous	<1% Cellulose	100% Non-fibrous (other)	**None Detected**
30 *021401743-0030*	Black Tar	Black Non-Fibrous Homogeneous	<1% Cellulose	100% Non-fibrous (other)	**None Detected**
31 *021401743-0031*	Black Tar	Black Non-Fibrous Homogeneous	<1% Cellulose	100% Non-fibrous (other)	**None Detected**

Analyst(s)

Stephen Bennett (10)
Scott Combs (52)

Stephen Bennett, Laboratory Manager
or other approved signatory

Samples analyzed by EMSL Analytical, Inc. Kernersville, NC NVLAP Lab Code 102104-0, CA ELAP 2689, Virginia 3333-000228, West Virginia LT000321

Initial report from 04/07/2014 15:29:08

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CustomerPO:
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Irvine, CA 92618

Phone: (949) 753-7070
Fax:
Received: 04/07/14 10:15 AM
Analysis Date: 4/7/2014
Collected:

Project: **2091200001 Belmont Pool Facility 4000 East Olympic Plaza Long Beach CA**

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos % Fibrous	Non-Asbestos % Non-Fibrous	Asbestos % Type
32 *021401743-0032*	Wall/ Ceiling Plaster	Gray/Tan Non-Fibrous Heterogeneous		15% Quartz 1% Mica 84% Non-fibrous (other)	**None Detected**
33 *021401743-0033*	Wall/ Ceiling Plaster	White/Beige Non-Fibrous Heterogeneous		20% Quartz 80% Non-fibrous (other)	**None Detected**
34 *021401743-0034*	Wall/ Ceiling Plaster	Gray/Tan/White Non-Fibrous Heterogeneous		15% Quartz 1% Mica 84% Non-fibrous (other)	**None Detected**
35 *021401743-0035*	Wall/ Ceiling Plaster	Gray/Tan/White Non-Fibrous Heterogeneous		15% Quartz 1% Mica 84% Non-fibrous (other)	**None Detected**
36 *021401743-0036*	Wall/ Ceiling Plaster	Gray/White Non-Fibrous Heterogeneous		10% Quartz 2% Mica 88% Non-fibrous (other)	**None Detected**
37-Cove Base *021401743-0037*	Cove Base/ Glue	Black/Grayish Non-Fibrous Homogeneous		5% Quartz 95% Non-fibrous (other)	**None Detected**
37-Mastic *021401743-0037A*	Cove Base/ Glue	Tan/Beige Non-Fibrous Homogeneous	<1% Cellulose	100% Non-fibrous (other)	**None Detected**

Analyst(s)

Stephen Bennett (10)
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Stephen Bennett, Laboratory Manager
or other approved signatory

Initial report from 04/07/2014 15:29:08

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EMSL Order: 021401743
CustomerID: 32ninm50
CustomerPO:
ProjectID:

Attn: **Michael Cushner**
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475 Goddard
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Irvine, CA 92618

Phone: (949) 753-7070
Fax:
Received: 04/07/14 10:15 AM
Analysis Date: 4/7/2014
Collected:

Project: **2091200001 Belmont Pool Facility 4000 East Olympic Plaza Long Beach CA**

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos % Fibrous	Non-Asbestos % Non-Fibrous	Asbestos % Type
38-Cove Base *021401743-0038*	Cove Base/ Glue	Gray Non-Fibrous Homogeneous		10% Quartz 90% Non-fibrous (other)	**None Detected**
38-Mastic *021401743-0038A*	Cove Base/ Glue	Yellow/Orange Non-Fibrous Homogeneous	<1% Cellulose	100% Non-fibrous (other)	**None Detected**
39 *021401743-0039*	Green Gasket	Blue/Green Non-Fibrous Homogeneous	20% Cellulose	80% Non-fibrous (other)	**None Detected**
40 *021401743-0040*	Elbow Cloth Wrapped Insulation				**Stop Positive (Not Analyzed)**
41 *021401743-0041*	Elbow Cloth Wrapped Insulation				**Stop Positive (Not Analyzed)**
42 *021401743-0042*	Elbow Cloth Wrapped Insulation				**Stop Positive (Not Analyzed)**
43-Wrap *021401743-0043*	Cloth Wrapped Pipe Insulation	Tan/Beige Fibrous Heterogeneous	80% Cellulose	20% Non-fibrous (other)	**None Detected**
43-Insulation *021401743-0043A*	Cloth Wrapped Pipe Insulation	Orange Fibrous Homogeneous	100% Glass	0% Non-fibrous (other)	**None Detected**
44-Wrap *021401743-0044*	Cloth Wrapped Pipe Insulation	Tan/Beige Fibrous Heterogeneous	85% Cellulose	15% Non-fibrous (other)	**None Detected**

Analyst(s)

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Stephen Bennett, Laboratory Manager
or other approved signatory

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Project: **2091200001 Belmont Pool Facility 4000 East Olympic Plaza Long Beach CA**

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos				Asbestos
Sample	**Description**	**Appearance**	**%**	**Fibrous**	**%**	**Non-Fibrous**	**% Type**
44-Insulation *021401743-0044A*	Cloth Wrapped Pipe Insulation	Orange Fibrous Homogeneous	100%	Glass	0%	Non-fibrous (other)	**None Detected**
45-Wrap *021401743-0045*	Cloth Wrapped Pipe Insulation	White/Beige Fibrous Heterogeneous	60%	Cellulose	40%	Non-fibrous (other)	**None Detected**
45-Insulation *021401743-0045A*	Cloth Wrapped Pipe Insulation	White/Silver/Yellow Fibrous Heterogeneous	15% 70%	Cellulose Min. Wool	15%	Non-fibrous (other)	**None Detected**
46 *021401743-0046*	Tan Bridiging	Yellow/Beige/Oran ge Fibrous Heterogeneous	60% <1%	Glass Cellulose	40%	Non-fibrous (other)	**None Detected**
47 *021401743-0047*	Tan Bridiging	Yellow/Beige/Oran ge Fibrous Heterogeneous	25%	Glass	75%	Non-fibrous (other)	**None Detected**
48 *021401743-0048*	Tan Bridiging	White/Yellow Fibrous Heterogeneous	70% <1%	Min. Wool Cellulose	30%	Non-fibrous (other)	**None Detected**
49-Wrap *021401743-0049*	Paper Pipe Insulation	White/Silver/Beige Fibrous Heterogeneous	50% 10%	Cellulose Glass	40%	Non-fibrous (other)	**None Detected**
49-Insulation *021401743-0049A*	Paper Pipe Insulation	Yellow Fibrous Homogeneous	100%	Glass	0%	Non-fibrous (other)	**None Detected**

Analyst(s)

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Scott Combs (52)

Stephen Bennett, Laboratory Manager
or other approved signatory

Samples analyzed by EMSL Analytical, Inc. Kernersville, NC NVLAP Lab Code 102104-0, CA ELAP 2689, Virginia 3333-000228, West Virginia LT000321

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Phone: (949) 753-7070
Fax:
Received: 04/07/14 10:15 AM
Analysis Date: 4/7/2014
Collected:

Project: **2091200001 Belmont Pool Facility 4000 East Olympic Plaza Long Beach CA**

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos % Fibrous	Non-Asbestos % Non-Fibrous	Asbestos % Type
50 *021401743-0050*	Bridging	White/Yellow Fibrous Heterogeneous	40% Glass	60% Non-fibrous (other)	**None Detected**
51 *021401743-0051*	Bridging	White/Yellow/Grayi sh Fibrous Heterogeneous	80% Glass	20% Non-fibrous (other)	**None Detected**
52 *021401743-0052*	Bridging	White/Yellow Fibrous Heterogeneous	<1% Cellulose 15% Min. Wool	85% Non-fibrous (other)	**None Detected**

Analyst(s)

Stephen Bennett (10)
Scott Combs (52)

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Initial report from 04/07/2014 15:29:08

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Fax:
Received: 04/08/14 8:10 AM
Analysis Date: 4/10/2014
Collected: 3/31/2014

Project: **Belmont Pool Facility / 4000 East Olympic Plaza Long Beach, CA / 209120001**

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos % Fibrous	Non-Asbestos % Non-Fibrous	Asbestos % Type
53-Texture *121401512-0001*	Wall & Ceiling Plaster (Coarse & Smooth)	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
53-Skim Coat *121401512-0001A*	Wall & Ceiling Plaster (Coarse & Smooth)	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
53-Base Coat *121401512-0001B*	Wall & Ceiling Plaster (Coarse & Smooth)	Beige Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
54-Skim Coat *121401512-0002*	Wall & Ceiling Plaster (Coarse & Smooth)	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
54-Base Coat *121401512-0002A*	Wall & Ceiling Plaster (Coarse & Smooth)	Beige Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
55-Skim Coat *121401512-0003*	Wall & Ceiling Plaster (Coarse & Smooth)	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
55-Base Coat *121401512-0003A*	Wall & Ceiling Plaster (Coarse & Smooth)	Beige Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
56-Skim Coat *121401512-0004*	Wall & Ceiling Plaster (Coarse & Smooth)	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**

Analyst(s)

Bradley Orlowski (87)
Cheryl Replogle (59)

Michelle Wilson

Michelle Wilson, Laboratory Manager
or other approved signatory

Samples analyzed by EMSL Analytical, Inc. Phoenix, AZ NVLAP Lab Code 200811-0, AZ0937

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Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
56-Base Coat *121401512-0004A*	Wall & Ceiling Plaster (Coarse & Smooth)	Beige Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
57-Skim Coat *121401512-0005*	Wall & Ceiling Plaster (Coarse & Smooth)	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
57-Base Coat *121401512-0005A*	Wall & Ceiling Plaster (Coarse & Smooth)	Beige Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
58-Skim Coat *121401512-0006*	Wall & Ceiling Plaster (Coarse & Smooth)	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
58-Base Coat *121401512-0006A*	Wall & Ceiling Plaster (Coarse & Smooth)	Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
59-Skim Coat *121401512-0007*	Wall & Ceiling Plaster (Coarse & Smooth)	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
59-Base Coat *121401512-0007A*	Wall & Ceiling Plaster (Coarse & Smooth)	Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
60 *121401512-0008*	Button Board	Brown/White Fibrous Heterogeneous	10% Cellulose	85% Gypsum 5% Non-fibrous (other)	**None Detected**

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Sample	Description	Appearance	Non-Asbestos % Fibrous	Non-Asbestos % Non-Fibrous	Asbestos % Type
61-Joint Compound *121401512-0009*	Drywall & Joint Compound	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
61-Drywall *121401512-0009A*	Drywall & Joint Compound	Brown/White Fibrous Heterogeneous	10% Cellulose 2% Glass	85% Gypsum 3% Non-fibrous (other)	**None Detected**
62-Joint Compound *121401512-0010*	Drywall & Joint Compound	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
62-Drywall *121401512-0010A*	Drywall & Joint Compound	Brown/White Fibrous Heterogeneous	10% Cellulose 2% Glass	85% Gypsum 3% Non-fibrous (other)	**None Detected**
63-Tape *121401512-0011*	Drywall & Joint Compound	Yellow Fibrous Homogeneous	99% Glass	1% Non-fibrous (other)	**None Detected**
			No Drywall present.		
63-Joint Compound *121401512-0011A*	Drywall & Joint Compound	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
64 *121401512-0012*	2'x4' Acoustic Ceiling Panel (Drywall)	Brown/White Fibrous Heterogeneous	10% Cellulose	85% Gypsum 5% Non-fibrous (other)	**None Detected**
65 *121401512-0013*	Green Flooring Resin	White/Green Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**

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Sample	Description	Appearance	Non-Asbestos % Fibrous	Non-Asbestos % Non-Fibrous	Asbestos % Type
66 *121401512-0014*	Green Flooring Resin	White/Green Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
67 *121401512-0015*	Green Flooring Resin	White/Green Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
68-Pink Plaster *121401512-0016*	Exterior Pink Wall Plaster	Pink Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
68-Gray Plaster *121401512-0016A*	Exterior Pink Wall Plaster	Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
69-Pink Plaster *121401512-0017*	Exterior Pink Wall Plaster	Pink Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
69-Gray Plaster *121401512-0017A*	Exterior Pink Wall Plaster	Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
70-Pink Plaster *121401512-0018*	Exterior Pink Wall Plaster	Pink Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
71-Wrap *121401512-0019*	Cloth Wrapped Elbow Insulation	Tan Fibrous Homogeneous	99% Cellulose	1% Non-fibrous (other)	**None Detected**

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Sample	Description	Appearance	Non-Asbestos % Fibrous	Non-Asbestos % Non-Fibrous	Asbestos % Type
71-Insulation *121401512-0019A*	Cloth Wrapped Elbow Insulation	Gray Fibrous Homogeneous	5% Min. Wool	90% Non-fibrous (other)	**5% Chrysotile**
72-Wrap *121401512-0020*	Cloth Wrapped Elbow Insulation	Tan Fibrous Homogeneous	99% Cellulose	1% Non-fibrous (other)	**None Detected**
72-Insulation *121401512-0020A*	Cloth Wrapped Elbow Insulation				**Stop Positive (Not Analyzed)**
73-Wrap *121401512-0021*	Cloth Wrapped Pipe End Insulation	Tan Fibrous Homogeneous	99% Cellulose	1% Non-fibrous (other)	**None Detected**
73-Insulation *121401512-0021A*	Cloth Wrapped Pipe End Insulation	Gray Fibrous Homogeneous		95% Non-fibrous (other)	**5% Chrysotile**
74-Wrap *121401512-0022*	Cloth Wrapped Pipe Insulation	Tan Fibrous Homogeneous	99% Cellulose	1% Non-fibrous (other)	**None Detected**
74-Insulation *121401512-0022A*	Cloth Wrapped Pipe Insulation	Yellow Fibrous Homogeneous	99% Glass	1% Non-fibrous (other)	**None Detected**
75 *121401512-0023*	Cloth / Silver Paper Pipe Insulation	Tan/Silver Fibrous Heterogeneous	50% Cellulose 5% Glass	45% Non-fibrous (other)	**None Detected**

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			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
76 *121401512-0024*	Cloth / Silver Paper Pipe Insulation	White/Silver Fibrous Heterogeneous	50% Cellulose 5% Glass	45% Non-fibrous (other)	**None Detected**
77-Wrap *121401512-0025*	Painted Cloth Wrap Pipe Insulation	Tan Fibrous Homogeneous	99% Cellulose	1% Non-fibrous (other)	**None Detected**
77-Insulation *121401512-0025A*	Painted Cloth Wrap Pipe Insulation	Yellow Fibrous Homogeneous	99% Glass	1% Non-fibrous (other)	**None Detected**
78 *121401512-0026*	Cloth AC Duct Tape	White Fibrous Homogeneous	99% Cellulose	1% Non-fibrous (other)	**None Detected**
79 *121401512-0027*	1'x1' Acoustic Ceiling Tile W/Holes	Brown/Tan Fibrous Heterogeneous	75% Cellulose 5% Min. Wool	10% Perlite 10% Non-fibrous (other)	**None Detected**
80 *121401512-0028*	1'x1' Acoustic Ceiling Tile W/Crevices	Tan/White Fibrous Heterogeneous	90% Min. Wool	10% Non-fibrous (other)	**None Detected**
81-Floor Tile *121401512-0029*	12" Floor Tile White W/Blk Streaks/Black Mastic	White/Black Non-Fibrous Homogeneous		97% Non-fibrous (other)	**3% Chrysotile**
81-Mastic *121401512-0029A*	12" Floor Tile White W/Blk Streaks/Black Mastic	Black Non-Fibrous Homogeneous		94% Non-fibrous (other)	**6% Chrysotile**

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			Non-Asbestos				Asbestos
Sample	Description	Appearance	%	Fibrous	%	Non-Fibrous	% Type
82-Floor Tile *121401512-0030*	12" Floor Tile White W/Blk Streaks/Black Mastic						**Stop Positive (Not Analyzed)**
82-Mastic *121401512-0030A*	12" Floor Tile White W/Blk Streaks/Black Mastic						**Stop Positive (Not Analyzed)**
83-Floor Tile *121401512-0031*	12" Floor Tile White W/Blk Streaks/Black Mastic						**Stop Positive (Not Analyzed)**
83-Mastic *121401512-0031A*	12" Floor Tile White W/Blk Streaks/Black Mastic						**Stop Positive (Not Analyzed)**
84-Coating *121401512-0032*	Roof Core	White Non-Fibrous Homogeneous			100%	Non-fibrous (other)	**None Detected**
84-Insulation *121401512-0032A*	Roof Core	White Fibrous Homogeneous	99%	Synthetic	1%	Non-fibrous (other)	**None Detected**
84-Shingle 1 *121401512-0032B*	Roof Core	Brown/White Fibrous Heterogeneous	30%	Cellulose	70%	Non-fibrous (other)	**None Detected**
84-Shingle 2 *121401512-0032C*	Roof Core	White/Black Fibrous Heterogeneous	10%	Glass	90%	Non-fibrous (other)	**None Detected**

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Sample	Description	Appearance	Non-Asbestos % Fibrous	Non-Asbestos % Non-Fibrous	Asbestos % Type
84-Felt *121401512-0032D*	Roof Core	Black Fibrous Homogeneous	80% Cellulose	20% Non-fibrous (other)	**None Detected**
84-Fiberboard *121401512-0032E*	Roof Core	Tan Fibrous Homogeneous	99% Cellulose	1% Non-fibrous (other)	**None Detected**
85-Coating *121401512-0033*	Roof Core	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
85-Insulation 1 *121401512-0033A*	Roof Core	White Fibrous Homogeneous	99% Synthetic	1% Non-fibrous (other)	**None Detected**
85-Insulation 2 *121401512-0033B*	Roof Core	Yellow Fibrous Homogeneous	99% Glass	1% Non-fibrous (other)	**None Detected**
85-Shingle *121401512-0033C*	Roof Core	White/Black Fibrous Heterogeneous	10% Glass	90% Non-fibrous (other)	**None Detected**
85-Felt *121401512-0033D*	Roof Core	Black Fibrous Homogeneous	80% Cellulose	20% Non-fibrous (other)	**None Detected**
86-Coating *121401512-0034*	Roof Core	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**

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			Non-Asbestos				Asbestos	
Sample	**Description**	**Appearance**	**%**	**Fibrous**	**%**	**Non-Fibrous**	**%**	**Type**
86-Insulation *121401512-0034A*	Roof Core	White Fibrous Homogeneous	99%	Synthetic	1%	Non-fibrous (other)		**None Detected**
86-Shingle *121401512-0034B*	Roof Core	White/Black Fibrous Heterogeneous	10%	Glass	90%	Non-fibrous (other)		**None Detected**
86-Felt *121401512-0034C*	Roof Core	Black Fibrous Homogeneous	20%	Glass	80%	Non-fibrous (other)		**None Detected**
86-Tar *121401512-0034D*	Roof Core	Black Non-Fibrous Homogeneous			100%	Non-fibrous (other)		**None Detected**
87 *121401512-0035*	Penetration Mastic	Gray/Black Fibrous Heterogeneous			94%	Non-fibrous (other)	**6%**	**Chrysotile**
88 *121401512-0036*	Penetration Mastic							**Stop Positive (Not Analyzed)**
89 *121401512-0037*	Penetration Mastic							**Stop Positive (Not Analyzed)**
90 *121401512-0038*	Beige Caulking	Beige Non-Fibrous Homogeneous	5%	Synthetic	90%	Non-fibrous (other)	**5%**	**Chrysotile**
91 *121401512-0039*	Gray Caulking	Gray Fibrous Homogeneous	10%	Synthetic	90%	Non-fibrous (other)		**None Detected**

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			Non-Asbestos		Asbestos
Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Type
92-Coating *121401512-0040*	Roof Core	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
92-Insulation 1 *121401512-0040A*	Roof Core	White Fibrous Homogeneous	99% Synthetic	1% Non-fibrous (other)	**None Detected**
92-Insulation 2 *121401512-0040B*	Roof Core	Yellow Fibrous Homogeneous	99% Glass	1% Non-fibrous (other)	**None Detected**
92-Shingle *121401512-0040C*	Roof Core	Various Fibrous Heterogeneous	10% Glass	90% Non-fibrous (other)	**None Detected**
92-Felt *121401512-0040D*	Roof Core	Black Fibrous Homogeneous	80% Cellulose	20% Non-fibrous (other)	**None Detected**
92-Tar *121401512-0040E*	Roof Core	Black Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
93-Coating *121401512-0041*	Roof Core	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
93-Insulation 1 *121401512-0041A*	Roof Core	White Fibrous Homogeneous	99% Synthetic	1% Non-fibrous (other)	**None Detected**

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Sample	Description	Appearance	Non-Asbestos % Fibrous	Non-Asbestos % Non-Fibrous	Asbestos % Type
93-Insulation 2 *121401512-0041B*	Roof Core	Yellow Fibrous Homogeneous	99% Glass	1% Non-fibrous (other)	**None Detected**
93-Shingle *121401512-0041C*	Roof Core	Various Fibrous Heterogeneous	10% Glass	90% Non-fibrous (other)	**None Detected**
93-Felt *121401512-0041D*	Roof Core	Black Fibrous Homogeneous	80% Cellulose	20% Non-fibrous (other)	**None Detected**
93-Tar *121401512-0041E*	Roof Core	Black Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
94-Coating *121401512-0042*	Roof Core	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
94-Insulation *121401512-0042A*	Roof Core	White Fibrous Homogeneous	99% Synthetic	1% Non-fibrous (other)	**None Detected**
94-Shingle *121401512-0042B*	Roof Core	White/Black Fibrous Heterogeneous	10% Glass	90% Non-fibrous (other)	**None Detected**
94-Felt *121401512-0042C*	Roof Core	Black Fibrous Homogeneous	10% Glass	90% Non-fibrous (other)	**None Detected**

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Irvine, CA 92618

Phone: (949) 753-7070
Fax:
Received: 04/08/14 8:10 AM
Analysis Date: 4/10/2014
Collected: 3/31/2014

Project: **Belmont Pool Facility / 4000 East Olympic Plaza Long Beach, CA / 209120001**

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
94-Tar *121401512-0042D*	Roof Core	Black Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
95-Shingle *121401512-0043*	Roof Patch Core	Black Fibrous Heterogeneous	10% Glass	90% Non-fibrous (other)	**None Detected**
95-Felt *121401512-0043A*	Roof Patch Core	Black Fibrous Homogeneous	80% Cellulose	20% Non-fibrous (other)	**None Detected**
95-Tar *121401512-0043B*	Roof Patch Core	Black Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
95-Foam *121401512-0043C*	Roof Patch Core	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
96-Silver Paint *121401512-0044*	Penetration Mastic	Silver Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
96-Mastic *121401512-0044A*	Penetration Mastic	Black Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
97 *121401512-0045*	Penetration Mastic	Black Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**

Analyst(s)
Bradley Orlowski (87)
Cheryl Replogle (59)

Michelle Wilson
Michelle Wilson, Laboratory Manager
or other approved signatory

Initial report from 04/10/2014 17:44:45

EMSL Analytical, Inc.
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EMSL Order:	121401512
CustomerID:	32ninm50
CustomerPO:	
ProjectID:	

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Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos				Asbestos	
Sample	**Description**	**Appearance**	**%**	**Fibrous**	**%**	**Non-Fibrous**	**%**	**Type**
98 *121401512-0046*	Penetration Mastic	Gray/Black Fibrous Homogeneous			95%	Non-fibrous (other)	**5%**	**Chrysotile**
99 *121401512-0047*	Beige Caulking	Beige Fibrous Homogeneous	5%	Synthetic	90%	Non-fibrous (other)	**5%**	**Chrysotile**
100 *121401512-0048*	Gray Caulking	Gray/Black Non-Fibrous Heterogeneous			93%	Non-fibrous (other)	**7%**	**Chrysotile**
101-Coating *121401512-0049*	Roof Core	White Non-Fibrous Homogeneous			100%	Non-fibrous (other)		**None Detected**
101-Insulation *121401512-0049A*	Roof Core	White Fibrous Homogeneous	99%	Synthetic	1%	Non-fibrous (other)		**None Detected**
101-Shingle *121401512-0049B*	Roof Core	Brown/White Fibrous Heterogeneous	10%	Glass	90%	Non-fibrous (other)		**None Detected**
101-Felt *121401512-0049C*	Roof Core	Black Fibrous Homogeneous	80%	Cellulose	20%	Non-fibrous (other)		**None Detected**
101-Tar *121401512-0049D*	Roof Core	Black Non-Fibrous Homogeneous			100%	Non-fibrous (other)		**None Detected**

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Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
102-Coating *121401512-0050*	Roof Core	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
102-Insulation 1 *121401512-0050A*	Roof Core	White Fibrous Homogeneous	99% Synthetic	1% Non-fibrous (other)	**None Detected**
102-Insulation 2 *121401512-0050B*	Roof Core	Yellow Fibrous Homogeneous	99% Glass	1% Non-fibrous (other)	**None Detected**
102-Shingle *121401512-0050C*	Roof Core	Brown/White Fibrous Heterogeneous	10% Glass	90% Non-fibrous (other)	**None Detected**
102-Felt *121401512-0050D*	Roof Core	Black Fibrous Homogeneous	80% Cellulose	20% Non-fibrous (other)	**None Detected**
102-Tar *121401512-0050E*	Roof Core	Black Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
103-Coating *121401512-0051*	Roof Core	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
103-Insulation *121401512-0051A*	Roof Core	White Fibrous Homogeneous	99% Synthetic	1% Non-fibrous (other)	**None Detected**

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Project: **Belmont Pool Facility / 4000 East Olympic Plaza Long Beach, CA / 209120001**

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos				Asbestos
Sample	**Description**	**Appearance**	**%**	**Fibrous**	**%**	**Non-Fibrous**	**% Type**
103-Shingle *121401512-0051B*	Roof Core	White/Black Fibrous Heterogeneous	10%	Glass	90%	Non-fibrous (other)	**None Detected**
103-Felt 1 *121401512-0051C*	Roof Core	Black Fibrous Homogeneous	80%	Cellulose	20%	Non-fibrous (other)	**None Detected**
103-Felt 2 *121401512-0051D*	Roof Core	Black Fibrous Homogeneous	20%	Glass	80%	Non-fibrous (other)	**None Detected**
103-Tar *121401512-0051E*	Roof Core	Black Non-Fibrous Homogeneous			100%	Non-fibrous (other)	**None Detected**
104 *121401512-0052*	Beige Caulking	Beige Non-Fibrous Homogeneous	5%	Synthetic	90%	Non-fibrous (other)	**5% Chrysotile**
105 *121401512-0053*	Penetration Mastic	Gray/Black Fibrous Heterogeneous			95%	Non-fibrous (other)	**5% Chrysotile**
106 *121401512-0054*	Penetration Mastic						**Stop Positive (Not Analyzed)**
107 *121401512-0055*	Penetration Mastic						**Stop Positive (Not Analyzed)**
108 *121401512-0056*	White Caulking	Beige Fibrous Homogeneous	5%	Synthetic	91%	Non-fibrous (other)	**4% Chrysotile**

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Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos % Fibrous	Non-Asbestos % Non-Fibrous	Asbestos % Type
109-Felt *121401512-0057*	Roof Core	Black Fibrous Homogeneous	80% Cellulose	20% Non-fibrous (other)	**None Detected**
109-Tar *121401512-0057A*	Roof Core	Black Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
110-Shingle *121401512-0058*	Roof Core	White/Black Fibrous Heterogeneous	30% Cellulose	70% Non-fibrous (other)	**None Detected**
111-Shingle *121401512-0059*	Base Flashing	White/Black Fibrous Heterogeneous	30% Cellulose	70% Non-fibrous (other)	**None Detected**
111-Tar *121401512-0059A*	Base Flashing	Black Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
112 *121401512-0060*	Black Mastic	Gray/Black Fibrous Heterogeneous		95% Non-fibrous (other)	**5% Chrysotile**
113 *121401512-0061*	Gray Mastic	Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
114 *121401512-0062*	Gray Caulking	Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**

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Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos % Fibrous	Non-Asbestos % Non-Fibrous	Asbestos % Type
115 *121401512-0063*	Gray Caulking (Old)	Gray Fibrous Homogeneous		90% Non-fibrous (other)	**10% Chrysotile**
116-Shingle *121401512-0064*	Roof Core	White/Black Fibrous Homogeneous	10% Synthetic	90% Non-fibrous (other)	**None Detected**
116-Felt *121401512-0064A*	Roof Core	Black Fibrous Homogeneous	20% Glass	80% Non-fibrous (other)	**None Detected**
117 *121401512-0065*	Black Mastic	Gray/Black Fibrous Heterogeneous	5% Cellulose	90% Non-fibrous (other)	**5% Chrysotile**
118-Skim Coat *121401512-0066*	Wall & Ceiling Plaster (Coarse & Smooth)	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
118-Base Coat *121401512-0066A*	Wall & Ceiling Plaster (Coarse & Smooth)	Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
119-Skim Coat *121401512-0067*	Wall & Ceiling Plaster (Coarse & Smooth)	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
119-Base Coat *121401512-0067A*	Wall & Ceiling Plaster (Coarse & Smooth)	Gray/Tan Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**

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Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
120-Skim Coat *121401512-0068*	Wall & Ceiling Plaster (Coarse & Smooth)	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
120-Base Coat *121401512-0068A*	Wall & Ceiling Plaster (Coarse & Smooth)	Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
121-Wrap *121401512-0069*	Cloth Wrapped Pipe Insulation	White/Blue Fibrous Heterogeneous	70% Cellulose	30% Non-fibrous (other)	**None Detected**
121-Insulation *121401512-0069A*	Cloth Wrapped Pipe Insulation	Yellow Fibrous Homogeneous	99% Glass	1% Non-fibrous (other)	**None Detected**
122-Wrap *121401512-0070*	Cloth Wrapped Elbow Insulation	Gray Fibrous Heterogeneous	70% Cellulose	30% Non-fibrous (other)	**None Detected**
122-Insulation *121401512-0070A*	Cloth Wrapped Elbow Insulation	Gray Fibrous Homogeneous	90% Min. Wool 3% Synthetic	5% Non-fibrous (other)	**2% Chrysotile**
123-Joint Compound *121401512-0071*	Drywall / Joint Compound	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
123-Drywall *121401512-0071A*	Drywall / Joint Compound	Brown/White Fibrous Heterogeneous	10% Cellulose	85% Gypsum 5% Non-fibrous (other)	**None Detected**

Analyst(s)

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Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos % Fibrous	Non-Asbestos % Non-Fibrous	Asbestos % Type
124-Joint Compound *121401512-0072*	Drywall / Joint Compound	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
124-Drywall *121401512-0072A*	Drywall / Joint Compound	Brown/White Fibrous Heterogeneous	10% Cellulose	85% Gypsum 5% Non-fibrous (other)	**None Detected**
125-Tape *121401512-0073*	Drywall / Joint Compound	White Fibrous Homogeneous	99% Glass	1% Non-fibrous (other)	**None Detected**
125-Joint Compound *121401512-0073A*	Drywall / Joint Compound	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
125-Drywall *121401512-0073B*	Drywall / Joint Compound	Brown/White Fibrous Heterogeneous	10% Cellulose	85% Gypsum 5% Non-fibrous (other)	**None Detected**
126-Floor Tile *121401512-0074*	12" Blue Floor Tile & Glue	Blue Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
126-Glue *121401512-0074A*	12" Blue Floor Tile & Glue	Tan Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
127-Cove Base *121401512-0075*	4" Gray Cove Base & Glue	Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**

Analyst(s)
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Project: **Belmont Pool Facility / 4000 East Olympic Plaza Long Beach, CA / 209120001**

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos % Fibrous	Non-Asbestos % Non-Fibrous	Asbestos % Type
127-Glue *121401512-0075A*	4" Gray Cove Base & Glue	Tan Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**

Analyst(s)
Bradley Orlowski (87)
Cheryl Replogle (59)

Michelle Wilson
Michelle Wilson, Laboratory Manager
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Initial report from 04/10/2014 17:44:45

OrderID: 021401743

1743

ASBESTOS BULK SAMPLE DATA SHEET

Ninyo & Moore 475 Goddard, Suite 200 Irvine, CA 92618 Tel: (949) 753-7070 Fax: (949) 753-7071	**Project Name : Belmont Pool Facility** **Address: 4000 East Olympic Plaza** **Long Beach, CA** **Project No:** 209120001 **Project Manager: Michael Cushner**	Date Sampled: 3-31 + 4-1, 2014 Sampled By: Sampled By: Andrew Hoyer Date Sampled:	**Laboratory:** LA Testing- 11652 Knott Street Garden Grove, Ca Tel: Fax: 3day

CHAIN OF CUSTODY INFORMATION:

Relinquished By: (sign/print)	Company	Date	Time (24 hr.)	Received By: (sign/print)	Laboratory
Andrew B. Hoyer	Ninyo & Moore	4-3-14		(WS) 4/3/14	4:45pm
/				/	

LabID	Sample ID	Building Number	Sample Location	HA No.	Sample Description	Quantity (SF/LF/EA)	Friable (Y/N)	Condition
	01	Locker + offices	Women's Locker Rm South wall	1	Wall + Ceiling Plaster (coarse + smooth	20,000¢	N	G
	02	↓	Women's Executive Locker Rm East wall	↓	↓	↓	↓	↓
	03	↓	NE Office West wall	↓	↓	↓	↓	↓
	04	↓	Electrical Rm North wall	↓	↓	↓	↓	↓
	05	↓	Hallway North wall	↓	↓	↓	↓	↓
	06	↓	Men's Locker Rm North wall	↓	↓	↓	↓	↓
	07	↓	Men's Executive Locker Rm East wall	↓	↓	↓	↓	↓
	08	↓	Women's Locker Room South	2	Button Board	20,000¢	N	G
	09	↓	Water Tank in Electrical Rm	3	Cloth wrapped Fiberglass Insulation	200¢	N	G
	10	↓	↓	↓	↓	↓	↓	↓
	11	↓	↓	↓	↓	↓	↓	↓
	12	↓	Women's Locker 2" Elbow	4	Elbow Clothwrapped Insulation	12 visible	Y	G
	13	↓	Men's Locker 3" Elbow	↓	↓	↓	↓	↓

Do Not Positive Stop HA-1 (Plaster) Samples. Positive Stop after 1st <1% on all other samples.

Ninyo & Moore

1743 Sheet 2 of 4

ASBESTOS BULK SAMPLE DATA SHEET

Ninyo & Moore 475 Goddard, Suite 200 Irvine, CA 92618 Tel: (949) 753-7070 Fax: (949) 753-7071	**Project Name : Belmont Pool Facility** **Address: 4000 East Olympic Plaza** **Long Beach, CA** **Project No:** 209120001 **Project Manager: Michael Cushner**	Date Sampled: 3-31 + 4-1, 2014 Sampled By: Sampled By: Andrew Hoyer Date Sampled:	**Laboratory:** LA Testing- 11652 Knott Street Garden Grove, Ca Tel: Fax:

CHAIN OF CUSTODY INFORMATION:

Relinquished By: (sign/print)	Company	Date	Time (24 hr.)	Received By: (sign/print)	Laboratory
Andrew B. Hoyer /	Ninyo & Moore	4-3-14		[illegible] 4/3/14 /	4:45PM

LabID	Sample ID	Building Number	Sample Location	HA No.	Sample Description	Quantity (SF/LF/EA)	Friable (Y/N)	Condition
	14	Lockers offices	Women's Locker Rm 2" pipe	5	Cloth Wrapped Pipe Insulation	Unknown	N	G
	15	↓	Men's Locker Rm 3" pipe	6	White/Paper Pipe Silver Insulation	Unknown	Y	G
	16	↓	Entry Lobby	7	1'x1' Acoustic Ceiling Tile	1200φ	Y	G
	17	↓	Entry Lobby	8	Carpet Glue	5000φ	N	G
	18	↓	Weight Rm	9	Black Vinyl Cove Base/Glue	600LF	N	G
	19	↓	Electrical Rm	10	Brittle Black Cove Base/Glue	100LF	Y	G
	20	Exterior	East Entry Plaza	11	Sidewalk Gray Caulk			
	21	↓	Southwest Corner	12	Stone + Concrete Panels	30,000φ	N	G
	22	↓	Southeast Corner	↓	↓	↓	↓	↓
	23	↓	Northwest Corner	↓	↓	↓	↓	↓
	24	Pool	Diving Platform	13	Dive Mat + Glue	100φ	N	G
	25	↓	Above Platform	14	2'x2' Acoustic Ceiling Panels	17,600	Y	G
	26	↓	South Wall	15	2'x2' Acoustic Wall Panels	10,080	Y	G

Ninyo & Moore

OrderID: 021401743

1743 Sheet 3 of 4

ASBESTOS BULK SAMPLE DATA SHEET

Ninyo & Moore
475 Goddard, Suite 200
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Tel: (949) 753-7070
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Project Name : Belmont Pool Facility
Address: 4000 East Olympic Plaza, Long Beach, CA
Project No: 209120001
Project Manager: Michael Cushner

Date Sampled: 3-31+4-1, 2014
Sampled By: Andrew Hoyer
Sampled By:
Date Sampled:

Laboratory:
LA Testing- 11652 Knott Street
Garden Grove, Ca
Tel:
Fax:

CHAIN OF CUSTODY INFORMATION:

Relinquished By: (sign/print)	Company	Date	Time (24 hr.)	Received By: (sign/print)	Laboratory
Andrew Hoyer /	Ninyo & Moore	4-3-14		[illegible] 4/3/14 /	4:45pm

LabID	Sample ID	Building Number	Sample Location	HA No.	Sample Description	Quantity (SF/LF/EA)	Friable (Y/N)	Condition
	27	Pool	East Walkway	16	Walkway Caulk	1000LF	N	G
	28		West Pool Window	17	Window Caulk	60 LF	N	G
	29		Expansion Joints Between Pool + Restaurant N	18	Black Tar	800 Φ	N	G
	30		Center					
	31		S					
	32		North Storage	1	wall + Ceiling Plaster Coarse + Smooth	4,000 Φ	N	G
	33		South Stairwell Up					
	34		" " Down					
	35		Basement Hall South					
	36		" " North					
	37		South Stairwell	19	Black Brittle Cove Base + Glue	30 LF	Y	G
	38		Basement Storage	20	Gray Brittle Cove Base + Glue	200 LF	Y	G
	39		Filter Tank Room	21	Green Gasket*	60 gaskets	N	G

*Not Representative of all gaskets. Many gaskets not visible. Total gaskets = 200

1743 Sheet 4 of 4

ASBESTOS BULK SAMPLE DATA SHEET

Ninyo & Moore
475 Goddard, Suite 200
Irvine, CA 92618
Tel: (949) 753-7070
Fax: (949) 753-7071

Project Name : Belmont Pool Facility
Address: **4000 East Olympic Plaza**
Long Beach, CA
Project No: 209120001
Project Manager: **Michael Cushner**

Date Sampled: 3-31+4-1, 2014
Sampled By: Andrew Hoyer
Sampled By:
Date Sampled:

Laboratory:
LA Testing- 11652 Knott Street
Garden Grove, Ca
Tel:
Fax:

CHAIN OF CUSTODY INFORMATION:

Relinquished By: (sign/print)	Company	Date	Time (24 hr.)	Received By: (sign/print)	Laboratory
Andrew B. Hoyer /	Ninyo & Moore	4-3-14		SSG (LWD) 4/3/14 /	4:45pm

LabID	Sample ID	Building Number	Sample Location	HA No.	Sample Description	Quantity (SF/LF/EA)	Friable (Y/N)	Condition
	40	Pool	Basement Storage 6" Elbow	4	Elbow Clothwrapped Insulation	18 Visible	Y	G
	41	↓	NE Tank Room ↓	↓	↓	↓	↓	↓
	42		NW " "					
	43		Basement Storage 6" Pipe	5	Cloth wrapped Pipe Insulation	300LF	N	G
	44		NE Tank Room ↓	↓	↓	↓	↓	↓
	45		NW " "					
	46		NE Tank Room Pipe Ends	22	Tan Bridging Encapsulant	30⁰	N	G
	47		↓ ↓ ↓	↓	↓	↓	↓	↓
	48							
	49		Heater Room 2" Pipe	6	White/Paper Pipe Silver Insulation	200 LF	Y	G
	50		Heater Room Pipe Ends	23	White Bridging Encapsulant	10⁰	N	G
	51	↓	↓ ↓	↓	↓	↓	↓	↓
	52							

Ninyo & Moore

121401512

ASBESTOS BULK SAMPLE DATA SHEET

Ninyo & Moore 475 Goddard, Suite 200 Irvine, CA 92618 Tel: (949) 753-7070 Fax: (949) 753-7071	**Project Name : Belmont Pool Facility** **Address: 4000 East Olympic Plaza** **Long Beach, CA** **Project No:** 209120001 **Project Manager: Michael Cushner**	Date Sampled: 3-31 + 4-1, 2014 Sampled By: Sampled By: Andrew Hoyer Date Sampled:	**Laboratory:** LA Testing- 11652 Knott Street Garden Grove, Ca Tel: Fax:

CHAIN OF CUSTODY INFORMATION:

Relinquished By: (sign/print)	Company	Date	Time (24 hr.)	Received By: (sign/print)	Laboratory
[illegible signature]	Ninyo & Moore	4-8-14		[illegible signature] / Michelle Goss	3day TAT
[illegible signature] (to ems! Phoenix)	LAT	4/8/14		/ 4/8/14 8:10	

LabID	Sample ID	Building Number	Sample Location	HA No.	Sample Description	Quantity (SF/LF/EA)	Friable (Y/N)	Condition
	53	Restaurant	Kitchen North	1	Wall + Ceiling Plaster (Coarse + Smooth)	20,000 SF	N	G
	54	↓	Kitchen SE	↓	↓	↓	↓	↓
	55	↓	Kitchen South	↓	↓	↓	↓	↓
	56	↓	2nd Floor Roof Access	↓	↓	↓	↓	↓
	57	↓	Center	↓	↓	↓	↓	↓
	58	↓	Janitor Closet	↓	↓	↓	↓	↓
	59	↓	Employee Restroom	↓	↓	↓	↓	↓
	60	↓	2nd Flr Janitor's Closet	2	Button Board	20,000 SF	N	G
	61	↓	Dancefloor Ceiling Beam	24	Drywall + Joint Compound	5,000 SF	N	G
	62	↓	SW Wall	↓	↓	↓	↓	↓
	63	↓	NW Wall	↓	↓	↓	↓	↓
	64	↓	Kitchen	25	2'x4' Acoustic Ceiling Panel (Drywall)	1,000 SF	N	G

Do Not Positive Stop HA-1 (Plaster) Samples. Positive Stop after 1st <1% on all other Samples.

Asbestos Bulk Sample Data Sheet 35509-ASB-COC

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121401512 Sheet 2 of 6

ASBESTOS BULK SAMPLE DATA SHEET

Ninyo & Moore 475 Goddard, Suite 200 Irvine, CA 92618 Tel: (949) 753-7070 Fax: (949) 753-7071	**Project Name : Belmont Pool Facility** **Address: 4000 East Olympic Plaza** **Long Beach, CA** **Project No:** 209120001 **Project Manager: Michael Cushner**	Date Sampled: 3-31 + 4-1, 2014 Sampled By: Sampled By: Andrew Hoyer Date Sampled:	**Laboratory:** LA Testing- 11652 Knott Street Garden Grove, Ca Tel: Fax:

CHAIN OF CUSTODY INFORMATION:

Relinquished By: (sign/print)	Company	Date	Time (24 hr.)	Received By: (sign/print)	Laboratory
Andrew B. Hoyer /	Ninyo & Moore	4-8-14		Michelle Gess / Michelle Gess	
/				/	

LabID	Sample ID	Building Number	Sample Location	HA No.	Sample Description	Quantity (SF/LF/EA)	Friable (Y/N)	Condition
	65	Restaurant	Kitchen N	26	Green Flooring Resin	1000 ф	N	G
	66	↓	↓ Center	↓	↓	↓	↓	↓
	67	↓	↓ S	↓	↓	↓	↓	↓
	68	↓	West Exterior Wall N	27	Exterior Pink Wall Plaster	400 ф	N	G
	69	↓	↓ Center	↓	↓	↓	↓	↓
	70	↓	↓ S	↓	↓	↓	↓	↓
	71	↓	1st Floor Above Women's 3" Elbow	4	Elbow Clothwrapped Insulation	15 visible	Y	G
	72	↓	↓ Mech Rm 4" Elbow	↓	↓	↓	↓	↓
	73	↓	1st Flr Mech Rm 4" End	28	Pipe End Clothwrapped Insulation	6 visible	Y	G
	74	↓	Above Womens 2" Pipe	5	Clothwrapped Pipe Insulation	300 LF	N	G
	75	↓	" " 4" Pipe	29	Cloth/Silver Paper Pipe Insulation	300 LF	N	G
	76	↓	Mech Rm ↓	↓	↓	↓	↓	↓
	77	↓	" " 2" pipe	30	Painted Clothwrap Pipe Insulation	200 LF	N	G

Ninyo & Moore

OrderID: 021401743

121401512 Sheet 3 of 6

ASBESTOS BULK SAMPLE DATA SHEET

Ninyo & Moore 475 Goddard, Suite 200 Irvine, CA 92618 Tel: (949) 753-7070 Fax: (949) 753-7071	**Project Name : Belmont Pool Facility** **Address: 4000 East Olympic Plaza** **Long Beach, CA** **Project No:** 209120001 **Project Manager: Michael Cushner**	Date Sampled: 3-31+4-1, 2014 Sampled By: Andrew Hoyer Sampled By: +Pedro Rodriguez Date Sampled:	**Laboratory:** LA Testing- 11652 Knott Street Garden Grove, Ca Tel: Fax:

CHAIN OF CUSTODY INFORMATION:

Relinquished By: (sign/print)	Company	Date	Time (24 hr.)	Received By: (sign/print)	Laboratory
Andrew B. Hoyer	Ninyo & Moore	4-8-14		[signature] / Michelle Goss	
/				/	

LabID	Sample ID	Building Number	Sample Location	HA No.	Sample Description	Quantity (SF/LF/EA)	Friable (Y/N)	Condition
	78	Restaurant	2nd Flr Above Kitchen	31	Cloth AC Duct Tape	300LF	N	G
	79	↓	Kitchen NW	32	1'x1' Acoustic Ceiling Tile w/ Holes	1,000 SF	Y	G
	80	↓	North Office	33	1'x1' Acoustic Ceiling Tile w/ Crevices	6,000 SF	Y	G
	81	↓	Women's Foyer	34	12" Floor Tile White w/ Blk Streaks / Black Mastic	3,000 SF	N	G
	82	↓	NW Hall	↓	↓	↓	↓	↓
	83	↓	Janitor Closet	↓	↓	↓	↓	↓
	84	↓	Roof NW	35	Roof Core	9000 SF	N	G
	85	↓	Center	↓	↓	↓	↓	↓
	86	↓	SE	↓	↓	↓	↓	↓
	87	↓	North Vent	36	Penetration Mastic	60 SF	N	G
	88	↓	East Pitch Pocket	↓	↓	↓	↓	↓
	89	↓	SE AC Unit	↓	↓	↓	↓	↓
	90	↓	NE AC Unit	37	Beige Caulking	25 SF	N	G
	91	↓	N AC Unit	38	Gray Caulking	30LF	N	G

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121401517 Sheet 4 of 6

ASBESTOS BULK SAMPLE DATA SHEET

Ninyo & Moore
475 Goddard, Suite 200
Irvine, CA 92618
Tel: (949) 753-7070
Fax: (949) 753-7071

Project Name : Belmont Pool Facility
Address: **4000 East Olympic Plaza**
Long Beach, CA
Project No: 209120001
Project Manager: **Michael Cushner**

Date Sampled: 3-31 4-4, 2014
Sampled By:
Sampled By: Pedro Rodriguez
Date Sampled:

Laboratory:
LA Testing- 11652 Knott Street
Garden Grove, Ca
Tel:
Fax:

CHAIN OF CUSTODY INFORMATION:

Relinquished By: (sign/print)	Company	Date	Time (24 hr.)	Received By: (sign/print)	Laboratory
Andw B. Hoyr	Ninyo & Moore	4-8-14		[illegible] / Michelle (TEO)	
/				/	

LabID	Sample ID	Building Number	Sample Location	HA No.	Sample Description	Quantity (SF/LF/EA)	Friable (Y/N)	Condition
	92	Main Pool	Roof West	39	Roof Core	40,000 ¢	N	G
	93	↓	↓ Center	↓	↓	↓	↓	↓
	94	↓	↓ NE	↓	↓	↓	↓	↓
	95	↓	↓ SE Patch	40	Roof Patch Core	1,000 ¢	N	G
	96	↓	↓ North Pitch Pocket	41	Penetration Mastic	150 ¢	N	G
	97	↓	↓ Center Hatch	↓	↓	↓	↓	↓
	98	↓	↓ South Skylight	↓	↓	↓	↓	↓
	99	↓	↓ East Skylight	37	Beige Caulking	20 ¢	N	G
	100	↓	↓ Center Skylight	38	Gray Caulking	600 LF	N	G
	101	Lockers + Offices	↓ North	42	Roof Core	10,000 ¢	N	G
	102	↓	↓ West	↓	↓	↓	↓	↓
	103	↓	↓ South	↓	↓	↓	↓	↓
	104	↓	↓ West Vent	37	Beige Caulking	30 ¢	N	G

121401512 Sheet 5 of 6

ASBESTOS BULK SAMPLE DATA SHEET

Ninyo & Moore 475 Goddard, Suite 200 Irvine, CA 92618 Tel: (949) 753-7070 Fax: (949) 753-7071	**Project Name : Belmont Pool Facility** **Address: 4000 East Olympic Plaza** **Long Beach, CA** **Project No:** 209120001 **Project Manager: Michael Cushner**	Date Sampled: 3-31 + 4-1, 2014 Sampled By: Sampled By: Date Sampled: Pedro Rodriguez	**Laboratory:** LA Testing- 11652 Knott Street Garden Grove, Ca Tel: Fax:

CHAIN OF CUSTODY INFORMATION:

Relinquished By: (sign/print)	Company	Date	Time (24 hr.)	Received By: (sign/print)	Laboratory
Andrew B. Hoyer	Ninyo & Moore	4-8-14		Michelle Gos / Michelle Gos	
/				/	

LabID	Sample ID	Building Number	Sample Location	HA No.	Sample Description	Quantity (SF/LF/EA)	Friable (Y/N)	Condition
	105	Lockers + Offices	Roof South Vent	43	Penetration Mastic	20 Φ	N	G
	106	↓	Center Sleeper	↓	↓	↓	↓	↓
	107	↓	Center Pitch Pocket	↓	↓	↓	↓	↓
	108	↓	East Walkway	44	White Caulking	10 Φ	N	G
	109	Old Pool Chemical Room	Center	45	Roof Core	120 Φ	N	G
	110	↓	SE	46	↓	30 Φ	↓	↓
	111	↓	West	47	Base Flashing	60 Φ	N	G
	112	↓	West Vent Pipe	48	Black Mastic	2 Φ	↓	↓
	113	↓	SW Heater Vent Pipe	49	Gray Mastic	25 Φ	↓	↓
	114	↓	West Vent Pipe	50	Gray Caulking	10 Φ	↓	↓
	115	↓	North Edge	51	Gray Caulking (Old)	60 LF	↓	↓
	116	Old Pool Storage	Center	52	Roof Core	60 Φ	↓	↓
	117	↓	North Edge	53	Black Mastic	5 Φ	↓	↓

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121401517 Sheet 6 of 6

ASBESTOS BULK SAMPLE DATA SHEET

Ninyo & Moore 475 Goddard, Suite 200 Irvine, CA 92618 Tel: (949) 753-7070 Fax: (949) 753-7071	**Project Name : Belmont Pool Facility** **Address: 4000 East Olympic Plaza** **Long Beach, CA** **Project No:** 209120001 **Project Manager: Michael Cushner**	Date Sampled: 3-31 + 4-1, 2014 Sampled By: Sampled By: Andrew Hoyer Date Sampled:	**Laboratory:** LA Testing- 11652 Knott Street Garden Grove, Ca Tel: Fax:

CHAIN OF CUSTODY INFORMATION:

Relinquished By: (sign/print)	Company	Date	Time (24 hr.)	Received By: (sign/print)	Laboratory
Andrew B. Hoyer	Ninyo & Moore	4-8-14		[signature] / Michelle Goss	
/				/	

LabID	Sample ID	Building Number	Sample Location	HA No.	Sample Description	Quantity (SF/LF/EA)	Friable (Y/N)	Condition
	118	Old Pool Chemical Rm	SW Ceiling	54	Wall + Ceiling Plaster (Coarse + Smooth)	1,000 ф	N	G
	119	↓	West Wall	↓	↓	↓	↓	↓
	120	↓	North Wall	↓	↓	↓	↓	↓
	121	↓	2" Pipe	55	Cloth wrapped Pipe Insulation	40 LF	N	G
	122	↓	2" Elbow	56	Cloth wrapped Elbow Insulation	5 Elbows	Y	G
	123	Old Pool Storage	East	57	Drywall/Joint Compound	600 ф	N	G
	124	↓	Center	↓	↓	↓	↓	↓
	125	↓	West	↓	↓	↓	↓	↓
	126	↓	East	58	12" Blue Floor Tile + Glue	100 ф	N	G
	127	↓	East	59	4" Gray Cove Base + Glue	120 LF	N	G

Ninyo & Moore

APPENDIX D

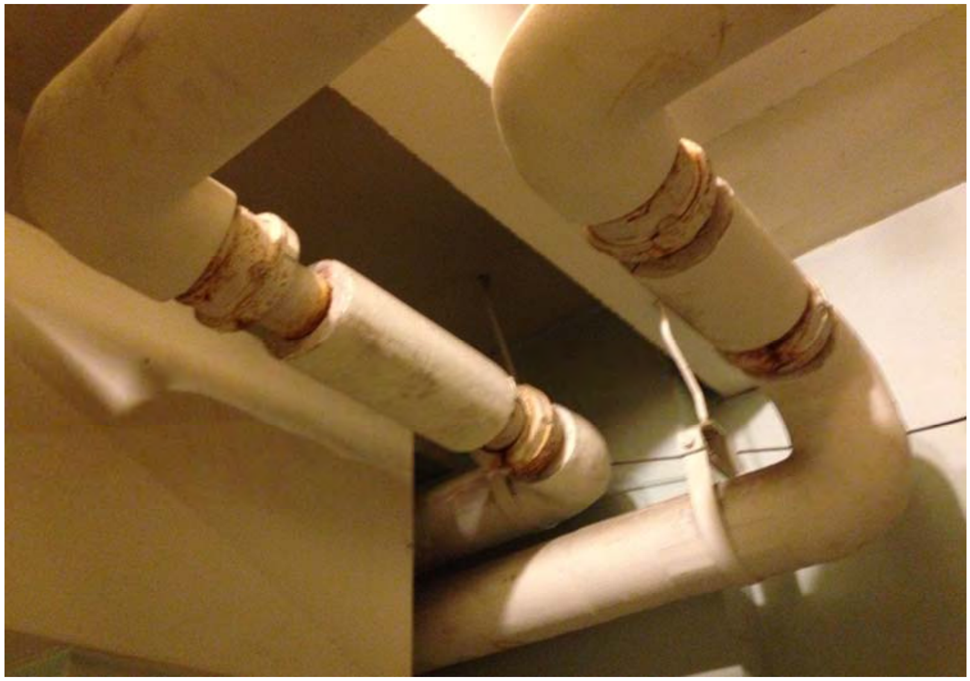
PHOTOGRAPHIC DOCUMENTATION

Photograph 1: **View of locker rooms and office building roofing with asbestos containing vent penetration mastic.**

Photograph 2: **View of representative asbestos containing cloth-wrapped elbow insulation in the ceiling plenum above the women's locker room in the locker rooms and office building.**

Photograph 3: **View of main pool building roofing with asbestos containing materials including penetration mastic and skylight beige caulking.**

Photograph 4: **View of walkway roofing between locker rooms and office building and main pool building with asbestos containing white caulking.**



Photograph 5: **View of representative asbestos containing cloth-wrapped elbow insulation in the main pool building basement.**

Photograph 6: **View of restaurant roofing with asbestos containing penetration mastic.**

Photograph 7: **View of representative asbestos containing cloth-wrapped elbow insulation in the ceiling plenum above the first floor women's restroom within the restaurant building.**

Photograph 8: **View of asbestos containing vinyl floor tile and mastic on the second floor of the restaurant building.**

Photograph 9: **View of assumed asbestos containing vibration damper in the mechanical room of the restaurant building.**

Photograph 10: **View of old pool mechanical/chemical building roofing with asbestos containing materials including vent black mastic and gray caulking.**

Photograph 11: **View of old pool storage building roofing with asbestos containing black mastic.**

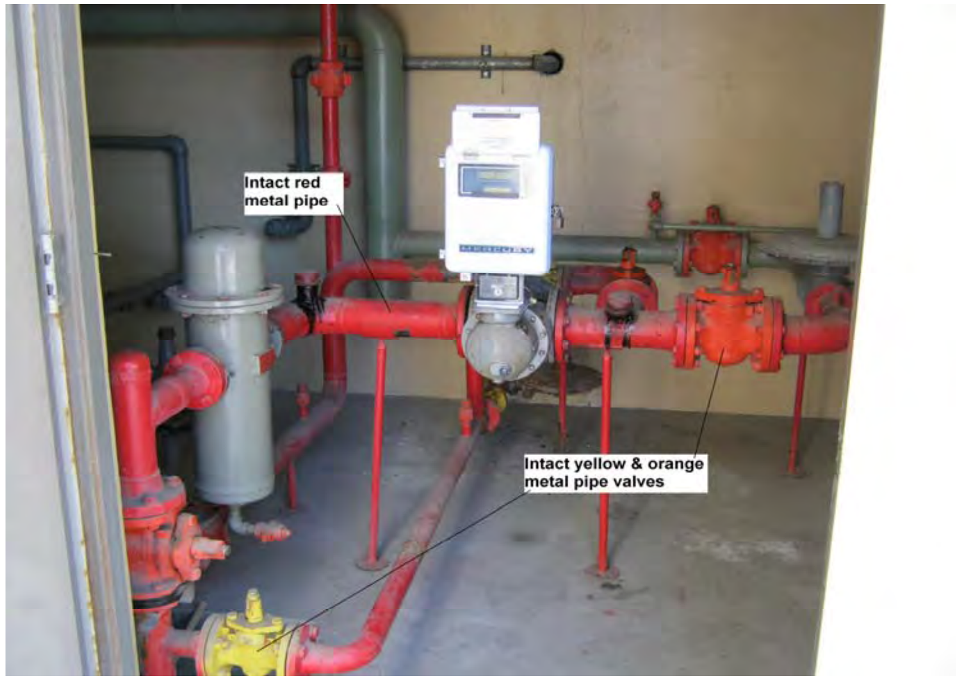
Photograph 12: **View of fair lead-containing white paint on parapet concrete wall on the roof of the restaurant building.**

Photograph 13: **View of intact lead-containing white ceramic wall tile in the 2nd floor kitchen of the restaurant building.**

Photograph 14: **View of intact lead-containing beige ceramic wall tile in the 2nd floor men's restroom of the restaurant building.**

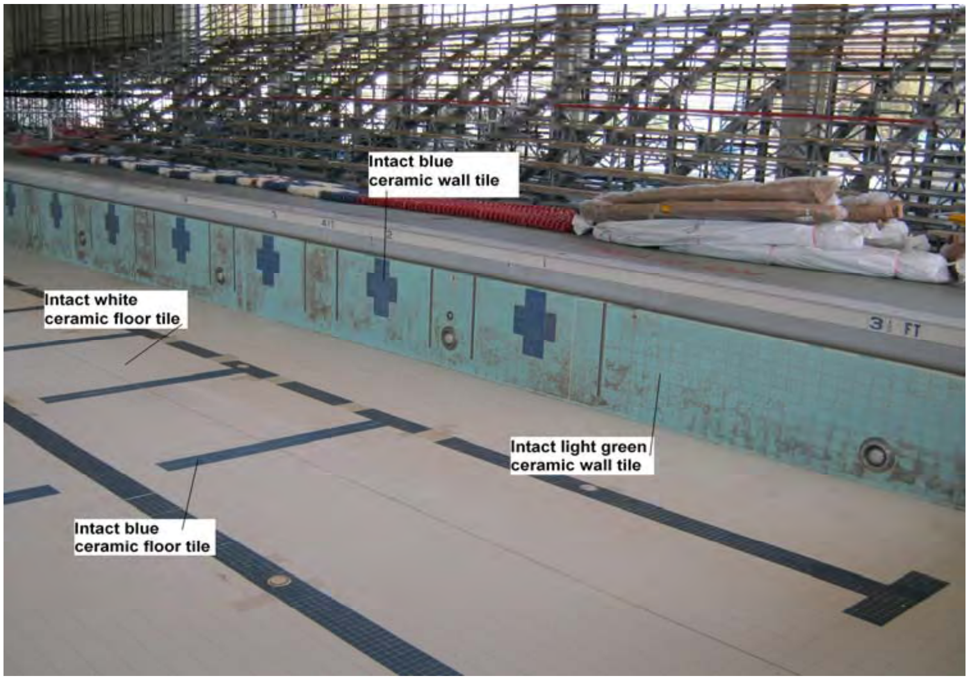
Photograph 15: **View of intact lead-containing white ceramic wall tile in the 2nd floor women's restroom of the restaurant building.**

Photograph 16: **View of intact and fair lead-containing red, green, and yellow paint on concrete wall sign on the exterior wall of the ramp.**



Photograph 17: **View of intact lead-containing red paint on metal pipes and yellow and orange paint on metal pipe valves in Room 2 under the ramp.**

Photograph 18: **View of fair lead-containing white paint on concrete parapet wall on the roof of the main pool building.**



Photograph 19: **View of representative intact lead-containing white, blue, and light green ceramic wall and floor tiles in the swimming pool and diving pool of the main pool building.**

Photograph 20: **View of representative intact lead-containing white paint on concrete wall overhang in the main pool building.**

Photograph 21: **View of intact lead-containing green paint on metal floor hatch in the storage area of the main pool building.**

Photograph 22: **View of representative intact, fair, and poor lead-containing white paint on metal ceiling pipes in the pool equipment storage room in the basement of the main pool building.**

Photograph 23: **View of representative intact lead-containing white paint on metal pipes in the filter tank room in the basement of the main pool building.**

Photograph 24: **View of intact lead-containing yellow paint on metal control panel in the filter tank room in the basement of the main pool building.**

Photograph 25: **View of fair lead-containing white paint on concrete parapet wall on the roof of the locker rooms and office building.**

Photograph 26: **View of representative intact lead-containing white paint on metal wall and sliding door on the exterior of the locker rooms and office building.**

Photograph 27: **View of representative intact lead-containing yellow ceramic wall tile in the women's, women's executive, and men's executive locker rooms in the locker rooms and office building.**

Photograph 28: **View of representative intact lead-containing white and tan with white ceramic wall tile, and yellow paint on plastic benches in the women's, men's women's executive, men's executive, and women's employee locker rooms in the locker rooms and office building.**

Photograph 29: **View of intact lead-containing cream ceramic wall tile in the women's executive locker room in the locker rooms and office building.**

Photograph 30: **View of intact lead-containing gray ceramic wall tile in the men's locker room in the locker rooms and office building.**

Photograph 31: **View of representative intact lead-containing brown ceramic wall tile in the women's, women's executive, men's, men's executive, and men's employee locker rooms in the locker rooms and office building.**

Photograph 32: **View of intact lead-containing blue ceramic floor tile in the old pool area.**

Photograph 33: **View of assumed intact lead-containing blue ceramic wall tile and white paint on concrete walls and floor in the wading pool of the old pool area.**

Photograph 34: **View of assumed intact lead-containing blue ceramic wall and floor tile and white paint on concrete walls and floor in the swimming pool of the old pool area.**

APPENDIX E

XRF TESTING METHODOLOGY

XRF TESTING METHODOLOGY

To assess the painted surfaces for future contractor worker safety, x-ray fluorescence (XRF) testing technologies were utilized. The testing was conducted in general accordance with the following regulation: *Title 17, California Code of Regulations, Division 1, Chapter 8, Accreditation Certification, and Work Practice in Lead Related Construction, Section 36000.*

After a visual assessment, accessible painted surfaces were screened for lead content with a NITON XLp 300A XRF spectrum analyzer. XRF readings were taken using the standard paint mode. Standard paint mode measurements have no predetermined testing length, and automatically adjust to account for various types of substrates and material's densities. In the standard paint mode, the NITON 300A XLp XRF collects an XRF assay until either a K-shell or L-shell result is indicated as either positive or negative, compared to the threshold level based on the current precision of the test. Correction for paint matrix and substrate effects is performed automatically by the XRF analyzer.

XRF readings were made on testing combinations in all room equivalents in an effort to test typical materials that are representative of the room equivalent. Testing combinations were tested non-destructively by holding the shutter of the XRF against the surface being tested. At each XRF assay location, the trigger is depressed to open the shutter, and one reading was made using the standard paint testing mode. Results of each assay were recorded in the memory of the XRF spectrum analyzer and downloaded via the software provided by the manufacturer. In addition, the results of each assay were read and recorded on the XRF Data Sheet field data sheet.

The XRF testing orientation is depicted on the attached sample location maps. The "A" direction was initially assigned to the direction of the street, and the subsequent directions ("B," "C," and "D") were assigned clockwise from the "A" direction. Should the subject site be located on the corner of two streets, the "A" direction is assigned to the direction of the street address of the subject site.

To ensure that the XRF equipment was working properly, various quality control tests were performed before, during, and after the on-site work. At the beginning of the work day, three start up validation measurements were made in the K and L calibration mode, using the calibration check standard associated with the particular XRF that was used. This painted standard contains a known quantity of lead and allows the XRF operator to determine whether the instrument is functioning within acceptable tolerance ranges for accuracy and precision, as determined by the manufacturer. Calibration checks were generally collected on the red 1.06 mg/cm^2 and/or yellow 1.57 mg/cm^2 Standard Reference Material (SRM) paint film, developed by the National Institute of Standards and Technology (NIST).

In addition to the three starts up tests, calibration readings are collected between each building, after four hours, and at the completion of XRF testing. Results of each calibration reading were recorded within the memory of the XRF spectrum analyzer and on the XRF Data Sheet. The quality control tests taken during testing at the subject site were within the acceptable performance range prescribed by the XRF equipment manufacturer. Documentation of the quality control calibration check is included in the Table 2.

APPENDIX F

CALIFORNIA DEPARTMENT OF PUBLIC HEALTH FORM 8552

LEAD HAZARD EVALUATION REPORT

Section 1 — Date of Lead Hazard Evaluation 3/31/14

Section 2 — Type of Lead Hazard Evaluation (Check one box only)

☑ Lead Inspection ☐ Risk assessment ☐ Clearance Inspection ☐ Other (specify) ______

Section 3 — Structure Where Lead Hazard Evaluation Was Conducted

Address [number, street, apartment (if applicable)]	City	County	Zip Code
4000 E Olympic Plaza	Long Beach	Los Angeles	90803

Construction date (year) of structure	Type of structure	Children living in structure?
1968	☐ Multi-unit building ☐ School or daycare ☐ Single family dwelling ☑ Other Public Pool	☐ Yes ☑ No ☐ Don't Know

Section 4 — Owner of Structure (if business/agency, list contact person)

Name	Telephone number
City of Long Beach - Eric Lopez	(562) 570-5690

Address [number, street, apartment (if applicable)]	City	State	Zip Code
333 West Ocean Blvd, 9th Floor	Long Beach	CA	90802

Section 5 — Results of Lead Hazard Evaluation (check all that apply)

☐ No lead-based paint detected ☑ Intact lead-based paint detected ☑ Deteriorated lead-based paint detected

☐ No lead hazards detected ☐ Lead-contaminated dust found ☐ Lead-contaminated soil found ☐ Other______

Section 6 — Individual Conducting Lead Hazard Evaluation

Name	Telephone number
Patrick Cullip	(949) 753-7070

Address [number, street, apartment (if applicable)]	City	State	Zip Code
475 Goddard	Irvine	CA	92618

CDPH certification number	Signature	Date
24783		4/23/14

Name and CDPH certification number of any other individuals conducting sampling or testing (if applicable)

Section 7 — Attachments

A. A foundation diagram or sketch of the structure indicating the specifc locations of each lead hazard or presence of lead-based paint;
B. Each testing method, device, and sampling procedure used;
C. All data collected, including quality control data, laboratory results, including laboratory name, address, and phone number.

First copy and attachments retained by inspector

Second copy and attachments retained by owner

Third copy only (no attachments) mailed or faxed to:

California Department of Public Health
Childhood Lead Poisoning Prevention Branch Reports
850 Marina Bay Parkway, Building P, Third Floor
Richmond, CA 94804-6403
Fax: (510) 620-5656

APPENDIX G

LIMITED ASBESTOS AND LEAD PAINT SURVEY – BEACH MAINTENANCE BUILDING

July 10, 2014
Project No. 209120001

Mr. Diego Matzkin
Harley Ellis Devereaux
601 South Figueroa Street, Suite 500
Los Angeles, California 90017

Subject: Limited Asbestos and Lead Paint Survey Letter Report
Beach Maintenance Building
4320 East Olympic Plaza
Long Beach, California 90803

Dear Mr. Matzkin:

In accordance with your request, Ninyo & Moore is pleased to submit this letter report summarizing our sampling activities at the Beach Maintenance Building (BMB), 4320 East Olympic Plaza, Long Beach, California.

On July 1, 2014, a California Division of Occupational Safety and Health (DOSH) Certified Site Surveillance Technician and California Department of Public Health (CDPH) Lead Sampling Technician performed a limited asbestos and lead paint survey of the areas planned for renovation within the BMB. Sampling activities were performed under the direction of a DOSH Certified Asbestos Consultant, and a CDPH Lead Inspector/Assessor. Inspector certification documentation is provided in Attachment A.

Sampling activities included collecting bulk samples of suspect asbestos-containing materials (ACMs) which were submitted for asbestos analysis to a National Voluntary Laboratory Accreditation Program certified laboratory. Sampling activities for the limited lead survey included collecting suspect paint chip samples and submittal of these samples to a certified laboratory for lead analysis. Eight samples comprising sixteen layers of ACMs, and three paint chip samples were collected and transferred to LA Testing for laboratory analysis.

The suspect asbestos samples were analyzed using Polarized Light Microscopy with dispersion staining, for the presence and quantification of asbestos fibers, in general accordance with the

United States Environmental Protection Agency (EPA) method 600/M4-82-020. Asbestos was not detected in any of the bulk samples that were analyzed. The suspect lead paint chip samples were analyzed using flame atomic absorption spectrometry in accordance with EPA method SW 846 3050B/7000B. Based on the CDPH guidelines, 0.5 percent by weight was used as the detection limit for the paint chip samples. The three samples were below the detection limit. Asbestos and lead laboratory analysis and chain of custody records are provided in Attachment 2.

We appreciate the opportunity to be of service to you on this important project. Should you have any questions regarding this letter report, please contact us at your convenience.

Sincerely,
NINYO & MOORE

Michael S. Cushner, CAC #11-4711
Project Environmental Scientist

MSC/NA/sc

Attachments: Attachment A – Inspector Certification Documentation
Attachment B – Laboratory Analysis and Chain-of-Custody Records

Distribution: (1) Addressee (via e-mail)

ATTACHMENT A

INSPECTOR CERTIFICATION DOCUMENTATION

State of California
Division of Occupational Safety and Health
Certified Asbestos Consultant

Michael S Cushner
Name

Certification No. **11-4711**

Expires on **07/20/14**

This certification was issued by the Division of Occupational Safety and Health as authorized by Sections 7180 et seq. of the Business and Professions Code.

State of California Department of Public Health

Lead-Related Construction Certificate

Certificate Type	Expiration Date
Inspector/Assessor	09/26/2014
Project Monitor	09/26/2014

Michael S. Cushner ID #: **16953**

State of California Department of Public Health

Lead-Related Construction Certificate

Certificate Type	Expiration Date
Sampling Technician	01/09/2015

26090

Pedro Rodriguez ID #: 23793

State of California
Division of Occupational Safety and Health

Certified Site Surveillance Technician

Pedro Rodriguez-Mendez

Name

Certification No. 13-5109

Expires on 01/15/15

This certification was issued by the Division of Occupational Safety and Health as authorized by Sections 7180 et seq. of the Business and Professions Code.

ATTACHMENT B

LABORATORY ANALYSIS AND CHAIN-OF-CUSTODY RECORDS

ASBESTOS

LA Testing
11652 Knott Street Unit F5, Garden Grove, CA 92841
Phone/Fax: (714) 828-4999 / (714) 828-4944
http://www.LATesting.com gardengrovelab@latesting.com

LA Testing Order: 331412381
CustomerID: 32ninm50
CustomerPO:
ProjectID:

Attn: **Michael Cushner**
Ninyo & Moore
475 Goddard
Suite 200
Irvine, CA 92618

Phone: (949) 753-7070
Fax:
Received: 07/01/14 1:15 PM
Analysis Date: 7/2/2014
Collected:

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos % Fibrous	Non-Asbestos % Non-Fibrous	Asbestos % Type
1-Joint Compound *331412381-0001*	Kitchen/Break Rm Ceiling SE DW/JC	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
1-Drywall *331412381-0001A*	Kitchen/Break Rm Ceiling SE DW/JC	Brown/White Fibrous Heterogeneous	10% Cellulose	70% Gypsum 20% Non-fibrous (other)	**None Detected**
2-Joint Compound *331412381-0002*	Kitchen/Break Rm Wall S DW/JC	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
2-Drywall *331412381-0002A*	Kitchen/Break Rm Wall S DW/JC	Brown Fibrous Heterogeneous	10% Cellulose	70% Gypsum 20% Non-fibrous (other)	**None Detected**
3-Joint Compound *331412381-0003*	Kitchen/Break Rm Wall NW DW/JC	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
3-Drywall *331412381-0003A*	Kitchen/Break Rm Wall NW DW/JC	Brown/White Fibrous Heterogeneous	10% Cellulose	70% Gypsum 20% Non-fibrous (other)	**None Detected**
4-Finish Coat *331412381-0004*	Storage Adjacent to Kitchen Wall NE Plaster	White Non-Fibrous Homogeneous		3% Quartz 97% Non-fibrous (other)	**None Detected**
4-Base Coat *331412381-0004A*	Storage Adjacent to Kitchen Wall NE Plaster	Gray Non-Fibrous Homogeneous		3% Quartz 97% Non-fibrous (other)	**None Detected**

Analyst(s)
Christopher Miranda (16)

Michael DeCavallas, Laboratory Manager
or other approved signatory

Initial report from 07/02/2014 12:22:50

LA Testing
11652 Knott Street Unit F5, Garden Grove, CA 92841
Phone/Fax: (714) 828-4999 / (714) 828-4944
http://www.LATesting.com gardengrovelab@latesting.com

LA Testing Order:	331412381
CustomerID:	32ninm50
CustomerPO:	
ProjectID:	

Attn: **Michael Cushner**
Ninyo & Moore
475 Goddard
Suite 200
Irvine, CA 92618

Phone:	(949) 753-7070
Fax:	
Received:	07/01/14 1:15 PM
Analysis Date:	7/2/2014
Collected:	

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
5-Finish Coat *331412381-0005*	Storage Adjacent to Kitchen Wall SW Plaster	White Non-Fibrous Homogeneous		3% Quartz 97% Non-fibrous (other)	**None Detected**
5-Base Coat *331412381-0005A*	Storage Adjacent to Kitchen Wall SW Plaster	Gray Non-Fibrous Homogeneous		3% Quartz 97% Non-fibrous (other)	**None Detected**
6-Finish Coat *331412381-0006*	Hall Near Kitchen Entry Wall N Plaster	White Non-Fibrous Homogeneous		3% Quartz 97% Non-fibrous (other)	**None Detected**
6-Base Coat *331412381-0006A*	Hall Near Kitchen Entry Wall N Plaster	Gray Non-Fibrous Homogeneous		3% Quartz 97% Non-fibrous (other)	**None Detected**
7-Floor Tile *331412381-0007*	Kitchen/Break Rm Floor Center 12x12 Gray FT	Beige Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
7-Mastic *331412381-0007A*	Kitchen/Break Rm Floor Center 12x12 Gray FT	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
8-Cove Base *331412381-0008*	Kitchen/Break Rm Counter Wall Under Sink	Brown Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
8-Mastic *331412381-0008A*	Kitchen/Break Rm Counter Wall Under Sink	Brown Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**

Analyst(s)
Christopher Miranda (16)

Michael DeCavallas, Laboratory Manager
or other approved signatory

Initial report from 07/02/2014 12:22:50

#331412381

Sheet 1 of 1

ASBESTOS BULK SAMPLE DATA SHEET

Ninyo & Moore 475 Goddard, Suite 200 Irvine, CA 92618 Tel: (949) 753-7070 Fax: (949) 753-7071	**Project Name :** Project No.: Project Manager: Michael Cushner	Date Sampled: 7-1-14 Sampled By: Pedro Rodriguez Sampled By: Date Sampled:	**Laboratory:** LA Testing- 11652 Knott Street Garden Grove, Ca Tel: Fax:

CHAIN OF CUSTODY INFORMATION:

Relinquished By: (sign/print)	Company	Date	Time (24 hr.)	Received By: (sign/print)	Laboratory
[signature] / Pedro Rodriguez	Ninyo & Moore	7/1/14	1312	/	
/				/	

LabID	Sample ID	Building Number	Sample Location	HA No.	Sample Description	Quantity (SF/LF/EA)	Friable (Y/N)	Condition
	1	Mechanic/ Maintinue	Kitchen/Break Room - Ceiling -SE	1	Drywall w/ Joint Comp.	400 SF	N	Good
	2	↓	-Wall -S	1	↓	↓	↓	↓
	3	↓	-Wall NW	1	↓	↓	↓	↓
	4	↓	Storage adjacent to Kitchen - Wall -NE	2	Plaster	300 SF	↓	↓
	5	↓	-Wall SW	2	↓	↓	↓	↓
	6	↓	Hallway near Kitchen Entry -Wall N	2	↓	↓	↓	↓
	7	↓	Kitchen/Break Room - Floor Center	3	12"x12" grey floor tile	100 SF	↓	↓
	8	↓	- Wall under Counter/ Sink	4	Analyze only → w/ mastic 4" Brown Covebase	6 SF	↓	↓

* 24 HR TAT

* PLM EPA 600/R-93/116

[signature] 7/1/14 Ninyo & Moore 1:18 pm

OrderID: 331412381

LEAD PAINT CHIP

LA Testing

11652 Knott Street Unit F5, Garden Grove, CA 92841
Phone/Fax: (714) 828-4999 / (714) 828-4944
http://www.LATesting.com gardengrovelab@latesting.com

LA Testing Order: 331412382
CustomerID: 32ninm50
CustomerPO:
ProjectID:

Attn: **Michael Cushner**
Ninyo & Moore
475 Goddard
Suite 200
Irvine, CA 92618

Phone: (949) 753-7070
Fax:
Received: 07/01/14 1:15 PM
Collected:

Test Report: Lead in Paint Chips by Flame AAS (SW 846 3050B/7000B)*

Lab ID:	*Analyzed*	*RDL*	*Lead Concentration*	*Notes*
0001	7/2/2014	0.010 % wt	0.064 % wt	Site: Kitchen/Break Room Ceiling SE White Paint
Client Sample 1				***Collected:***
0002	7/2/2014	0.010 % wt	0.049 % wt	Site: Kitchen/Break Room Wall S White Paint
Client Sample 2				***Collected:***
0003	7/2/2014	0.010 % wt	0.026 % wt	Site: Kitchen/Break Room Wall NW White Paint
Client Sample 3				***Collected:***

Michael Chapman

Michael Chapman, Laboratory Manager
or other approved signatory

*Analysis following Lead in Paint by EMSL SOP/Determination of Environmental Lead by FLAA. Reporting limit is 0.010 % wt based on the minimum sample weight per our SOP. Unless noted, results in this report are not blank corrected. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities. Samples received in good condition unless otherwise noted. "<" (less than) result signifies that the analyte was not detected at or above the reporting limit. Measurement of uncertainty is available upon request. The QC data associated with the sample results included in this report meet the recovery and precision requirements established by the AIHA-LAP, unless specifically indicated otherwise.

Samples analyzed by LA Testing Garden Grove, CA AIHA-LAP, LLC--ELLAP Accredited #101650, CA ELAP 1406

Initial report from 07/02/2014 10:31:32

Lead Paint Chips

#331412382

Sheet 1 of 1

~~ASBESTOS BULK~~ SAMPLE DATA SHEET

Ninyo & Moore 475 Goddard, Suite 200 Irvine, CA 92618 Tel: (949) 753-7070 Fax. (949) 753-7071	**Project Name :** Project No.: Project Manager. Michael Cushner	Date Sampled: 7-1-14 Sampled By: Pedro Rodriguez Sampled By: Date Sampled:	**Laboratory:** LA Testing- 11652 Knott Street Garden Grove, Ca Tel Fax.

CHAIN OF CUSTODY INFORMATION

Relinquished By: (sign/print)	Company	Date	Time (24 hr.)	Received By: (sign/print)	Laboratory
[signature] / Pedro Rodriguez	Ninyo & Moore	7/1/14	1312	/	
/				/	

LabID	Sample ID	Building Number	Sample Location	HA No.	Sample Description	Quantity (SF/LF/EA)	Friable (Y/N)	Condition
	1	Mechanical Maintenance	Kitchen/Break Room ceiling SE	1	white paint	400SF	N	Intact
	2	↓	wall -S.	1	↓	↓	↓	↓
	3	↓	wall NW	1	↓	↓	↓	↓

* Flame Atomic Absorption : Chips SW 846-7000 B or AOAC 974.02

* 24hr TAT

[signature] 7/1/14 1:15pm

UPDATES TO THE PHASE I

February 24, 2015
Project No. 208885001

Mr. Patrick Zabrocki and
Ms. Lisa Williams
LSA Associates, Inc.
20 Executive Park, Suite 200
Irvine, California 92614

Subject: Update to Hazardous Materials Assessment (June 7, 2013) Prepared for Belmont Pool Revitalization Project

Reference: Ninyo & Moore, 2013, Hazardous Materials Assessment, Belmont Pool Revitalization Project, Long Beach, California, (draft) dated June 7.

Dear Mr. Zabrocki and Ms. Williams:

Ninyo & Moore prepared the referenced Hazardous Materials Assessment (HMA) for the Belmont Pool Revitalization Project (Project Site) in June 2013. As requested by LSA Associates, Inc. (LSA), Ninyo & Moore is providing updated information and recommendations regarding two issues: methane and off site Leaking Underground Storage Tank (LUST) facilities.

As part of the HMA, Ninyo & Moore determined that a plugged and abandoned oil well, "Core Hole" 6, is located approximately 2,000 feet (ft) southwest, and a plugged and abandoned dry hole, "Core Hole" 8, is located approximately 2,500 ft southeast of the Belmont Pool Project site. "Water Source Well" B-1 is located in Island White, approximately 5,000 ft southwest of the Project site. Due to the high level of oil availability and production at the Wilmington Oil Field, the presence of subsurface methane gas is a possibility. However, based on the distance to known oil wells in the vicinity of the site, the potential presence of methane is low. The low potential for encountering methane during excavation for the pool would be managed through compliance with a Contingency Plan that addresses the potential to encounter unknown hazards or hazardous substances during construction activities that would be approved by City of Long Beach (City) Fire Department.

The HMA identified two gas stations (ARCO No. 163 and UNOCAL No. 5939) listed on the leaking underground storage tank (LUST) database. These facilities are approximately 0.15 mile northeast and north of the Project site and in a hydrogeologic up-gradient position relative to the site. Based on the facilities' duration in the site area, their proximity and hydrogeologic up-gradient position relative to the site (i.e., groundwater flows towards the project site), and the fact that contaminated groundwater was reported beneath the two facilities, the HMA concluded that these gas stations are potential environmental concerns.

A review of the State Water Resources Control Board's GeoTracker website on February 16, 2015, indicated that the UNOCAL station has a case closed status. The ARCO station is in the process of preparing a closure plan. In addition, based on the groundwater sampling performed on November 25, 2014, no petroleum impact was detected in the monitoring well closest to the Project site.

In July 2014, groundwater sampling was conducted for the demolition activities of the former Belmont Pool facility. Results of the groundwater testing revealed concentrations that exceeded the National Pollutant Discharge Elimination System (NPDES) screening levels for some metals (beryllium, copper mercury, nickel, lead, antimony, and zinc) and for some dissolved metals (cadmium, copper, mercury, nickel, lead, and antimony). However, no detectable constituents of gasoline were reported by the laboratory.

Based on the groundwater sampling, there is a potential to encounter dissolved metals levels in groundwater in excess of the allowable limits for discharge to the stormdrain system. This will be addressed through compliance with the applicable NPDES permit. However, the potential that groundwater is impacted by petroleum hydrocarbons beneath the site is low. As discussed above, compliance with the Contingency Plan would address hazardous substances such as petroleum hydrocarbons in groundwater during construction activities.

We appreciate the opportunity to be of service to you on this project.

Sincerely,
NINYO & MOORE

John Jay Roberts, PG, CEG
Senior Geologist

JJR/NA/mlc

Distribution: (1) Addressee (via e-mail)

PHASE I HAZARDOUS MATERIALS ASSESSMENT

PHASE I
HAZARDOUS MATERIALS ASSESSMENT
BELMONT PLAZA POOL
4000 EAST OLYMPIC PLAZA
LONG BEACH, CALIFORNIA

PREPARED FOR:
LSA Associates
703 Palomar Airport Road, Suite 260
Carlsbad, California 92011

PREPARED BY:
Ninyo & Moore
Geotechnical and Environmental Sciences Consultants
475 Goddard, Suite 200
Irvine, California 92618

June 7, 2013
Project No. 208885001

June 7, 2013
Project No. 208885001

Ms. Mona McGuire DeLeon, AICP
703 Palomar Airport Road, Suite 260
Carlsbad, California 92011

Subject: Phase I Hazardous Materials Assessment
Belmont Plaza Pool
4000 East Olympic Plaza
Long Beach, California

Dear Ms. McGuire DeLeon:

In accordance with our proposal dated May 10, 2013, Ninyo & Moore has performed a Phase I Hazardous Materials Assessment of the above-referenced property (site). The attached report presents our methodology, findings, opinions, and conclusions regarding the environmental conditions at the site.

We appreciate the opportunity to be of service to you on this project.

Sincerely,
NINYO & MOORE

Felipe Vazquez
Senior Staff Engineer

Beth A. Padgett
Project Geologist

John Jay Roberts, PG, CEG
Senior Geologist

FV/BAP/JJR/sc

Distribution: (1) Addressee (via e-mail)

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Tables

Figures

Appendices

1. INTRODUCTION

LSA Associates (LSA) authorized Ninyo & Moore to perform a Phase I Hazardous Materials Assessment (HMA) of the Belmont Plaza Pool property at 4000 East Olympic Plaza in the city of Long Beach, California (site; Figure 1). The Phase I HMA was conducted in general accordance with Ninyo & Moore's proposal dated May 10, 2013. The following sections identify the purpose, involved parties, scope of services, and limitations and exceptions associated with the Phase I HMA.

1.1. Purpose

The purpose of this HMA was to identify existing or potential soil or groundwater contamination at the site due to current or past land uses at the site. Information herein is intended to aid LSA during their preparation of environmental documents for the Belmont Plaza Pool revitalization project.

1.2. Involved Parties

Mr. Felipe Vazquez of Ninyo & Moore conducted the site reconnaissance and regulatory inquiries. Ms. Beth Padgett and Mr. John Jay Roberts of Ninyo & Moore performed project oversight and quality review.

1.3. Scope of Services

Ninyo & Moore's scope of services for this Phase I HMA includes the activities listed below.

- Reviewed readily available maps and reports pertaining to the site, as provided by the client.
- Performed a site reconnaissance to visually identify areas of possibly contaminated surficial soil or surface water, improperly stored hazardous materials, possible sources of polychlorinated biphenyls (PCBs), and possible risks of contamination from activities at the site and adjacent properties.
- Reviewed readily available local regulatory agency files for the site.
- Reviewed available regulatory agency databases for the site and for properties located within a specified radius of the site. The purpose of this review was to evaluate the possible environmental impact to the site. These databases list locations of known

hazardous waste sites, landfills, leaking underground storage tanks (LUSTs), permitted facilities that utilize underground storage tanks (USTs), and facilities that use, store, or dispose of hazardous materials.

- Prepared this Phase I HMA report documenting findings and providing opinions and conclusions regarding possible environmental impacts at the site.

1.4. Limitations and Exceptions

The environmental services described in this report have been conducted in general accordance with current regulatory guidelines and the standard of care exercised by environmental consultants performing similar work in the project area. No warranty, expressed or implied, is made regarding the professional opinions presented in this report. Please note that this study did not include an evaluation of geotechnical conditions or potential geologic hazards. In addition, it should be noted that this Phase I HMA does not include analysis of the following: asbestos-containing materials (ACMs), methane gas, radon, lead-based paint (LBP), lead in drinking water, wetlands, regulatory compliance, cultural and historic resources, industrial hygiene, health and safety, ecological resources, endangered species, indoor air quality, and high voltage power lines.

This document is intended to be used only in its entirety. No portion of the document, by itself, is designed to completely represent any aspect of the project described herein.

Ninyo & Moore should be contacted if the reader requires any additional information or has questions regarding the content, interpretations presented, or completeness of this document.

Our findings, opinions, and conclusions are based on an analysis of the observed site conditions and the referenced literature. It should be understood that the conditions of a site can change with time as a result of natural processes or the activities of man at the subject site or nearby sites. In addition, changes to the applicable laws, regulations, codes, and standards of practice may occur due to government action or the broadening of knowledge. The findings of this report may, therefore, be invalidated over time, in part or in whole, by changes over which Ninyo & Moore has no control. Ninyo & Moore cannot warrant or guarantee that not finding indicators of any particular hazardous material means that this particular hazardous material or any other hazardous materials do not exist on the site. Additional research, including invasive testing, can reduce the uncertainty, but no techniques now commonly employed can eliminate the uncertainty altogether.

1.5. User Reliance

This report may be relied upon and is intended exclusively for use by the client. Any use or reuse of the findings, opinions, and/or conclusions of this report by parties other than the client is undertaken at said parties' sole risk.

1.6. Physical Limitations

Physical limitations were not encountered during the site reconnaissance.

1.7. Data Gaps

Data gaps were not encountered during this Phase I HMA.

2. GENERAL SITE CHARACTERISTICS

The following sections describe the location and the current uses of the site. The uses of adjacent properties are also described.

2.1. Location

The site is an approximately 6-acre, irregularly-shaped property at 4000 and 4020 East Olympic Plaza in the city of Long Beach, California (Figure 1). The site is occupied by the City of Long Beach, Parks, Recreation and Marine (at 4000 East Olympic Plaza) and occupied by La Palapa del Mar restaurant (at 4020 East Olympic Plaza).

2.2. Current Title Information

A Title Report was not provided to Ninyo & Moore for review.

2.3. Adjacent Properties

Table 1 – Adjacent Properties

Location	Current Occupant(s)
North	East Olympic Plaza, beyond which are various retail businesses (such as Belmont Shore Children’s Center, Tidy Dog Self-Serve Dog Wash, and Chuck’s Coffee Shop)
South	The beach and the Pacific Ocean
East	Paved parking spaces and the City of Long Beach, Beach Maintenance, Parks and Recreation
West	Paved parking lot and the beach

2.4. Site Description and Current Site Uses/Operations

The following paragraphs present a description of the structures present at the site, the tenants currently occupying the site, if any, the activities being conducted on-site, the heating and cooling systems utilized in the site buildings, the sewage disposal system, and the potable water provider for the site.

2.4.1. Site Description

The Belmont Plaza Pool property is an approximately 6-acre parcel of land (Figure 2), occupied with an indoor Olympic-size pool, an administration office, an outdoor pool, and a restaurant.

The central portion of the main building consists of an indoor Olympic-size pool that was used for swimming events and recreational swimming. The eastern portion of the main building is utilized as an administration office with men’s and women’s locker rooms. The western portion of the main building is utilized as a restaurant and banquet hall.

There is a portable building located on the northeast corner of the main building that is used for office space.

An outdoor pool area is located on the eastern portion of the property with two small storage sheds for storing pool treatment chemicals and other materials.

2.4.2. Occupants

The site is currently occupied by the City of Long Beach, Parks, Recreation and Marine and La Palapa del Mar restaurant.

2.4.3. Heating and Cooling Systems

Heating and cooling systems are powered by electricity and natural gas. Southern California Edison provides electricity to the site. The Long Beach Gas and Oil Department provides natural gas to the site.

2.4.4. Sewage Disposal/Septic Systems

The Long Beach Water Department provides sewer service to the site.

2.4.5. Potable Water

The Long Beach Water Department provides potable water to the site.

3. SITE RECONNAISSANCE

On May 29, 2012, Mr. Felipe Vazquez of Ninyo & Moore conducted site reconnaissance. The reconnaissance involved a visit to the site and visual observations of adjoining properties. Weather conditions were sunny and clear at the time of the site reconnaissance. Selected photographs taken during the site reconnaissance are included in Appendix A.

3.1. Physical Limitations

Major physical limitations were not encountered during the site reconnaissance. At the time of the site reconnaissance, access to La Palapa del Mar restaurant was limited to the kitchen area and the banquet area on the second floor of the building. The site contact did not have keys to access the first floor of the restaurant.

3.2. Use and Storage of Hazardous Substances and Petroleum Products

Two areas where hazardous waste is stored were observed within the site. Two 150-gallon aboveground storage tanks (ASTs), one containing hydrochloric acid and the other, sodium hypochlorite, were observed within a storage shed located at the northwest corner of the outdoor pool area. A 100-gallon AST containing hydrochloric acid, and a 200-gallon AST with secondary containment containing sodium hypochlorite were observed within the eastern portion of the indoor Olympic pool area. Significant evidence of releases or spills were not observed at these areas and are therefore not considered environmental concerns.

3.3. Storage and Disposal of Hazardous Wastes

Storage and disposal of hazardous waste was not observed during our site reconnaissance.

3.4. Unidentified Substance Containers

Unidentified substance containers were not observed during our site reconnaissance.

3.5. Aboveground and Underground Storage Tanks (ASTs and USTs)

ASTs were observed in the outdoor pool area and within the indoor Olympic pool building (Section 3.2). Detailed AST information can be found in Table 2. USTs were not encountered during the site reconnaissance. Evidence of USTs were not observed during our site reconnaissance.

Table 2 – AST Information

Area	Location	Tank Capacity (Gallons)	Contents	Comments
Outdoor Pool	Northwestern portion	150	Sodium Hypochlorite	Minor staining observed, no secondary containment
	Northwestern portion	150	Hydrochloric Acid	No staining observed, no secondary containment
Indoor Olympic Pool Building	Western portion	200	Sodium Hypochlorite	No staining observed, secondary containment noted
	Western Portion	100	Hydrochloric Acid	No staining observed, no secondary containment

3.6. Evidence of Releases

Minor staining around the 150-gallon AST containing hydrochloric acid was observed. The floor near the AST was in good condition. Other evidence of chemical releases on site (i.e., odors, stressed vegetation, stains, leaks, pools of liquids, and spills) was not observed during our site reconnaissance.

3.7. Polychlorinated Biphenyls (PCBs)

Electrical transformers, which can be a source of PCBs, were not observed during our site reconnaissance.

3.8. Suspect Asbestos-Containing Materials (ACMs)

Based on the construction date of the site buildings (prior to 1980), ACMs may be present on building materials at the site. Suspect ACMs were observed to be in good condition.

3.9. Lead-Based Paint (LBP)

Based on the construction date of the site buildings (prior to 1980), LBP may be present on building materials at the site. Painted surfaces were observed to be in good condition.

3.10. Wastewater Systems

Wastewater systems were not observed at the site during the site reconnaissance.

3.11. Storm Water Systems

Storm water catch basins and drains were not observed at the site during the site reconnaissance.

3.12. Wells

Wells were not observed at the site during the site reconnaissance.

3.13. Adjoining Properties

The following table describes the current uses of properties surrounding the site. Ninyo & Moore did not identify a recognized environmental concern (REC) associated with these properties.

Adjoining Properties

Location	Adjoining Properties and Associated Land Use
North	East Olympic Plaza beyond which are commercial properties such as the Belmont Shore Children's Center, Yankee Doodles, Tidy Dog, and Chuck's Coffee Shop.
South	The Pacific Ocean
East	A parking lot and the Beach Maintenance, Park, and Recreation facility.
West	Surf Terrace Apartments and a parking lot

3.14. Other On-Site and Off-Site Potential Environmental Concerns (PECs)

On- or off-site PECs were not observed.

4. PHYSICAL SETTING

The following sections discuss the topography, geology, and hydrology at the site.

4.1. Site Topography

Based on the review of the United States Geological Survey (USGS) 7.5 Minute Series, Long Beach, California, Topographic Quadrangle Map, dated 1964 and photorevised in 1981, the site is situated at an approximate surface elevation of less than 5 feet above mean sea level. The site slopes gently towards the south.

4.2. Geology

The site is underlain by relatively shallow fill soils overlying unconsolidated alluvial deposits. The fill soils in the areas consist of silty sand and sandy silt and range from approximately ½ to 2½ feet in thickness. The alluvial sediments at the site consist of interbedded lenses of loose to medium dense, sand, sand with silt, silty sand, sandy silt, silt, clayey sand, and clay.

4.3. Site Hydrology

The following sections discuss the site hydrology in terms of both surface waters and groundwater.

4.3.1. Surface Waters

No natural surface waters are located on the site. The Pacific Ocean is located within 500 feet south of the site.

4.3.2. Groundwater

Groundwater information for the site was not immediately available. Ninyo & Moore reviewed the State Water Resources Control Board's GeoTracker website for groundwater information in the site vicinity. According to the GeoTracker website, the Atlantic Richfield Company Semi-Annual Groundwater Report dated January 2013, at 3955 East Ocean Boulevard, approximately 700 feet northwest and upgradient of the site, measured depth to groundwater at approximately 13 to 18 feet below ground surface. Groundwater flow is approximately to the southwest (Stantec, 2013).

5. HISTORICAL LAND USE

Historical aerial photographs, fire insurance rate maps, and oil and gas maps were reviewed as part of Ninyo & Moore's Phase I HMA for the site.

5.1. Historical Aerial Photographs

Historical aerial photographs for selected years between 1928 and 2012 were provided by Environmental Data Resources, Inc. (EDR). A summary of the aerial photograph review is presented in following table.

Table 3 – Aerial Photo Review

Year	Site	Adjacent Areas
1928	Commercial properties	Vacant properties (north and east), and residential properties (west)
1938	Property appeared similar to the 1928 aerial photograph.	Commercial properties (north), vacant property (north and east), and residential properties (west)
1947	Property appeared similar to the 1938 aerial photograph.	Commercial properties (north), vacant properties (north and east), and residential buildings (west)
1956	Property appeared similar to the 1947 aerial photograph.	Commercial properties (north), parking lot (east), and residential properties (west)
1968	Area appeared to be redeveloped with the current building and outdoor pool area, observed at the time of the site reconnaissance.	Commercial properties (north), parking lot and observed maintenance building (east), residential properties and parking lot (west)
1976-2005	The property appeared similar to the 1968 aerial photograph.	Same as 1968 aerial photograph.
2012	The property appears similar to that observed at the time of the site reconnaissance.	Same to that observed at the time of the site reconnaissance

The 1928 through 1956 aerial photographs show the site occupied with commercial structures. The 1968 through 2012 aerial photographs show the site occupied with current structures. Environmental concerns were not observed in the aerial photographs.

5.2. Fire Insurance Rate Maps

Sanborn Fire Insurance Rate Maps for the subject site and surrounding area were requested from EDR. EDR provided Sanborn maps for the years 1923, 1950, and 1963. In 1923, the central and eastern portion of the site appeared to be vacant while the western portion appeared to have public restrooms, a shop, and residential properties. In 1950, the Belmont Recreation Center appeared to occupy the central and eastern portions of the site. The western portion of the site remained unchanged from the 1923 map. In 1963, the central portion of the property appeared to be vacant, the northeastern portion appeared to have a maintenance shop, and the western portion appeared to have three single story dwellings and in two-story dwelling.

5.3. Oil and Gas Maps

According to the Regional Wildcat Map W1-6, supplied by the State of California, Department of Conservation, Division of Oil, Gas, and Geothermal Resources dated August 16, 2005, the site is located within the Wilmington oil field. A plugged and abandoned oil well, 'Core Hole' 6, is located approximately 2,000 feet southwest and a plugged and abandoned dry hole, 'Core Hole' 8 is located approximately 2,500 feet southeast of the site. 'Water Source Well' B-1 is located in Island White, approximately 5,000 southwest of the site. Because the site is within an oil field, the suspected presence of methane in soil gas is a PEC.

6. ENVIRONMENTAL DATABASE SEARCH

A computerized, environmental information database search was performed by EDR on May 22, 2013. A copy of the EDR report is included in Appendix C.

The following paragraphs describe the databases that contain noted properties of environmental concern, and include a discussion of the regulatory status of the facilities and potential environmental impact to the subject site. Based on our review of the GeoTracker website operated by the Regional Water Quality Control Board (RWQCB) and hydrologic information contained on that website, discussed in Section 4.3.2 of this report, shallow groundwater flow in the site vicinity is generally to the southwest.

6.1. National Priorities List (NPL): Distance Searched – 1 mile

The NPL is the United States Environmental Protection Agency (EPA) database of uncontrolled or abandoned hazardous waste properties listed for priority remedial actions under the Superfund program.

Neither the site nor properties located within the searched distance are listed on this database.

6.2. Proposed and Delisted National Priorities List (NPL): Distance Searched – ¼ mile

The Proposed NPL database lists properties that are currently being evaluated for priority remedial actions for the Superfund program. The Delisted NPL database includes properties that are deleted from the NPL database based upon the National Oil and Hazardous Substances Pollution Contingency Plan. This deletion takes place after no further response to the NPL is appropriate.

Neither the site nor properties located within the searched distance are listed on either database.

6.3. Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) List: Distance Searched – ¼ mile

The CERCLIS database contains properties which are either proposed or on the NPL and properties which are in the screening and assessment phase for possible inclusion on the NPL.

Neither the site nor properties located within the searched distance are listed on this database.

6.4. CERCLIS/No Further Remedial Action Planned (NFRAP) List: Distance Searched – ¼ mile

CERCLIS sites designated as NFRAP have been removed from the CERCLIS database following an initial investigation where no contamination was found, contamination was removed quickly without the need for the site to be placed on the NPL, or the contamination was not serious enough to require Federal Superfund action or NPL consideration.

Neither the site nor properties located within the searched distance are listed on this database.

6.5. Corrective Action Report (CORRACTS): Distance Searched – ¼ mile

The EPA maintains this database of Resource Conservation and Recovery Act (RCRA) facilities that are undergoing corrective action. A corrective action order is issued when a release of hazardous waste or constituents into the environment from a RCRA facility has occurred.

Neither the site nor properties located within the searched distance are listed on this database.

6.6. Resource Conservation and Recovery Act (RCRA) Treatment, Storage and Disposal (TSD) Facilities List: Distance Searched – ½ mile

The RCRA TSD database is a compilation by the EPA of facilities that report generation, storage, transportation, treatment, or disposal of hazardous waste.

Neither the site nor properties located within the searched distance are listed on this database.

6.7. Resource Conservation and Recovery Act (RCRA) Generators List: Distance Searched – Site and Adjacent

This list identifies sites that generate hazardous waste as defined by RCRA. Inclusion on this list is for permitting purposes and is not indicative of a release.

The site was not listed on this database. 1 HR MOTO PHOTO at 3870 East Ocean Boulevard, adjacent to the northwest and upgradient of the site, was listed on this database as small quantity generator, which generates between 100 and 1,000 kilograms of hazardous waste per month. This listing is not indicative of a release and would not be considered a REC for the site.

6.8. Emergency Response Notification System (ERNS) List: Distance Searched – Site

The ERNS database contains information of reported releases of oil and hazardous substances and is maintained by the EPA.

The site is not listed on this database.

6.9. United States Engineering Controls: Distance Searched – ¼ mile

This database is an EPA listing of facilities with engineering controls in place, such as various forms of caps, building foundations, liners, and treatment methods intended to eliminate pathways for regulated substances to enter environmental media or affect human health.

Neither the site nor properties located within the searched distance are listed on this database.

6.10. United States Institutional Controls: Distance Searched – ¼ mile

This database is an EPA listing of facilities with institutional controls in place, such as administrative measures, groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements, intended to prevent exposure to contaminants remaining on site.

Neither the site nor properties located within the searched distance are listed on this database.

6.11. State Sites: Distance Searched – ¼ mile

The State Sites database consists of potential or confirmed hazardous substance release properties. Ninyo & Moore reviewed the State Response Sites database for this information.

Neither the site nor properties located within the searched distance are listed on this database.

6.12. State CERCLIS: Distance Searched – ¼ mile

The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's EnviroStor database identifies facilities that have known contamination of sites for which there may be reasons to investigate further.

Neither the site nor properties located within the searched distance are listed on this database.

6.13. Solid Waste Landfill Sites (SWL): Distance Searched – ¼ mile

The SWL database consists of open and closed solid waste disposal facilities and transfer stations. The data comes from the Integrated Waste Management Department's Solid Waste Information System database.

Neither the site nor properties located within the searched distance are listed on this database.

6.14. State Leaking Underground Storage Tank (LUST) Lists: Distance Searched – ¼ mile

Databases of the LUST information system are maintained by the California State RWQCBs.

The site was not listed on the LUST database. Six listings, representing four facilities were listed on the LUST database.

Listing and Address	Distance and Direction	Gradient Direction	Regulatory Status	Closure Date	Environmental Concern (Y/N)
Tichy Property (Former Gas SS) 4000 Ocean Boulevard E	0.09 mile north	upgradient	Closed	08/26/2002	N
Olympic Plaza 4320 Olympic Plaza E	0.10 mile east	crossgradient	Closed	09/21/1995	N
ARCO #1063 3955 Ocean Boulevard E	0.15 mile north-northeast	upgradient	Open - Verification Monitoring	N/A	

Listing and Address	Distance and Direction	Gradient Direction	Regulatory Status	Closure Date	Environmental Concern (Y/N)
UNOCAL #5939 76 Termino Avenue	0.116 mi north	upgradient	Open - Verification	N/A	
Notes: N – No N/A – Not Applicable Y – Yes					

Based on the current regulatory status, the potential contaminants of concern, the media affected, location, and lack of information, ARCO #1063 at 3955 Ocean Boulevard and UNOCAL #5939 at 76 Termino Avenue, both located northwest and upgradient to the site, are considered a PEC.

DRAFT

6.15. Underground Storage Tank (UST) Registration List: Distance Searched – Site and Adjacent

According to EDR, UST records are provided by the Department of Building and Fire Safety. Inclusion of facilities on this list does not necessarily indicate a release.

The site is not listed on this database. The adjacent property, Beach Maintenance, Park and Recreation at 4130 East Ocean Boulevard adjacent to the west and crossgradient of the site is listed on this database. Additional information was not provided for the listed property. This facility is not listed on the LUST database, and this listing alone is not indicative of a release and would not be considered a PEC to the site.

6.16. Permitted Aboveground Storage Tank (AST) List: Distance Searched – Site and Adjacent

According to EDR, AST records are provided by the Department of Building and Fire Safety. Inclusion of facilities on this list does not necessarily indicate a release.

The site and adjacent properties are not listed on this database.

6.17. State Engineering Controls: Distance Searched – ¼ mile

This database is a California Environmental Protection Agency (Cal-EPA) listing of facilities with engineering controls in place, such as various forms of caps, building foundations, liners, and treatment methods intended to eliminate pathways for regulated substances to enter environmental media or affect human health.

Neither the site nor properties located within the searched distance are listed on this database.

6.18. State Institutional Controls: Distance Searched – ¼ mile

This database is a Cal-EPA listing of facilities with institutional controls in place, such as administrative measures, groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements, intended on preventing exposure to contaminants remaining on site.

Neither the site nor properties located within the searched distance are listed on this database.

6.19. Brownfields: Distance Searched – ¼ mile

This database is a DTSC tracking system of California Brownfields sites.

Neither the site nor properties located within the searched distance are listed on this database.

6.20. State Other: Distance Searched – ½ mile

This database is a DTSC database of sites with known contamination or uncharacterized properties where further studies may reveal problems.

Neither the site nor properties located within the searched distance are listed on this database.

6.21. Indian Reservation: Distance Searched – ¼ mile

USGS map layer portrays Indian administered land within the United States with an area equal to or greater than 640 acres.

No Indian reservation land was found to be within the searched distance.

6.22. Indian Leaking Underground Storage Tank (LUST): Distance Searched – ½ mile

This database is a database maintained by the EPA of LUSTs on Indian land in Arizona, California, New Mexico, and Nevada.

Neither the site nor properties located within the searched distance are listed on this database.

6.23. Indian Underground Storage Tank (UST): Distance Searched – ¼ mile

This database is a database maintained by the EPA of USTs on Indian land.

Neither the site nor properties located within the searched distance are listed on this database.

7. ENVIRONMENTAL RECORDS REVIEW

Ninyo & Moore requested to review records from the City of Long Beach Fire Department (LBFD), Los Angeles Department of Public Works (LADPW), City of Long Beach Health and Human Services (LBHHS), DTSC, RWQCB, and the South Coast Air Quality Management District (SCAQMD).

7.1. City of Long Beach Fire Department (LBFD)

Ninyo & Moore made a request to the LBFD to review records that may be available for the site address. According to the LBFD, the site was cited for a minor violation on April 29, 2013, for failing to submit a Business Emergency Plan. This minor violation does not present an environmental concern.

7.2. Los Angeles Department of Public Works (LADPW)

Ninyo & Moore made a request to the LADPW to review records that may be available for the site address. According to the LADPW, no records for the site address were found.

7.3. City of Long Beach Health and Human Services (LBHHS)

Ninyo & Moore made a request to the LBHHS to review records that may be available for the site address. According to the LBHHS, there is no information on file for the site.

7.4. Department of Toxic Substances Control

Ninyo & Moore made requests to the DTSC – Cypress and Chatsworth Offices to review records that may be available for the site address. According to the DTSC – Cypress Office, no such records exist for the site address. The DTSC – Chatsworth Office has not yet provided a response to our request. If the DTSC – Chatsworth Office has records relating to the site that contain environmental concerns, the report will be revised to include such information.

7.5. Regional Water Quality Control Board

Ninyo & Moore made requests to the RWQCB to review records that may be available for the site address. The RWQCB has not yet provided a response to our request. If the RWQCB has records relating to the site that contain environmental concerns, the report will be revised to include such information.

7.6. South Coast Air Quality Management District

Ninyo & Moore reviewed the SCAQMD's Facility Information Detail Search website for permits regarding the site address. According to the SCAQMD, records were not available for the site.

8. CONCLUSIONS

Ninyo & Moore completed a Phase I HMA for the Belmont Plaza Pool at 4000 East Olympic Plaza in Long Beach, California. The Phase I HMA revealed the following potential issues of concern:

- **Building Materials** – Based on the dates of construction (from at least 1968), site buildings designated for future demolition or renovation may contain asbestos or LBP.

- **Hazardous Materials** – Two areas where hazardous waste is stored were observed within the site. Two 150-gallon ASTs, one containing hydrochloric acid and the other, sodium hypochlorite, were observed within a storage shed located at the northwest corner of the outoutdoor pool area. A 100-gallon AST containing hydrochloric acid and a 200-gallon AST with secondary containment containing sodium hypochlorite were observed within the eastern portion of the indoor olympic pool area. Evidences of releases or spills were not observed at these areas and are therefore not considered environmental concerns.

- **Environmental Database Report** – The Belmont Plaza Pool was not listed in the environmental databases searched by EDR.

- Because the site is within an oil field, the suspected presence of methane in soil gas is a PEC.

- **Off-Site Issues** – Based on the current regulatory status, the potential contaminants of concern, the media affected, location, and lack of information, ARCO #1063 at 3955 Ocean Boulevard and UNOCAL #5939 at 76 Termino Avenue, both located northwest and upgradient to the site, are considered a PEC.

9. PROJECT IMPACTS AND MITIGATION MEASURES

The following paragraphs discuss the Potential Significant Project Impacts, Feasible Mitigation Measures, and Potential Project Impacts not Fully Mitigated to Less than Significant.

9.1. Potential Significant Project Impacts

Potential Significant Project Impacts include the known or probable presence of soil contamination where remediation has not been performed, is incomplete, or is not documented. Potential Significant Project Impacts also include asbestos and LBP in buildings that may be demolished or renovated. The following direct Potential Significant Project Impacts have been identified:

- **Building Materials** – Demolition of structures built prior to 1980 may result in the exposure of the public and/or the environment to LBP and/or ACMs in buildings.

- Because the site is within an oil field, the suspected presence of methane in soil gas is a PEC.

- **Off-Site Issues** – Based on the current regulatory status, the potential contaminants of concern, the media affected, location, and lack of information, ARCO #1063 at 3955 Ocean Boulevard and UNOCAL #5939 at 76 Termino Avenue, both located northwest and upgradient to the site, are considered a PEC.

9.2. Feasible Mitigation Measures

Feasible mitigation measures may reduce each of the listed project impacts to less than significant. The following are the feasible mitigation measures for each of the listed project impacts:

- Prior to start of construction activities, a methane survey should be performed in accordance with applicable regulations by the LBFD.

- Prior to construction activities, ACMs and LBP should be evaluated in the buildings to be demolished or renovated. Abatement measures should be implemented in accordance with the recommendations of these evaluations.

- Prior to start of construction, we recommend additional investigation of the two upgradient LUST facilities to evaluate their potential impact to the site.

9.3. Potential Project Impacts Not Fully Mitigated to Less Than Significant

Based on the information evaluated to date, there are no direct Potential Significant Project Impacts that cannot be mitigated to less than significant.

10. REFERENCES

California Department of Conservation, Division of Oil and Gas, 2005, Regional Wildcat Map W 1-6, Dated August 16.

California Department of Conservation, Division of Oil and Gas, 2013, Online Mapping System at maps.conservation.ca.gov/doms/index.html.

Environmental Data Resources, Inc., 2013, The EDR Radius Map Report, dated May 22.

Ninyo & Moore, 2010, "Supplemental Geotechnical Evaluation, 2nd Street and Pacific Coast Highway, Long Beach, California," dated October 15.

Stantec Consulting Services, 2013, "Atlantic Richfield Company Semi-Annual Report, Second Half, 2012," 3955 East Ocean Boulevard, Long Beach, California, dated January 15.

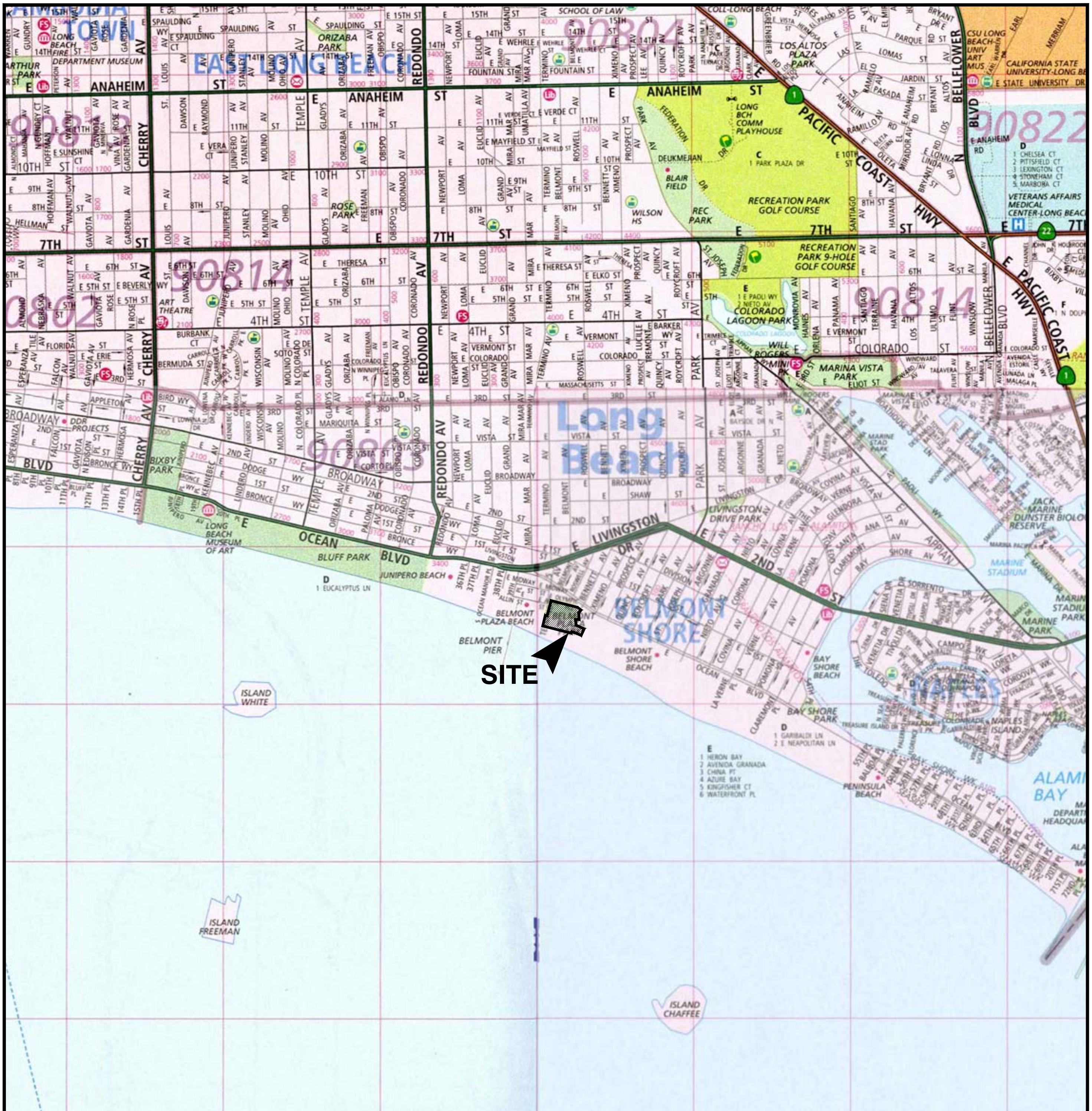
State of California's State Water Resources Control Board, 2013, GeoTracker Database System at http://geotracker.swrcb.ca.gov/.

United States Geological Survey, 1964, Long Beach, California: 7.5-minute Series, Topographic, Scale 1:24,000: Photorevised 1981.

11. QUALIFICATIONS STATEMENT AND SIGNATURE OF ENVIRONMENTAL PROFESSIONAL

Mr. John Jay Roberts states that the Phase I HMA was performed under his direct supervision and that he has reviewed and approved the report and the methods and procedures employed in the development of the report confirm to the minimum industry standards. Mr. Roberts certifies that Ninyo & Moore project personnel and subcontractors are properly licensed and/or certified to do the work described herein.

John Jay Roberts, PG, CEG
Senior Geologist



REFERENCE: 52ND EDITION, THOMAS GUIDE FOR LOS ANGELES/ORANGE COUNTIES, STREET GUIDE AND DIRECTORY.

SCALE IN FEET

0 2,400 4,800

N

NOTE: DIMENSIONS, DIRECTIONS AND LOCATIONS ARE APPROXIMATE.

Map © Rand McNally, R.L.07-S-129

Ninyo & Moore

PROJECT NO.	DATE
208885001	6/13

SITE LOCATION

BELMONT PLAZA POOL
4000 EAST OLYMPIC PLAZA
LONG BEACH, CALIFORNIA

FIGURE

1

208885001_SL.dwg 10:49:23 05/23/2013 GK

REFERENCE: GGOGLE EARTH AERIAL PHOTO, 2013.

N

SCALE IN FEET

0 240 480

NOTE: DIMENSIONS, DIRECTIONS AND LOCATIONS ARE APPROXIMATE.

LEGEND	
(red line)	SITE BOUNDARY
4000	STREET ADDRESS

208885001_SP.dwg 11:06:23 05/23/2013 GK

Ninyo & Moore		SITE PLAN	FIGURE
PROJECT NO.	DATE	BELMONT PLAZA POOL 4000 EAST OLYMPIC PLAZA LONG BEACH, CALIFORNIA	2
208885001	6/13		

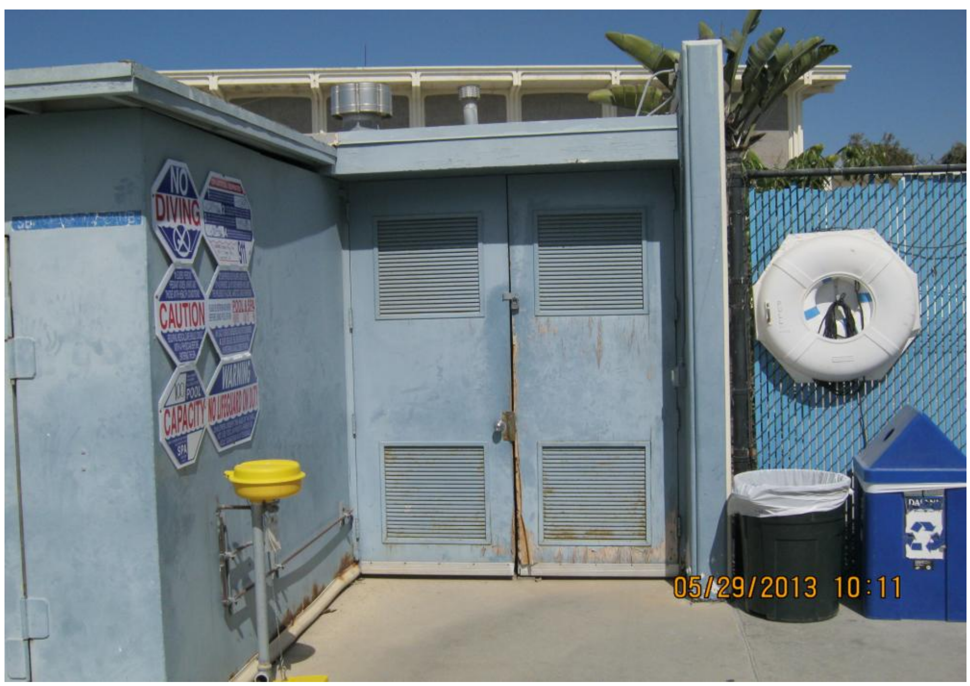
APPENDIX A

PHOTOGRAPHIC DOCUMENTATION

Photograph 1: **Looking south at the indoor olympic-size pool and La Palapa del Mar Restaurant.**

Photograph 2: **Looking southeast at the indoor olympic-size pool.**

Photograph 3: **Looking east at the outdoor pool area.**



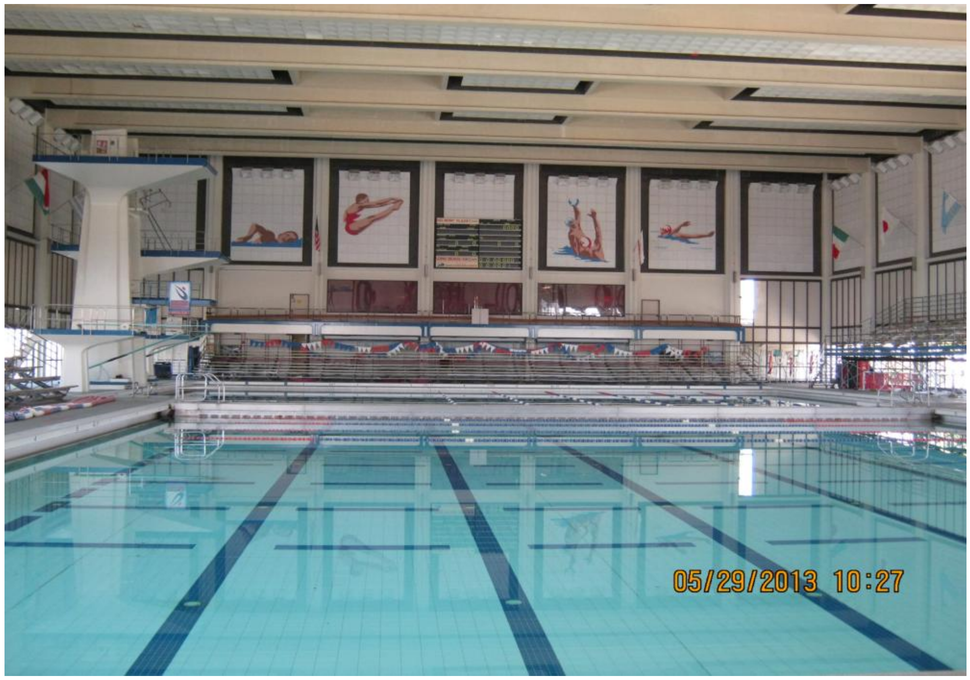
Photograph 4: **Looking at the storage shed located at the northwest corner of the outdoor pool area.**

Photograph 5: **Looking inside the storage shed at the 150-gallon aboveground storage tanks (ASTs) containing hydrochloric acid and sodium hypochlorite.**

Photograph 6: **A typical view of the locker rooms located at the eastern portion of the central portion of the site.**

Photograph 7: **Typical cleaning products stored within the locker rooms at the central portion of the site.**

Photograph 8: **A typical staff office located at the central portion of the site.**



Photograph 9: **Looking at the indoor olympic-size pool.**

Photograph 10: **Looking inside the filter located at the western portion of the indoor olympic-size pool area.**

Photograph 11: **Looking at the hydrochloric acid and sodium hypochlorite tanks located within the indoor olympic-size pool area.**

Photograph 12: **Looking at the southern entrance to the La Palapa del Mar restaurant.**

Photograph 13: **Looking at a typical storage area on the western portion of the site.**

Photograph 14: **Looking north away from the site at East Olympic Plaza, beyond which are commercial properties.**

Photograph 15: **Looking at the City Beach Maintenance building located east of the site.**

Photograph 16: **Looking south away from the site, beyond which is the Pacific Ocean.**

Photograph 17: **Looking west away from the site, beyond which are a public beach and a paved parking lot.**

APPENDIX B

ENVIRONMENTAL DATABASE SEARCH

Belmont Plaza Pool
4000 East Olympic Plaza
Long Beach, CA 90803

Inquiry Number: 3629297.1s
June 06, 2013

The EDR Radius Map™ Report with GeoCheck®

EDR® Environmental Data Resources Inc

440 Wheelers Farms Road
Milford, CT 06461
Toll Free: 800.352.0050
www.edrnet.com

TABLE OF CONTENTS

GEOCHECK ADDENDUM

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-05) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

4000 EAST OLYMPIC PLAZA
LONG BEACH, CA 90803

COORDINATES

Latitude (North):	33.7581000 - 33˚ 45' 29.16''
Longitude (West):	118.1461000 - 118˚ 8' 45.96''
Universal Tranverse Mercator:	Zone 11
UTM X (Meters):	393856.0
UTM Y (Meters):	3735731.5
Elevation:	6 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map:	33118-G2 LONG BEACH (DIGITAL), CA
Most Recent Revision:	1964
South Map:	33118-F2 LONG BEACH OE S, CA
Most Recent Revision:	0

AERIAL PHOTOGRAPHY IN THIS REPORT

Photo Year:	2012
Source:	USDA

TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL - National Priority List

EXECUTIVE SUMMARY

Proposed NPL - - - - - - - - - - Proposed National Priority List Sites

Federal Delisted NPL site list

Delisted NPL - - - - - - - - - - National Priority List Deletions

Federal CERCLIS list

CERCLIS - - - - - - - - - - Comprehensive Environmental Response, Compensation, and Liability Information System

Federal CERCLIS NFRAP site List

CERC-NFRAP - - - - - - - - - - CERCLIS No Further Remedial Action Planned

Federal RCRA CORRACTS facilities list

CORRACTS - - - - - - - - - - Corrective Action Report

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF - - - - - - - - - - RCRA - Treatment, Storage and Disposal

Federal RCRA generators list

RCRA-LQG - - - - - - - - - - RCRA - Large Quantity Generators

Federal institutional controls / engineering controls registries

US ENG CONTROLS - - - - - - Engineering Controls Sites List
US INST CONTROL - - - - - - Sites with Institutional Controls

State- and tribal - equivalent NPL

RESPONSE - - - - - - - - - - State Response Sites

State- and tribal - equivalent CERCLIS

ENVIROSTOR - - - - - - - - - - EnviroStor Database

State and tribal landfill and/or solid waste disposal site lists

SWF/LF - - - - - - - - - - Solid Waste Information System

State and tribal leaking storage tank lists

INDIAN LUST - - - - - - - - - - Leaking Underground Storage Tanks on Indian Land

State and tribal registered storage tank lists

AST - - - - - - - - - - Aboveground Petroleum Storage Tank Facilities
INDIAN UST - - - - - - - - - - Underground Storage Tanks on Indian Land
FEMA UST - - - - - - - - - - Underground Storage Tank Listing

State and tribal voluntary cleanup sites

VCP - - - - - - - - - - Voluntary Cleanup Program Properties

EXECUTIVE SUMMARY

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS - - - - - - - - - A Listing of Brownfields Sites

Local Lists of Landfill / Solid Waste Disposal Sites

WMUDS/SWAT - - - - - - - - - - - - Waste Management Unit Database
SWRCY - - - - - - - - - - - - - - - - - - - Recycler Database

Local Lists of Hazardous waste / Contaminated Sites

HIST Cal-Sites - - - - - - - - - - - - - Historical Calsites Database
Toxic Pits - - - - - - - - - - - - - - - - - - Toxic Pits Cleanup Act Sites

Local Land Records

LIENS 2 - - - - - - - - - - - - - - - - - - - CERCLA Lien Information
LIENS - Environmental Liens Listing

Other Ascertainable Records

CA BOND EXP. PLAN - - - - - - - Bond Expenditure Plan
Notify 65 - - - - - - - - - - - - - - - - - - Proposition 65 Records

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property.
Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

STANDARD ENVIRONMENTAL RECORDS

Federal RCRA generators list

RCRA-SQG: RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

A review of the RCRA-SQG list, as provided by EDR, and dated 02/12/2013 has revealed that there is 1

RCRA-SQG site within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
1 HR MOTO PHOTO	3870 E OCEAN BLVD	NW 1/8 - 1/4 (0.144 mi.)	D26	38

Federal ERNS list

ERNS: The Emergency Response Notification System records and stores information on reported releases of oil and hazardous substances. The source of this database is the U.S. EPA.

A review of the ERNS list, as provided by EDR, and dated 12/31/2012 has revealed that there are 5 ERNS sites within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
Not reported	4217 E. OCEAN	NE 0 - 1/8 (0.068 mi.)	B6	9
Not reported	3955 E OCEAN BLVD	N 0 - 1/8 (0.081 mi.)	C11	22
Not reported	20 NORTH GRAND AVE	NNW 1/8 - 1/4 (0.165 mi.)	D27	39
Not reported	20 GRAND AVE	NNW 1/8 - 1/4 (0.165 mi.)	D28	39
Not reported	3915 EAST 2ND ST	N 1/8 - 1/4 (0.246 mi.)	E33	44

State and tribal leaking storage tank lists

LUST: The Leaking Underground Storage Tank Incident Reports contain an inventory of reported leaking underground storage tank incidents. The data come from the State Water Resources Control Board Leaking Underground Storage Tank Information System.

A review of the LUST list, as provided by EDR, and dated 03/18/2013 has revealed that there are 6 LUST sites within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
TICHY PROPERTY (FORMER GAS SS) Status: Completed - Case Closed	4000 OCEAN BLVD E	N 0 - 1/8 (0.061 mi.)	A5	7
OLYMPIC PLAZA Status: Completed - Case Closed	4320 OLYMPIC PLAZA E	ENE 0 - 1/8 (0.077 mi.)	B7	10
ARCO #1063 Status: Completed - Case Closed Status: Open - Verification Monitoring	3955 OCEAN BLVD E	N 0 - 1/8 (0.081 mi.)	C9	12
UNOCAL #5939 Status: Open - Site Assessment Status: Completed - Case Closed	76 TERMINO AVE	N 0 - 1/8 (0.116 mi.)	C13	23
UNOCAL #5939	76 TERMINO AVE	N 0 - 1/8 (0.116 mi.)	C14	30
TOSCO - 76 STATION #5939	76 TERMINO AVE	N 0 - 1/8 (0.116 mi.)	C19	34

State and tribal registered storage tank lists

UST: The Underground Storage Tank database contains registered USTs. USTs are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA). The data come from the State Water Resources Control Board's Hazardous Substance Storage Container Database.

A review of the UST list, as provided by EDR, and dated 03/18/2013 has revealed that there are 12 UST sites within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
Not reported	0022 S TERMINO AVE	N 0 - 1/8 (0.017 mi.)	A1	6
Not reported	4130 E OCEAN BLVD	NE 0 - 1/8 (0.054 mi.)	B2	6
Not reported	4130 W OCEAN BLVD	NE 0 - 1/8 (0.055 mi.)	B3	6
Not reported	4000 E OCEAN BLVD	N 0 - 1/8 (0.060 mi.)	A4	6
ARCO CORP SITE #01063 (3 D/W J	3955 E OCEAN BLVD	N 0 - 1/8 (0.081 mi.)	C8	12
BELMONT 76 (UNOCAL #5939) (3 D	0076 TERMINO AVE	N 0 - 1/8 (0.116 mi.)	C18	34
VONS STORE # 280	3900 E OCEAN BLVD	NNW 1/8 - 1/4 (0.127 mi.)	D21	36
VONS STORE # 280	3900 E OCEAN BLVD	NNW 1/8 - 1/4 (0.127 mi.)	D22	37
Not reported	4007 LIVINGSTON DR	N 1/8 - 1/4 (0.132 mi.)	23	37
Not reported	3870 W OCEAN BLVD	NW 1/8 - 1/4 (0.144 mi.)	D24	37
Not reported	3870 E OCEAN BLVD	NW 1/8 - 1/4 (0.144 mi.)	D25	37
Not reported	0200 S TERMINO AVE	N 1/8 - 1/4 (0.244 mi.)	E31	42

ADDITIONAL ENVIRONMENTAL RECORDS

Local Lists of Registered Storage Tanks

CA FID UST: The Facility Inventory Database contains active and inactive underground storage tank locations. The source is the State Water Resource Control Board.

A review of the CA FID UST list, as provided by EDR, and dated 10/31/1994 has revealed that there are 2 CA FID UST sites within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
ARCO FACILITY #1063	***3955 E OCEAN BLVD***	***N 0 - 1/8 (0.081 mi.)***	***C10***	***20***
SERVICE STATION 5939	***76 TERMINO AVE***	***N 0 - 1/8 (0.116 mi.)***	***C16***	***32***

HIST UST: Historical UST Registered Database.

A review of the HIST UST list, as provided by EDR, and dated 10/15/1990 has revealed that there are 3 HIST UST sites within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
SHORELINE ENTERPRISES INC	3955 E OCEAN BLVD	N 0 - 1/8 (0.081 mi.)	C12	22
SERVICE STATION 5939	76 TERMINO AVE	N 0 - 1/8 (0.116 mi.)	C15	31
UNION OIL SERVICE STATION LEAS	76 TERMINO AVE	N 0 - 1/8 (0.116 mi.)	C17	33

SWEEPS UST: Statewide Environmental Evaluation and Planning System. This underground storage tank listing was updated and maintained by a company contacted by the SWRCB in the early 1990's. The listing is no longer updated or maintained. The local agency is the contact for more information on a site on the SWEEPS list.

A review of the SWEEPS UST list, as provided by EDR, and dated 06/01/1994 has revealed that there are 2 SWEEPS UST sites within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
ARCO FACILITY #1063	***3955 E OCEAN BLVD***	***N 0 - 1/8 (0.081 mi.)***	***C10***	***20***
SERVICE STATION 5939	***76 TERMINO AVE***	***N 0 - 1/8 (0.116 mi.)***	***C16***	***32***

Records of Emergency Release Reports

CHMIRS: The California Hazardous Material Incident Report System contains information on reported hazardous material incidents, i.e., accidental releases or spills. The source is the California Office of Emergency Services.

A review of the CHMIRS list, as provided by EDR, and dated 12/06/2012 has revealed that there are 6 CHMIRS sites within approximately 0.25 miles of the target property.

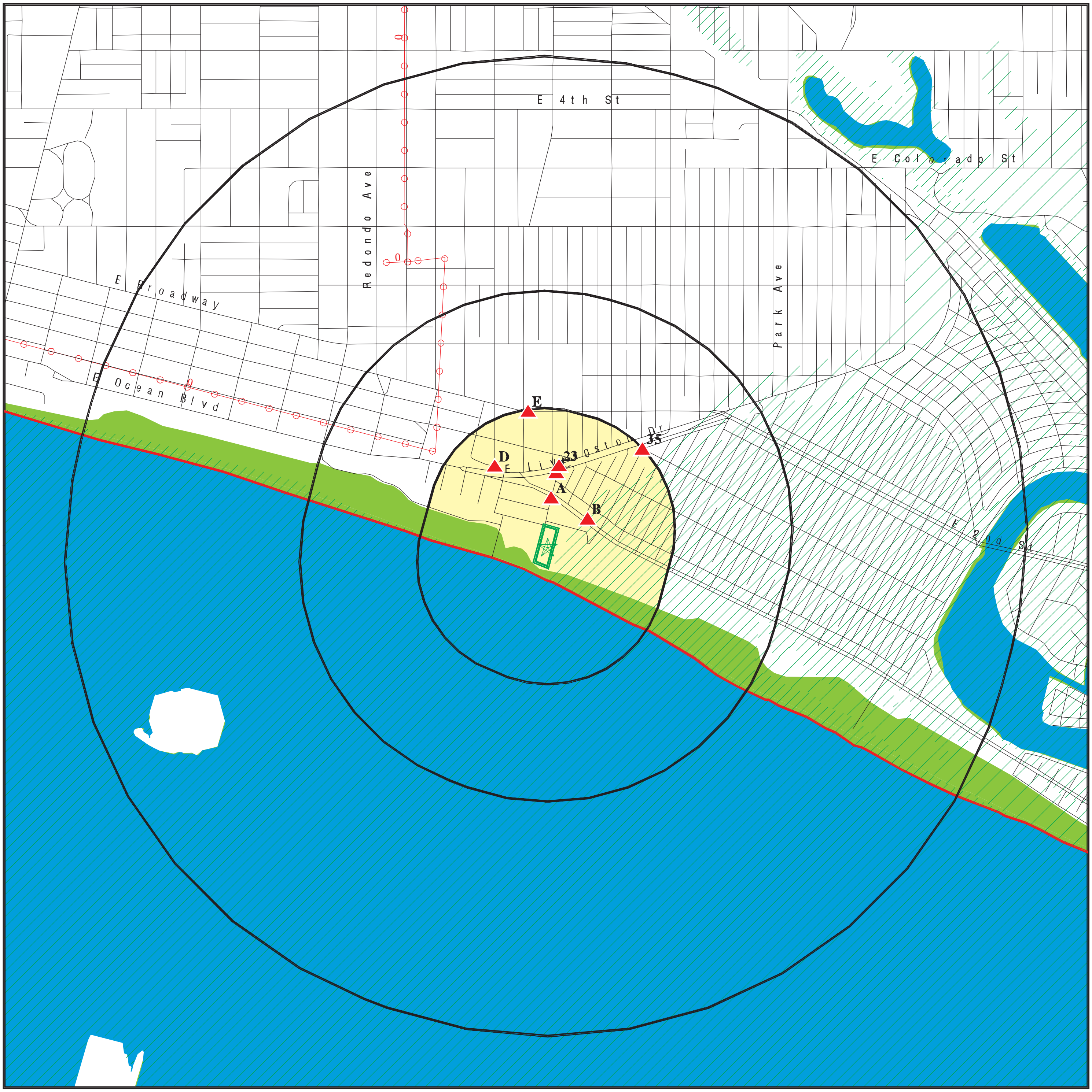
Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
Not reported	3900 EAST OCEAN BLVD	NNW 1/8 - 1/4 (0.127 mi.)	D20	35
Not reported	20 GRAND AVENUE, SITE:	NNW 1/8 - 1/4 (0.165 mi.)	D29	39
Not reported	20 NORTH GRAND AVE	NNW 1/8 - 1/4 (0.165 mi.)	D30	41
Not reported	3935 EAST SECOND STREET	N 1/8 - 1/4 (0.245 mi.)	E32	42
Not reported	3915 E 2ND ST	N 1/8 - 1/4 (0.246 mi.)	E34	44
Not reported	DIVISION ST AND BENNETT	NE 1/8 - 1/4 (0.249 mi.)	35	45

EXECUTIVE SUMMARY

Due to poor or inadequate address information, the following sites were not mapped. Count: 8 records.

Site Name	Database(s)
CITY DUMP AND SALVAGE	SWF/LF
CROSBY AND OVERTON	SWF/LF
COVERSTREET STOCKPILE	SWF/LF
WEISSKER, HERMAN INC.	SWF/LF
LONG BEACH CITY MAINT. YARD	LUST
CHEVRON-ALAMITOS BAY PARTNERSH	LUST
CITY OF L.B. BEACH MAINT (2 D/W JO	UST
L 1019 LAWP HAYNES FACILITY	RCRA-LQG

OVERVIEW MAP - 3629297.1s



Target Property

Sites at elevations higher than or equal to the target property

Sites at elevations lower than the target property

National Priority List Sites

County Boundary

Power transmission lines

Oil & Gas pipelines from USGS

100-year flood zone

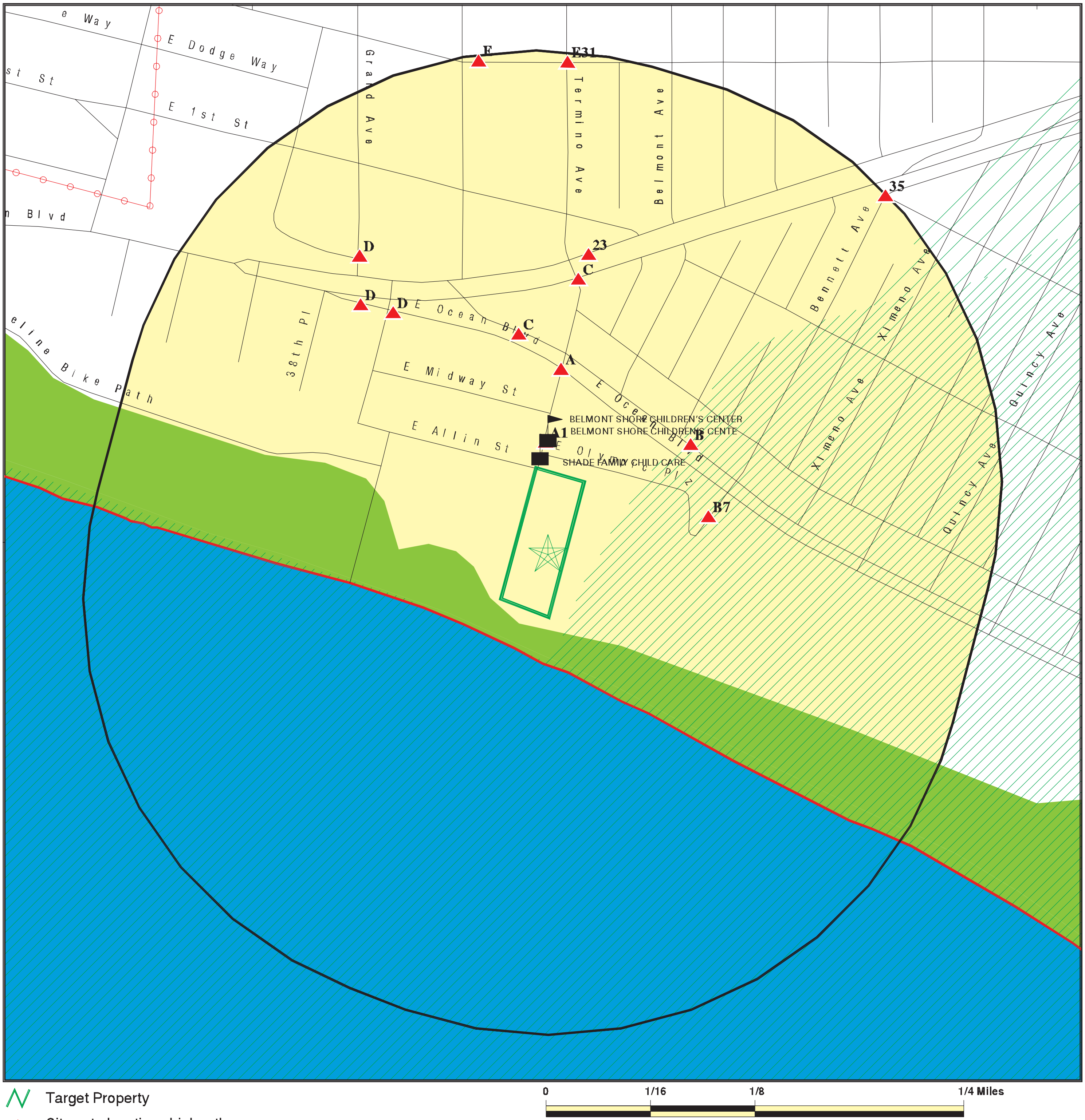
500-year flood zone

National Wetland Inventory

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Belmont Plaza Pool	CLIENT: Ninyo & Moore
ADDRESS: 4000 East Olympic Plaza	CONTACT: Felipe Vazquez
Long Beach CA 90803	INQUIRY #: 3629297.1s
LAT/LONG: 33.7581 / 118.1461	DATE: June 06, 2013 6:28 pm

DETAIL MAP - 3629297.1s



- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Sensitive Receptors
- National Priority List Sites
- County Boundary
- Power transmission lines
- Oil & Gas pipelines from USGS
- 100-year flood zone
- 500-year flood zone
- National Wetland Inventory

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME:	Belmont Plaza Pool	CLIENT:	Ninyo & Moore
ADDRESS:	4000 East Olympic Plaza Long Beach CA 90803	CONTACT:	Felipe Vazquez
		INQUIRY #:	3629297.1s
LAT/LONG:	33.7581 / 118.1461	DATE:	June 06, 2013 6:29 pm

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
STANDARD ENVIRONMENTAL RECORDS								
Federal NPL site list								
NPL	1.000		0	0	0	0	NR	0
Proposed NPL	0.250		0	0	NR	NR	NR	0
Federal Delisted NPL site list								
Delisted NPL	0.250		0	0	NR	NR	NR	0
Federal CERCLIS list								
CERCLIS	0.250		0	0	NR	NR	NR	0
Federal CERCLIS NFRAP site List								
CERC-NFRAP	0.250		0	0	NR	NR	NR	0
Federal RCRA CORRACTS facilities list								
CORRACTS	0.250		0	0	NR	NR	NR	0
Federal RCRA non-CORRACTS TSD facilities list								
RCRA-TSDF	0.500		0	0	0	NR	NR	0
Federal RCRA generators list								
RCRA-LQG	0.250		0	0	NR	NR	NR	0
RCRA-SQG	0.250		0	1	NR	NR	NR	1
Federal institutional controls / engineering controls registries								
US ENG CONTROLS	0.250		0	0	NR	NR	NR	0
US INST CONTROL	0.250		0	0	NR	NR	NR	0
Federal ERNS list								
ERNS	0.250		2	3	NR	NR	NR	5
State- and tribal - equivalent NPL								
RESPONSE	0.250		0	0	NR	NR	NR	0
State- and tribal - equivalent CERCLIS								
ENVIROSTOR	0.250		0	0	NR	NR	NR	0
State and tribal landfill and/or solid waste disposal site lists								
SWF/LF	0.250		0	0	NR	NR	NR	0
State and tribal leaking storage tank lists								
LUST	0.250		6	0	NR	NR	NR	6
INDIAN LUST	0.250		0	0	NR	NR	NR	0
State and tribal registered storage tank lists								
UST	0.250		6	6	NR	NR	NR	12

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
AST	0.250		0	0	NR	NR	NR	0
INDIAN UST	0.250		0	0	NR	NR	NR	0
FEMA UST	0.250		0	0	NR	NR	NR	0
State and tribal voluntary cleanup sites								
VCP	0.250		0	0	NR	NR	NR	0
ADDITIONAL ENVIRONMENTAL RECORDS								
Local Brownfield lists								
US BROWNFIELDS	0.250		0	0	NR	NR	NR	0
Local Lists of Landfill / Solid Waste Disposal Sites								
WMUDS/SWAT	0.250		0	0	NR	NR	NR	0
SWRCY	0.250		0	0	NR	NR	NR	0
Local Lists of Hazardous waste / Contaminated Sites								
HIST Cal-Sites	0.250		0	0	NR	NR	NR	0
Toxic Pits	0.250		0	0	NR	NR	NR	0
Local Lists of Registered Storage Tanks								
CA FID UST	0.250		2	0	NR	NR	NR	2
HIST UST	0.250		3	0	NR	NR	NR	3
SWEEPS UST	0.250		2	0	NR	NR	NR	2
Local Land Records								
LIENS 2	0.250		0	0	NR	NR	NR	0
LIENS	0.250		0	0	NR	NR	NR	0
Records of Emergency Release Reports								
CHMIRS	0.250		0	6	NR	NR	NR	6
Other Ascertainable Records								
CA BOND EXP. PLAN	0.250		0	0	NR	NR	NR	0
Notify 65	0.250		0	0	NR	NR	NR	0

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

Map ID Direction Distance Elevation	Site	Database(s)	EDR ID Number EPA ID Number

A1
North **0022 S TERMINO AVE**
< 1/8 **LONG BEACH, CA**
0.017 mi.
88 ft. **Site 1 of 3 in cluster A**

UST **U003920318**
N/A

Relative: **Higher**
Actual: **12 ft.**

LONG BEACH UST:

Region:	LONG BEACH
Tank Code:	Not reported
Tank Test:	Not reported
Leak Test:	Not reported

B2
NE **4130 E OCEAN BLVD**
< 1/8 **LONG BEACH, CA**
0.054 mi.
286 ft. **Site 1 of 4 in cluster B**

UST **U003920156**
N/A

Relative: **Higher**
Actual: **9 ft.**

LONG BEACH UST:

Region:	LONG BEACH
Tank Code:	Not reported
Tank Test:	Not reported
Leak Test:	Not reported

B3
NE **4130 W OCEAN BLVD**
< 1/8 **LONG BEACH, CA**
0.055 mi.
288 ft. **Site 2 of 4 in cluster B**

UST **U003920157**
N/A

Relative: **Higher**
Actual: **9 ft.**

LONG BEACH UST:

Region:	LONG BEACH
Tank Code:	Not reported
Tank Test:	Not reported
Leak Test:	Not reported

A4
North **4000 E OCEAN BLVD**
< 1/8 **LONG BEACH, CA**
0.060 mi.
315 ft. **Site 2 of 3 in cluster A**

UST **U003920155**
N/A

Relative: **Higher**
Actual: **16 ft.**

LONG BEACH UST:

Region:	LONG BEACH
Tank Code:	Not reported
Tank Test:	Not reported
Leak Test:	Not reported

A5 **TICHY PROPERTY (FORMER GAS SS)** **LUST** **S103891079**
North **4000 OCEAN BLVD E** **N/A**
< 1/8 **LONG BEACH, CA 90803**
0.061 mi.
323 ft. **Site 3 of 3 in cluster A**

Relative:
Higher

Actual:
16 ft.

LUST:

Region:	STATE
Global Id:	T0603701734
Latitude:	33.7596346
Longitude:	-118.1459806
Case Type:	LUST Cleanup Site
Status:	Completed - Case Closed
Status Date:	08/26/2002
Lead Agency:	LOS ANGELES RWQCB (REGION 4)
Case Worker:	JLC
Local Agency:	LONG BEACH, CITY OF
RB Case Number:	908030198
LOC Case Number:	Not reported
File Location:	Not reported
Potential Media Affect:	Aquifer used for drinking water supply
Potential Contaminants of Concern:	Gasoline
Site History:	Not reported

Click here to access the California GeoTracker records for this facility:

Contact:

Global Id:	T0603701734
Contact Type:	Local Agency Caseworker
Contact Name:	CARMEN PIRO
Organization Name:	LONG BEACH, CITY OF
Address:	2525 GRAND AVE.
City:	LONG BEACH
Email:	carmen_piro@longbeach.gov
Phone Number:	5625704137

Regulatory Activities:

Global Id:	T0603701734
Action Type:	ENFORCEMENT
Date:	05/24/1999
Action:	Staff Letter
Global Id:	T0603701734
Action Type:	ENFORCEMENT
Date:	06/14/2002
Action:	Staff Letter
Global Id:	T0603701734
Action Type:	ENFORCEMENT
Date:	08/26/2002
Action:	Closure/No Further Action Letter
Global Id:	T0603701734
Action Type:	Other
Date:	01/01/1950
Action:	Leak Discovery
Global Id:	T0603701734
Action Type:	RESPONSE

TICHY PROPERTY (FORMER GAS SS) (Continued) **S103891079**

Date:	04/30/2002
Action:	Monitoring Report - Quarterly
Global Id:	T0603701734
Action Type:	RESPONSE
Date:	07/31/2002
Action:	Other Report / Document
Global Id:	T0603701734
Action Type:	ENFORCEMENT
Date:	02/16/2001
Action:	Site Visit / Inspection / Sampling
Global Id:	T0603701734
Action Type:	Other
Date:	01/01/1950
Action:	Leak Reported
Global Id:	T0603701734
Action Type:	RESPONSE
Date:	10/15/2002
Action:	Unknown
Global Id:	T0603701734
Action Type:	ENFORCEMENT
Date:	11/06/2002
Action:	Site Visit / Inspection / Sampling
Global Id:	T0603701734
Action Type:	ENFORCEMENT
Date:	01/09/2001
Action:	* Historical Enforcement

LUST REG 4:

Region:	4
Regional Board:	04
County:	Los Angeles
Facility Id:	908030198
Status:	Case Closed
Substance:	Gasoline
Substance Quantity:	Not reported
Local Case No:	Not reported
Case Type:	Groundwater
Abatement Method Used at the Site:	OT
Global ID:	T0603701734
W Global ID:	Not reported
Staff:	JLC
Local Agency:	19060
Cross Street:	TERMINO ST
Enforcement Type:	SI
Date Leak Discovered:	9/11/1998
Date Leak First Reported:	9/11/1998
Date Leak Record Entered:	Not reported
Date Confirmation Began:	9/11/1998
Date Leak Stopped:	Not reported
Date Case Last Changed on Database:	4/15/2002

TICHY PROPERTY (FORMER GAS SS) (Continued) **S103891079**

Date the Case was Closed: 8/26/2002
How Leak Discovered: OM
How Leak Stopped: Not reported
Cause of Leak: UNK
Leak Source: UNK
Operator: Not reported
Water System: Not reported
Well Name: Not reported
Approx. Dist To Production Well (ft): 14198.615954781842743800531116
Source of Cleanup Funding: UNK
Preliminary Site Assessment Workplan Submitted: 4/14/1999
Preliminary Site Assessment Began: 4/14/1999
Pollution Characterization Began: 5/14/1999
Remediation Plan Submitted: Not reported
Remedial Action Underway: Not reported
Post Remedial Action Monitoring Began: 9/11/1998
Enforcement Action Date: 1/9/2001
Historical Max MTBE Date: 5/15/2001
Hist Max MTBE Conc in Groundwater: 7
Hist Max MTBE Conc in Soil: .02
Significant Interim Remedial Action Taken: Not reported
GW Qualifier: Not reported
Soil Qualifier: <
Organization: Not reported
Owner Contact: Not reported
Responsible Party: STAN HODGE
RP Address: 16835 AGLONQUIN ST., #624
Program: LUST
Lat/Long: 33.7596346 / -1
Local Agency Staff: Not reported
Beneficial Use: Not reported
Priority: LOP/MODERATE - POTENTIAL WATER IMPACT
Cleanup Fund Id: Not reported
Suspended: Not reported
Assigned Name: Not reported
Summary: TANKS WERE REMOVED IN 1976. 7/12/99 WP -INITIAL SUBSURFACE SOIL & GW INVESTIGATION; 12/8/00 RPT OF GW WELL INSTALLATION & SAMPLING

B6
NE **4217 E. OCEAN** **ERNS** **91224462**
< 1/8 **LONG BEACH, CA 90803** **N/A**
0.068 mi.
358 ft. **Site 3 of 4 in cluster B**

Relative:
Higher

Click this hyperlink while viewing on your computer to access additional ERNS detail in the EDR Site Report.

Actual:
10 ft.

B7 | **OLYMPIC PLAZA** | **LUST** | **S102434684**
ENE | **4320 OLYMPIC PLAZA E** | | **N/A**
< 1/8 | **LONG BEACH, CA 90803**
0.077 mi.
408 ft. | **Site 4 of 4 in cluster B**

Relative:
Higher

Actual:
9 ft.

LUST:

Region:	STATE
Global Id:	T0603701733
Latitude:	33.7587077
Longitude:	-118.1450026
Case Type:	LUST Cleanup Site
Status:	Completed - Case Closed
Status Date:	09/21/1995
Lead Agency:	LONG BEACH, CITY OF
Case Worker:	CP
Local Agency:	LONG BEACH, CITY OF
RB Case Number:	908030170
LOC Case Number:	Not reported
File Location:	Not reported
Potential Media Affect:	Soil
Potential Contaminants of Concern:	Other Solvent or Non-Petroleum Hydrocarbon
Site History:	Not reported

Click here to access the California GeoTracker records for this facility:

Contact:

Global Id:	T0603701733
Contact Type:	Regional Board Caseworker
Contact Name:	YUE RONG
Organization Name:	LOS ANGELES RWQCB (REGION 4)
Address:	320 W. 4TH ST., SUITE 200
City:	Los Angeles
Email:	yrong@waterboards.ca.gov
Phone Number:	Not reported

Global Id:	T0603701733
Contact Type:	Local Agency Caseworker
Contact Name:	CARMEN PIRO
Organization Name:	LONG BEACH, CITY OF
Address:	2525 GRAND AVE.
City:	LONG BEACH
Email:	carmen_piro@longbeach.gov
Phone Number:	5625704137

Regulatory Activities:

Global Id:	T0603701733
Action Type:	Other
Date:	01/01/1950
Action:	Leak Reported

LUST REG 4:

Region:	4
Regional Board:	04
County:	Los Angeles
Facility Id:	908030170
Status:	Case Closed
Substance:	Hydrocarbons

OLYMPIC PLAZA (Continued) **S102434684**

Substance Quantity:	Not reported
Local Case No:	Not reported
Case Type:	Soil
Abatement Method Used at the Site:	Not reported
Global ID:	T0603701733
W Global ID:	Not reported
Staff:	UNK
Local Agency:	19060
Cross Street:	BENNETT AVE
Enforcement Type:	Not reported
Date Leak Discovered:	Not reported
Date Leak First Reported:	9/21/1995
Date Leak Record Entered:	10/10/1995
Date Confirmation Began:	Not reported
Date Leak Stopped:	Not reported
Date Case Last Changed on Database:	9/21/1995
Date the Case was Closed:	9/21/1995
How Leak Discovered:	Not reported
How Leak Stopped:	Not reported
Cause of Leak:	Not reported
Leak Source:	Not reported
Operator:	CITY OF LB
Water System:	Not reported
Well Name:	Not reported
Approx. Dist To Production Well (ft):	14494.675067654031585618119903
Source of Cleanup Funding:	Not reported
Preliminary Site Assessment Workplan Submitted:	Not reported
Preliminary Site Assessment Began:	Not reported
Pollution Characterization Began:	Not reported
Remediation Plan Submitted:	Not reported
Remedial Action Underway:	Not reported
Post Remedial Action Monitoring Began:	Not reported
Enforcement Action Date:	Not reported
Historical Max MTBE Date:	Not reported
Hist Max MTBE Conc in Groundwater:	Not reported
Hist Max MTBE Conc in Soil:	Not reported
Significant Interim Remedial Action Taken:	Not reported
GW Qualifier:	Not reported
Soil Qualifier:	Not reported
Organization:	Not reported
Owner Contact:	Not reported
Responsible Party:	CITY OF LB
RP Address:	FLEET SERV BUREAU
Program:	LUST
Lat/Long:	33.7586686 / -1
Local Agency Staff:	Not reported
Beneficial Use:	Not reported
Priority:	Not reported
Cleanup Fund Id:	Not reported
Suspended:	Not reported
Assigned Name:	Not reported
Summary:	OLD CASE #951010-01

C8 **ARCO CORP SITE #01063 (3 D/W JOOR)** **UST** **U003661100**
North **3955 E OCEAN BLVD** **N/A**
< 1/8 **LONG BEACH, CA**
0.081 mi.
428 ft. **Site 1 of 12 in cluster C**

Relative:
Higher

Actual:
21 ft.

LONG BEACH UST:

Region:	LONG BEACH
Tank Code:	Dual Walled
Tank Test:	Dual Walled
Leak Test:	Not reported

C9 **ARCO #1063** **LUST** **S102424157**
North **3955 OCEAN BLVD E** **N/A**
< 1/8 **LONG BEACH, CA 90803**
0.081 mi.
428 ft. **Site 2 of 12 in cluster C**

Relative:
Higher

Actual:
21 ft.

LUST:

Region:	STATE
Global Id:	T0603701720
Latitude:	33.760177
Longitude:	-118.146262
Case Type:	LUST Cleanup Site
Status:	Completed - Case Closed
Status Date:	03/24/1998
Lead Agency:	LOS ANGELES RWQCB (REGION 4)
Case Worker:	YL
Local Agency:	LONG BEACH, CITY OF
RB Case Number:	908030043
LOC Case Number:	Not reported
File Location:	Not reported
Potential Media Affect:	Aquifer used for drinking water supply
Potential Contaminants of Concern:	Gasoline
Site History:	Not reported

Click here to access the California GeoTracker records for this facility:

Contact:

Global Id:	T0603701720
Contact Type:	Local Agency Caseworker
Contact Name:	CARMEN PIRO
Organization Name:	LONG BEACH, CITY OF
Address:	2525 GRAND AVE.
City:	LONG BEACH
Email:	carmen_piro@longbeach.gov
Phone Number:	5625704137

Global Id:	T0603701720
Contact Type:	Regional Board Caseworker
Contact Name:	YI LU
Organization Name:	LOS ANGELES RWQCB (REGION 4)
Address:	Not reported
City:	R4 UNKNOWN
Email:	ylu@waterboards.ca.gov
Phone Number:	Not reported

Regulatory Activities:

Global Id:	T0603701720
Action Type:	Other

ARCO #1063 (Continued) **S102424157**

Date:	01/01/1950
Action:	Leak Discovery
Global Id:	T0603701720
Action Type:	Other
Date:	01/01/1950
Action:	Leak Reported

Region:	STATE
Global Id:	T0603790003
Latitude:	33.760079
Longitude:	-118.146164
Case Type:	LUST Cleanup Site
Status:	Open - Verification Monitoring
Status Date:	01/20/2009
Lead Agency:	LOS ANGELES RWQCB (REGION 4)
Case Worker:	JLC
Local Agency:	LONG BEACH, CITY OF
RB Case Number:	908030043A
LOC Case Number:	Not reported
File Location:	Regional Board
Potential Media Affect:	Aquifer used for drinking water supply
Potential Contaminants of Concern:	Gasoline
Site History:	Not reported

Click here to access the California GeoTracker records for this facility:

Contact:

Global Id:	T0603790003
Contact Type:	Regional Board Caseworker
Contact Name:	DAVID M. BJOSTAD
Organization Name:	LOS ANGELES RWQCB (REGION 4)
Address:	320 W. 4th Street, Suite 200
City:	Los Angeles
Email:	dbjostad@waterboards.ca.gov
Phone Number:	Not reported
Global Id:	T0603790003
Contact Type:	Local Agency Caseworker
Contact Name:	CARMEN PIRO
Organization Name:	LONG BEACH, CITY OF
Address:	2525 GRAND AVE.
City:	LONG BEACH
Email:	carmen_piro@longbeach.gov
Phone Number:	5625704137

Regulatory Activities:

Global Id:	T0603790003
Action Type:	ENFORCEMENT
Date:	01/23/2001
Action:	Staff Letter
Global Id:	T0603790003
Action Type:	ENFORCEMENT
Date:	11/06/2002
Action:	Site Visit / Inspection / Sampling

ARCO #1063 (Continued) **S102424157**

Global Id:	T0603790003
Action Type:	ENFORCEMENT
Date:	06/14/2002
Action:	Staff Letter
Global Id:	T0603790003
Action Type:	RESPONSE
Date:	04/15/2009
Action:	Monitoring Report - Quarterly
Global Id:	T0603790003
Action Type:	ENFORCEMENT
Date:	06/15/2009
Action:	Staff Letter
Global Id:	T0603790003
Action Type:	ENFORCEMENT
Date:	02/02/2001
Action:	* Historical Enforcement
Global Id:	T0603790003
Action Type:	Other
Date:	01/01/1950
Action:	Leak Stopped
Global Id:	T0603790003
Action Type:	RESPONSE
Date:	01/15/2004
Action:	Monitoring Report - Quarterly
Global Id:	T0603790003
Action Type:	RESPONSE
Date:	07/15/2004
Action:	Monitoring Report - Quarterly
Global Id:	T0603790003
Action Type:	RESPONSE
Date:	10/15/2005
Action:	Monitoring Report - Quarterly
Global Id:	T0603790003
Action Type:	RESPONSE
Date:	10/15/2007
Action:	Monitoring Report - Quarterly
Global Id:	T0603790003
Action Type:	RESPONSE
Date:	01/15/2008
Action:	Monitoring Report - Quarterly
Global Id:	T0603790003
Action Type:	RESPONSE
Date:	07/15/2002
Action:	Monitoring Report - Quarterly
Global Id:	T0603790003
Action Type:	RESPONSE

ARCO #1063 (Continued) **S102424157**

Date:	10/15/2002
Action:	Monitoring Report - Quarterly
Global Id:	T0603790003
Action Type:	RESPONSE
Date:	07/31/2002
Action:	Other Report / Document
Global Id:	T0603790003
Action Type:	RESPONSE
Date:	04/15/2002
Action:	Monitoring Report - Quarterly
Global Id:	T0603790003
Action Type:	RESPONSE
Date:	07/15/2010
Action:	Monitoring Report - Semi-Annually
Global Id:	T0603790003
Action Type:	Other
Date:	01/01/1950
Action:	Leak Discovery
Global Id:	T0603790003
Action Type:	RESPONSE
Date:	04/15/2007
Action:	Monitoring Report - Quarterly
Global Id:	T0603790003
Action Type:	RESPONSE
Date:	04/15/2003
Action:	Monitoring Report - Quarterly
Global Id:	T0603790003
Action Type:	RESPONSE
Date:	10/15/2003
Action:	Monitoring Report - Quarterly
Global Id:	T0603790003
Action Type:	RESPONSE
Date:	10/15/2007
Action:	Monitoring Report - Quarterly
Global Id:	T0603790003
Action Type:	RESPONSE
Date:	01/15/2005
Action:	Monitoring Report - Quarterly
Global Id:	T0603790003
Action Type:	ENFORCEMENT
Date:	02/16/2001
Action:	Site Visit / Inspection / Sampling
Global Id:	T0603790003
Action Type:	RESPONSE
Date:	10/15/2008
Action:	Monitoring Report - Quarterly

ARCO #1063 (Continued) **S102424157**

Global Id:	T0603790003
Action Type:	RESPONSE
Date:	01/15/2010
Action:	Monitoring Report - Quarterly
Global Id:	T0603790003
Action Type:	RESPONSE
Date:	07/15/2007
Action:	Monitoring Report - Quarterly
Global Id:	T0603790003
Action Type:	RESPONSE
Date:	04/15/2006
Action:	Monitoring Report - Quarterly
Global Id:	T0603790003
Action Type:	RESPONSE
Date:	01/15/2006
Action:	Monitoring Report - Quarterly
Global Id:	T0603790003
Action Type:	RESPONSE
Date:	04/04/2011
Action:	Request for Closure
Global Id:	T0603790003
Action Type:	RESPONSE
Date:	04/15/2011
Action:	Monitoring Report - Semi-Annually
Global Id:	T0603790003
Action Type:	Other
Date:	01/01/1950
Action:	Leak Reported
Global Id:	T0603790003
Action Type:	RESPONSE
Date:	01/15/2003
Action:	Monitoring Report - Quarterly
Global Id:	T0603790003
Action Type:	RESPONSE
Date:	04/15/2005
Action:	Monitoring Report - Quarterly
Global Id:	T0603790003
Action Type:	RESPONSE
Date:	10/15/2011
Action:	Monitoring Report - Semi-Annually
Global Id:	T0603790003
Action Type:	RESPONSE
Date:	11/02/2011
Action:	Other Report / Document
Global Id:	T0603790003
Action Type:	RESPONSE

ARCO #1063 (Continued) **S102424157**

Date:	04/15/2008
Action:	Monitoring Report - Quarterly
Global Id:	T0603790003
Action Type:	RESPONSE
Date:	07/15/2006
Action:	Monitoring Report - Quarterly
Global Id:	T0603790003
Action Type:	RESPONSE
Date:	01/15/2007
Action:	Monitoring Report - Quarterly
Global Id:	T0603790003
Action Type:	RESPONSE
Date:	10/15/2006
Action:	Monitoring Report - Quarterly
Global Id:	T0603790003
Action Type:	RESPONSE
Date:	07/15/2009
Action:	Monitoring Report - Semi-Annually
Global Id:	T0603790003
Action Type:	RESPONSE
Date:	07/15/2012
Action:	Monitoring Report - Semi-Annually
Global Id:	T0603790003
Action Type:	ENFORCEMENT
Date:	05/17/2011
Action:	Staff Letter
Global Id:	T0603790003
Action Type:	RESPONSE
Date:	07/15/2008
Action:	Monitoring Report - Quarterly
Global Id:	T0603790003
Action Type:	RESPONSE
Date:	01/15/2009
Action:	Monitoring Report - Quarterly
Global Id:	T0603790003
Action Type:	RESPONSE
Date:	04/15/2004
Action:	Monitoring Report - Quarterly
Global Id:	T0603790003
Action Type:	RESPONSE
Date:	07/15/2005
Action:	Monitoring Report - Quarterly
Global Id:	T0603790003
Action Type:	RESPONSE
Date:	07/15/2003
Action:	Monitoring Report - Quarterly

ARCO #1063 (Continued) **S102424157**

Global Id: T0603790003
Action Type: RESPONSE
Date: 01/15/2013
Action: Monitoring Report - Semi-Annually

Global Id: T0603790003
Action Type: RESPONSE
Date: 01/15/2011
Action: Monitoring Report - Semi-Annually

Global Id: T0603790003
Action Type: RESPONSE
Date: 10/15/2004
Action: Monitoring Report - Quarterly

LUST REG 4:
Region: 4
Regional Board: 04
County: Los Angeles
Facility Id: 908030043
Status: Case Closed
Substance: Gasoline
Substance Quantity: Not reported
Local Case No: Not reported
Case Type: Groundwater
Abatement Method Used at the Site: Remove Free Product
Global ID: T0603701720
W Global ID: Not reported
Staff: UNK
Local Agency: 19060
Cross Street: LIVINGSTON DR
Enforcement Type: Not reported
Date Leak Discovered: 11/7/1986
Date Leak First Reported: 1/20/1987
Date Leak Record Entered: 8/5/1987
Date Confirmation Began: Not reported
Date Leak Stopped: Not reported
Date Case Last Changed on Database: 4/12/2000
Date the Case was Closed: 3/24/1998
How Leak Discovered: Subsurface Monitoring
How Leak Stopped: Not reported
Cause of Leak: Corrosion
Leak Source: Piping
Operator: TULLY, JOE
Water System: Not reported
Well Name: Not reported
Approx. Dist To Production Well (ft): 14083.653609157857514295265862
Source of Cleanup Funding: Piping
Preliminary Site Assessment Workplan Submitted: Not reported
Preliminary Site Assessment Began: Not reported
Pollution Characterization Began: 9/29/1987
Remediation Plan Submitted: 10/27/1995
Remedial Action Underway: Not reported
Post Remedial Action Monitoring Began: Not reported
Enforcement Action Date: Not reported
Historical Max MTBE Date: 1/1/1965

ARCO #1063 (Continued) **S102424157**

Hist Max MTBE Conc in Groundwater: 580
Hist Max MTBE Conc in Soil: Not reported
Significant Interim Remedial Action Taken: Yes
GW Qualifier: Not reported
Soil Qualifier: Not reported
Organization: Not reported
Owner Contact: Not reported
Responsible Party: ARCO PETROLEUM PRODUCTS CO.
RP Address: 4 CENTERPOINTE DR., LA PALMA, CA 90623
Program: LUST
Lat/Long: 33.7600756 / -1
Local Agency Staff: Not reported
Beneficial Use: Not reported
Priority: Not reported
Cleanup Fund Id: Not reported
Suspended: Not reported
Assigned Name: Not reported
Summary: INITIAL WORK BY LONG BEACH DEPARTMENT OF PUBLIC HEALTH PRODUCT RECOVERY COMPLETED. 1 MORE ROUND OF GW. MONITORING PRIOR TO REVIEW FOR LOW RISK CASE. 2/9/98 QTRLY GW MON RPT

Region: 4
Regional Board: 04
County: Los Angeles
Facility Id: 908030043A
Status: Pollution Characterization
Substance: Gasoline
Substance Quantity: Not reported
Local Case No: Not reported
Case Type: Groundwater
Abatement Method Used at the Site: Not reported
Global ID: T0603790003
W Global ID: Not reported
Staff: JLC
Local Agency: 19060
Cross Street: LIVINGSTON DR
Enforcement Type: SI
Date Leak Discovered: 1/18/2000
Date Leak First Reported: 4/12/2000
Date Leak Record Entered: Not reported
Date Confirmation Began: 1/18/2000
Date Leak Stopped: 1/18/2000
Date Case Last Changed on Database: 7/15/2002
Date the Case was Closed: Not reported
How Leak Discovered: Not reported
How Leak Stopped: Not reported
Cause of Leak: Structure Failure
Leak Source: Piping
Operator: Not reported
Water System: Not reported
Well Name: Not reported
Approx. Dist To Production Well (ft): 14048.407980304541423814294369
Source of Cleanup Funding: Piping
Preliminary Site Assessment Workplan Submitted: 3/28/2000
Preliminary Site Assessment Began: 8/22/2000
Pollution Characterization Began: 1/23/2001
Remediation Plan Submitted: Not reported

ARCO #1063 (Continued) **S102424157**

Remedial Action Underway: Not reported
Post Remedial Action Monitoring Began: 4/12/2000
Enforcement Action Date: 2/2/2001
Historical Max MTBE Date: 9/12/2001
Hist Max MTBE Conc in Groundwater: 8500
Hist Max MTBE Conc in Soil: 46
Significant Interim Remedial Action Taken: Not reported
GW Qualifier: =
Soil Qualifier: Not reported
Organization: Not reported
Owner Contact: Not reported
Responsible Party: RAY VOSE
RP Address: 4 CENTERPOINTE DR.
Program: LUST
Lat/Long: 33.760079 / -1
Local Agency Staff: Not reported
Beneficial Use: Not reported
Priority: Not reported
Cleanup Fund Id: Not reported
Suspended: Not reported
Assigned Name: Not reported
Summary: 10/26/00 SOIL INVESTIGATION REPORT; 1/30/01 GW MON WELL RE-DEVELOPMENT; 4/15/01 1ST QTR MON RPT 2001

C10 **ARCO FACILITY #1063** **CA FID UST** **S101582734**
North **3955 E OCEAN BLVD** **SWEEPS UST** **N/A**
< 1/8 **LONG BEACH, CA 90803**
0.081 mi.
428 ft. **Site 3 of 12 in cluster C**

Relative:
Higher

Actual:
21 ft.

CA FID UST:
Facility ID: 19001228
Regulated By: UTNKA
Regulated ID: 00026545
Cortese Code: Not reported
SIC Code: Not reported
Facility Phone: 3104343352
Mail To: Not reported
Mailing Address: 17315 STUDEBAKER RD
Mailing Address 2: Not reported
Mailing City,St,Zip: LONG BEACH 90803
Contact: Not reported
Contact Phone: Not reported
DUNs Number: Not reported
NPDES Number: Not reported
EPA ID: Not reported
Comments: Not reported
Status: Active

SWEEPS UST:
Status: Active
Comp Number: 26545
Number: 1
Board Of Equalization: Not reported
Referral Date: 04-01-92
Action Date: 04-01-92
Created Date: 02-29-88

ARCO FACILITY #1063 (Continued) **S101582734**

Tank Status: A
Owner Tank Id: 1
Swrcb Tank Id: 19-060-026545-000001
Actv Date: 03-18-92
Capacity: 6000
Tank Use: M.V. FUEL
Stg: P
Content: REG UNLEADED
Number Of Tanks: 4

Status: Active
Comp Number: 26545
Number: 1
Board Of Equalization: Not reported
Referral Date: 04-01-92
Action Date: 04-01-92
Created Date: 02-29-88
Tank Status: A
Owner Tank Id: 2
Swrcb Tank Id: 19-060-026545-000002
Actv Date: 03-18-92
Capacity: 6000
Tank Use: M.V. FUEL
Stg: P
Content: REG UNLEADED
Number Of Tanks: Not reported

Status: Active
Comp Number: 26545
Number: 1
Board Of Equalization: Not reported
Referral Date: 04-01-92
Action Date: 04-01-92
Created Date: 02-29-88
Tank Status: A
Owner Tank Id: 3
Swrcb Tank Id: 19-060-026545-000003
Actv Date: 03-18-92
Capacity: 6000
Tank Use: M.V. FUEL
Stg: P
Content: REG UNLEADED
Number Of Tanks: Not reported

Status: Active
Comp Number: 26545
Number: 1
Board Of Equalization: Not reported
Referral Date: 04-01-92
Action Date: 04-01-92
Created Date: 02-29-88
Tank Status: A
Owner Tank Id: 4
Swrcb Tank Id: 19-060-026545-000004
Actv Date: 07-01-85
Capacity: 6000
Tank Use: M.V. FUEL

ARCO FACILITY #1063 (Continued) **S101582734**

Stg: P
Content: REG UNLEADED
Number Of Tanks: Not reported

C11
North **3955 E OCEAN BLVD**
< 1/8 **LONG BEACH, CA 0**
0.081 mi.
428 ft. **Site 4 of 12 in cluster C**

ERNS **2000517196**
N/A

Relative:
Higher

Actual:
21 ft.

Click this hyperlink while viewing on your computer to access additional ERNS detail in the EDR Site Report.

C12
North **SHORELINE ENTERPRISES INC**
< 1/8 **3955 E OCEAN BLVD**
0.081 mi. **LONG BEACH, CA 90803**
428 ft. **Site 5 of 12 in cluster C**

HIST UST **U001565893**
N/A

Relative:
Higher

Actual:
21 ft.

HIST UST:

Region: STATE
Facility ID: 00000026545
Facility Type: Gas Station
Other Type: Not reported
Total Tanks: 0004
Contact Name: Not reported
Telephone: 0000000000
Owner Name: ARCO PETROLEUM PRODUCTS CO.
Owner Address: 515 SOUTH FLOWER STREET
Owner City,St,Zip: LOS ANGELES, CA 90071

Tank Num: 001
Container Num: 0000000001
Year Installed: 1971
Tank Capacity: 00006000
Tank Used for: PRODUCT
Type of Fuel: 06
Tank Construction: 0000240 inches
Leak Detection: Stock Inventor, 10

Tank Num: 002
Container Num: 0000000002
Year Installed: 1961
Tank Capacity: 00006000
Tank Used for: PRODUCT
Type of Fuel: 06
Tank Construction: 0000240 inches
Leak Detection: Stock Inventor, 10

Tank Num: 003
Container Num: 0000000003
Year Installed: 1961
Tank Capacity: 00006000
Tank Used for: PRODUCT
Type of Fuel: 06
Tank Construction: 0000240 inches
Leak Detection: Stock Inventor, 10

SHORELINE ENTERPRISES INC (Continued) **U001565893**

Tank Num:	004
Container Num:	0000000004
Year Installed:	1961
Tank Capacity:	00006000
Tank Used for:	PRODUCT
Type of Fuel:	06
Tank Construction:	0000240 inches
Leak Detection:	Stock Inventor, 10

C13 **UNOCAL #5939** **LUST** **1000301752**
North **76 TERMINO AVE** **N/A**
< 1/8 **LONG BEACH, CA 90803**
0.116 mi.
614 ft. **Site 6 of 12 in cluster C**

Relative:
Higher

Actual:
24 ft.

LUST:

Region:	STATE
Global Id:	T0603701622
Latitude:	33.7603691241221
Longitude:	-118.145534992218
Case Type:	LUST Cleanup Site
Status:	Open - Site Assessment
Status Date:	11/17/2009
Lead Agency:	LOS ANGELES RWQCB (REGION 4)
Case Worker:	NC
Local Agency:	LONG BEACH, CITY OF
RB Case Number:	907310161A
LOC Case Number:	Not reported
File Location:	Regional Board
Potential Media Affect:	Aquifer used for drinking water supply
Potential Contaminants of Concern:	Gasoline
Site History:	Not reported

Click here to access the California GeoTracker records for this facility:

Contact:

Global Id:	T0603701622
Contact Type:	Regional Board Caseworker
Contact Name:	DAVID M. BJOSTAD
Organization Name:	LOS ANGELES RWQCB (REGION 4)
Address:	320 W. 4th Street, Suite 200
City:	Los Angeles
Email:	dbjostad@waterboards.ca.gov
Phone Number:	Not reported

Global Id:	T0603701622
Contact Type:	Local Agency Caseworker
Contact Name:	CARMEN PIRO
Organization Name:	LONG BEACH, CITY OF
Address:	2525 GRAND AVE.
City:	LONG BEACH
Email:	carmen_piro@longbeach.gov
Phone Number:	5625704137

Regulatory Activities:

Global Id:	T0603701622
Action Type:	RESPONSE
Date:	01/15/2008

UNOCAL #5939 (Continued) **1000301752**

Action:	Monitoring Report - Quarterly
Global Id:	T0603701622
Action Type:	RESPONSE
Date:	04/15/2008
Action:	Monitoring Report - Quarterly
Global Id:	T0603701622
Action Type:	RESPONSE
Date:	01/15/2010
Action:	Monitoring Report - Semi-Annually
Global Id:	T0603701622
Action Type:	ENFORCEMENT
Date:	06/15/2009
Action:	Staff Letter
Global Id:	T0603701622
Action Type:	Other
Date:	01/01/1950
Action:	Leak Stopped
Global Id:	T0603701622
Action Type:	RESPONSE
Date:	10/15/2010
Action:	Monitoring Report - Semi-Annually
Global Id:	T0603701622
Action Type:	RESPONSE
Date:	10/17/2006
Action:	Soil and Water Investigation Workplan
Global Id:	T0603701622
Action Type:	RESPONSE
Date:	07/15/2006
Action:	Monitoring Report - Quarterly
Global Id:	T0603701622
Action Type:	RESPONSE
Date:	10/15/2009
Action:	Monitoring Report - Semi-Annually
Global Id:	T0603701622
Action Type:	RESPONSE
Date:	04/15/2002
Action:	Monitoring Report - Quarterly
Global Id:	T0603701622
Action Type:	ENFORCEMENT
Date:	01/04/2002
Action:	Staff Letter
Global Id:	T0603701622
Action Type:	ENFORCEMENT
Date:	01/04/2001
Action:	Staff Letter

UNOCAL #5939 (Continued) **1000301752**

Global Id: T0603701622
Action Type: Other
Date: 01/01/1950
Action: Leak Discovery

Global Id: T0603701622
Action Type: RESPONSE
Date: 10/15/2002
Action: Monitoring Report - Quarterly

Global Id: T0603701622
Action Type: RESPONSE
Date: 07/15/2002
Action: Monitoring Report - Quarterly

Global Id: T0603701622
Action Type: RESPONSE
Date: 08/04/2002
Action: Soil and Water Investigation Report

Global Id: T0603701622
Action Type: RESPONSE
Date: 03/04/2002
Action: Soil and Water Investigation Workplan

Global Id: T0603701622
Action Type: ENFORCEMENT
Date: 06/04/2002
Action: Staff Letter

Global Id: T0603701622
Action Type: RESPONSE
Date: 04/15/2007
Action: Monitoring Report - Quarterly

Global Id: T0603701622
Action Type: RESPONSE
Date: 01/15/2005
Action: Monitoring Report - Quarterly

Global Id: T0603701622
Action Type: RESPONSE
Date: 11/01/2010
Action: Well Installation Report

Global Id: T0603701622
Action Type: Other
Date: 01/01/1950
Action: Leak Reported

Global Id: T0603701622
Action Type: RESPONSE
Date: 04/15/2009
Action: Monitoring Report - Quarterly

Global Id: T0603701622
Action Type: RESPONSE

UNOCAL #5939 (Continued) **1000301752**

Date:	11/14/2008
Action:	Soil and Water Investigation Report
Global Id:	T0603701622
Action Type:	RESPONSE
Date:	01/15/2003
Action:	Monitoring Report - Quarterly
Global Id:	T0603701622
Action Type:	RESPONSE
Date:	10/15/2004
Action:	Monitoring Report - Quarterly
Global Id:	T0603701622
Action Type:	RESPONSE
Date:	07/15/2004
Action:	Monitoring Report - Quarterly
Global Id:	T0603701622
Action Type:	RESPONSE
Date:	01/15/2011
Action:	Monitoring Report - Semi-Annually
Global Id:	T0603701622
Action Type:	RESPONSE
Date:	07/15/2008
Action:	Monitoring Report - Quarterly
Global Id:	T0603701622
Action Type:	RESPONSE
Date:	04/15/2006
Action:	Monitoring Report - Quarterly
Global Id:	T0603701622
Action Type:	RESPONSE
Date:	01/15/2007
Action:	Monitoring Report - Quarterly
Global Id:	T0603701622
Action Type:	RESPONSE
Date:	04/15/2010
Action:	Monitoring Report - Semi-Annually
Global Id:	T0603701622
Action Type:	RESPONSE
Date:	01/15/2006
Action:	Monitoring Report - Quarterly
Global Id:	T0603701622
Action Type:	RESPONSE
Date:	01/15/2009
Action:	Monitoring Report - Quarterly
Global Id:	T0603701622
Action Type:	RESPONSE
Date:	04/15/2011
Action:	Monitoring Report - Semi-Annually

UNOCAL #5939 (Continued) **1000301752**

Global Id:	T0603701622
Action Type:	ENFORCEMENT
Date:	06/19/2009
Action:	Technical Correspondence / Assistance / Other
Global Id:	T0603701622
Action Type:	RESPONSE
Date:	07/15/2003
Action:	Monitoring Report - Quarterly
Global Id:	T0603701622
Action Type:	RESPONSE
Date:	08/06/2008
Action:	Pilot Study / Treatability Workplan
Global Id:	T0603701622
Action Type:	RESPONSE
Date:	04/15/2004
Action:	Monitoring Report - Quarterly
Global Id:	T0603701622
Action Type:	RESPONSE
Date:	04/15/2003
Action:	Monitoring Report - Quarterly
Global Id:	T0603701622
Action Type:	RESPONSE
Date:	07/15/2005
Action:	Monitoring Report - Quarterly
Global Id:	T0603701622
Action Type:	RESPONSE
Date:	07/15/2007
Action:	Monitoring Report - Quarterly
Global Id:	T0603701622
Action Type:	RESPONSE
Date:	10/15/2007
Action:	Monitoring Report - Quarterly
Global Id:	T0603701622
Action Type:	RESPONSE
Date:	01/15/2006
Action:	Soil and Water Investigation Workplan
Global Id:	T0603701622
Action Type:	RESPONSE
Date:	07/15/2011
Action:	Monitoring Report - Semi-Annually
Global Id:	T0603701622
Action Type:	RESPONSE
Date:	12/16/2011
Action:	Well Destruction Workplan
Global Id:	T0603701622
Action Type:	RESPONSE

UNOCAL #5939 (Continued) **1000301752**

Date: 01/15/2012
Action: Monitoring Report - Semi-Annually

Global Id: T0603701622
Action Type: RESPONSE
Date: 12/16/2011
Action: Well Installation Workplan

Global Id: T0603701622
Action Type: RESPONSE
Date: 07/15/2012
Action: Monitoring Report - Semi-Annually

Global Id: T0603701622
Action Type: RESPONSE
Date: 10/25/2005
Action: Soil and Water Investigation Report

Global Id: T0603701622
Action Type: RESPONSE
Date: 07/15/2010
Action: Monitoring Report - Semi-Annually

Global Id: T0603701622
Action Type: RESPONSE
Date: 10/15/2008
Action: Monitoring Report - Quarterly

Global Id: T0603701622
Action Type: RESPONSE
Date: 01/15/2004
Action: Monitoring Report - Quarterly

Global Id: T0603701622
Action Type: RESPONSE
Date: 12/14/2012
Action: Soil and Water Investigation Workplan - Addendum

Global Id: T0603701622
Action Type: RESPONSE
Date: 07/15/2013
Action: Monitoring Report - Semi-Annually

Global Id: T0603701622
Action Type: RESPONSE
Date: 01/15/2013
Action: Monitoring Report - Semi-Annually

Global Id: T0603701622
Action Type: REMEDIATION
Date: 01/01/1950
Action: Excavation

Global Id: T0603701622
Action Type: RESPONSE
Date: 04/15/2005
Action: Monitoring Report - Quarterly

UNOCAL #5939 (Continued) **1000301752**

Global Id:	T0603701622
Action Type:	RESPONSE
Date:	11/23/2009
Action:	Soil and Water Investigation Workplan

Global Id:	T0603701622
Action Type:	RESPONSE
Date:	07/15/2009
Action:	Monitoring Report - Semi-Annually

Global Id:	T0603701622
Action Type:	RESPONSE
Date:	10/15/2005
Action:	Monitoring Report - Quarterly

Global Id:	T0603701622
Action Type:	RESPONSE
Date:	10/15/2003
Action:	Monitoring Report - Quarterly

Region:	STATE
Global Id:	T0603701621
Latitude:	33.7608526
Longitude:	-118.1458787
Case Type:	LUST Cleanup Site
Status:	Completed - Case Closed
Status Date:	07/19/1996
Lead Agency:	LOS ANGELES RWQCB (REGION 4)
Case Worker:	YR
Local Agency:	LONG BEACH, CITY OF
RB Case Number:	907310161
LOC Case Number:	Not reported
File Location:	Not reported
Potential Media Affect:	Aquifer used for drinking water supply
Potential Contaminants of Concern:	Other Solvent or Non-Petroleum Hydrocarbon
Site History:	Not reported

Click here to access the California GeoTracker records for this facility:

Contact:

Global Id:	T0603701621
Contact Type:	Regional Board Caseworker
Contact Name:	YUE RONG
Organization Name:	LOS ANGELES RWQCB (REGION 4)
Address:	320 W. 4TH ST., SUITE 200
City:	Los Angeles
Email:	yrong@waterboards.ca.gov
Phone Number:	Not reported

Global Id:	T0603701621
Contact Type:	Local Agency Caseworker
Contact Name:	CARMEN PIRO
Organization Name:	LONG BEACH, CITY OF
Address:	2525 GRAND AVE.
City:	LONG BEACH
Email:	carmen_piro@longbeach.gov
Phone Number:	5625704137

UNOCAL #5939 (Continued) **1000301752**

Regulatory Activities:

Global Id:	T0603701621
Action Type:	Other
Date:	01/01/1950
Action:	Leak Reported

C14
North
< 1/8
0.116 mi.
614 ft.

UNOCAL #5939
76 TERMINO AVE
LONG BEACH, CA 90803

LUST **S101296810**
N/A

Site 7 of 12 in cluster C

Relative:
Higher

Actual:
24 ft.

LUST REG 4:

Region:	4
Regional Board:	04
County:	Los Angeles
Facility Id:	907310161
Status:	Case Closed
Substance:	Hydrocarbons
Substance Quantity:	Not reported
Local Case No:	Not reported
Case Type:	Groundwater
Abatement Method Used at the Site:	Not reported
Global ID:	T0603701621
W Global ID:	Not reported
Staff:	UNK
Local Agency:	19060
Cross Street:	Not reported
Enforcement Type:	Not reported
Date Leak Discovered:	Not reported
Date Leak First Reported:	12/19/1990
Date Leak Record Entered:	12/20/1990
Date Confirmation Began:	Not reported
Date Leak Stopped:	Not reported
Date Case Last Changed on Database:	2/16/1998
Date the Case was Closed:	7/19/1996
How Leak Discovered:	Not reported
How Leak Stopped:	Not reported
Cause of Leak:	Not reported
Leak Source:	Not reported
Operator:	OLD CASE #122090-01
Water System:	Not reported
Well Name:	Not reported
Approx. Dist To Production Well (ft):	13780.31393583597587443195864
Source of Cleanup Funding:	Not reported
Preliminary Site Assessment Workplan Submitted:	Not reported
Preliminary Site Assessment Began:	Not reported
Pollution Characterization Began:	1/7/1992
Remediation Plan Submitted:	Not reported
Remedial Action Underway:	7/12/1996
Post Remedial Action Monitoring Began:	Not reported
Enforcement Action Date:	Not reported
Historical Max MTBE Date:	Not reported
Hist Max MTBE Conc in Groundwater:	Not reported
Hist Max MTBE Conc in Soil:	Not reported
Significant Interim Remedial Action Taken:	Not reported

UNOCAL #5939 (Continued) **S101296810**

GW Qualifier:	Not reported
Soil Qualifier:	Not reported
Organization:	Not reported
Owner Contact:	Not reported
Responsible Party:	UNOCAL #5939
RP Address:	76 TERMINO AVE, LONG BEACH CA 90803
Program:	LUST
Lat/Long:	33.7607626 / -1
Local Agency Staff:	Not reported
Beneficial Use:	Not reported
Priority:	Not reported
Cleanup Fund Id:	Not reported
Suspended:	Not reported
Assigned Name:	Not reported
Summary:	Not reported

C15
North
< 1/8
0.116 mi.
614 ft.

SERVICE STATION 5939
76 TERMINO AVE
LONG BEACH, CA 90803

Site 8 of 12 in cluster C

HIST UST **U001565891**
N/A

Relative:
Higher

Actual:
24 ft.

HIST UST:

Region:	STATE
Facility ID:	00000007693
Facility Type:	Gas Station
Other Type:	Not reported
Total Tanks:	0003
Contact Name:	FRED KALLIN
Telephone:	2134346849
Owner Name:	UNION OIL COMPANY OF CALIFORNI
Owner Address:	3701 WILSHIRE BOULEVARD-SUITE
Owner City,St,Zip:	LOS ANGELES, CA 90010

Tank Num:	001
Container Num:	5939-4
Year Installed:	1967
Tank Capacity:	00000550
Tank Used for:	WASTE
Type of Fuel:	WASTE OIL
Tank Construction:	Not reported
Leak Detection:	Stock Inventor, Pressure Test

Tank Num:	002
Container Num:	5939-2
Year Installed:	1967
Tank Capacity:	00009940
Tank Used for:	PRODUCT
Type of Fuel:	PREMIUM
Tank Construction:	Not reported
Leak Detection:	Stock Inventor, Pressure Test

Tank Num:	003
Container Num:	5939-1
Year Installed:	1967
Tank Capacity:	00009940
Tank Used for:	PRODUCT
Type of Fuel:	UNLEADED

SERVICE STATION 5939 (Continued) **U001565891**

Tank Construction: Not reported
Leak Detection: Stock Inventor, Pressure Test

C16 **North** **< 1/8** **0.116 mi.** **614 ft.**	**SERVICE STATION 5939** **76 TERMINO AVE** **LONG BEACH, CA 90803** **Site 9 of 12 in cluster C**	**CA FID UST** **SWEEPS UST**	**S101618010** **N/A**

Relative:
Higher

Actual:
24 ft.

CA FID UST:
Facility ID: 19002922
Regulated By: UTNKA
Regulated ID: 00007693
Cortese Code: Not reported
SIC Code: Not reported
Facility Phone: 2134346849
Mail To: Not reported
Mailing Address: 76 TERMINO AVE
Mailing Address 2: Not reported
Mailing City,St,Zip: LONG BEACH 90803
Contact: Not reported
Contact Phone: Not reported
DUNs Number: Not reported
NPDES Number: Not reported
EPA ID: Not reported
Comments: Not reported
Status: Active

SWEEPS UST:
Status: Active
Comp Number: 7693
Number: 9
Board Of Equalization: 44-013372
Referral Date: 07-01-85
Action Date: Not reported
Created Date: 02-29-88
Tank Status: A
Owner Tank Id: 5939-4
Swrcb Tank Id: 19-060-007693-000001
Actv Date: 07-01-85
Capacity: 550
Tank Use: OIL
Stg: W
Content: WASTE OIL
Number Of Tanks: 3

Status: Active
Comp Number: 7693
Number: 9
Board Of Equalization: 44-013372
Referral Date: 07-01-85
Action Date: Not reported
Created Date: 02-29-88
Tank Status: A
Owner Tank Id: 5939-2
Swrcb Tank Id: 19-060-007693-000002
Actv Date: 07-01-85

SERVICE STATION 5939 (Continued) **S101618010**

Capacity:	9940
Tank Use:	M.V. FUEL
Stg:	P
Content:	REG UNLEADED
Number Of Tanks:	Not reported

Status:	Active
Comp Number:	7693
Number:	9
Board Of Equalization:	44-013372
Referral Date:	07-01-85
Action Date:	Not reported
Created Date:	02-29-88
Tank Status:	A
Owner Tank Id:	5939-1
Swrcb Tank Id:	19-060-007693-000003
Actv Date:	07-01-85
Capacity:	9940
Tank Use:	M.V. FUEL
Stg:	P
Content:	REG UNLEADED
Number Of Tanks:	Not reported

C17
North
< 1/8
0.116 mi.
614 ft.

UNION OIL SERVICE STATION LEAS
76 TERMINO AVE
LONG BEACH, CA 90803

Site 10 of 12 in cluster C

HIST UST **1000166751**
N/A

Relative:
Higher

Actual:
24 ft.

HIST UST:

Region:	STATE
Facility ID:	00000055366
Facility Type:	Gas Station
Other Type:	Not reported
Total Tanks:	0001
Contact Name:	FRED KALLIN
Telephone:	2134346849
Owner Name:	UNION OIL COMPANY OF CALIFORNI
Owner Address:	3701 WILSHIRE BOULEVARD-SUITE
Owner City,St,Zip:	LOS ANGELES, CA 90010

Tank Num:	001
Container Num:	5939-00
Year Installed:	Not reported
Tank Capacity:	00000300
Tank Used for:	WASTE
Type of Fuel:	WASTE OIL
Tank Construction:	Not reported
Leak Detection:	None

C18
North
< 1/8
0.116 mi.
614 ft.

BELMONT 76 (UNOCAL #5939) (3 D/W JOOR) — **UST** — **U003854911** / **N/A**
0076 TERMINO AVE
LONG BEACH, CA

Site 11 of 12 in cluster C

Relative: **Higher**

Actual: **24 ft.**

LONG BEACH UST:
- Region: LONG BEACH
- Tank Code: Dual Walled
- Tank Test: Dual Walled
- Leak Test: Not reported

C19
North
< 1/8
0.116 mi.
614 ft.

TOSCO - 76 STATION #5939 — **LUST** — **S104406330** / **N/A**
76 TERMINO AVE
LONG BEACH, CA 90803

Site 12 of 12 in cluster C

Relative: **Higher**

Actual: **24 ft.**

LUST REG 4:
- Region: 4
- Regional Board: 04
- County: Los Angeles
- Facility Id: 907310161A
- Status: Pollution Characterization
- Substance: Gasoline
- Substance Quantity: Not reported
- Local Case No: Not reported
- Case Type: Groundwater
- Abatement Method Used at the Site: Excavate and Dispose
- Global ID: T0603701622
- W Global ID: Not reported
- Staff: NC
- Local Agency: 19060
- Cross Street: LIVINGSTON DR
- Enforcement Type: LET
- Date Leak Discovered: 11/4/1999
- Date Leak First Reported: 1/13/2000
- Date Leak Record Entered: Not reported
- Date Confirmation Began: Not reported
- Date Leak Stopped: 11/4/1999
- Date Case Last Changed on Database: 8/2/2002
- Date the Case was Closed: Not reported
- How Leak Discovered: OM
- How Leak Stopped: Not reported
- Cause of Leak: UNK
- Leak Source: UNK
- Operator: TOSCO MARKETING
- Water System: Not reported
- Well Name: Not reported
- Approx. Dist To Production Well (ft): 13684.092025801970277994723645
- Source of Cleanup Funding: UNK
- Preliminary Site Assessment Workplan Submitted: 6/19/2000
- Preliminary Site Assessment Began: 12/22/2000
- Pollution Characterization Began: 3/6/2002
- Remediation Plan Submitted: Not reported
- Remedial Action Underway: Not reported
- Post Remedial Action Monitoring Began: Not reported
- Enforcement Action Date: Not reported
- Historical Max MTBE Date: 8/21/2000
- Hist Max MTBE Conc in Groundwater: 9600

TOSCO - 76 STATION #5939 (Continued) **S104406330**

Hist Max MTBE Conc in Soil: 81
Significant Interim Remedial Action Taken: Yes
GW Qualifier: Not reported
Soil Qualifier: Not reported
Organization: Not reported
Owner Contact: Not reported
Responsible Party: K. DEAN MITCHELL
RP Address: 5882 BOLSA AVE., SUITE #200
Program: LUST
Lat/Long: 33.7610546 / -1
Local Agency Staff: Not reported
Beneficial Use: Not reported
Priority: Not reported
Cleanup Fund Id: Not reported
Suspended: Not reported
Assigned Name: Not reported
Summary: 12/13/00 GW INVESTIGATION RPT

D20 **CHMIRS** **S110979449**
NNW **3900 EAST OCEAN BLVD** **N/A**
1/8-1/4 **LONG BEACH, CA**
0.127 mi.
669 ft. **Site 1 of 10 in cluster D**

Relative:
Higher

Actual:
30 ft.

CHMIRS:
OES Incident Number: '10-2896
OES notification: 05/09/2010
OES Date: Not reported
OES Time: Not reported
Incident Date: Not reported
Date Completed: Not reported
Property Use: Not reported
Agency Id Number: Not reported
Agency Incident Number: Not reported
Time Notified: Not reported
Time Completed: Not reported
Surrounding Area: Not reported
Estimated Temperature: Not reported
Property Management: Not reported
Special Studies 1: Not reported
Special Studies 2: Not reported
Special Studies 3: Not reported
Special Studies 4: Not reported
Special Studies 5: Not reported
Special Studies 6: Not reported
More Than Two Substances Involved?: Not reported
Resp Agncy Personel # Of Decontaminated: Not reported
Responding Agency Personel # Of Injuries: Not reported
Responding Agency Personel # Of Fatalities: Not reported
Others Number Of Decontaminated: Not reported
Others Number Of Injuries: Not reported
Others Number Of Fatalities: Not reported
Vehicle Make/year: Not reported
Vehicle License Number: Not reported
Vehicle State: Not reported
Vehicle Id Number: Not reported
CA/DOT/PUC/ICC Number: Not reported
Company Name: Not reported

(Continued) **S110979449**

Reporting Officer Name/ID:	Not reported
Report Date:	Not reported
Comments:	Not reported
Facility Telephone:	Not reported
Waterway Involved:	No
Waterway:	Not reported
Spill Site:	Road
Cleanup By:	Contractor
Containment:	Not reported
What Happened:	Not reported
Type:	Not reported
Measure:	Gal(s)
Other:	Not reported
Date/Time:	1600
Year:	2010
Agency:	SoCal Edison
Incident Date:	5/9/2010
Admin Agency:	Long Beach Fire Department
Amount:	Not reported
Contained:	Yes
Site Type:	Not reported
E Date:	Not reported
Substance:	Mineral Oil
Quantity Released:	100
BBLS:	Not reported
Cups:	Not reported
CUFT:	Not reported
Gallons:	Not reported
Grams:	Not reported
Pounds:	Not reported
Liters:	Not reported
Ounces:	Not reported
Pints:	Not reported
Quarts:	Not reported
Sheen:	Not reported
Tons:	Not reported
Unknown:	Not reported
Evacuations:	Not reported
Number of Injuries:	Not reported
Number of Fatalities:	Not reported
Description:	Caller states that mineral oil was released from a pad mounted transformer from car contact. Media affected is the soil and concrete. Not reported

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D21 **VONS STORE # 280** **UST** **U003920397**
NNW **3900 E OCEAN BLVD** **N/A**
1/8-1/4 **LONG BEACH, CA**
0.127 mi.
669 ft. **Site 2 of 10 in cluster D**

Relative:
Higher

Actual:
30 ft.

D22
NNW
1/8-1/4
0.127 mi.
669 ft.

VONS STORE # 280
3900 E OCEAN BLVD
LONG BEACH, CA

Site 3 of 10 in cluster D

UST **U003661098**
N/A

Relative:
Higher

Actual:
30 ft.

LONG BEACH UST:

Region:	LONG BEACH
Tank Code:	Not reported
Tank Test:	Not reported
Leak Test:	Not reported

23
North
1/8-1/4
0.132 mi.
697 ft.

4007 LIVINGSTON DR
LONG BEACH, CA

UST **U003920039**
N/A

Relative:
Higher

Actual:
26 ft.

LONG BEACH UST:

Region:	LONG BEACH
Tank Code:	Not reported
Tank Test:	Not reported
Leak Test:	Not reported

D24
NW
1/8-1/4
0.144 mi.
758 ft.

3870 W OCEAN BLVD
LONG BEACH, CA

Site 4 of 10 in cluster D

UST **U003920154**
N/A

Relative:
Higher

Actual:
32 ft.

LONG BEACH UST:

Region:	LONG BEACH
Tank Code:	Not reported
Tank Test:	Not reported
Leak Test:	Not reported

D25
NW
1/8-1/4
0.144 mi.
760 ft.

3870 E OCEAN BLVD
LONG BEACH, CA

Site 5 of 10 in cluster D

UST **U003920153**
N/A

Relative:
Higher

Actual:
32 ft.

LONG BEACH UST:

Region:	LONG BEACH
Tank Code:	Not reported
Tank Test:	Not reported
Leak Test:	Not reported

D26	**1 HR MOTO PHOTO**	**RCRA-SQG**	**1000351556**
NW	**3870 E OCEAN BLVD**		**CAD982015307**
1/8-1/4	**LONG BEACH, CA 90803**		
0.144 mi.			
760 ft.	**Site 6 of 10 in cluster D**		

Relative: Higher

Actual: 32 ft.

RCRA-SQG:

Date form received by agency:	07/20/1987
Facility name:	1 HR MOTO PHOTO
Facility address:	3870 E OCEAN BLVD LONG BEACH, CA 90803
EPA ID:	CAD982015307
Contact:	ENVIRONMENTAL MANAGER
Contact address:	3870 E OCEAN BLVD LONG BEACH, CA 90803
Contact country:	US
Contact telephone:	(213) 434-0943
Contact email:	Not reported
EPA Region:	09
Classification:	Small Small Quantity Generator
Description:	Handler: generates more than 100 and less than 1000 kg of hazardous waste during any calendar month and accumulates less than 6000 kg of hazardous waste at any time; or generates 100 kg or less of hazardous waste during any calendar month, and accumulates more than 1000 kg of hazardous waste at any time

Owner/Operator Summary:

Owner/operator name:	LIM DANIEL
Owner/operator address:	NOT REQUIRED NOT REQUIRED, ME 99999
Owner/operator country:	Not reported
Owner/operator telephone:	(415) 555-1212
Legal status:	Private
Owner/Operator Type:	Owner
Owner/Op start date:	Not reported
Owner/Op end date:	Not reported

Owner/operator name:	NOT REQUIRED
Owner/operator address:	NOT REQUIRED NOT REQUIRED, ME 99999
Owner/operator country:	Not reported
Owner/operator telephone:	(415) 555-1212
Legal status:	Private
Owner/Operator Type:	Operator
Owner/Op start date:	Not reported
Owner/Op end date:	Not reported

Handler Activities Summary:

U.S. importer of hazardous waste:	No
Mixed waste (haz. and radioactive):	No
Recycler of hazardous waste:	No
Transporter of hazardous waste:	No
Treater, storer or disposer of HW:	No
Underground injection activity:	No
On-site burner exemption:	No
Furnace exemption:	No
Used oil fuel burner:	No
Used oil processor:	No

1 HR MOTO PHOTO (Continued) **1000351556**

User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

Violation Status: No violations found

D27
NNW
1/8-1/4
0.165 mi.
873 ft.

20 NORTH GRAND AVE
LONG BEACH, CA

Site 7 of 10 in cluster D

ERNS **2010928455**
N/A

Relative:
Higher

Actual:
36 ft.

Click this hyperlink while viewing on your computer to access additional ERNS detail in the EDR Site Report.

D28
NNW
1/8-1/4
0.165 mi.
873 ft.

20 GRAND AVE
LONG BEACH, CA

Site 8 of 10 in cluster D

ERNS **2008880003**
N/A

Relative:
Higher

Actual:
36 ft.

Click this hyperlink while viewing on your computer to access additional ERNS detail in the EDR Site Report.

D29
NNW
1/8-1/4
0.165 mi.
873 ft.

20 GRAND AVENUE, SITE: NOT STATED
LONG BEACH, CA

Site 9 of 10 in cluster D

CHMIRS **S110418681**
N/A

Relative:
Higher

Actual:
36 ft.

CHMIRS:
OES Incident Number: '08-5761
OES notification: 08/08/2008
OES Date: Not reported
OES Time: Not reported
Incident Date: Not reported
Date Completed: **Not reported**
Property Use: Not reported
Agency Id Number: Not reported
Agency Incident Number: Not reported
Time Notified: Not reported
Time Completed: Not reported
Surrounding Area: Not reported
Estimated Temperature: Not reported
Property Management: Not reported
Special Studies 1: Not reported
Special Studies 2: Not reported
Special Studies 3: Not reported
Special Studies 4: Not reported
Special Studies 5: Not reported
Special Studies 6: Not reported
More Than Two Substances Involved?: Not reported
Resp Agncy Personel # Of Decontaminated: Not reported
Responding Agency Personel # Of Injuries: Not reported
Responding Agency Personel # Of Fatalities: Not reported

(Continued) **S110418681**

Others Number Of Decontaminated:	Not reported
Others Number Of Injuries:	Not reported
Others Number Of Fatalities:	Not reported
Vehicle Make/year:	Not reported
Vehicle License Number:	Not reported
Vehicle State:	Not reported
Vehicle Id Number:	Not reported
CA/DOT/PUC/ICC Number:	Not reported
Company Name:	Not reported
Reporting Officer Name/ID:	Not reported
Report Date:	Not reported
Comments:	Not reported
Facility Telephone:	Not reported
Waterway Involved:	Yes
Waterway:	Storm Drain, unknown where it runs to
Spill Site:	Other
Cleanup By:	Unknown
Containment:	Not reported
What Happened:	Not reported
Type:	Not reported
Measure:	Gal(s)
Other:	Not reported
Date/Time:	1440
Year:	2008
Agency:	NRC
Incident Date:	8/8/2008
Admin Agency:	Long Beach Fire Department
Amount:	Not reported
Contained:	Unknown
Site Type:	Storm Drain, unknown where it runs to
E Date:	Not reported
Substance:	Automotive Gasoline (Unleaded)
Quantity Released:	2
BBLS:	Not reported
Cups:	Not reported
CUFT:	Not reported
Gallons:	Not reported
Grams:	Not reported
Pounds:	Not reported
Liters:	Not reported
Ounces:	Not reported
Pints:	Not reported
Quarts:	Not reported
Sheen:	Not reported
Tons:	Not reported
Unknown:	Not reported
Evacuations:	0
Number of Injuries:	0
Number of Fatalities:	0
Description:	Per NRC Report, "caller is reporting that 2 gallons of gasoline released from a gas tank due to the operator of a motorcycle taking the tank and dumping it down the storm drain. Caller stated that the suspect then jumped in the car and left." Remedial Actions: "Health Dept. on scene."

D30
NNW **20 NORTH GRAND AVE**
1/8-1/4 **LONG BEACH, CA 90803**
0.165 mi.
873 ft. **Site 10 of 10 in cluster D**

CHMIRS **S110977350**
N/A

Relative:
Higher

Actual:
36 ft.

CHMIRS:

OES Incident Number:	'10-0248
OES notification:	01/13/2010
OES Date:	Not reported
OES Time:	Not reported
Incident Date:	Not reported
Date Completed:	**Not reported**
Property Use:	Not reported
Agency Id Number:	Not reported
Agency Incident Number:	Not reported
Time Notified:	Not reported
Time Completed:	Not reported
Surrounding Area:	Not reported
Estimated Temperature:	Not reported
Property Management:	Not reported
Special Studies 1:	Not reported
Special Studies 2:	Not reported
Special Studies 3:	Not reported
Special Studies 4:	Not reported
Special Studies 5:	Not reported
Special Studies 6:	Not reported
More Than Two Substances Involved?:	Not reported
Resp Agncy Personel # Of Decontaminated:	Not reported
Responding Agency Personel # Of Injuries:	Not reported
Responding Agency Personel # Of Fatalities:	Not reported
Others Number Of Decontaminated:	Not reported
Others Number Of Injuries:	Not reported
Others Number Of Fatalities:	Not reported
Vehicle Make/year:	Not reported
Vehicle License Number:	Not reported
Vehicle State:	Not reported
Vehicle Id Number:	Not reported
CA/DOT/PUC/ICC Number:	Not reported
Company Name:	Not reported
Reporting Officer Name/ID:	Not reported
Report Date:	Not reported
Comments:	Not reported
Facility Telephone:	Not reported
Waterway Involved:	Yes
Waterway:	Storm Drain
Spill Site:	Residence
Cleanup By:	Unknown
Containment:	Not reported
What Happened:	Not reported
Type:	Not reported
Measure:	Gal(s)
Other:	Not reported
Date/Time:	715
Year:	2010
Agency:	NRC
Incident Date:	1/13/2010
Admin Agency:	Long Beach Fire Department
Amount:	Not reported

(Continued) **S110977350**

Contained:	Yes
Site Type:	Storm Drain
E Date:	Not reported
Substance:	Sewage
Quantity Released:	2
BBLS:	Not reported
Cups:	Not reported
CUFT:	Not reported
Gallons:	Not reported
Grams:	Not reported
Pounds:	Not reported
Liters:	Not reported
Ounces:	Not reported
Pints:	Not reported
Quarts:	Not reported
Sheen:	Not reported
Tons:	Not reported
Unknown:	Not reported
Evacuations:	Not reported
Number of Injuries:	Not reported
Number of Fatalities:	Not reported
Description:	CALLER IS REPORTING A SPILL OF RAW SEWAGE ON THE STREET AND THE CALLER STATES HE HOSED THE MATERIAL OFF AND IT WENT INTO A STORM DRAIN.

E31
North **0200 S TERMINO AVE**
1/8-1/4 **LONG BEACH, CA**
0.244 mi.
1288 ft. **Site 1 of 4 in cluster E**

UST **U003920319**
N/A

Relative:
Higher

Actual:
49 ft.

LONG BEACH UST:

Region:	LONG BEACH
Tank Code:	Not reported
Tank Test:	Not reported
Leak Test:	Not reported

E32
North **3935 EAST SECOND STREET**
1/8-1/4 **LONG BEACH, CA 90807**
0.245 mi.
1293 ft. **Site 2 of 4 in cluster E**

CHMIRS **S109038970**
N/A

Relative:
Higher

Actual:
49 ft.

CHMIRS:

OES Incident Number:	07-2544
OES notification:	04/26/2007
OES Date:	Not reported
OES Time:	Not reported
Incident Date:	Not reported
Date Completed:	**Not reported**
Property Use:	Not reported
Agency Id Number:	Not reported
Agency Incident Number:	Not reported
Time Notified:	Not reported
Time Completed:	Not reported
Surrounding Area:	Not reported

(Continued) **S109038970**

Estimated Temperature:	Not reported
Property Management:	Not reported
Special Studies 1:	Not reported
Special Studies 2:	Not reported
Special Studies 3:	Not reported
Special Studies 4:	Not reported
Special Studies 5:	Not reported
Special Studies 6:	Not reported
More Than Two Substances Involved?:	Not reported
Resp Agncy Personel # Of Decontaminated:	Not reported
Responding Agency Personel # Of Injuries:	Not reported
Responding Agency Personel # Of Fatalities:	Not reported
Others Number Of Decontaminated:	Not reported
Others Number Of Injuries:	Not reported
Others Number Of Fatalities:	Not reported
Vehicle Make/year:	Not reported
Vehicle License Number:	Not reported
Vehicle State:	Not reported
Vehicle Id Number:	Not reported
CA/DOT/PUC/ICC Number:	Not reported
Company Name:	Not reported
Reporting Officer Name/ID:	Not reported
Report Date:	Not reported
Comments:	Not reported
Facility Telephone:	Not reported
Waterway Involved:	Not reported
Waterway:	Not reported
Spill Site:	Not reported
Cleanup By:	Contractor
Containment:	Not reported
What Happened:	Not reported
Type:	Not reported
Measure:	Not reported
Other:	Not reported
Date/Time:	Not reported
Year:	2007
Agency:	Long Beach Water District
Incident Date:	4/26/2007 12:00:00 AM
Admin Agency:	Long Beach Fire Department
Amount:	Not reported
Contained:	Yes
Site Type:	Residence
E Date:	Not reported
Substance:	Sewage Category II
Quantity Released:	Not reported
BBLS:	0
Cups:	0
CUFT:	0
Gallons:	130
Grams:	0
Pounds:	0
Liters:	0
Ounces:	0
Pints:	0
Quarts:	0
Sheen:	0
Tons:	0

(Continued) **S109038970**

Unknown:	0
Evacuations:	0
Number of Injuries:	0
Number of Fatalities:	0
Description:	A grease stoppage on a city sewer main caused a back-up which resulted in this release.

E33
North **3915 EAST 2ND ST**
1/8-1/4 **LONG BEACH, CA**
0.246 mi.
1301 ft. **Site 3 of 4 in cluster E**

ERNS **2006819427**
N/A

Relative:
Higher

Actual:
49 ft.

Click this hyperlink while viewing on your computer to access additional ERNS detail in the EDR Site Report.

E34
North **3915 E 2ND ST**
1/8-1/4 **LONG BEACH, CA**
0.246 mi.
1301 ft. **Site 4 of 4 in cluster E**

CHMIRS **S109038965**
N/A

Relative:
Higher

Actual:
49 ft.

CHMIRS:

OES Incident Number:	06-7052
OES notification:	11/29/2006
OES Date:	Not reported
OES Time:	Not reported
Incident Date:	Not reported
Date Completed:	**Not reported**
Property Use:	Not reported
Agency Id Number:	Not reported
Agency Incident Number:	Not reported
Time Notified:	Not reported
Time Completed:	Not reported
Surrounding Area:	Not reported
Estimated Temperature:	Not reported
Property Management:	Not reported
Special Studies 1:	Not reported
Special Studies 2:	Not reported
Special Studies 3:	Not reported
Special Studies 4:	Not reported
Special Studies 5:	Not reported
Special Studies 6:	Not reported
More Than Two Substances Involved?:	Not reported
Resp Agncy Personel # Of Decontaminated:	Not reported
Responding Agency Personel # Of Injuries:	Not reported
Responding Agency Personel # Of Fatalities:	Not reported
Others Number Of Decontaminated:	Not reported
Others Number Of Injuries:	Not reported
Others Number Of Fatalities:	Not reported
Vehicle Make/year:	Not reported
Vehicle License Number:	Not reported
Vehicle State:	Not reported
Vehicle Id Number:	Not reported
CA/DOT/PUC/ICC Number:	Not reported
Company Name:	Not reported
Reporting Officer Name/ID:	Not reported

(Continued) **S109038965**

Report Date:	Not reported
Comments:	Not reported
Facility Telephone:	Not reported
Waterway Involved:	Not reported
Waterway:	unk
Spill Site:	Not reported
Cleanup By:	Contractor
Containment:	Not reported
What Happened:	Not reported
Type:	Not reported
Measure:	Not reported
Other:	Not reported
Date/Time:	Not reported
Year:	2006
Agency:	Long Beach FD
Incident Date:	11/29/2006 12:00:00 AM
Admin Agency:	Long Beach Fire Department
Amount:	Not reported
Contained:	Yes
Site Type:	Residence
E Date:	Not reported
Substance:	sewage
Quantity Released:	Not reported
BBLS:	0
Cups:	0
CUFT:	0
Gallons:	unk
Grams:	0
Pounds:	0
Liters:	0
Ounces:	0
Pints:	0
Quarts:	0
Sheen:	0
Tons:	0
Unknown:	0
Evacuations:	0
Number of Injuries:	0
Number of Fatalities:	0
Description:	Raw sewage came up from a manhole cover and emptied into a storm drain.

35
NE **DIVISION ST AND BENNETT AVE** **CHMIRS** **S105882810**
1/8-1/4 **LONG BEACH, CA** **N/A**
0.249 mi.
1314 ft.

Relative: Higher

Actual: 19 ft.

CHMIRS:

OES Incident Number:	02-0651
OES notification:	02/02/2002
OES Date:	Not reported
OES Time:	Not reported
Incident Date:	Not reported
Date Completed:	**Not reported**
Property Use:	Not reported
Agency Id Number:	Not reported
Agency Incident Number:	Not reported

(Continued) **S105882810**

Time Notified:	Not reported
Time Completed:	Not reported
Surrounding Area:	Not reported
Estimated Temperature:	Not reported
Property Management:	Not reported
Special Studies 1:	Not reported
Special Studies 2:	Not reported
Special Studies 3:	Not reported
Special Studies 4:	Not reported
Special Studies 5:	Not reported
Special Studies 6:	Not reported
More Than Two Substances Involved?:	Not reported
Resp Agncy Personel # Of Decontaminated:	Not reported
Responding Agency Personel # Of Injuries:	Not reported
Responding Agency Personel # Of Fatalities:	Not reported
Others Number Of Decontaminated:	Not reported
Others Number Of Injuries:	Not reported
Others Number Of Fatalities:	Not reported
Vehicle Make/year:	Not reported
Vehicle License Number:	Not reported
Vehicle State:	Not reported
Vehicle Id Number:	Not reported
CA/DOT/PUC/ICC Number:	Not reported
Company Name:	Not reported
Reporting Officer Name/ID:	Not reported
Report Date:	Not reported
Comments:	Not reported
Facility Telephone:	Not reported
Waterway Involved:	Yes
Waterway:	Storm Drain
Spill Site:	Not reported
Cleanup By:	Contractor
Containment:	Not reported
What Happened:	Not reported
Type:	Not reported
Measure:	Not reported
Other:	Not reported
Date/Time:	Not reported
Year:	2002
Agency:	Long Beach Fire Dept
Incident Date:	2/2/200212:00:00 AM
Admin Agency:	Not reported
Amount:	Not reported
Contained:	No
Site Type:	Residence
E Date:	Not reported
Substance:	Sewage
Quantity Released:	Not reported
BBLS:	0
Cups:	0
CUFT:	0
Gallons:	0.000000
Grams:	0
Pounds:	0
Liters:	0
Ounces:	0
Pints:	0

(Continued) **S105882810**

Quarts:	0
Sheen:	0
Tons:	0
Unknown:	0
Evacuations:	0
Number of Injuries:	0
Number of Fatalities:	0
Description:	Unknown as to what caused release. Water Dept is on scene and accessing situation. NOTE: Storm drain does not lead to a drinking source.

Count: 8 records.

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
LONG BEACH	1010562150	L 1019 LAWP HAYNES FACILITY	HWY 22 INTERSECTIONOF AND	90803	RCRA-LQG
LONG BEACH	S111075832	CITY DUMP AND SALVAGE	LOYNES DR		SWF/LF
LONG BEACH	S111075872	CROSBY AND OVERTON	5875 OBISBO AVE		SWF/LF
LONG BEACH	S107863473	COVERSTREET STOCKPILE	NW OF COVER ST & END OF INDUS		SWF/LF
LONG BEACH	U003854836	CITY OF L.B. BEACH MAINT (2 D/W JO	4320 E OLYMPIC PLZ	90803	UST
LONG BEACH	S109285440	LONG BEACH CITY MAINT. YARD	4320 OLYMPIC BLVD	90803	LUST
LONG BEACH	S102360870	WEISSKER, HERMAN INC.	ORANGE ST & SPRING ST LONG BEA		SWF/LF
LONG BEACH	S103437887	CHEVRON-ALAMITOS BAY PARTNERSH	PACIFIC COAST HWY	90803	LUST

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 02/01/2013
Date Data Arrived at EDR: 03/01/2013
Date Made Active in Reports: 03/13/2013
Number of Days to Update: 12

Source: EPA
Telephone: N/A
Last EDR Contact: 05/09/2013
Next Scheduled EDR Contact: 07/22/2013
Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 3
Telephone 215-814-5418

EPA Region 4
Telephone 404-562-8033

EPA Region 5
Telephone 312-886-6686

EPA Region 10
Telephone 206-553-8665

EPA Region 6
Telephone: 214-655-6659

EPA Region 7
Telephone: 913-551-7247

EPA Region 8
Telephone: 303-312-6774

EPA Region 9
Telephone: 415-947-4246

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 02/01/2013
Date Data Arrived at EDR: 03/01/2013
Date Made Active in Reports: 03/13/2013
Number of Days to Update: 12

Source: EPA
Telephone: N/A
Last EDR Contact: 05/09/2013
Next Scheduled EDR Contact: 07/22/2013
Data Release Frequency: Quarterly

Federal Delisted NPL site list

DELISTED NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 02/01/2013
Date Data Arrived at EDR: 03/01/2013
Date Made Active in Reports: 03/13/2013
Number of Days to Update: 12

Source: EPA
Telephone: N/A
Last EDR Contact: 05/09/2013
Next Scheduled EDR Contact: 07/22/2013
Data Release Frequency: Quarterly

Federal CERCLIS list

CERCLIS: Comprehensive Environmental Response, Compensation, and Liability Information System

CERCLIS contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). CERCLIS contains sites which are either proposed to or on the National Priorities List (NPL) and sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 02/04/2013
Date Data Arrived at EDR: 03/01/2013
Date Made Active in Reports: 03/13/2013
Number of Days to Update: 12

Source: EPA
Telephone: 703-412-9810
Last EDR Contact: 05/29/2013
Next Scheduled EDR Contact: 09/09/2013
Data Release Frequency: Quarterly

Federal CERCLIS NFRAP site List

CERCLIS-NFRAP: CERCLIS No Further Remedial Action Planned

Archived sites are sites that have been removed and archived from the inventory of CERCLIS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list this site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. This decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be a potential NPL site.

Date of Government Version: 02/05/2013
Date Data Arrived at EDR: 03/01/2013
Date Made Active in Reports: 03/13/2013
Number of Days to Update: 12

Source: EPA
Telephone: 703-412-9810
Last EDR Contact: 05/29/2013
Next Scheduled EDR Contact: 05/09/2013
Data Release Frequency: Quarterly

Federal RCRA CORRACTS facilities list

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 02/12/2013
Date Data Arrived at EDR: 02/21/2013
Date Made Active in Reports: 02/27/2013
Number of Days to Update: 6

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 05/02/2013
Next Scheduled EDR Contact: 07/15/2013
Data Release Frequency: Quarterly

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF: RCRA - Treatment, Storage and Disposal

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 02/12/2013
Date Data Arrived at EDR: 02/15/2013
Date Made Active in Reports: 02/27/2013
Number of Days to Update: 12

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 05/02/2013
Next Scheduled EDR Contact: 07/15/2013
Data Release Frequency: Quarterly

Federal RCRA generators list

RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 02/12/2013
Date Data Arrived at EDR: 02/15/2013
Date Made Active in Reports: 02/27/2013
Number of Days to Update: 12

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 05/02/2013
Next Scheduled EDR Contact: 07/15/2013
Data Release Frequency: Quarterly

RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 02/12/2013
Date Data Arrived at EDR: 02/15/2013
Date Made Active in Reports: 02/27/2013
Number of Days to Update: 12

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 05/02/2013
Next Scheduled EDR Contact: 07/15/2013
Data Release Frequency: Quarterly

Federal institutional controls / engineering controls registries

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 03/14/2013
Date Data Arrived at EDR: 03/29/2013
Date Made Active in Reports: 05/10/2013
Number of Days to Update: 42

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 03/11/2013
Next Scheduled EDR Contact: 06/24/2013
Data Release Frequency: Varies

US INST CONTROL: Sites with Institutional Controls

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 03/14/2013
Date Data Arrived at EDR: 03/29/2013
Date Made Active in Reports: 05/10/2013
Number of Days to Update: 42

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 03/11/2013
Next Scheduled EDR Contact: 06/24/2013
Data Release Frequency: Varies

Federal ERNS list

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 12/31/2012
Date Data Arrived at EDR: 01/17/2013
Date Made Active in Reports: 02/15/2013
Number of Days to Update: 29

Source: National Response Center, United States Coast Guard
Telephone: 202-267-2180
Last EDR Contact: 04/02/2013
Next Scheduled EDR Contact: 07/15/2013
Data Release Frequency: Annually

State- and tribal - equivalent NPL

RESPONSE: State Response Sites

Identifies confirmed release sites where DTSC is involved in remediation, either in a lead or oversight capacity. These confirmed release sites are generally high-priority and high potential risk.

Date of Government Version: 03/13/2013
Date Data Arrived at EDR: 03/14/2013
Date Made Active in Reports: 03/27/2013
Number of Days to Update: 13

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 05/07/2013
Next Scheduled EDR Contact: 08/19/2013
Data Release Frequency: Quarterly

State- and tribal - equivalent CERCLIS

ENVIROSTOR: EnviroStor Database

The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifes sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

Date of Government Version: 03/13/2013
Date Data Arrived at EDR: 03/14/2013
Date Made Active in Reports: 03/27/2013
Number of Days to Update: 13

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 05/07/2013
Next Scheduled EDR Contact: 08/19/2013
Data Release Frequency: Quarterly

State and tribal landfill and/or solid waste disposal site lists

SWF/LF (SWIS): Solid Waste Information System

Active, Closed and Inactive Landfills. SWF/LF records typically contain an inve ntory of solid waste disposal facilities or landfills. These may be active or i nactive facilities or open dumps that failed to meet RCRA Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 02/18/2013
Date Data Arrived at EDR: 02/18/2013
Date Made Active in Reports: 03/20/2013
Number of Days to Update: 30

Source: Department of Resources Recycling and Recovery
Telephone: 916-341-6320
Last EDR Contact: 05/21/2013
Next Scheduled EDR Contact: 09/02/2013
Data Release Frequency: Quarterly

State and tribal leaking storage tank lists

LUST REG 8: Leaking Underground Storage Tanks

California Regional Water Quality Control Board Santa Ana Region (8). For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/14/2005
Date Data Arrived at EDR: 02/15/2005
Date Made Active in Reports: 03/28/2005
Number of Days to Update: 41

Source: California Regional Water Quality Control Board Santa Ana Region (8)
Telephone: 909-782-4496
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

LUST REG 7: Leaking Underground Storage Tank Case Listing
Leaking Underground Storage Tank locations. Imperial, Riverside, San Diego, Santa Barbara counties.

Date of Government Version: 02/26/2004
Date Data Arrived at EDR: 02/26/2004
Date Made Active in Reports: 03/24/2004
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Colorado River Basin Region (7)
Telephone: 760-776-8943
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

LUST REG 6V: Leaking Underground Storage Tank Case Listing
Leaking Underground Storage Tank locations. Inyo, Kern, Los Angeles, Mono, San Bernardino counties.

Date of Government Version: 06/07/2005
Date Data Arrived at EDR: 06/07/2005
Date Made Active in Reports: 06/29/2005
Number of Days to Update: 22

Source: California Regional Water Quality Control Board Victorville Branch Office (6)
Telephone: 760-241-7365
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

LUST REG 6L: Leaking Underground Storage Tank Case Listing
For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/09/2003
Date Data Arrived at EDR: 09/10/2003
Date Made Active in Reports: 10/07/2003
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Lahontan Region (6)
Telephone: 530-542-5572
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

LUST REG 5: Leaking Underground Storage Tank Database
Leaking Underground Storage Tank locations. Alameda, Alpine, Amador, Butte, Colusa, Contra Costa, Calveras, El Dorado, Fresno, Glenn, Kern, Kings, Lake, Lassen, Madera, Mariposa, Merced, Modoc, Napa, Nevada, Placer, Plumas, Sacramento, San Joaquin, Shasta, Solano, Stanislaus, Sutter, Tehama, Tulare, Tuolumne, Yolo, Yuba counties.

Date of Government Version: 07/01/2008
Date Data Arrived at EDR: 07/22/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 9

Source: California Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-4834
Last EDR Contact: 07/01/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: No Update Planned

LUST REG 4: Underground Storage Tank Leak List
Los Angeles, Ventura counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35

Source: California Regional Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6710
Last EDR Contact: 09/06/2011
Next Scheduled EDR Contact: 12/19/2011
Data Release Frequency: No Update Planned

LUST REG 3: Leaking Underground Storage Tank Database
Leaking Underground Storage Tank locations. Monterey, San Benito, San Luis Obispo, Santa Barbara, Santa Cruz counties.

Date of Government Version: 05/19/2003
Date Data Arrived at EDR: 05/19/2003
Date Made Active in Reports: 06/02/2003
Number of Days to Update: 14

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-542-4786
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: No Update Planned

LUST REG 2: Fuel Leak List
Leaking Underground Storage Tank locations. Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, Sonoma counties.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30

Source: California Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-622-2433
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: Quarterly

LUST REG 1: Active Toxic Site Investigation
Del Norte, Humboldt, Lake, Mendocino, Modoc, Siskiyou, Sonoma, Trinity counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/01/2001
Date Data Arrived at EDR: 02/28/2001
Date Made Active in Reports: 03/29/2001
Number of Days to Update: 29

Source: California Regional Water Quality Control Board North Coast (1)
Telephone: 707-570-3769
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

LUST: Geotracker's Leaking Underground Fuel Tank Report
Leaking Underground Storage Tank Incident Reports. LUST records contain an inventory of reported leaking underground storage tank incidents. Not all states maintain these records, and the information stored varies by state. For more information on a particular leaking underground storage tank sites, please contact the appropriate regulatory agency.

Date of Government Version: 03/18/2013
Date Data Arrived at EDR: 03/19/2013
Date Made Active in Reports: 03/27/2013
Number of Days to Update: 8

Source: State Water Resources Control Board
Telephone: see region list
Last EDR Contact: 05/02/2013
Next Scheduled EDR Contact: 07/01/2013
Data Release Frequency: Quarterly

LUST REG 9: Leaking Underground Storage Tank Report
Orange, Riverside, San Diego counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 03/01/2001
Date Data Arrived at EDR: 04/23/2001
Date Made Active in Reports: 05/21/2001
Number of Days to Update: 28

Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-637-5595
Last EDR Contact: 09/26/2011
Next Scheduled EDR Contact: 01/09/2012
Data Release Frequency: No Update Planned

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 02/05/2013
Date Data Arrived at EDR: 02/06/2013
Date Made Active in Reports: 04/12/2013
Number of Days to Update: 65

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 04/29/2013
Next Scheduled EDR Contact: 08/12/2013
Data Release Frequency: Quarterly

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land
A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 09/28/2012
Date Data Arrived at EDR: 11/01/2012
Date Made Active in Reports: 04/12/2013
Number of Days to Update: 162

Source: EPA Region 1
Telephone: 617-918-1313
Last EDR Contact: 05/01/2013
Next Scheduled EDR Contact: 08/12/2013
Data Release Frequency: Varies

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 08/27/2012
Date Data Arrived at EDR: 08/28/2012
Date Made Active in Reports: 10/16/2012
Number of Days to Update: 49

Source: EPA Region 8
Telephone: 303-312-6271
Last EDR Contact: 04/29/2013
Next Scheduled EDR Contact: 08/12/2013
Data Release Frequency: Quarterly

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 09/12/2011
Date Data Arrived at EDR: 09/13/2011
Date Made Active in Reports: 11/11/2011
Number of Days to Update: 59

Source: EPA Region 6
Telephone: 214-665-6597
Last EDR Contact: 04/29/2013
Next Scheduled EDR Contact: 08/12/2013
Data Release Frequency: Varies

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 02/06/2013
Date Data Arrived at EDR: 02/08/2013
Date Made Active in Reports: 04/12/2013
Number of Days to Update: 63

Source: EPA Region 4
Telephone: 404-562-8677
Last EDR Contact: 04/29/2013
Next Scheduled EDR Contact: 08/12/2013
Data Release Frequency: Semi-Annually

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 12/31/2012
Date Data Arrived at EDR: 02/28/2013
Date Made Active in Reports: 04/12/2013
Number of Days to Update: 43

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 04/29/2013
Next Scheduled EDR Contact: 08/12/2013
Data Release Frequency: Varies

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 03/01/2013
Date Data Arrived at EDR: 03/01/2013
Date Made Active in Reports: 04/12/2013
Number of Days to Update: 42

Source: Environmental Protection Agency
Telephone: 415-972-3372
Last EDR Contact: 04/29/2013
Next Scheduled EDR Contact: 08/12/2013
Data Release Frequency: Quarterly

State and tribal registered storage tank lists

UST: Active UST Facilities
Active UST facilities gathered from the local regulatory agencies

Date of Government Version: 03/18/2013
Date Data Arrived at EDR: 03/19/2013
Date Made Active in Reports: 04/18/2013
Number of Days to Update: 30

Source: SWRCB
Telephone: 916-341-5851
Last EDR Contact: 05/02/2013
Next Scheduled EDR Contact: 07/01/2013
Data Release Frequency: Semi-Annually

AST: Aboveground Petroleum Storage Tank Facilities
Registered Aboveground Storage Tanks.

Date of Government Version: 08/01/2009
Date Data Arrived at EDR: 09/10/2009
Date Made Active in Reports: 10/01/2009
Number of Days to Update: 21

Source: State Water Resources Control Board
Telephone: 916-327-5092
Last EDR Contact: 04/08/2013
Next Scheduled EDR Contact: 07/22/2013
Data Release Frequency: Quarterly

INDIAN UST R10: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).

Date of Government Version: 02/05/2013
Date Data Arrived at EDR: 02/06/2013
Date Made Active in Reports: 04/12/2013
Number of Days to Update: 65

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 04/29/2013
Next Scheduled EDR Contact: 08/12/2013
Data Release Frequency: Quarterly

INDIAN UST R9: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

Date of Government Version: 02/21/2013
Date Data Arrived at EDR: 02/26/2013
Date Made Active in Reports: 04/12/2013
Number of Days to Update: 45

Source: EPA Region 9
Telephone: 415-972-3368
Last EDR Contact: 04/29/2013
Next Scheduled EDR Contact: 08/12/2013
Data Release Frequency: Quarterly

INDIAN UST R8: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 08/27/2012
Date Data Arrived at EDR: 08/28/2012
Date Made Active in Reports: 10/16/2012
Number of Days to Update: 49

Source: EPA Region 8
Telephone: 303-312-6137
Last EDR Contact: 04/29/2013
Next Scheduled EDR Contact: 08/12/2013
Data Release Frequency: Quarterly

INDIAN UST R7: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations).

Date of Government Version: 12/31/2012
Date Data Arrived at EDR: 02/28/2013
Date Made Active in Reports: 04/12/2013
Number of Days to Update: 43

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 04/29/2013
Next Scheduled EDR Contact: 08/12/2013
Data Release Frequency: Varies

INDIAN UST R6: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

Date of Government Version: 05/10/2011
Date Data Arrived at EDR: 05/11/2011
Date Made Active in Reports: 06/14/2011
Number of Days to Update: 34

Source: EPA Region 6
Telephone: 214-665-7591
Last EDR Contact: 04/29/2013
Next Scheduled EDR Contact: 08/12/2013
Data Release Frequency: Semi-Annually

INDIAN UST R5: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

Date of Government Version: 08/02/2012
Date Data Arrived at EDR: 08/03/2012
Date Made Active in Reports: 11/05/2012
Number of Days to Update: 94

Source: EPA Region 5
Telephone: 312-886-6136
Last EDR Contact: 04/29/2013
Next Scheduled EDR Contact: 08/12/2013
Data Release Frequency: Varies

INDIAN UST R4: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations)

Date of Government Version: 02/06/2013
Date Data Arrived at EDR: 02/08/2013
Date Made Active in Reports: 04/12/2013
Number of Days to Update: 63

Source: EPA Region 4
Telephone: 404-562-9424
Last EDR Contact: 04/29/2013
Next Scheduled EDR Contact: 08/12/2013
Data Release Frequency: Semi-Annually

INDIAN UST R1: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

Date of Government Version: 09/28/2012
Date Data Arrived at EDR: 11/07/2012
Date Made Active in Reports: 04/12/2013
Number of Days to Update: 156

Source: EPA, Region 1
Telephone: 617-918-1313
Last EDR Contact: 04/29/2013
Next Scheduled EDR Contact: 08/12/2013
Data Release Frequency: Varies

FEMA UST: Underground Storage Tank Listing

A listing of all FEMA owned underground storage tanks.

Date of Government Version: 01/01/2010
Date Data Arrived at EDR: 02/16/2010
Date Made Active in Reports: 04/12/2010
Number of Days to Update: 55

Source: FEMA
Telephone: 202-646-5797
Last EDR Contact: 04/18/2013
Next Scheduled EDR Contact: 07/29/2013
Data Release Frequency: Varies

State and tribal voluntary cleanup sites

VCP: Voluntary Cleanup Program Properties

Contains low threat level properties with either confirmed or unconfirmed releases and the project proponents have request that DTSC oversee investigation and/or cleanup activities and have agreed to provide coverage for DTSC's costs.

Date of Government Version: 03/13/2013
Date Data Arrived at EDR: 03/14/2013
Date Made Active in Reports: 03/27/2013
Number of Days to Update: 13

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 05/07/2013
Next Scheduled EDR Contact: 08/19/2013
Data Release Frequency: Quarterly

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS: A Listing of Brownfields Sites

Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. Assessment, Cleanup and Redevelopment Exchange System (ACRES) stores information reported by EPA Brownfields grant recipients on brownfields properties assessed or cleaned up with grant funding as well as information on Targeted Brownfields Assessments performed by EPA Regions. A listing of ACRES Brownfield sites is obtained from Cleanups in My Community. Cleanups in My Community provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs.

Date of Government Version: 12/10/2012
Date Data Arrived at EDR: 12/11/2012
Date Made Active in Reports: 12/20/2012
Number of Days to Update: 9

Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 03/26/2013
Next Scheduled EDR Contact: 07/08/2013
Data Release Frequency: Semi-Annually

Local Lists of Landfill / Solid Waste Disposal Sites

WMUDS/SWAT: Waste Management Unit Database

Waste Management Unit Database System. WMUDS is used by the State Water Resources Control Board staff and the Regional Water Quality Control Boards for program tracking and inventory of waste management units. WMUDS is composed of the following databases: Facility Information, Scheduled Inspections Information, Waste Management Unit Information, SWAT Program Information, SWAT Report Summary Information, SWAT Report Summary Data, Chapter 15 (formerly Subchapter 15) Information, Chapter 15 Monitoring Parameters, TPCA Program Information, RCRA Program Information, Closure Information, and Interested Parties Information.

Date of Government Version: 04/01/2000
Date Data Arrived at EDR: 04/10/2000
Date Made Active in Reports: 05/10/2000
Number of Days to Update: 30

Source: State Water Resources Control Board
Telephone: 916-227-4448
Last EDR Contact: 05/10/2013
Next Scheduled EDR Contact: 08/26/2013
Data Release Frequency: No Update Planned

SWRCY: Recycler Database

A listing of recycling facilities in California.

Date of Government Version: 03/18/2013
Date Data Arrived at EDR: 03/19/2013
Date Made Active in Reports: 03/27/2013
Number of Days to Update: 8

Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 03/19/2013
Next Scheduled EDR Contact: 07/01/2013
Data Release Frequency: Quarterly

Local Lists of Hazardous waste / Contaminated Sites

HIST CAL-SITES: Calsites Database

The Calsites database contains potential or confirmed hazardous substance release properties. In 1996, California EPA reevaluated and significantly reduced the number of sites in the Calsites database. No longer updated by the state agency. It has been replaced by ENVIROSTOR.

Date of Government Version: 08/08/2005
Date Data Arrived at EDR: 08/03/2006
Date Made Active in Reports: 08/24/2006
Number of Days to Update: 21

Source: Department of Toxic Substance Control
Telephone: 916-323-3400
Last EDR Contact: 02/23/2009
Next Scheduled EDR Contact: 05/25/2009
Data Release Frequency: No Update Planned

TOXIC PITS: Toxic Pits Cleanup Act Sites

Toxic PITS Cleanup Act Sites. TOXIC PITS identifies sites suspected of containing hazardous substances where cleanup has not yet been completed.

Date of Government Version: 07/01/1995
Date Data Arrived at EDR: 08/30/1995
Date Made Active in Reports: 09/26/1995
Number of Days to Update: 27

Source: State Water Resources Control Board
Telephone: 916-227-4364
Last EDR Contact: 01/26/2009
Next Scheduled EDR Contact: 04/27/2009
Data Release Frequency: No Update Planned

Local Lists of Registered Storage Tanks

CA FID UST: Facility Inventory Database

The Facility Inventory Database (FID) contains a historical listing of active and inactive underground storage tank locations from the State Water Resource Control Board. Refer to local/county source for current data.

Date of Government Version: 10/31/1994
Date Data Arrived at EDR: 09/05/1995
Date Made Active in Reports: 09/29/1995
Number of Days to Update: 24

Source: California Environmental Protection Agency
Telephone: 916-341-5851
Last EDR Contact: 12/28/1998
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

UST MENDOCINO: Mendocino County UST Database
A listing of underground storage tank locations in Mendocino County.

Date of Government Version: 09/23/2009
Date Data Arrived at EDR: 09/23/2009
Date Made Active in Reports: 10/01/2009
Number of Days to Update: 8

Source: Department of Public Health
Telephone: 707-463-4466
Last EDR Contact: 06/03/2013
Next Scheduled EDR Contact: 09/16/2013
Data Release Frequency: Annually

HIST UST: Hazardous Substance Storage Container Database
The Hazardous Substance Storage Container Database is a historical listing of UST sites. Refer to local/county source for current data.

Date of Government Version: 10/15/1990
Date Data Arrived at EDR: 01/25/1991
Date Made Active in Reports: 02/12/1991
Number of Days to Update: 18

Source: State Water Resources Control Board
Telephone: 916-341-5851
Last EDR Contact: 07/26/2001
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

SWEEPS UST: SWEEPS UST Listing
Statewide Environmental Evaluation and Planning System. This underground storage tank listing was updated and maintained by a company contacted by the SWRCB in the early 1990's. The listing is no longer updated or maintained. The local agency is the contact for more information on a site on the SWEEPS list.

Date of Government Version: 06/01/1994
Date Data Arrived at EDR: 07/07/2005
Date Made Active in Reports: 08/11/2005
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: N/A
Last EDR Contact: 06/03/2005
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

Local Land Records

LIENS 2: CERCLA Lien Information
A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 02/06/2013
Date Data Arrived at EDR: 04/25/2013
Date Made Active in Reports: 05/10/2013
Number of Days to Update: 15

Source: Environmental Protection Agency
Telephone: 202-564-6023
Last EDR Contact: 04/29/2013
Next Scheduled EDR Contact: 08/12/2013
Data Release Frequency: Varies

LIENS: Environmental Liens Listing
A listing of property locations with environmental liens for California where DTSC is a lien holder.

Date of Government Version: 03/15/2013
Date Data Arrived at EDR: 03/15/2013
Date Made Active in Reports: 03/27/2013
Number of Days to Update: 12

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 03/11/2013
Next Scheduled EDR Contact: 06/24/2013
Data Release Frequency: Varies

Records of Emergency Release Reports

CHMIRS: California Hazardous Material Incident Report System
California Hazardous Material Incident Reporting System. CHMIRS contains information on reported hazardous material incidents (accidental releases or spills).

Date of Government Version: 12/06/2012
Date Data Arrived at EDR: 01/29/2013
Date Made Active in Reports: 03/19/2013
Number of Days to Update: 49

Source: Office of Emergency Services
Telephone: 916-845-8400
Last EDR Contact: 05/01/2013
Next Scheduled EDR Contact: 08/12/2013
Data Release Frequency: Varies

Other Ascertainable Records

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2011
Date Data Arrived at EDR: 02/26/2013
Date Made Active in Reports: 04/19/2013
Number of Days to Update: 52

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 05/30/2013
Next Scheduled EDR Contact: 09/09/2013
Data Release Frequency: Biennially

CA BOND EXP. PLAN: Bond Expenditure Plan

Department of Health Services developed a site-specific expenditure plan as the basis for an appropriation of Hazardous Substance Cleanup Bond Act funds. It is not updated.

Date of Government Version: 01/01/1989
Date Data Arrived at EDR: 07/27/1994
Date Made Active in Reports: 08/02/1994
Number of Days to Update: 6

Source: Department of Health Services
Telephone: 916-255-2118
Last EDR Contact: 05/31/1994
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

NOTIFY 65: Proposition 65 Records

Listings of all Proposition 65 incidents reported to counties by the State Water Resources Control Board and the Regional Water Quality Control Board. This database is no longer updated by the reporting agency.

Date of Government Version: 10/21/1993
Date Data Arrived at EDR: 11/01/1993
Date Made Active in Reports: 11/19/1993
Number of Days to Update: 18

Source: State Water Resources Control Board
Telephone: 916-445-3846
Last EDR Contact: 03/25/2013
Next Scheduled EDR Contact: 07/08/2013
Data Release Frequency: No Update Planned

FEDLAND: Federal and Indian Lands

Federally and Indian administrated lands of the United States. Lands included are administrated by: Army Corps of Engineers, Bureau of Reclamation, National Wild and Scenic River, National Wildlife Refuge, Public Domain Land, Wilderness, Wilderness Study Area, Wildlife Management Area, Bureau of Indian Affairs, Bureau of Land Management, Department of Justice, Forest Service, Fish and Wildlife Service, National Park Service.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 02/06/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 339

Source: U.S. Geological Survey
Telephone: 888-275-8747
Last EDR Contact: 04/19/2013
Next Scheduled EDR Contact: 07/29/2013
Data Release Frequency: N/A

COUNTY RECORDS

ALAMEDA COUNTY:

Underground Tanks

Underground storage tank sites located in Alameda county.

Date of Government Version: 04/15/2013
Date Data Arrived at EDR: 04/16/2013
Date Made Active in Reports: 05/16/2013
Number of Days to Update: 30

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 04/01/2013
Next Scheduled EDR Contact: 07/15/2013
Data Release Frequency: Semi-Annually

KERN COUNTY:

Underground Storage Tank Sites & Tank Listing
Kern County Sites and Tanks Listing.

Date of Government Version: 08/31/2010
Date Data Arrived at EDR: 09/01/2010
Date Made Active in Reports: 09/30/2010
Number of Days to Update: 29

Source: Kern County Environment Health Services Department
Telephone: 661-862-8700
Last EDR Contact: 05/10/2013
Next Scheduled EDR Contact: 08/26/2013
Data Release Frequency: Quarterly

LOS ANGELES COUNTY:

List of Solid Waste Facilities
Solid Waste Facilities in Los Angeles County.

Date of Government Version: 04/24/2013
Date Data Arrived at EDR: 04/24/2013
Date Made Active in Reports: 05/17/2013
Number of Days to Update: 23

Source: La County Department of Public Works
Telephone: 818-458-5185
Last EDR Contact: 04/24/2013
Next Scheduled EDR Contact: 08/05/2013
Data Release Frequency: Varies

City of Los Angeles Landfills
Landfills owned and maintained by the City of Los Angeles.

Date of Government Version: 03/05/2009
Date Data Arrived at EDR: 03/10/2009
Date Made Active in Reports: 04/08/2009
Number of Days to Update: 29

Source: Engineering & Construction Division
Telephone: 213-473-7869
Last EDR Contact: 05/20/2013
Next Scheduled EDR Contact: 09/02/2013
Data Release Frequency: Varies

City of El Segundo Underground Storage Tank
Underground storage tank sites located in El Segundo city.

Date of Government Version: 04/22/2013
Date Data Arrived at EDR: 04/29/2013
Date Made Active in Reports: 05/17/2013
Number of Days to Update: 18

Source: City of El Segundo Fire Department
Telephone: 310-524-2236
Last EDR Contact: 04/19/2013
Next Scheduled EDR Contact: 08/05/2013
Data Release Frequency: Semi-Annually

City of Long Beach Underground Storage Tank
Underground storage tank sites located in the city of Long Beach.

Date of Government Version: 03/28/2003
Date Data Arrived at EDR: 10/23/2003
Date Made Active in Reports: 11/26/2003
Number of Days to Update: 34

Source: City of Long Beach Fire Department
Telephone: 562-570-2563
Last EDR Contact: 04/26/2013
Next Scheduled EDR Contact: 08/12/2013
Data Release Frequency: Annually

City of Torrance Underground Storage Tank
Underground storage tank sites located in the city of Torrance.

Date of Government Version: 04/15/2013
Date Data Arrived at EDR: 04/16/2013
Date Made Active in Reports: 05/17/2013
Number of Days to Update: 31

Source: City of Torrance Fire Department
Telephone: 310-618-2973
Last EDR Contact: 04/15/2013
Next Scheduled EDR Contact: 07/29/2013
Data Release Frequency: Semi-Annually

MARIN COUNTY:

Underground Storage Tank Sites
Currently permitted USTs in Marin County.

Date of Government Version: 11/26/2012
Date Data Arrived at EDR: 11/28/2012
Date Made Active in Reports: 01/21/2013
Number of Days to Update: 54

Source: Public Works Department Waste Management
Telephone: 415-499-6647
Last EDR Contact: 04/08/2013
Next Scheduled EDR Contact: 07/22/2013
Data Release Frequency: Semi-Annually

NAPA COUNTY:

Sites With Reported Contamination
A listing of leaking underground storage tank sites located in Napa county.

Date of Government Version: 12/05/2011
Date Data Arrived at EDR: 12/06/2011
Date Made Active in Reports: 02/07/2012
Number of Days to Update: 63

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 06/03/2013
Next Scheduled EDR Contact: 09/16/2013
Data Release Frequency: No Update Planned

Closed and Operating Underground Storage Tank Sites
Underground storage tank sites located in Napa county.

Date of Government Version: 01/15/2008
Date Data Arrived at EDR: 01/16/2008
Date Made Active in Reports: 02/08/2008
Number of Days to Update: 23

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 06/03/2013
Next Scheduled EDR Contact: 09/16/2013
Data Release Frequency: No Update Planned

ORANGE COUNTY:

List of Underground Storage Tank Cleanups
Orange County Underground Storage Tank Cleanups (LUST).

Date of Government Version: 02/04/2013
Date Data Arrived at EDR: 02/19/2013
Date Made Active in Reports: 03/20/2013
Number of Days to Update: 29

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 05/10/2013
Next Scheduled EDR Contact: 08/26/2013
Data Release Frequency: Quarterly

List of Underground Storage Tank Facilities
Orange County Underground Storage Tank Facilities (UST).

Date of Government Version: 02/04/2013
Date Data Arrived at EDR: 02/18/2013
Date Made Active in Reports: 03/27/2013
Number of Days to Update: 37

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 05/10/2013
Next Scheduled EDR Contact: 08/26/2013
Data Release Frequency: Quarterly

RIVERSIDE COUNTY:

Listing of Underground Tank Cleanup Sites
Riverside County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 04/23/2013
Date Data Arrived at EDR: 04/24/2013
Date Made Active in Reports: 05/17/2013
Number of Days to Update: 23

Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 03/25/2013
Next Scheduled EDR Contact: 07/08/2013
Data Release Frequency: Quarterly

Underground Storage Tank Tank List
Underground storage tank sites located in Riverside county.

Date of Government Version: 04/23/2013
Date Data Arrived at EDR: 04/24/2013
Date Made Active in Reports: 05/16/2013
Number of Days to Update: 22

Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 03/25/2013
Next Scheduled EDR Contact: 07/08/2013
Data Release Frequency: Quarterly

SACRAMENTO COUNTY:

Master Hazardous Materials Facility List
Any business that has hazardous materials on site - hazardous material storage sites, underground storage tanks, waste generators.

Date of Government Version: 02/04/2013
Date Data Arrived at EDR: 04/12/2013
Date Made Active in Reports: 05/16/2013
Number of Days to Update: 34

Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 04/08/2013
Next Scheduled EDR Contact: 07/22/2013
Data Release Frequency: Quarterly

SAN DIEGO COUNTY:

Solid Waste Facilities
San Diego County Solid Waste Facilities.

Date of Government Version: 10/31/2012
Date Data Arrived at EDR: 11/06/2012
Date Made Active in Reports: 11/30/2012
Number of Days to Update: 24

Source: Department of Health Services
Telephone: 619-338-2209
Last EDR Contact: 04/26/2013
Next Scheduled EDR Contact: 08/12/2013
Data Release Frequency: Varies

SAN FRANCISCO COUNTY:

Local Oversite Facilities
A listing of leaking underground storage tank sites located in San Francisco county.

Date of Government Version: 09/19/2008
Date Data Arrived at EDR: 09/19/2008
Date Made Active in Reports: 09/29/2008
Number of Days to Update: 10

Source: Department Of Public Health San Francisco County
Telephone: 415-252-3920
Last EDR Contact: 05/10/2013
Next Scheduled EDR Contact: 08/26/2013
Data Release Frequency: Quarterly

Underground Storage Tank Information
Underground storage tank sites located in San Francisco county.

Date of Government Version: 11/29/2010
Date Data Arrived at EDR: 03/10/2011
Date Made Active in Reports: 03/15/2011
Number of Days to Update: 5

Source: Department of Public Health
Telephone: 415-252-3920
Last EDR Contact: 05/10/2013
Next Scheduled EDR Contact: 08/26/2013
Data Release Frequency: Quarterly

SAN JOAQUIN COUNTY:

San Joaquin Co. UST
A listing of underground storage tank locations in San Joaquin county.

Date of Government Version: 03/25/2013
Date Data Arrived at EDR: 03/25/2013
Date Made Active in Reports: 04/18/2013
Number of Days to Update: 24

Source: Environmental Health Department
Telephone: N/A
Last EDR Contact: 03/25/2013
Next Scheduled EDR Contact: 07/08/2013
Data Release Frequency: Semi-Annually

SAN MATEO COUNTY:

Fuel Leak List

A listing of leaking underground storage tank sites located in San Mateo county.

Date of Government Version: 03/18/2013
Date Data Arrived at EDR: 03/19/2013
Date Made Active in Reports: 03/27/2013
Number of Days to Update: 8

Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 03/18/2013
Next Scheduled EDR Contact: 07/01/2013
Data Release Frequency: Semi-Annually

SANTA CLARA COUNTY:

HIST LUST - Fuel Leak Site Activity Report

A listing of open and closed leaking underground storage tanks. This listing is no longer updated by the county. Leaking underground storage tanks are now handled by the Department of Environmental Health.

Date of Government Version: 03/29/2005
Date Data Arrived at EDR: 03/30/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 22

Source: Santa Clara Valley Water District
Telephone: 408-265-2600
Last EDR Contact: 03/23/2009
Next Scheduled EDR Contact: 06/22/2009
Data Release Frequency: No Update Planned

LOP Listing

A listing of leaking underground storage tanks located in Santa Clara county.

Date of Government Version: 03/04/2013
Date Data Arrived at EDR: 03/06/2013
Date Made Active in Reports: 03/25/2013
Number of Days to Update: 19

Source: Department of Environmental Health
Telephone: 408-918-3417
Last EDR Contact: 06/03/2013
Next Scheduled EDR Contact: 09/16/2013
Data Release Frequency: Annually

SOLANO COUNTY:

Leaking Underground Storage Tanks

A listing of leaking underground storage tank sites located in Solano county.

Date of Government Version: 03/20/2013
Date Data Arrived at EDR: 03/28/2013
Date Made Active in Reports: 05/14/2013
Number of Days to Update: 47

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 03/18/2013
Next Scheduled EDR Contact: 07/01/2013
Data Release Frequency: Quarterly

Underground Storage Tanks

Underground storage tank sites located in Solano county.

Date of Government Version: 03/20/2013
Date Data Arrived at EDR: 03/28/2013
Date Made Active in Reports: 05/13/2013
Number of Days to Update: 46

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 03/18/2013
Next Scheduled EDR Contact: 07/01/2013
Data Release Frequency: Quarterly

SONOMA COUNTY:

Leaking Underground Storage Tank Sites
A listing of leaking underground storage tank sites located in Sonoma county.

Date of Government Version: 04/02/2013
Date Data Arrived at EDR: 04/03/2013
Date Made Active in Reports: 05/14/2013
Number of Days to Update: 41

Source: Department of Health Services
Telephone: 707-565-6565
Last EDR Contact: 04/01/2013
Next Scheduled EDR Contact: 07/15/2013
Data Release Frequency: Quarterly

SUTTER COUNTY:

Underground Storage Tanks
Underground storage tank sites located in Sutter county.

Date of Government Version: 03/13/2013
Date Data Arrived at EDR: 03/14/2013
Date Made Active in Reports: 03/27/2013
Number of Days to Update: 13

Source: Sutter County Department of Agriculture
Telephone: 530-822-7500
Last EDR Contact: 03/11/2013
Next Scheduled EDR Contact: 06/24/2013
Data Release Frequency: Semi-Annually

VENTURA COUNTY:

Inventory of Illegal Abandoned and Inactive Sites
Ventura County Inventory of Closed, Illegal Abandoned, and Inactive Sites.

Date of Government Version: 12/01/2011
Date Data Arrived at EDR: 12/01/2011
Date Made Active in Reports: 01/19/2012
Number of Days to Update: 49

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 04/08/2013
Next Scheduled EDR Contact: 07/22/2013
Data Release Frequency: Annually

Listing of Underground Tank Cleanup Sites
Ventura County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 05/29/2008
Date Data Arrived at EDR: 06/24/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 37

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 02/18/2013
Next Scheduled EDR Contact: 06/03/2013
Data Release Frequency: Quarterly

Underground Tank Closed Sites List
Ventura County Operating Underground Storage Tank Sites (UST)/Underground Tank Closed Sites List.

Date of Government Version: 03/01/2013
Date Data Arrived at EDR: 03/28/2013
Date Made Active in Reports: 05/13/2013
Number of Days to Update: 46

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 03/18/2013
Next Scheduled EDR Contact: 07/01/2013
Data Release Frequency: Quarterly

YOLO COUNTY:

Underground Storage Tank Comprehensive Facility Report
Underground storage tank sites located in Yolo county.

Date of Government Version: 03/25/2013
Date Data Arrived at EDR: 03/29/2013
Date Made Active in Reports: 05/13/2013
Number of Days to Update: 45

Source: Yolo County Department of Health
Telephone: 530-666-8646
Last EDR Contact: 03/25/2013
Next Scheduled EDR Contact: 07/08/2013
Data Release Frequency: Annually

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

CT MANIFEST: Hazardous Waste Manifest Data

Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a tsd facility.

Date of Government Version: 02/18/2013
Date Data Arrived at EDR: 02/18/2013
Date Made Active in Reports: 03/21/2013
Number of Days to Update: 31

Source: Department of Energy & Environmental Protection
Telephone: 860-424-3375
Last EDR Contact: 05/21/2013
Next Scheduled EDR Contact: 09/02/2013
Data Release Frequency: Annually

NJ MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2011
Date Data Arrived at EDR: 07/19/2012
Date Made Active in Reports: 08/28/2012
Number of Days to Update: 40

Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 04/19/2013
Next Scheduled EDR Contact: 07/29/2013
Data Release Frequency: Annually

NY MANIFEST: Facility and Manifest Data

Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 02/01/2013
Date Data Arrived at EDR: 02/07/2013
Date Made Active in Reports: 03/15/2013
Number of Days to Update: 36

Source: Department of Environmental Conservation
Telephone: 518-402-8651
Last EDR Contact: 05/09/2013
Next Scheduled EDR Contact: 08/19/2013
Data Release Frequency: Annually

PA MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2011
Date Data Arrived at EDR: 07/23/2012
Date Made Active in Reports: 09/18/2012
Number of Days to Update: 57

Source: Department of Environmental Protection
Telephone: 717-783-8990
Last EDR Contact: 04/23/2013
Next Scheduled EDR Contact: 08/05/2013
Data Release Frequency: Annually

RI MANIFEST: Manifest information

Hazardous waste manifest information

Date of Government Version: 12/31/2011
Date Data Arrived at EDR: 06/22/2012
Date Made Active in Reports: 07/31/2012
Number of Days to Update: 39

Source: Department of Environmental Management
Telephone: 401-222-2797
Last EDR Contact: 05/28/2013
Next Scheduled EDR Contact: 09/09/2013
Data Release Frequency: Annually

WI MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2011
Date Data Arrived at EDR: 07/19/2012
Date Made Active in Reports: 09/27/2012
Number of Days to Update: 70

Source: Department of Natural Resources
Telephone: N/A
Last EDR Contact: 03/18/2013
Next Scheduled EDR Contact: 07/01/2013
Data Release Frequency: Annually

Oil/Gas Pipelines: This data was obtained by EDR from the USGS in 1994. It is referred to by USGS as GeoData Digital Line Graphs from 1:100,000-Scale Maps. It was extracted from the transportation category including some oil, but primarily gas pipelines.

Electric Power Transmission Line Data
Source: Rextag Strategies Corp.
Telephone: (281) 769-2247
U.S. Electric Transmission and Power Plants Systems Digital GIS Data

Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:
Source: American Hospital Association, Inc.
Telephone: 312-280-5991
The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing
Source: Centers for Medicare & Medicaid Services
Telephone: 410-786-3000
A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes
Source: National Institutes of Health
Telephone: 301-594-6248
Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on private school locations in the United States.

Daycare Centers: Licensed Facilities
Source: Department of Social Services
Telephone: 916-657-4041

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 2003 & 2011 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002 and 2005 from the U.S. Fish and Wildlife Service.

Scanned Digital USGS 7.5' Topographic Map (DRG)
Source: United States Geologic Survey
A digital raster graphic (DRG) is a scanned image of a U.S. Geological Survey topographic map. The map images are made by scanning published paper maps on high-resolution scanners. The raster image is georeferenced and fit to the Universal Transverse Mercator (UTM) projection.

STREET AND ADDRESS INFORMATION

GEOCHECK ®- PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

BELMONT PLAZA POOL
4000 EAST OLYMPIC PLAZA
LONG BEACH, CA 90803

TARGET PROPERTY COORDINATES

Latitude (North):	33.7581 - 33˚ 45’ 29.16’’
Longitude (West):	118.1461 - 118˚ 8’ 45.96’’
Universal Tranverse Mercator:	Zone 11
UTM X (Meters):	393856.0
UTM Y (Meters):	3735731.5
Elevation:	6 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map:	33118-G2 LONG BEACH (DIGITAL), CA
Most Recent Revision:	1964
South Map:	33118-F2 LONG BEACH OE S, CA
Most Recent Revision:	0

EDR’s GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principal investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

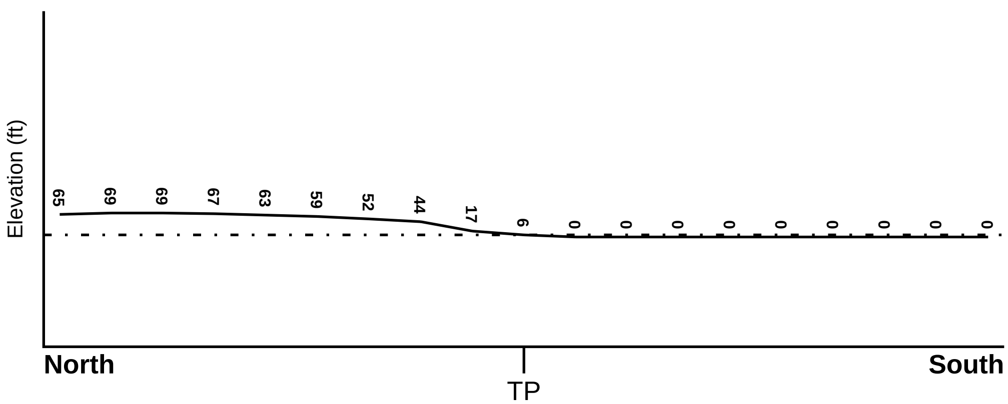
TOPOGRAPHIC INFORMATION

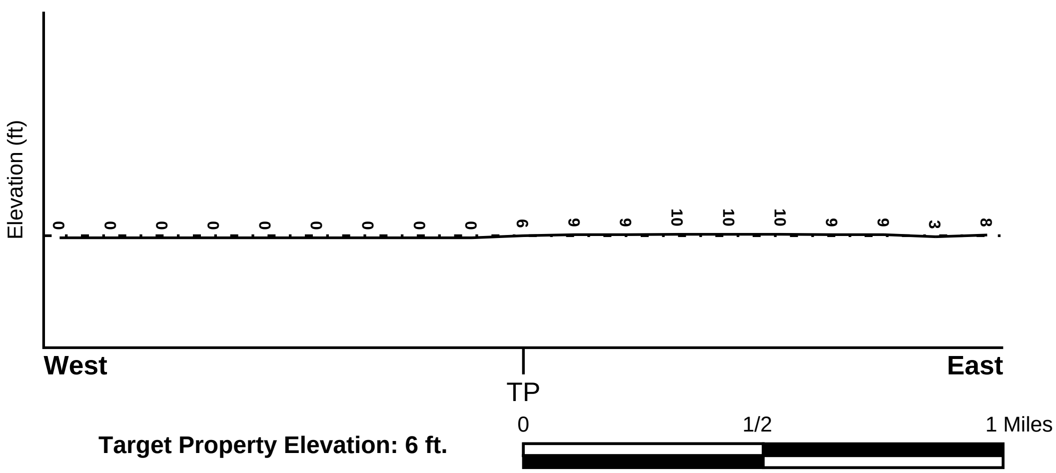
Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

General Topographic Gradient: General South

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES





Target Property Elevation: 6 ft.

Source: Topography has been determined from the USGS 7.5’ Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

Target Property County	FEMA Flood Electronic Data
LOS ANGELES, CA	YES - refer to the Overview Map and Detail Map

Flood Plain Panel at Target Property: 06037C - FEMA DFIRM Flood data

Additional Panels in search area: Not Reported

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property	NWI Electronic Data Coverage
NORTH LONG BEACH (OE)	YES - refer to the Overview Map and Detail Map

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Site-Specific Hydrogeological Data*:

Search Radius: 1.25 miles
Status: Not found

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

MAP ID	LOCATION FROM TP	GENERAL DIRECTION GROUNDWATER FLOW
Not Reported		

* ©1996 Site−specific hydrogeological data gathered by CERCLIS Alerts, Inc., Bainbridge Island, WA. All rights reserved. All of the information and opinions presented are those of the cited EPA report(s), which were completed under a Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS) investigation.

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

Era: Cenozoic
System: Quaternary
Series: Quaternary
Code: Q *(decoded above as Era, System & Series)*

GEOLOGIC AGE IDENTIFICATION

Category: Stratifed Sequence

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps. The following information is based on Soil Conservation Service STATSGO data.

Soil Component Name: URBAN LAND

Soil Surface Texture: variable

Hydrologic Group: Not reported

Soil Drainage Class: Not reported

Hydric Status: Soil does not meet the requirements for a hydric soil.

Corrosion Potential - Uncoated Steel: Not Reported

Depth to Bedrock Min: > 10 inches

Depth to Bedrock Max: > 10 inches

Soil Layer Information							
	Boundary			Classification			
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil	Permeability Rate (in/hr)	Soil Reaction (pH)
1	0 inches	6 inches	variable	Not reported	Not reported	Max: 0.00 Min: 0.00	Max: 0.00 Min: 0.00

OTHER SOIL TYPES IN AREA

Based on Soil Conservation Service STATSGO data, the following additional subordinant soil types may appear within the general area of target property.

Soil Surface Textures:
loam
clay
silt loam
loamy sand
sandy loam
fine sand
clay loam
gravelly - sandy loam
coarse sand
gravelly - sand
sand

Surficial Soil Types:
loam
clay
silt loam
loamy sand
sandy loam
fine sand
clay loam
gravelly - sandy loam
coarse sand
gravelly - sand
sand

Shallow Soil Types:
fine sandy loam
gravelly - loam
sand
silty clay

Deeper Soil Types:
stratified
clay loam
silty clay loam
gravelly - sandy loam
coarse sand
sand
weathered bedrock
very fine sandy loam

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

WELL SEARCH DISTANCE INFORMATION

DATABASE	SEARCH DISTANCE (miles)
Federal USGS	0.000
Federal FRDS PWS	Nearest PWS within 1 mile
State Database	0.000

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No Wells Found		

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

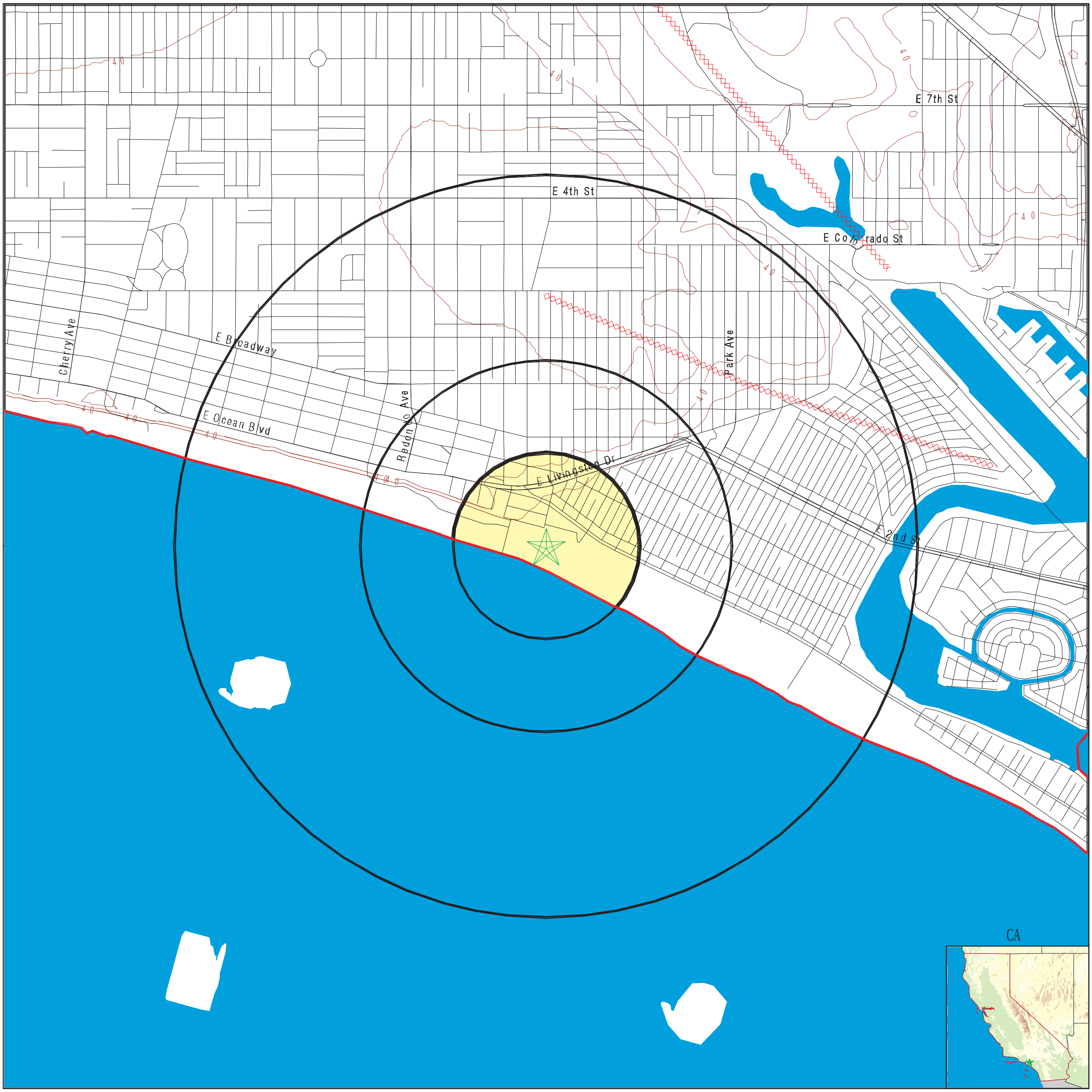
MAP ID	WELL ID	LOCATION FROM TP
No PWS System Found		

Note: PWS System location is not always the same as well location.

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No Wells Found		

PHYSICAL SETTING SOURCE MAP - 3629297.1s



0 1/4 1/2 1 Miles

- County Boundary
- Major Roads
- Contour Lines
- Earthquake Fault Lines
- Earthquake epicenter, Richter 5 or greater
- Water Wells
- Public Water Supply Wells
- Cluster of Multiple Icons

- Groundwater Flow Direction
- (GI) Indeterminate Groundwater Flow at Location
- (GV) Groundwater Flow Varies at Location
- (HD) Closest Hydrogeological Data

SITE NAME:	Belmont Plaza Pool	CLIENT:	Ninyo & Moore
ADDRESS:	4000 East Olympic Plaza Long Beach CA 90803	CONTACT:	Felipe Vazquez
		INQUIRY #:	3629297.1s
LAT/LONG:	33.7581 / 118.1461	DATE:	June 06, 2013 6:29 pm

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS
RADON

AREA RADON INFORMATION

State Database: CA Radon

Radon Test Results

Zipcode	Num Tests	> 4 pCi/L
90803	48	0

Federal EPA Radon Zone for LOS ANGELES County: 2

Note: Zone 1 indoor average level > 4 pCi/L.
: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
: Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for LOS ANGELES COUNTY, CA

Number of sites tested: 63

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	0.711 pCi/L	98%	2%	0%
Living Area - 2nd Floor	Not Reported	Not Reported	Not Reported	Not Reported
Basement	0.933 pCi/L	100%	0%	0%

PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)
Source: United States Geologic Survey
EDR acquired the USGS 7.5' Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

Scanned Digital USGS 7.5' Topographic Map (DRG)
Source: United States Geologic Survey
A digital raster graphic (DRG) is a scanned image of a U.S. Geological Survey topographic map. The map images are made by scanning published paper maps on high-resolution scanners. The raster image is georeferenced and fit to the Universal Transverse Mercator (UTM) projection.

HYDROLOGIC INFORMATION

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 2003 & 2011 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002 and 2005 from the U.S. Fish and Wildlife Service.

HYDROGEOLOGIC INFORMATION

AQUIFLOW^R Information System
Source: EDR proprietary database of groundwater flow information
EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit
Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Services
The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

SSURGO: Soil Survey Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Services (NRCS)
Telephone: 800-672-5559
SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Services, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)
This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

STATE RECORDS

Water Well Database
Source: Department of Water Resources
Telephone: 916-651-9648

California Drinking Water Quality Database
Source: Department of Health Services
Telephone: 916-324-2319
The database includes all drinking water compliance and special studies monitoring for the state of California since 1984. It consists of over 3,200,000 individual analyses along with well and water system information.

OTHER STATE DATABASE INFORMATION

California Oil and Gas Well Locations
Source: Department of Conservation
Telephone: 916-323-1779
Oil and Gas well locations in the state.

RADON

State Database: CA Radon
Source: Department of Health Services
Telephone: 916-324-2208
Radon Database for California

Area Radon Information
Source: USGS
Telephone: 703-356-4020
The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones
Source: EPA
Telephone: 703-356-4020
Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

OTHER

Airport Landing Facilities: Private and public use landing facilities
Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

California Earthquake Fault Lines: The fault lines displayed on EDR's Topographic map are digitized quaternary fault lines, prepared in 1975 by the United State Geological Survey. Additional information (also from 1975) regarding activity at specific fault lines comes from California's Preliminary Fault Activity Map prepared by the California Division of Mines and Geology.

STREET AND ADDRESS INFORMATION

APPENDIX C

REGULATORY AGENCY DOCUMENTATION

Ninyo & Moore Transmittal

475 Goddard, Suite 200, Irvine, California 92618 ♦ Phone 949/753-7070 ♦ Fax 949/753-7071 ♦ www.ninyoandmoore.com

To:	Leti	**Date:**	May 30, 2013
Firm:	City of Long Beach Fire Department	**Fax No:**	562-570-2556
Address:		**Telephone No:**	562-570-2563
From:	Felipe Vazquez	**Total Pages Including Transmittal:**	1
Subject:	Underground Storage Tanks and Hazardous Materials Records	**Project No:**	208885001

☒ **Urgent** ☐ **For Approval** ☐ **For Your Use** ☒ **Please Reply** ☐ **As Requested**

Original Document: ☒ **Will Not Follow** ☐ **Will Follow** ☐ **By U.S. Mail** ☐ **By Other**

ATTN: Leti, Records Request

I would like to review files that your agency may have regarding the following addresses:

- **200 Termino Avenue, Long Beach, CA 90803**
- **4000 East Olympic Plaza, Long Beach, CA 90803**
- **4020 East Olympic Plaza, Long Beach, CA 90803**

Please contact me at 949-753-7070 or fvazquez@ninyoandmoore.com to set up an appointment to review any available files.

Sincerely,

Feli Vz

Felipe Vazquez
Senior Staff Engineer

FAXED 5/30/13

CITY OF LONG BEACH
UNIFIED PROGRAM AGENCY
c/o LONG BEACH FIRE DEPARTMENT
3205 Lakewood Blvd
Long Beach, CA 90808

Phone (562) 570-2581 or (562) 570-2588
Fax (562) 570-2566
Inspector MORALES
Date 4/29/13
Routine ✓ Reinspection ___
Consult ___ Other ___
HC 4103 FRG 2

Business Name: BELMONT PLAZA POOL
Phone: 562/570 3134
Address: 4000 OLYMPIC PLZ, LONG BEACH CA 90803

Hazardous Materials Business Emergency Plan
WWW.LONGBEACHCUPA.ORG

On the above date an inspection of your business/facility was conducted in order to determine compliance with the California Health and Safety Code (HSC) Chapter 6.95; Title 19 of the California Code of Regulations: and the City of Long Beach Municipal Code. Violations determined from this inspection are noted below:

Violation classification: M= minor; II = Class II; I = Class I

___ Failure to establish/implement a Business Emergency Plan. [HSC 25503.5]
___ Chemical inventory is incomplete or needs to be updated. [HSC 25504]
M Failure to submit a Business Emergency Plan to the Long Beach Fire Dept. [HSC 25505]
___ Failure to review and update the Business Emergency Plan. [HSC 25505(c)]
___ Emergency Response Plan inadequate and/or does not include adequate notification,mitigation and abatement procedures. [HSC 25504]
___ Employee training program is inadequate. [HSC 25504]
___ Business Owner/Operator Identification page is incomplete or needs to be updated. [HSC 25509]
___ Failure to provide name, title, and 24-hour phone number of emergency contacts(s). [HSC 25509(a)]
___ Site Map is incomplete or insufficient. [HSC 25509(a)]
___ Failure to report a release or threatened release. [HSC 25507]
___ Other (See comments)
___ No violations found at this time. No corrective actions required.
___ Facility access for inspection granted [HSC 25508(a)]

✓ Corrections are required and documentation must be returned to this office within 30 days.
___ **All previous violations outstanding. No progress.**
If all violations are not corrected and an additional inspection is necessary, a reinspection fee will be charged.

___ **FINAL NOTICE. ALL VIOLATIONS MUST BE CORRECTED IMMEDIATELY. FAILURE TO COMPLY WILL RESULT IN A REFERRAL TO THE CITY PROSECUTOR'S OFFICE FOR FURTHER ACTION.**

Comments: (1) PROVIDE THE LB FIRE DEPT WITH A COPY OF THE HAZ MAT BUSINESS PLAN WITHIN 30 DAYS

www.longbeachcupa.org

Facility Signature Sarah Jane Amick Title Aquatics Supervisor Date 4/29/13

Facility Rep. Print Name Sarah Jane Amick Next Inspection ___

Rev 04/2013 White Original - Fire Yellow Copy - Facility

Ninyo & Moore Transmittal

475 Goddard, Suite 200, Irvine, California 92618 ◦ Phone 949/753-7070 ◦ Fax 949/753-7071 ◦ www.ninyoandmoore.com

To:	Records Request	**Date:**	May 30, 2013
Firm:	Los Angeles Department of Public Works	**Fax No:**	626-458-3569
Address:		**Telephone No:**	626-458-3517
From:	Felipe Vazquez	**Total Pages Including Transmittal:**	1
Subject:	Records Request	**Project No:**	208885001

☒ **Urgent** ☐ **For Approval** ☐ **For Your Use** ☒ **Please Reply** ☐ **As Requested**

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ATTN: Records Request

I would like to review files that your agency may have regarding the following addresses:

- **200 Termino Avenue, Long Beach, CA 90803**
- **4000 East Olympic Plaza, Long Beach, CA 90803**
- **4020 East Olympic Plaza, Long Beach, CA 90803**

No Files Found

Please contact me at 949-753-7070 or fvazquez@ninyoandmoore.com to set up an appointment to review any available files.

Sincerely,

Feli Vz

Felipe Vazquez
Senior Staff Engineer

- **Geotechnical Engineering**
- **Engineering Geology**
- **Materials Testing and Inspection**
- **Construction Management**
- **Engineering Design**
- **Environmental Engineering**
- **Environmental Site Assessments**
- **Regulatory Compliance and Permitting**
- **Water Quality and Resource Evaluations**
- **Hazardous Waste Management**
- **Soil and Groundwater Remediation**
- **Asbestos and Lead-Based Paint Surveys**
- **Geophysical Studies**
- **Mineral Resource Evaluations**
- **Value Engineering**
- **Forensic Studies**
- **Expert Witness Testimony**

Ninyo & Moore — Transmittal

475 Goddard, Suite 200, Irvine, California 92618 υ Phone 949/753-7070 υ Fax 949/753-7071 υ www.ninyoandmoore.com

To:	Records	**Date:**	May 30, 2013
Firm:	City of Long Beach, Health and Human Services	**Fax No:**	562-570-4038
Address:	2525 Grand Avenue, Romm #222 Long Beach, CA 90815	**Telephone No:**	
From:	Felipe Vazquez	**Total Pages Including Transmittal:**	1
Subject:	Records Request	**Project No:**	208885001

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To Whom It May Concern:

I would like to review files that your agency may have regarding the following addresses:

- **200 Termino Avenue, Long Beach, CA 90803**
- **4000 East Olympic Plaza, Long Beach, CA 90803**
- **4020 East Olympic Plaza, Long Beach, CA 90803**

Please contact me at 949-753-7070 or fvazquez@ninyoandmoore.com to set up an appointment to review any available files.

Sincerely,

Felipe Vazquez

Felipe Vazquez
Senior Staff Engineer

FAXED 5/30/13

- **Geotechnical Engineering**
- **Engineering Geology**
- **Materials Testing and Inspection**
- **Construction Management**
- **Engineering Design**
- **Environmental Engineering**
- **Environmental Site Assessments**
- **Regulatory Compliance and Permitting**
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- **Value Engineering**
- **Forensic Studies**
- **Expert Witness Testimony**

CITY OF LONG BEACH

DEPARTMENT OF HEALTH AND HUMAN SERVICES
BUREAU OF ENVIRONMENTAL HEALTH

2525 GRAND AVENUE ROOM 220 • LONG BEACH, CALIFORNIA 90815 • (562) 570-4132
WWW.LONGBEACH.GOV/HEALTH/EH

June 3, 2013

RECEIVED
JUN 05 2013
NINYO & MOORE
ORANGE COUNTY OFFICE

Ninyo & Moore
Attn: Felipe Vasquez
475 Goddard, Suite 200
Irvine, California 92618

Regarding: 200 Termino Avenue, Long Beach, California
4000 East Olympic Plaza, Long Beach, California
4020 East Olympic Plaza, Long Beach, California

Dear Felipe Vasquez:

I am in receipt of your letter regarding the above mentioned addresses.

The purpose of my letter is to inform you that we have no information on file for these sites. You can also contact the Fire Prevention Bureau for file information at 562/570-2560.

If you nave any further questions, please feel free to contact Dee Brown at 562-570-4131.

Sincerely,

Nelson Kerr, R.E.H.S., M.P.A.
Hazardous Waste Operations Officer

nofile

Ninyo & Moore Transmittal

475 Goddard, Suite 200, Irvine, California 92618 ◆ Phone 949/753-7070 ◆ Fax 949/753-7071 ◆ www.ninyoandmoore.com

To:	Regional Records Coordinator	**Date:**	May 30, 2013
Firm:	California Deparment of Toxic Substances Control-Chatsworth Office	**Fax No:**	818-717-6526
Address:		**Telephone No:**	818-717-6522
From:	Felipe Vazquez	**Total Pages Including Transmittal:**	1
Subject:	Records Request	**Project No:**	208885001

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ATTN: Regional Records Coordinator,

I would like to review files that your agency may have regarding the following addresses:

- **200 Termino Avenue, Long Beach, CA 90803**
- **4000 East Olympic Plaza, Long Beach, CA 90803**
- **4020 East Olympic Plaza, Long Beach, CA 90803**

Please contact me at 949-753-7070 or fvazquez@ninyoandmoore.com to set up an appointment to review any available files.

Sincerely,

Feli Vaz

Felipe Vazquez
Senior Staff Engineer

FAXED 5/30/13

- Geotechnical Engineering
- Engineering Geology
- Materials Testing and Inspection
- Construction Management
- Engineering Design
- Environmental Engineering
- Environmental Site Assessments
- Regulatory Compliance and Permitting
- Water Quality and Resource Evaluations
- Hazardous Waste Management
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- Asbestos and Lead-Based Paint Surveys
- Geophysical Studies
- Mineral Resource Evaluations
- Value Engineering
- Forensic Studies
- Expert Witness Testimony

Ninyo & Moore Transmittal

475 Goddard, Suite 200, Irvine, California 92618 ◦ Phone 949/753-7070 ◦ Fax 949/753-7071 ◦ www.ninyoandmoore.com

To:	Regional Records Coordinator	**Date:**	May 30, 2013
Firm:	California Deparment of Toxic Substances Control-Cypress Office	**Fax No:**	714-484-5318
Address:	5796 Corporate Avenue, Cypress, California 90630	**Telephone No:**	714-484-5300
From:	Felipe Vazquez	**Total Pages Including Transmittal:**	1
Subject:	Records Request	**Project No:**	208885001

☒ **Urgent** ☐ **For Approval** ☐ **For Your Use** ☒ **Please Reply** ☐ **As Requested**

Original Document: ☒ **Will Not Follow** ☐ **Will Follow** ☐ **By U.S. Mail** ☐ **By Other**

ATTN: Regional Records Coordinator,

I would like to review files that your agency may have regarding the following addresses:

N/R

- **200 Termino Avenue, Long Beach, CA 90803**
- **4000 East Olympic Plaza, Long Beach, CA 90803**
- **4020 East Olympic Plaza, Long Beach, CA 90803**

Please contact me at 949-753-7070 or fvazquez@ninyoandmoore.com to set up an appointment to review any available files.

Sincerely,

Feli Vz

Felipe Vazquez
Senior Staff Engineer

DTSC
MAY 30 2013
CYPRESS

- Geotechnical Engineering
- Engineering Geology
- Materials Testing and Inspection
- Construction Management
- Engineering Design
- Environmental Engineering
- Environmental Site Assessments
- Regulatory Compliance and Permitting
- Water Quality and Resource Evaluations
- Hazardous Waste Management
- Soil and Groundwater Remediation
- Asbestos and Lead-Based Paint Surveys
- Geophysical Studies
- Mineral Resource Evaluations
- Value Engineering
- Forensic Studies
- Expert Witness Testimony

Department of Toxic Substances Control

Deborah O. Raphael, Director
5796 Corporate Ave
Cypress, California 90630

Matthew Rodriquez
Secretary for
Environmental Protection

Edmund G. Brown Jr.
Governor

May 30, 2013

RECEIVED
MAY 31 2013
NINYO & MOORE
ORANGE COUNTY OFFICE

Mr. Felipe Vazques
Ninyo & Moore
475 Goddard, Suite 200
Irvine, California 92618

PR40530131

Dear Mr. Vazques:

We have received your Public Records Act Request for records from the Department of Toxic Substances Control. After a thorough review of our files we have found that, **no such records** exist at this office pertaining to the sites/facility referenced.

SEE ATTACHED:

If you have any questions, would like further information regarding your request, please contact our Regional Records Coordinator at (714) 484-5336.

We would like to inform you about Envirostor, a database that provides information and documents on over 5,000 DTSC cleanup sites. Envirostor can be accessed at: http://www.envirostor.dtsc.ca.gov/public. Also, a computer is available in the Central Files of each DTSC Regional Office for use by community members to view Envirostor.

Sincerely,

Jone Barrio

Jone Barrio
Regional Records Coordinator
Cypress Administrative Services
Department of Toxic Substances Control

GROUNDWATER SAMPLING MEMORANDUM

July 28, 2014
Project No. 209120001

Mr. Diego Matzkin
Harley Ellis Devereaux
601 South Figueroa Street, Suite 500
Los Angeles, California 90017

Subject: Groundwater Sampling
Belmont Plaza Pool Facility Rebuild/Revitalization Project
4000 East Olympic Plaza
Long Beach, California 90803

Dear Mr. Matzkin:

Ninyo & Moore conducted groundwater sampling at the Belmont Plaza Pool Facility (PF) at 4000 East Olympic Plaza, Long Beach, California (Figure 1). Demolition activities are planned for the site structure. The diving (deep) section of the existing swimming pool has cracks resulting in shallow groundwater seeping into the pool after the initial draining. Chemical characterization of the groundwater has been requested to assist the abatement demolition contractor with discharge permitting and dewatering activities.

On July 1, 2014 Ninyo & Moore collected one grab water sample from the standing water within the swimming pool and one grab groundwater sample from the adjacent subsurface. One direct-push boring (BP-2) was advanced by J&H drilling to approximately 15 feet below ground surface (bgs) adjacent and to the north exterior of the PF building. Groundwater was encountered at approximately 9 feet bgs and a water sample was collected via Hydro-Punch™. Approximate sampling and boring locations are shown in Figure 2.

The groundwater samples (BP-1 and BP-2) were tested for the constituents required by the California Regional Water Quality Control Board (RWQCB) for the National Pollutant Discharge Elimination System (NPDES) supplemental requirements with the exception of asbestos and dioxins which are not required for screening (Attachment A). In addition, samples were filtered and analyzed for metals (dissolved metals) by the United States Environmental Protection Agency (EPA) Method 200 Series.

Sample BP-1, collected from the swimming pool, had reported concentrations that exceeded the NPDES screening levels for some metals (cadmium, copper, nickel, lead, antimony, and zinc) and for some dissolved metals (cadmium, copper, nickel, lead, and zinc). Sample BP-2, collected from the boring, had reported concentrations that exceeded the NPDES screening levels for some metals (beryllium, copper, mercury, nickel, lead, antimony, and zinc), and for some dissolved metals (cadmium, copper, mercury, nickel, lead, and antimony). A summary of the analytical test results is presented in Table 1. The laboratory report is presented in Attachment B.

Based on the analytical results, it is likely that an NPDES construction dewatering permit will require treatment of the excess water prior to discharge to comply with discharge limits. Some of the analytes have watershed specific limits which should be researched when applying for an NPDES permit.

If you have any questions regarding this report, please contact the undersigned at your convenience.

Respectfully submitted,
NINYO & MOORE

Andrew C. Luong, EIT
Staff Environmental Engineer

Michael S. Cushner, CAC
Project Environmental Scientist

Nancy Anglin
Principal Engineer

ACL/MSC/NA/lr

Attachments: Table 1 – Water Sample Analytical Results
Figure 1 – Site Location
Figure 2 – Groundwater Sampling Locations
Attachment A – NPDES Supplemental Requirements
Attachment B – Laboratory Report and Chains-of-Custody

Distribution: (1) Addressee (via e-mail)
(1) Dino D'Emilia (via e-mail)

TABLE 1 – WATER SAMPLE ANALYTICAL RESULTS

Sample	BP-1	BP-2	NPDES Screening Levels
Sample Date	7/1/2014	7/1/2014	
Metals			
Silver (µg/l)	ND<0.14	ND<0.14	0.25
Arsenic (µg/l)	ND<0.61	ND<0.61	10
Boron (mg/l)	0.33	0.43	NA
Beryllium (µg/l)	ND<0.50	**2.2J**	0.5
Cadmium (µg/l)	**5.3**	ND<0.18	0.5
Chromium (µg/l)	1.9J	230	--
Hexavalent Chromium (mg/l)	ND<0.00027	ND<0.00027	0.005
Copper (µg/l)	**24**	**240**	0.5
Mercury (mg/l)	0.00003J	**0.00027J**	0.0002
Nickel (µg/l)	**1.8J**	**180**	1
Lead (µg/l)	**12**	**97**	0.5
Antimony (µg/l)	**5.8**	**10**	5
Selenium (µg/l)	ND<0.63	ND<0.63	2
Thallium (µg/l)	ND<0.17	ND<0.17	1
Zinc (µg/l)	**38**	**510**	20
Dissolved Metals			
Silver (µg/l)	ND<0.14	ND<0.14	0.25
Arsenic (µg/l)	ND<0.61	ND<0.61	10
Beryllium (µg/l)	ND<0.50	ND<0.50	0.5
Cadmium (µg/l)	**1.8J**	**1.7J**	0.5
Chromium (µg/l)	1.1J	1.4J	--
Hexavalent Chromium (mg/l)	ND<0.00027	ND<0.00027	0.005
Copper (µg/l)	**15**	**5.5J**	0.5
Mercury (mg/l)	ND<0.00015	**0.00026J**	0.0002
Nickel (µg/l)	**1.5J**	**1.9J**	1
Lead (µg/l)	**7.2**	**2.4**	0.5
Antimony (µg/l)	3.0	**7.8**	5
Selenium (µg/l)	ND<0.63	ND<0.63	2
Thallium (µg/l)	ND<0.17	ND<0.17	1
Zinc (µg/l)	**37**	14	20
Volatile Organics			
1,1,1-Trichloroethane (µg/l)	ND<0.23	ND<0.23	2
1,1,2,2-Tetrachloroethane (µg/l)	ND<0.42	ND<0.42	0.5
1,1,2-Trichloroethane (µg/l)	ND<0.34	ND<0.34	0.5
1,1-Dichloroethane (µg/l)	ND<0.29	ND<0.29	1
1,1-Dichloroethene (µg/l)	ND<0.070	ND<0.070	0.5
1,1-Dichloropropene (µg/l)	ND<0.33	ND<0.33	--
1,2,4-Trichlorobenzene (µg/l)	ND<0.22	ND<0.22	--
1,2-Dibromoethane (EDB) (µg/l)	ND<0.38	ND<0.38	--
1,2-Dichlorobenzene (µg/l)	ND<0.36	ND<0.36	0.5
1,2-Dichloroethane (µg/l)	ND<0.25	ND<0.25	0.5
1,2-Dichloropropane (µg/l)	ND<0.15	ND<0.15	0.5
1,3-Dichlorobenzene (µg/l)	ND<0.20	ND<0.20	2
1,4-Dichlorobenzene (µg/l)	ND<0.36	ND<0.36	0.5
2-Butanone (µg/l)	ND<1.8	ND<1.8	--
2-Chloroethylvinyl ether (µg/l)	ND<0.28	ND<0.28	1
Acetone (µg/l)	ND<5.6	ND<5.6	NA
Acrolein (µg/l)	ND<2.6	ND<2.6	5
Acrylonitrile (µg/l)	ND<1.5	ND<1.5	2.0
Benzene (µg/l)	ND<0.47	ND<0.47	0.5
Bromobenzene (µg/l)	ND<0.42	ND<0.42	--

TABLE 1 – WATER SAMPLE ANALYTICAL RESULTS

Sample	BP-1	BP-2	NPDES Screening Levels
Sample Date	7/1/2014	7/1/2014	
Bromodichloromethane (µg/l)	ND<0.31	ND<0.31	0.5
Bromoform (µg/l)	ND<0.50	ND<0.50	0.5
Bromomethane (µg/l)	ND<0.67	ND<0.67	--
Carbon tetrachloride (µg/l)	ND<0.38	ND<0.38	0.5
Chlorobenzene (µg/l)	ND<0.31	ND<0.31	2
Chloroethane (µg/l)	ND<0.55	ND<0.55	2
Chloroform (µg/l)	ND<0.36	ND<0.36	2
Chloromethane (µg/l)	ND<0.47	ND<0.47	--
cis-1,2-Dichloroethene (µg/l)	ND<0.49	ND<0.49	--
cis-1,3-Dichloropropene (µg/l)	ND<0.31	ND<0.31	--
Di-isopropyl ether (µg/l)	ND<0.24	ND<0.24	2
Dibromochloromethane (µg/l)	ND<0.36	ND<0.36	0.5
Ethyl tert-butyl ether (µg/l)	ND<0.15	ND<0.15	2
Ethylbenzene (µg/l)	ND<0.38	ND<0.38	2
m,p-Xylene (µg/l)	ND<0.62	ND<0.62	NA
Methyl tert-butyl ether (µg/l)	ND<0.42	ND<0.42	2
Methylene chloride (µg/l)	ND<0.43	ND<0.43	0.5
o-Xylene (µg/l)	ND<0.30	ND<0.30	NA
Tert-amyl methyl ether (µg/l)	ND<0.16	ND<0.16	2
Tert-butyl alcohol (µg/l)	ND<2.0	ND<2.0	10
Tetrachloroethene (µg/l)	ND<0.49	ND<0.49	0.5
Toluene (µg/l)	ND<0.48	ND<0.48	2
trans-1,2-Dichloroethene (µg/l)	ND<0.37	ND<0.37	1
trans-1,3-Dichloropropene (µg/l)	ND<0.32	ND<0.32	--
Trichloroethene (µg/l)	ND<0.31	ND<0.31	0.5
Trichlorofluoromethane (µg/l)	ND<0.19	ND<0.19	--
Vinyl chloride (µg/l)	ND<0.47	ND<0.47	0.5
Organochlorine Pesticides and PCBs			
4,4´-DDD (µg/l)	ND<0.0030	ND<0.0030	0.05
4,4´-DDE (µg/l)	ND<0.0030	ND<0.0030	0.05
4,4´-DDT (µg/l)	ND<0.0070	ND<0.0070	0.01
Aldrin (µg/l)	ND<0.0020	ND<0.0020	0.005
Chlordane (µg/l)	ND<0.050	ND<0.050	0.1
Dieldrin (µg/l)	ND<0.0020	ND<0.0020	0.01
Endosulfan I (µg/l)	ND<0.020	ND<0.020	0.02
Endosulfan II (µg/l)	ND<0.0040	ND<0.0040	0.01
Endosulfan sulfate (µg/l)	ND<0.010	ND<0.010	0.05
Endrin (µg/l)	ND<0.0020	ND<0.0020	0.01
Endrin aldehyde (µg/l)	ND<0.010	ND<0.010	0.01
HCH-alpha (µg/l)	ND<0.0020	ND<0.0020	0.01
HCH-beta (µg/l)	ND<0.0040	ND<0.0040	0.005
HCH-delta (µg/l)	ND<0.0030	ND<0.0030	0.005
HCH-gamma (lindane) (µg/l)	ND<0.0050	ND<0.0050	0.02
Heptachlor (µg/l)	ND<0.0020	ND<0.0020	0.01
Heptachlor epoxide (µg/l)	ND<0.0030	ND<0.0030	0.01
PCB-1016 (µg/l)	ND<0.40	ND<0.40	0.5
PCB-1221 (µg/l)	ND<0.40	ND<0.40	0.5
PCB-1232 (µg/l)	ND<0.40	ND<0.40	0.5
PCB-1242 (µg/l)	ND<0.40	ND<0.40	0.5
PCB-1248 (µg/l)	ND<0.40	ND<0.40	0.5
PCB-1254 (µg/l)	ND<0.40	ND<0.40	0.5
PCB-1260 (µg/l)	ND<0.40	ND<0.40	0.5
Toxaphene (µg/l)	ND<0.50	ND<0.50	ND<0.10

TABLE 1 – WATER SAMPLE ANALYTICAL RESULTS

Sample	BP-1	BP-2	NPDES Screening Levels
Sample Date	7/1/2014	7/1/2014	
Semivolatile Organics			
1,2,4-Trichlorobenzene (µg/l)	ND<0.30	ND<0.30	5
1,2-Dichlorobenzene (µg/l)	ND<0.26	ND<0.26	0.5
1,2-Diphenylhydrazine (µg/l)	ND<1.0	ND<1.0	1
1,3-Dichlorobenzene (µg/l)	ND<0.29	ND<0.29	2
1,4-Dichlorobenzene (µg/l)	ND<0.26	ND<0.26	2
2,4,6-Trichlorophenol (µg/l)	ND<1.0	ND<1.0	10
2,4-Dichlorophenol (µg/l)	ND<1.0	ND<1.0	5
2,4-Dimethylphenol (µg/l)	ND<0.54	ND<0.54	2
2,4-Dinitrophenol (µg/l)	ND<1.0	ND<1.0	5
2,4-Dinitrotoluene (µg/l)	ND<0.45	ND<0.45	5
2,6-Dinitrotoluene (µg/l)	ND<0.21	ND<0.21	5
2-Chloronaphthalene (µg/l)	ND<0.090	ND<0.090	10
2-Chlorophenol (µg/l)	ND<0.27	ND<0.27	5
2-Methyl-4,6-dinitrophenol (µg/l)	ND<5.0	ND<5.0	5
2-Nitrophenol (µg/l)	ND<0.46	ND<0.46	10
3,3´-Dichlorobenzidine (µg/l)	ND<0.59	ND<0.59	5
4-Bromophenyl phenyl ether (µg/l)	ND<0.26	ND<0.26	5
4-Chloro-3-methylphenol (µg/l)	ND<0.50	ND<0.50	1
4-Chlorophenyl phenyl ether (µg/l)	ND<0.33	ND<0.33	5
4-Nitrophenol (µg/l)	ND<0.90	ND<0.90	5
Acenaphthene (µg/l)	ND<0.16	ND<0.16	1
Acenaphthylene (µg/l)	ND<0.16	ND<0.16	10
Anthracene (µg/l)	ND<0.23	ND<0.23	5
Benzidine (µg/l)	ND<5.0	ND<5.0	5
Benzo (a) anthracene (µg/l)	ND<0.16	ND<0.16	5
Benzo (a) pyrene (µg/l)	ND<0.31	ND<0.31	2
Benzo (b) fluoranthene (µg/l)	ND<0.31	ND<0.31	10
Benzo (g,h,i) perylene (µg/l)	ND<0.28	ND<0.28	5
Benzo (k) fluoranthene (µg/l)	ND<0.31	ND<0.31	2
Bis(2-chloroethoxy)methane (µg/l)	ND<0.27	ND<0.27	5
Bis(2-chloroethyl)ether (µg/l)	ND<0.42	ND<0.42	1
Bis(2-chloroisopropyl)ether (µg/l)	ND<0.38	ND<0.38	10
Bis(2-ethylhexyl)phthalate (µg/l)	ND<0.59	ND<0.59	5
Butyl benzyl phthalate (µg/l)	ND<0.62	ND<0.62	10
Chrysene (µg/l)	ND<0.10	ND<0.10	5
Di-n-butyl phthalate (µg/l)	ND<0.25	ND<0.25	10
Di-n-octyl phthalate (µg/l)	ND<0.41	ND<0.41	10
Dibenz (a,h) anthracene (µg/l)	ND<0.10	ND<0.10	0.1
Diethyl phthalate (µg/l)	ND<0.57	ND<0.57	10
Dimethyl phthalate (µg/l)	ND<0.22	ND<0.22	10
Diphenylamine (µg/l)	ND<0.12	ND<0.12	--
Fluoranthene (µg/l)	ND<0.13	ND<0.13	10
Fluorene (µg/l)	ND<0.14	ND<0.14	10
Hexachlorobenzene (µg/l)	ND<0.35	ND<0.35	1
Hexachlorobutadiene (µg/l)	ND<0.56	ND<0.56	1
Hexachlorocyclopentadiene (µg/l)	ND<5.0	ND<5.0	5
Hexachloroethane (µg/l)	ND<0.25	ND<0.25	1
*Indeno (1,2,3-cd) pyrene (µg/l)	ND<0.10	ND<0.10	0.05
Isophorone (µg/l)	ND<0.64	ND<0.64	1
N-Nitrosodi-n-propylamine (µg/l)	ND<0.58	ND<0.58	5
N-Nitrosodimethylamine (µg/l)	ND<5.0	ND<5.0	5
Naphthalene (µg/l)	ND<0.17	ND<0.17	10
Nitrobenzene (µg/l)	ND<0.23	ND<0.23	10

TABLE 1 – WATER SAMPLE ANALYTICAL RESULTS

Sample	BP-1	BP-2	NPDES Screening Levels
Sample Date	7/1/2014	7/1/2014	
Pentachlorophenol (μg/l)	ND<1.0	ND<1.0	1
Phenanthrene (μg/l)	ND<0.14	ND<0.14	5
Phenol (μg/l)	ND<0.36	ND<0.36	50
Pyrene (μg/l)	ND<0.20	ND<0.20	10
Miscellaneous			
Trivalent Chromium (mg/l)	ND<0.0012	0.23	0.01
Trivalent Chromium (Dissolved) (mg/l)	ND<0.0012	ND<0.0012	0.01
TRPH (mg/l)	ND<0.10	ND<0.10	0.1
Gasoline Range Hydrocarbons (C4-C12) (μg/l)	ND<14	ND<14	--
Diesel Range Organics (C10-C24) (mg/l)	ND<0.050	ND<0.050	--
Methanol (mg/l)	ND<1.0	ND<1.0	1
Ethanol (μg/l)	ND<50	ND<50	1000
Perchlorate (μg/l)	ND<4	ND<4	NA
1,4-Dioxane (μg/l)	ND<0.50	ND<0.50	NA
Total Cyanide (μg/l)	ND<5.0	ND<5.0	5
Conventional Chemistry Parameters			
Biochemical Oxygen Demand (mg/l)	4.20	28.0	NA
Chloride (mg/l)	160	260	NA
Total Hardness (mg/l)	174	368	NA
Hexane Extractable Material (HEM; Oil & Grease) (mg/l)	ND<1.60	3.10	NA
Nitrite as N (mg/l)	ND<0.0200	ND<0.0200	--
Nitrate as N (mg/l)	2.60	3.40	--
Nitrate/Nitrite as N (mg/l)	2.60	3.40	NA
pH (pH Units)	7.10	7.04	NA
Total Settleable Solids (ml/l)	ND<0.100	76.0	NA
Sulfate as SO4 (mg/l)	150	175	NA
Sulfide (mg/l)	ND<0.05	ND<0.05	NA
Total Dissolved Solids (mg/l)	570	1,160	NA
Total Suspended Solids (mg/l)	9.00	5,570	NA
Turbidity (NTU)	1.63	>180	NA

Notes:
J – reported value is estimated
μg/l – micrograms per liter
mg/l – milligrams per liter
ml/l – milliliters per liter
NA – not applicable
ND – not detected above the method detection limit
NPDES – National Pollutant Discharge Elimination System
NTU – nephelometer turbidity units
PCB – polychlorinated biphenyls
RWQCB – Regional Water Quality Control Board
TRPH – total recoverable petroleum hydrocarbons
-- – no screening level
* – the laboratory method detection limit is greater than the RWQCB NPDES Application Supplemental Requirements Minimum Levels for discharges of wastewaster to surface waters.
BOLD – exceeds the RWQCB NPDES Application Supplemental Requirements Minimum Levels for discharges of wastewater to surface waters.
Please refer to the attached laboratory reports for additional details.

REFERENCE: 52ND EDITION, THOMAS GUIDE FOR LOS ANGELES/ORANGE COUNTIES, STREET GUIDE AND DIRECTORY.

N

SCALE IN FEET

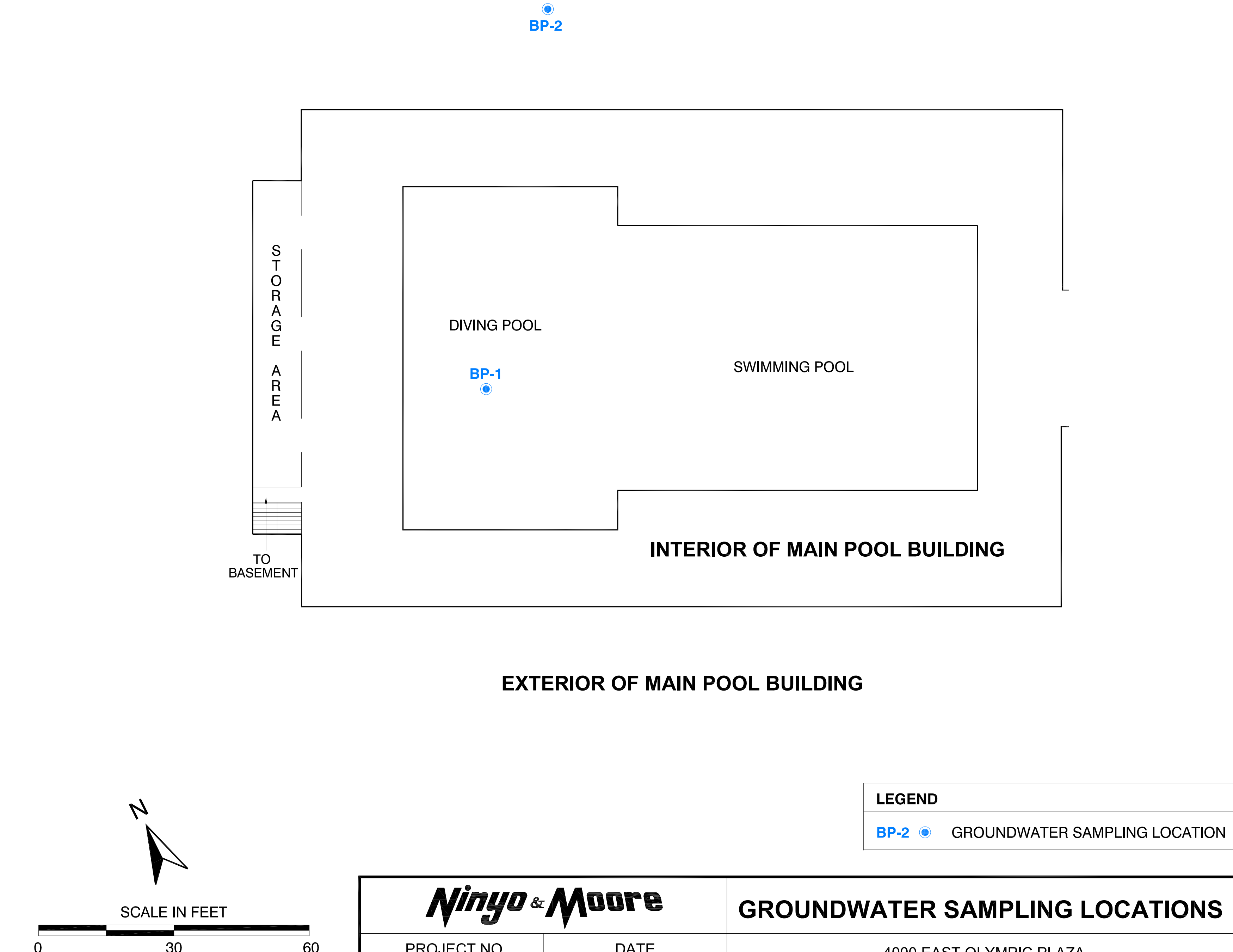
0 2,400 4,800

NOTE: DIMENSIONS, DIRECTIONS AND LOCATIONS ARE APPROXIMATE.

Map © Rand McNally, R.L.07-S-129

209120001_SL.dwg 15:35:09 07/09/2014 GK

Ninyo & Moore		SITE LOCATION	FIGURE
PROJECT NO.	DATE	4000 EAST OLYMPIC PLAZA LONG BEACH, CALIFORNIA	1
209120001	7/14		



NOTE: DIMENSIONS, DIRECTIONS AND LOCATIONS ARE APPROXIMATE.

Ninyo & Moore		GROUNDWATER SAMPLING LOCATIONS	FIGURE
PROJECT NO.	DATE	4000 EAST OLYMPIC PLAZA LONG BEACH, CALIFORNIA	2
209120001	7/14		

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ATTACHMENT A

NPDES SUPPLEMENTAL REQUIREMENTS

NPDES Application Supplemental Requirements

I. Pollutants Analysis/Measurements

Analysis/measurement for the following pollutants should accompany the NPDES application for discharges of wastewater to surface waters.

Table I. List of Pollutants Analysis/Measurements

ID Num.	Pollutant	Quantitation Level	Screening Levels		Minimum Levels (ML)
			MUN[a]	Others[b]	
		Unit -- (µg/L)	Unit -- (µg/L)		Unit -- (µg/L)
	Metals(a)				
1097	Antimony (Sb)		14	4300	5
1000	Arsenic (As)		50	36	10
1012	Beryllium (Be)		4	--	0.5
1027	Cadmium (Cd)		2.4	9.4	0.5
1033	Chromium III (Cr3+)		50	--	10
1032	Chromium VI (Cr6+)		11	50	5
1119	Copper (Cu)		9.4	3.7	0.5
720	Cyanide (CN)		5.2	--	5
1051	Lead (Pb)		3.2	8.5	0.5
71900	Mercury (Hg)		0.050	0.051	0.2
1067	Nickel (Ni)		52	8.3	1
1147	Selenium (Se)		5.0	71	2
1077	Silver (Ag)		4	2.2	0.25
1059	Thallium (Ti)		1.7	6.3	1
1092	Zinc (Zn)		122	86	20
	(a) = Metals concentrations are expressed as total recoverable				
	Volatile Organic Compounds				
34496	1,1 Dichloroethane		5	5	1
34501	1,1 Dichloroethylene		0.057	3.2	0.5
34506	1,1,1 Trichloroethane		200	200	2
34511	1,1,2 Trichloroethane		0.60	42	0.5
34516	1,1,2,2 Tetrachloroethane		0.17	11	0.5
34536	1,2 Dichlorobenzene		600	17000	0.5
32103	1,2 Dichloroethane		0.38	99	0.5
34541	1,2 Dichloropropane		0.52	39	0.5
34549	1,2-Trans Dichloroethylene		10	140000	1
34566	1,3 Dichlorobenzene		400	2600	2
34561	1,3 Dichloropropylene		0.5	0.5	0.5
34571	1,4 Dichlorobenzene		5	0.5	0.5
34576	2-Chloroethyl vinyl ether		--	--	1
34210	Acrolein		100	100	5
34215	Acrylonitrile		0.059	0.66	2.0
34030	Benzene		1.0	1.0	0.5
32104	Bromoform		4.3	360	0.5
32102	Carbon Tetrachloride		0.25	4.4	0.5
34301	Chlorobenzene		30	21000	2
34306	Chlorodibromo-methane		0.401	34	0.5
85811	Chloroethane		100	100	2
32106	Chloroform		100	100	2
32101	Dichlorobromo-methane		0.56	46	0.5
78113	Ethylbenzene		700	700	2
34413	Methyl Bromide		10	4000	2
34418	Methylene Chloride		4.7	1600	0.5
34475	Tetrachloroethylene		0.8	8.85	0.5
34010	Toluene		150	150	2
39180	Trichloroethylene		2.7	5	0.5
39175	Vinyl Chloride		0.5	0.5	0.5
63	Xylenes		1750	1750	na
	Acetone		700	700	na
	Ethylene Dibromide		0.05	0.05	na
	Methyl Chloride		3	3	0.5

[a] Applies to water with Municipal and Domestic Supply (MUN) (indicated with E and I in the Basin Plan) beneficial uses designations.
[b] Applies to all other receiving waters.

ID Num.	Pollutant	Quantitation Level	Screening Levels		Minimum Levels (ML)
			MUN[a]	Others[b]	
		Unit -- (µg/L)	Unit -- (µg/L)		Unit -- (µg/L)
	Methyl ethyl ketone		700	700	na
	Pesticides and PCBs				
39310	4,4'-DDD		0.00083	0.00084	0.05
39320	4,4'-DDE		0.00059	0.00059	0.05
39300	4,4'-DDT		0.00059	0.00059	0.01
78428	Alpha-Endosulfan		0.056	0.0087	0.02
39336	Alpha-BHC		0.0039	0.013	0.01
39330	Aldrin		0.00013	0.00014	0.005
34356	Beta-Endosulfan		0.056	0.0087	0.01
39338	beta-BHC		0.014	0.046	0.005
39350	Chlordane		0.00057	0.00059	0.1
34198	delta-BHC		--	--	0.005
39380	Dieldrin		0.00014	0.00014	0.01
34351	Endosulfan Sulfate		110	240	0.05
39390	Endrin		0.036	0.0023	0.01
34366	Endrin Aldehyde		0.76	0.81	0.01
39410	Heptachlor		0.00021	0.00021	0.01
39420	Heptachlor Epoxide		0.0001	0.00011	0.01
39340	gamma-BHC		0.019	0.063	0.02
4166	PCB 1016		0.00017	0.00017	0.5
4166	PCB 1221		0.00017	0.00017	0.5
4166	PCB 1232		0.00017	0.00017	0.5
4166	PCB 1242		0.00017	0.00017	0.5
4166	PCB 1248		0.00017	0.00017	0.5
4166	PCB 1254		0.00017	0.00017	0.5
4166	PCB 1260		0.00017	0.00017	0.5
39400	Toxaphene		0.00073	0.00075	0.5
	Semi – Volatile Organic Compounds				
34536	1,2 Dichlorobenzene		600	17000	0.5
34346	1,2 Diphenylhydrazine		0.040	0.54	1
34551	1,2,4 Trichlorobenzene		70	--	5
34566	1,3 Dichlorobenzene		400	2600	2
34571	1,4 Dichlorobenzene		5	2600	2
34586	2 Chlorophenol		120	400	5
34601	2,4 Dichlorophenol		93	790	5
34606	2,4 Dimethylphenol		540	2300	2
34616	2,4 Dinitrophenol		70	14000	5
34611	2,4 Dinitrotoluene		0.11	9.1	5
34624	2,4,6 Trichlorophenol		2.1	6.5	10
34626	2,6 Dinitrotoluene		--	--	5
34591	2-Nitrophenol		--	--	10
34581	2-Chloronaphthalene		1700	4300	10
34631	3,3' Dichlorobenzidine		0.04	0.077	5
	3-Methyl-4-Chlorophenol		--	--	1
3615	2-Methyl-4,6-Dinitrophenol		13	765	5
34646	4-Nitrophenol		--	--	5
34636	4-Bromophenyl phenyl ether		--	--	5
34641	4-Chlorophenyl phenyl ether		--	--	5
34205	Acenaphthene		1200	2700	1
34200	Acenaphthylene		--	--	10
34220	Anthracene		9600	110000	5
39120	Benzidine		0.00012	0.00054	5
34526	Benzo (a) Anthracene		0.0044	0.049	5
34247	Benzo (a) Pyrene		0.0044	0.049	2
34230	Benzo (b) Fluoranthene		0.0044	0.049	10
34521	Benzo (g,h,i) Perylene		--	--	5
34242	Benzo (k) Fluoranthene		0.0044	0.049	2
34278	Bis (2-Chloroethoxyl) methane		--	--	5
34273	Bis(2-Chloroethyl) ether		0.031	1.4	1
34283	Bis(2-Chloroisopropyl) ether		1400	170000	10
39100	Bis(2-Ethylhexyl) phthalate		1.8	5.9	5
34292	Butyl benzyl phthalate		3000	5200	10
34320	Chrysene		0.0044	0.049	5
34556	Dibenzo(a,h)-anthracene		0.0044	0.049	0.1

ID Num.	Pollutant	Quantitation Level	Screening Levels		Minimum Levels (ML)
			MUN[a]	Others[b]	
		Unit -- (µg/L)	Unit -- (µg/L)		Unit -- (µg/L)
34336	Diethyl phthalate		23000	120000	10
34341	Dimethyl phthalate		313000	2900000	10
39110	di-n-Butyl phthalate		2700	12000	10
34596	di-n-Octyl phthalate		--	--	10
34376	Fluoranthene		300	370	10
34381	Fluorene		1300	14000	10
39700	Hexachlorobenzene		0.00075	0.00077	1
39702	Hexachlorobutadiene		0.44	50	1
34386	Hexachloro-cyclopentadiene		50	17000	5
34396	Hexachloroethane		1.9	8.9	1
34403	Indeno(1,2,3,cd)-pyrene		0.0044	0.049	0.05
34408	Isophorone		8.4	600	1
34438	N-Nitrosodimethyl amine (NDMA)		0.00069	8.1	5
34428	N-Nitroso-di-n-propyl amine		0.005	1.4	5
34433	N-Nitrosodiphenyl amine		5.0	16	1
34696	Naphthalene		21	--	10
34447	Nitrobenzene		17	1900	10
39032	Pentachlorophenol		0.28	7.9	1
34461	Phenanthrene		--	--	5
34694	Phenol		21000	4600000	50
34469	Pyrene		960	11000	10
	Miscellaneous				
82698	2,3,7,8-TCDD (Dioxin)		1.3E-08	1.3E-08	na
948	Asbestos (in fibers/L k,s.)		7000000	7000000	na
	Perchlorate		4	4	na
	1,4-Dioxane		3	3	na
	Methyl tertiary butyl ether (MTBE)		5	5	2
	Di-isopropyl Ether (DIPE)		0.8	0.8	2
	Ethyl Tertiary Butyl Ether (ETBE)		2	2	2
	Tertiary Amyl Methyl Ether (TAME)		2	2	2
	Tertiary Butyl Alcohol (TBA) *		12	12	10
	Methanol		1000	1000	1000
	Ethanol		1000	1000	1000
	Total Petroleum Hydrocarbons Using both EPA 418.1 and EPA 8015 (modified) methods		100	100	100
	*** Analysis required for petroleum-fuel impacted water only.**				
	Conventional	mg/L	mg/L	mg/L	mg/L
	Hardness		na	na	na
	pH (pH unit)		na	na	na
	Suspended solids		na	na	na
	BOD520°C		na	na	na
	Oil and grease		na	na	na
	Settleable Solids (ml/L)		na	na	na
	Turbidity		na	na	na
	Total Dissolved Solids		na	na	na
	Chlorides		na	na	na
	Sulfates		na	na	na
	Nitrites+Nitrates (as Nitrogen)		na	na	na
	Sulfides		na	na	na
	Boron		na	na	na
	Note: na = not applicable -- = no screening level				

II. Alternative Method of Disposal

The application should also be accompanied by a feasibility study of reuse of the wastewater, and if reuse is not feasible, alternatives for disposal other than surface waters.

ATTACHMENT B

LABORATORY REPORTS AND CHAINS-OF-CUSTODY

SIERRA ANALYTICAL

21 July 2014

Michael Cushner
Ninyo & Moore - Irvine
475 Goddard Suite 200
Irvine, CA 92618

RE:NPDES Permit

Work Order No.: 1407011

Attached are the results of the analyses for samples received by the laboratory on 07/01/14 13:55.

The samples were received by Sierra Analytical Labs, Inc. with a chain of custody record attached or completed at the submittal of the samples.

The analyses were performed according to the prescribed method as outlined by EPA, Standard Methods, and A.S.T.M.

The remaining portions of the samples will be disposed of within 30 days from the date of this report.
If you require any additional retaining time, please advise us.

Sincerely,

Richard K. Forsyth

Richard K. Forsyth

Laboratory Director

Sierra Analytical Labs, Inc. is certified by the California Department of Health Services (DOHS),
Environmental Laboratory Accredidation Program (ELAP) No. 2320.

Ninyo & Moore - Irvine	Project: NPDES Permit	
475 Goddard Suite 200	Project Number: [none]	**Reported:**
Irvine CA, 92618	Project Manager: Michael Cushner	07/21/14 09:30

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BP-1	1407011-01	Liquid	07/01/14 09:00	07/01/14 13:55
BP-2	1407011-02	Liquid	07/01/14 11:00	07/01/14 13:55

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Ninyo & Moore - Irvine
475 Goddard Suite 200
Irvine CA, 92618

Project: NPDES Permit
Project Number: [none]
Project Manager: Michael Cushner

Reported:
07/21/14 09:30

Conventional Chemistry Parameters by APHA/EPA Methods
Sierra Analytical Labs, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
BP-1 (1407011-01) Liquid Sampled: 07/01/14 09:00 Received: 07/01/14 13:55										
Biochemical Oxygen Demand	**4.20**	2.00	2.00	mg/L	1	B4G0857	07/01/14	07/06/14 17:00	EPA 405.1	
Chloride	**160**	0.500	0.500	"	"	"	"	07/01/14 17:00	SM 4500-Cl-B	
Total Hardness	**174**	0.400	0.400	"	"	"	"	"	SM 2340 C	
Hexane Extractable Material (HEM)	ND	1.60	2.00	"	"	"	"	"	EPA 1664	
Nitrite as N	ND	0.0200	0.0200	"	"	"	"	"	SM4500-NO2 B	
Nitrate as N	**2.60**	0.0200	0.0200	"	"	"	"	"	EPA 353.3	
Nitrate/Nitrite as N	**2.60**	0.0200	0.0200	"	"	"	"	"	"	
pH	**7.10**	0.100	0.100	pH Units	"	"	"	"	EPA 150.1	
Total Settleable Solids	ND	0.100	0.100	mL/L	"	"	"	"	EPA 160.5	
Sulfate as SO4	**150**	0.500	0.500	mg/L	"	"	"	"	EPA 375.4	
Sulfide	ND	0.05	0.05	"	"	"	"	"	EPA 376.1	
Total Dissolved Solids	**570**	1.00	1.00	"	"	"	"	"	EPA 160.1	
Total Suspended Solids	**9.00**	1.00	1.00	"	"	"	"	"	EPA 160.2	
Turbidity	**1.63**	0.0200	0.0200	NTU	"	"	"	"	EPA 180.1	
BP-2 (1407011-02) Liquid Sampled: 07/01/14 11:00 Received: 07/01/14 13:55										
Biochemical Oxygen Demand	**28.0**	2.00	2.00	mg/L	1	B4G0857	07/01/14	07/06/14 17:00	EPA 405.1	
Chloride	**260**	0.500	0.500	"	"	"	"	07/01/14 17:00	SM 4500-Cl-B	
Total Hardness	**368**	0.400	0.400	"	"	"	"	"	SM 2340 C	
Hexane Extractable Material (HEM)	**3.10**	1.60	2.00	"	"	"	"	"	EPA 1664	
Nitrite as N	ND	0.0200	0.0200	"	"	"	"	"	SM4500-NO2 B	
Nitrate as N	**3.40**	0.0200	0.0200	"	"	"	"	"	EPA 353.3	
Nitrate/Nitrite as N	**3.40**	0.0200	0.0200	"	"	"	"	"	"	
pH	**7.04**	0.100	0.100	pH Units	"	"	"	"	EPA 150.1	
Total Settleable Solids	**76.0**	0.100	0.100	mL/L	"	"	"	"	EPA 160.5	
Sulfate as SO4	**175**	0.500	0.500	mg/L	"	"	"	"	EPA 375.4	
Sulfide	ND	0.05	0.05	"	"	"	"	"	EPA 376.1	
Total Dissolved Solids	**1160**	1.00	1.00	"	"	"	"	"	EPA 160.1	
Total Suspended Solids	**5570**	1.00	1.00	"	"	"	"	"	EPA 160.2	
Turbidity	>180	0.0200	0.0200	NTU	"	"	"	"	EPA 180.1	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Ninyo & Moore - Irvine	Project: NPDES Permit	
475 Goddard Suite 200	Project Number: [none]	Reported:
Irvine CA, 92618	Project Manager: Michael Cushner	07/21/14 09:30

Metals by EPA 200 Series Methods
Sierra Analytical Labs, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
BP-1 (1407011-01) Liquid Sampled: 07/01/14 09:00 Received: 07/01/14 13:55										
Silver	ND	0.14	1.5	µg/L	1	B4G0226	07/02/14	07/08/14 11:56	EPA 200.8	
Arsenic	ND	0.61	3.0	"	"	"	"	"	"	
Boron	**0.33**	0.013	0.066	mg/L	"	B4G0236	07/02/14	07/08/14 12:09	EPA 200.7	
Beryllium	ND	0.50	3.0	µg/L	"	B4G0226	07/02/14	07/08/14 11:56	EPA 200.8	
Cadmium	**5.3**	0.18	2.0	"	"	"	"	"	"	
Chromium	**1.9**	0.26	3.0	"	"	"	"	"	"	J
Hexavalent Chromium	ND	0.00027	0.0020	mg/L	"	B4G0228	07/02/14	07/09/14 19:26	EPA 218.6	
Copper	**24**	0.36	10	µg/L	"	B4G0226	07/02/14	07/08/14 11:56	EPA 200.8	
Mercury	**0.00003**	0.00002	0.00030	mg/L	"	B4G0237	07/02/14	07/03/14 13:47	EPA 245.1	J
Nickel	**1.8**	0.46	5.0	µg/L	"	B4G0226	07/02/14	07/08/14 11:56	EPA 200.8	J
Lead	**12**	0.18	2.0	"	"	"	"	"	"	
Antimony	**5.8**	0.28	3.0	"	"	"	"	"	"	
Selenium	ND	0.63	6.5	"	"	"	"	"	"	
Thallium	ND	0.17	2.0	"	"	"	"	"	"	
Zinc	**38**	2.8	14	"	"	"	"	"	"	
BP-2 (1407011-02) Liquid Sampled: 07/01/14 11:00 Received: 07/01/14 13:55										
Silver	ND	0.14	1.5	µg/L	1	B4G0226	07/02/14	07/08/14 11:56	EPA 200.8	
Arsenic	ND	0.61	3.0	"	"	"	"	"	"	
Boron	**0.43**	0.013	0.066	mg/L	"	B4G0236	07/02/14	07/08/14 12:09	EPA 200.7	
Beryllium	**2.2**	0.50	3.0	µg/L	"	B4G0226	07/02/14	07/08/14 11:56	EPA 200.8	J
Cadmium	ND	0.18	2.0	"	"	"	"	"	"	
Chromium	**230**	0.26	3.0	"	"	"	"	"	"	
Hexavalent Chromium	ND	0.00027	0.0020	mg/L	"	B4G0228	07/02/14	07/09/14 19:26	EPA 218.6	
Copper	**240**	0.36	10	µg/L	"	B4G0226	07/02/14	07/08/14 11:56	EPA 200.8	
Mercury	**0.00027**	0.00002	0.00030	mg/L	"	B4G0237	07/02/14	07/03/14 13:47	EPA 245.1	J
Nickel	**180**	0.46	5.0	µg/L	"	B4G0226	07/02/14	07/08/14 11:56	EPA 200.8	
Lead	**97**	0.18	2.0	"	"	"	"	"	"	
Antimony	**10**	0.28	3.0	"	"	"	"	"	"	
Selenium	ND	0.63	6.5	"	"	"	"	"	"	
Thallium	ND	0.17	2.0	"	"	"	"	"	"	
Zinc	**510**	2.8	14	"	"	"	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Ninyo & Moore - Irvine	Project: NPDES Permit	
475 Goddard Suite 200	Project Number: [none]	Reported:
Irvine CA, 92618	Project Manager: Michael Cushner	07/21/14 09:30

Metals (Dissolved) by EPA 200 Series Methods
Sierra Analytical Labs, Inc.

BP-1 (1407011-01) Liquid Sampled: 07/01/14 09:00 Received: 07/01/14 13:55

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Silver	ND	0.14	1.5	µg/L	1	B4G0227	07/02/14	07/08/14 11:45	EPA 200.8	
Arsenic	ND	0.61	3.0	"	"	"	"	"	"	
Beryllium	ND	0.50	3.0	"	"	"	"	"	"	
Cadmium	**1.8**	0.18	2.0	"	"	"	"	"	"	J
Chromium	**1.1**	0.26	3.0	"	"	"	"	"	"	J
Hexavalent Chromium	ND	0.00027	0.0020	mg/L	"	B4G0229	07/02/14	07/09/14 19:25	EPA 218.6	
Copper	**15**	0.36	10	µg/L	"	B4G0227	07/02/14	07/08/14 11:45	EPA 200.8	
Mercury	ND	0.00015	0.00073	mg/L	"	B4G0232	07/02/14	07/03/14 13:46	EPA 245.1	
Nickel	**1.5**	0.46	5.0	µg/L	"	B4G0227	07/02/14	07/08/14 11:45	EPA 200.8	J
Lead	**7.2**	0.18	2.0	"	"	"	"	"	"	
Antimony	**3.0**	0.28	3.0	"	"	"	"	"	"	
Selenium	ND	0.63	6.5	"	"	"	"	"	"	
Thallium	ND	0.17	2.0	"	"	"	"	"	"	
Zinc	**37**	2.8	14	"	"	"	"	"	"	

BP-2 (1407011-02) Liquid Sampled: 07/01/14 11:00 Received: 07/01/14 13:55

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Silver	ND	0.14	1.5	µg/L	1	B4G0227	07/02/14	07/08/14 11:45	EPA 200.8	
Arsenic	ND	0.61	3.0	"	"	"	"	"	"	
Beryllium	ND	0.50	3.0	"	"	"	"	"	"	
Cadmium	**1.7**	0.18	2.0	"	"	"	"	"	"	J
Chromium	**1.4**	0.26	3.0	"	"	"	"	"	"	J
Hexavalent Chromium	ND	0.00027	0.0020	mg/L	"	B4G0229	07/02/14	07/09/14 19:25	EPA 218.6	
Copper	**5.5**	0.36	10	µg/L	"	B4G0227	07/02/14	07/08/14 11:45	EPA 200.8	J
Mercury	**0.00026**	0.00015	0.00073	mg/L	"	B4G0232	07/02/14	07/03/14 13:46	EPA 245.1	J
Nickel	**1.9**	0.46	5.0	µg/L	"	B4G0227	07/02/14	07/08/14 11:45	EPA 200.8	J
Lead	**2.4**	0.18	2.0	"	"	"	"	"	"	
Antimony	**7.8**	0.28	3.0	"	"	"	"	"	"	
Selenium	ND	0.63	6.5	"	"	"	"	"	"	
Thallium	ND	0.17	2.0	"	"	"	"	"	"	
Zinc	**14**	2.8	14	"	"	"	"	"	"	

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Ninyo & Moore - Irvine
475 Goddard Suite 200
Irvine CA, 92618

Project: NPDES Permit
Project Number: [none]
Project Manager: Michael Cushner

Reported:
07/21/14 09:30

Trivalent Chromium by Calculation
Sierra Analytical Labs, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
BP-1 (1407011-01) Liquid Sampled: 07/01/14 09:00 Received: 07/01/14 13:55										
Trivalent Chromium	ND	0.0012	0.010	mg/L	1	B4G0230	07/02/14	07/09/14 19:26	Calculation	
BP-2 (1407011-02) Liquid Sampled: 07/01/14 11:00 Received: 07/01/14 13:55										
Trivalent Chromium	**0.23**	0.0012	0.010	mg/L	1	B4G0230	07/02/14	07/09/14 19:26	Calculation	

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Ninyo & Moore - Irvine	Project: NPDES Permit	
475 Goddard Suite 200	Project Number: [none]	**Reported:**
Irvine CA, 92618	Project Manager: Michael Cushner	07/21/14 09:30

Trivalent Chromium by Calculation (Dissolved)
Sierra Analytical Labs, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
BP-1 (1407011-01) Liquid Sampled: 07/01/14 09:00 Received: 07/01/14 13:55										
Trivalent Chromium	ND	0.0012	0.010	mg/L	1	B4G0231	07/02/14	07/09/14 19:27	Calculation	
BP-2 (1407011-02) Liquid Sampled: 07/01/14 11:00 Received: 07/01/14 13:55										
Trivalent Chromium	ND	0.0012	0.010	mg/L	1	B4G0231	07/02/14	07/09/14 19:27	Calculation	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Ninyo & Moore - Irvine
475 Goddard Suite 200
Irvine CA, 92618

Project: NPDES Permit
Project Number: [none]
Project Manager: Michael Cushner

Reported:
07/21/14 09:30

Total Recoverable Petroleum Hydrocarbons (TRPH) by IR
Sierra Analytical Labs, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
BP-1 (1407011-01) Liquid Sampled: 07/01/14 09:00 Received: 07/01/14 13:55										
TRPH	ND	0.10	1.0	mg/L	1	B4G0850	07/08/14	07/08/14 10:36	EPA 418.1	
BP-2 (1407011-02) Liquid Sampled: 07/01/14 11:00 Received: 07/01/14 13:55										
TRPH	ND	0.10	1.0	mg/L	1	B4G0850	07/08/14	07/08/14 10:36	EPA 418.1	

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Ninyo & Moore - Irvine	Project: NPDES Permit	
475 Goddard Suite 200	Project Number: [none]	**Reported:**
Irvine CA, 92618	Project Manager: Michael Cushner	07/21/14 09:30

Organochlorine Pesticides and PCBs by EPA Method 608
Sierra Analytical Labs, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
BP-1 (1407011-01) Liquid Sampled: 07/01/14 09:00 Received: 07/01/14 13:55										
Aldrin	ND	0.0020	0.075	µg/L	1	B4G0220	07/02/14	07/08/14 08:51	EPA 608	
HCH-alpha	ND	0.0020	0.010	"	"	"	"	"	"	
HCH-beta	ND	0.0040	0.050	"	"	"	"	"	"	
HCH-delta	ND	0.0030	0.10	"	"	"	"	"	"	
HCH-gamma (Lindane)	ND	0.0050	0.20	"	"	"	"	"	"	
Chlordane	ND	0.050	0.050	"	"	"	"	"	"	
4,4´-DDD	ND	0.0030	0.010	"	"	"	"	"	"	
4,4´-DDE	ND	0.0030	0.010	"	"	"	"	"	"	
4,4´-DDT	ND	0.0070	0.010	"	"	"	"	"	"	
Dieldrin	ND	0.0020	0.020	"	"	"	"	"	"	
Endosulfan I	ND	0.020	0.020	"	"	"	"	"	"	
Endosulfan II	ND	0.0040	0.050	"	"	"	"	"	"	
Endosulfan sulfate	ND	0.010	0.050	"	"	"	"	"	"	
Endrin	ND	0.0020	0.10	"	"	"	"	"	"	
Endrin aldehyde	ND	0.010	0.050	"	"	"	"	"	"	
Heptachlor	ND	0.0020	0.010	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.0030	0.010	"	"	"	"	"	"	
Toxaphene	ND	0.50	1.0	"	"	"	"	"	"	
PCB-1016	ND	0.40	0.50	"	"	"	"	"	"	
PCB-1221	ND	0.40	0.50	"	"	"	"	"	"	
PCB-1232	ND	0.40	0.50	"	"	"	"	"	"	
PCB-1242	ND	0.40	0.50	"	"	"	"	"	"	
PCB-1248	ND	0.40	0.50	"	"	"	"	"	"	
PCB-1254	ND	0.40	0.50	"	"	"	"	"	"	
PCB-1260	ND	0.40	0.50	"	"	"	"	"	"	
Surrogate: Decachlorobiphenyl		*60.8 %*	*42-147*			"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*65.2 %*	*42-147*			"	"	"	"	

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Ninyo & Moore - Irvine	Project: NPDES Permit	
475 Goddard Suite 200	Project Number: [none]	**Reported:**
Irvine CA, 92618	Project Manager: Michael Cushner	07/21/14 09:30

Organochlorine Pesticides and PCBs by EPA Method 608
Sierra Analytical Labs, Inc.

BP-2 (1407011-02) Liquid Sampled: 07/01/14 11:00 Received: 07/01/14 13:55

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Aldrin	ND	0.0020	0.075	µg/L	1	B4G0220	07/02/14	07/08/14 08:51	EPA 608	
HCH-alpha	ND	0.0020	0.010	"	"	"	"	"	"	
HCH-beta	ND	0.0040	0.050	"	"	"	"	"	"	
HCH-delta	ND	0.0030	0.10	"	"	"	"	"	"	
HCH-gamma (Lindane)	ND	0.0050	0.20	"	"	"	"	"	"	
Chlordane	ND	0.050	0.050	"	"	"	"	"	"	
4,4´-DDD	ND	0.0030	0.010	"	"	"	"	"	"	
4,4´-DDE	ND	0.0030	0.010	"	"	"	"	"	"	
4,4´-DDT	ND	0.0070	0.010	"	"	"	"	"	"	
Dieldrin	ND	0.0020	0.020	"	"	"	"	"	"	
Endosulfan I	ND	0.020	0.020	"	"	"	"	"	"	
Endosulfan II	ND	0.0040	0.050	"	"	"	"	"	"	
Endosulfan sulfate	ND	0.010	0.050	"	"	"	"	"	"	
Endrin	ND	0.0020	0.10	"	"	"	"	"	"	
Endrin aldehyde	ND	0.010	0.050	"	"	"	"	"	"	
Heptachlor	ND	0.0020	0.010	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.0030	0.010	"	"	"	"	"	"	
Toxaphene	ND	0.50	1.0	"	"	"	"	"	"	
PCB-1016	ND	0.40	0.50	"	"	"	"	"	"	
PCB-1221	ND	0.40	0.50	"	"	"	"	"	"	
PCB-1232	ND	0.40	0.50	"	"	"	"	"	"	
PCB-1242	ND	0.40	0.50	"	"	"	"	"	"	
PCB-1248	ND	0.40	0.50	"	"	"	"	"	"	
PCB-1254	ND	0.40	0.50	"	"	"	"	"	"	
PCB-1260	ND	0.40	0.50	"	"	"	"	"	"	
Surrogate: Decachlorobiphenyl		*58.0 %*	*42-147*			"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*54.0 %*	*42-147*			"	"	"	"	

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Ninyo & Moore - Irvine	Project:	NPDES Permit	
475 Goddard Suite 200	Project Number:	[none]	**Reported:**
Irvine CA, 92618	Project Manager:	Michael Cushner	07/21/14 09:30

Volatile Organics by EPA Method 624
Sierra Analytical Labs, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
BP-1 (1407011-01) Liquid Sampled: 07/01/14 09:00 Received: 07/01/14 13:55										
Acetone	ND	5.6	10	µg/L	1	B4G0218	07/02/14	07/02/14 15:26	EPA 624	
Acrolein	ND	2.6	5.0	"	"	"	"	"	"	
Acrylonitrile	ND	1.5	2.0	"	"	"	"	"	"	
Benzene	ND	0.47	1.0	"	"	"	"	"	"	
Bromobenzene	ND	0.42	1.0	"	"	"	"	"	"	
Bromodichloromethane	ND	0.31	1.0	"	"	"	"	"	"	
Bromoform	ND	0.50	1.0	"	"	"	"	"	"	
Bromomethane	ND	0.67	1.0	"	"	"	"	"	"	
2-Butanone	ND	1.8	5.0	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.38	0.50	"	"	"	"	"	"	
Chlorobenzene	ND	0.31	1.0	"	"	"	"	"	"	
Chloroethane	ND	0.55	1.0	"	"	"	"	"	"	
2-Chloroethylvinyl ether	ND	0.28	1.0	"	"	"	"	"	"	
Chloroform	ND	0.36	1.0	"	"	"	"	"	"	
Chloromethane	ND	0.47	1.0	"	"	"	"	"	"	
Dibromochloromethane	ND	0.36	1.0	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.36	1.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.20	1.0	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.36	1.0	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.29	1.0	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.070	1.0	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.49	1.0	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.37	1.0	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.15	1.0	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.33	1.0	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.31	1.0	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.32	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	0.38	1.0	"	"	"	"	"	"	
Methylene chloride	ND	0.43	1.0	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.42	1.0	"	"	"	"	"	"	
Tetrachloroethene	ND	0.49	1.0	"	"	"	"	"	"	
Toluene	ND	0.48	1.0	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.23	1.0	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.34	1.0	"	"	"	"	"	"	
Trichloroethene	ND	0.31	1.0	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.19	1.0	"	"	"	"	"	"	
Vinyl chloride	ND	0.47	0.50	"	"	"	"	"	"	
m,p-Xylene	ND	0.62	1.0	"	"	"	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

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Ninyo & Moore - Irvine	Project: NPDES Permit	
475 Goddard Suite 200	Project Number: [none]	Reported:
Irvine CA, 92618	Project Manager: Michael Cushner	07/21/14 09:30

Volatile Organics by EPA Method 624
Sierra Analytical Labs, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
BP-1 (1407011-01) Liquid Sampled: 07/01/14 09:00 Received: 07/01/14 13:55										
o-Xylene	ND	0.30	1.0	µg/L	1	B4G0218	07/02/14	07/02/14 15:26	EPA 624	
1,2-Dibromoethane (EDB)	ND	0.38	1.0	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.22	1.0	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	0.42	1.0	"	"	"	"	"	"	
Di-isopropyl ether	ND	0.24	1.0	"	"	"	"	"	"	
Ethyl tert-butyl ether	ND	0.15	1.0	"	"	"	"	"	"	
Tert-amyl methyl ether	ND	0.16	1.0	"	"	"	"	"	"	
Tert-butyl alcohol	ND	2.0	5.0	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*112 %*	*86-118*			"	"	"	"	
Surrogate: Toluene-d8		*99.0 %*	*88-110*			"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*99.6 %*	*86-115*			"	"	"	"	
BP-2 (1407011-02) Liquid Sampled: 07/01/14 11:00 Received: 07/01/14 13:55										
Acetone	ND	5.6	10	µg/L	1	B4G0218	07/02/14	07/02/14 16:02	EPA 624	
Acrolein	ND	2.6	5.0	"	"	"	"	"	"	
Acrylonitrile	ND	1.5	2.0	"	"	"	"	"	"	
Benzene	ND	0.47	1.0	"	"	"	"	"	"	
Bromobenzene	ND	0.42	1.0	"	"	"	"	"	"	
Bromodichloromethane	ND	0.31	1.0	"	"	"	"	"	"	
Bromoform	ND	0.50	1.0	"	"	"	"	"	"	
Bromomethane	ND	0.67	1.0	"	"	"	"	"	"	
2-Butanone	ND	1.8	5.0	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.38	0.50	"	"	"	"	"	"	
Chlorobenzene	ND	0.31	1.0	"	"	"	"	"	"	
Chloroethane	ND	0.55	1.0	"	"	"	"	"	"	
2-Chloroethylvinyl ether	ND	0.28	1.0	"	"	"	"	"	"	
Chloroform	ND	0.36	1.0	"	"	"	"	"	"	
Chloromethane	ND	0.47	1.0	"	"	"	"	"	"	
Dibromochloromethane	ND	0.36	1.0	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.36	1.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.20	1.0	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.36	1.0	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.29	1.0	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.070	1.0	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.49	1.0	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.37	1.0	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.15	1.0	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.33	1.0	"	"	"	"	"	"	

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Ninyo & Moore - Irvine	Project: NPDES Permit	
475 Goddard Suite 200	Project Number: [none]	Reported:
Irvine CA, 92618	Project Manager: Michael Cushner	07/21/14 09:30

Volatile Organics by EPA Method 624
Sierra Analytical Labs, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
BP-2 (1407011-02) Liquid Sampled: 07/01/14 11:00 Received: 07/01/14 13:55										
cis-1,3-Dichloropropene	ND	0.31	1.0	µg/L	1	B4G0218	07/02/14	07/02/14 16:02	EPA 624	
trans-1,3-Dichloropropene	ND	0.32	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	0.38	1.0	"	"	"	"	"	"	
Methylene chloride	ND	0.43	1.0	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.42	1.0	"	"	"	"	"	"	
Tetrachloroethene	ND	0.49	1.0	"	"	"	"	"	"	
Toluene	ND	0.48	1.0	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.23	1.0	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.34	1.0	"	"	"	"	"	"	
Trichloroethene	ND	0.31	1.0	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.19	1.0	"	"	"	"	"	"	
Vinyl chloride	ND	0.47	0.50	"	"	"	"	"	"	
m,p-Xylene	ND	0.62	1.0	"	"	"	"	"	"	
o-Xylene	ND	0.30	1.0	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.38	1.0	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.22	1.0	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	0.42	1.0	"	"	"	"	"	"	
Di-isopropyl ether	ND	0.24	1.0	"	"	"	"	"	"	
Ethyl tert-butyl ether	ND	0.15	1.0	"	"	"	"	"	"	
Tert-amyl methyl ether	ND	0.16	1.0	"	"	"	"	"	"	
Tert-butyl alcohol	ND	2.0	5.0	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*110 %*	*86-118*			"	"	"	"	
Surrogate: Toluene-d8		*101 %*	*88-110*			"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*103 %*	*86-115*			"	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Ninyo & Moore - Irvine
475 Goddard Suite 200
Irvine CA, 92618

Project: NPDES Permit
Project Number: [none]
Project Manager: Michael Cushner

Reported: 07/21/14 09:30

Semivolatile Organics by EPA Method 625
Sierra Analytical Labs, Inc.

BP-1 (1407011-01) Liquid Sampled: 07/01/14 09:00 Received: 07/01/14 13:55

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.16	5.0	µg/L	1	B4G0919	07/02/14	07/07/14 07:46	EPA 625	
Acenaphthylene	ND	0.16	5.0	"	"	"	"	"	"	
Anthracene	ND	0.23	5.0	"	"	"	"	"	"	
Benzidine	ND	5.0	5.0	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.16	5.0	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.31	5.0	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.31	5.0	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.31	5.0	"	"	"	"	"	"	
Benzo (g,h,i) perylene	ND	0.28	5.0	"	"	"	"	"	"	
Butyl benzyl phthalate	ND	0.62	5.0	"	"	"	"	"	"	
Bis(2-chloroethyl)ether	ND	0.42	5.0	"	"	"	"	"	"	
Bis(2-chloroethoxy)methane	ND	0.27	5.0	"	"	"	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	0.59	5.0	"	"	"	"	"	"	
Bis(2-chloroisopropyl)ether	ND	0.38	5.0	"	"	"	"	"	"	
4-Bromophenyl phenyl ether	ND	0.26	5.0	"	"	"	"	"	"	
2-Chlorophenol	ND	0.27	1.0	"	"	"	"	"	"	
4-Chloro-3-methylphenol	ND	0.50	5.0	"	"	"	"	"	"	
2-Chloronaphthalene	ND	0.090	5.0	"	"	"	"	"	"	
4-Chlorophenyl phenyl ether	ND	0.33	5.0	"	"	"	"	"	"	
Chrysene	ND	0.10	5.0	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.10	5.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.29	5.0	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.26	5.0	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.26	5.0	"	"	"	"	"	"	
3,3´-Dichlorobenzidine	ND	0.59	5.0	"	"	"	"	"	"	
2,4-Dichlorophenol	ND	1.0	1.0	"	"	"	"	"	"	
Diethyl phthalate	ND	0.57	5.0	"	"	"	"	"	"	
2,4-Dimethylphenol	ND	0.54	1.0	"	"	"	"	"	"	
Dimethyl phthalate	ND	0.22	5.0	"	"	"	"	"	"	
Di-n-butyl phthalate	ND	0.25	5.0	"	"	"	"	"	"	
2,4-Dinitrophenol	ND	1.0	1.0	"	"	"	"	"	"	
2,4-Dinitrotoluene	ND	0.45	5.0	"	"	"	"	"	"	
2,6-Dinitrotoluene	ND	0.21	5.0	"	"	"	"	"	"	
Di-n-octyl phthalate	ND	0.41	5.0	"	"	"	"	"	"	
1,2-Diphenylhydrazine	ND	1.0	5.0	"	"	"	"	"	"	
Fluoranthene	ND	0.13	5.0	"	"	"	"	"	"	
Fluorene	ND	0.14	5.0	"	"	"	"	"	"	
Hexachlorobenzene	ND	0.35	5.0	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.56	5.0	"	"	"	"	"	"	

Ninyo & Moore - Irvine
475 Goddard Suite 200
Irvine CA, 92618

Project: NPDES Permit
Project Number: [none]
Project Manager: Michael Cushner

Reported:
07/21/14 09:30

Semivolatile Organics by EPA Method 625
Sierra Analytical Labs, Inc.

BP-1 (1407011-01) Liquid Sampled: 07/01/14 09:00 Received: 07/01/14 13:55

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Hexachlorocyclopentadiene	ND	5.0	5.0	µg/L	1	B4G0919	07/02/14	07/07/14 07:46	EPA 625	
Hexachloroethane	ND	0.25	5.0	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.10	5.0	"	"	"	"	"	"	
Isophorone	ND	0.64	5.0	"	"	"	"	"	"	
2-Methyl-4,6-dinitrophenol	ND	5.0	5.0	"	"	"	"	"	"	
Naphthalene	ND	0.17	5.0	"	"	"	"	"	"	
Nitrobenzene	ND	0.23	5.0	"	"	"	"	"	"	
2-Nitrophenol	ND	0.46	1.0	"	"	"	"	"	"	
4-Nitrophenol	ND	0.90	1.0	"	"	"	"	"	"	
N-Nitrosodimethylamine	ND	5.0	5.0	"	"	"	"	"	"	
Diphenylamine	ND	0.12	5.0	"	"	"	"	"	"	
N-Nitrosodi-n-propylamine	ND	0.58	5.0	"	"	"	"	"	"	
Pentachlorophenol	ND	1.0	1.0	"	"	"	"	"	"	
Phenanthrene	ND	0.14	5.0	"	"	"	"	"	"	
Phenol	ND	0.36	1.0	"	"	"	"	"	"	
Pyrene	ND	0.20	5.0	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.30	5.0	"	"	"	"	"	"	
2,4,6-Trichlorophenol	ND	1.0	1.0	"	"	"	"	"	"	
Surrogate: 2-Fluorophenol		*83.3 %*	*25-121*			*"*	*"*	*"*	*"*	
Surrogate: Phenol-d6		*76.7 %*	*24-113*			*"*	*"*	*"*	*"*	
Surrogate: Nitrobenzene-d5		*84.6 %*	*23-120*			*"*	*"*	*"*	*"*	
Surrogate: 2-Fluorobiphenyl		*93.2 %*	*30-115*			*"*	*"*	*"*	*"*	
Surrogate: 2,4,6-Tribromophenol		*67.3 %*	*19-122*			*"*	*"*	*"*	*"*	
Surrogate: Terphenyl-d14		*82.6 %*	*18-137*			*"*	*"*	*"*	*"*	

Ninyo & Moore - Irvine	Project: NPDES Permit	
475 Goddard Suite 200	Project Number: [none]	**Reported:**
Irvine CA, 92618	Project Manager: Michael Cushner	07/21/14 09:30

Semivolatile Organics by EPA Method 625
Sierra Analytical Labs, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
BP-2 (1407011-02) Liquid Sampled: 07/01/14 11:00 Received: 07/01/14 13:55										
Acenaphthene	ND	0.16	5.0	µg/L	1	B4G0919	07/02/14	07/07/14 18:21	EPA 625	
Acenaphthylene	ND	0.16	5.0	"	"	"	"	"	"	
Anthracene	ND	0.23	5.0	"	"	"	"	"	"	
Benzidine	ND	5.0	5.0	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.16	5.0	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.31	5.0	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.31	5.0	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.31	5.0	"	"	"	"	"	"	
Benzo (g,h,i) perylene	ND	0.28	5.0	"	"	"	"	"	"	
Butyl benzyl phthalate	ND	0.62	5.0	"	"	"	"	"	"	
Bis(2-chloroethyl)ether	ND	0.42	5.0	"	"	"	"	"	"	
Bis(2-chloroethoxy)methane	ND	0.27	5.0	"	"	"	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	0.59	5.0	"	"	"	"	"	"	
Bis(2-chloroisopropyl)ether	ND	0.38	5.0	"	"	"	"	"	"	
4-Bromophenyl phenyl ether	ND	0.26	5.0	"	"	"	"	"	"	
2-Chlorophenol	ND	0.27	1.0	"	"	"	"	"	"	
4-Chloro-3-methylphenol	ND	0.50	5.0	"	"	"	"	"	"	
2-Chloronaphthalene	ND	0.090	5.0	"	"	"	"	"	"	
4-Chlorophenyl phenyl ether	ND	0.33	5.0	"	"	"	"	"	"	
Chrysene	ND	0.10	5.0	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.10	5.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.29	5.0	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.26	5.0	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.26	5.0	"	"	"	"	"	"	
3,3´-Dichlorobenzidine	ND	0.59	5.0	"	"	"	"	"	"	
2,4-Dichlorophenol	ND	1.0	1.0	"	"	"	"	"	"	
Diethyl phthalate	ND	0.57	5.0	"	"	"	"	"	"	
2,4-Dimethylphenol	ND	0.54	1.0	"	"	"	"	"	"	
Dimethyl phthalate	ND	0.22	5.0	"	"	"	"	"	"	
Di-n-butyl phthalate	ND	0.25	5.0	"	"	"	"	"	"	
2,4-Dinitrophenol	ND	1.0	1.0	"	"	"	"	"	"	
2,4-Dinitrotoluene	ND	0.45	5.0	"	"	"	"	"	"	
2,6-Dinitrotoluene	ND	0.21	5.0	"	"	"	"	"	"	
Di-n-octyl phthalate	ND	0.41	5.0	"	"	"	"	"	"	
1,2-Diphenylhydrazine	ND	1.0	5.0	"	"	"	"	"	"	
Fluoranthene	ND	0.13	5.0	"	"	"	"	"	"	
Fluorene	ND	0.14	5.0	"	"	"	"	"	"	
Hexachlorobenzene	ND	0.35	5.0	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.56	5.0	"	"	"	"	"	"	

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Ninyo & Moore - Irvine	Project: NPDES Permit	
475 Goddard Suite 200	Project Number: [none]	**Reported:**
Irvine CA, 92618	Project Manager: Michael Cushner	07/21/14 09:30

Semivolatile Organics by EPA Method 625
Sierra Analytical Labs, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
BP-2 (1407011-02) Liquid Sampled: 07/01/14 11:00 Received: 07/01/14 13:55										
Hexachlorocyclopentadiene	ND	5.0	5.0	µg/L	1	B4G0919	07/02/14	07/07/14 18:21	EPA 625	
Hexachloroethane	ND	0.25	5.0	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.10	5.0	"	"	"	"	"	"	
Isophorone	ND	0.64	5.0	"	"	"	"	"	"	
2-Methyl-4,6-dinitrophenol	ND	5.0	5.0	"	"	"	"	"	"	
Naphthalene	ND	0.17	5.0	"	"	"	"	"	"	
Nitrobenzene	ND	0.23	5.0	"	"	"	"	"	"	
2-Nitrophenol	ND	0.46	1.0	"	"	"	"	"	"	
4-Nitrophenol	ND	0.90	1.0	"	"	"	"	"	"	
N-Nitrosodimethylamine	ND	5.0	5.0	"	"	"	"	"	"	
Diphenylamine	ND	0.12	5.0	"	"	"	"	"	"	
N-Nitrosodi-n-propylamine	ND	0.58	5.0	"	"	"	"	"	"	
Pentachlorophenol	ND	1.0	1.0	"	"	"	"	"	"	
Phenanthrene	ND	0.14	5.0	"	"	"	"	"	"	
Phenol	ND	0.36	1.0	"	"	"	"	"	"	
Pyrene	ND	0.20	5.0	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.30	5.0	"	"	"	"	"	"	
2,4,6-Trichlorophenol	ND	1.0	1.0	"	"	"	"	"	"	
Surrogate: 2-Fluorophenol		*83.3 %*	*25-121*			"	"	"	"	
Surrogate: Phenol-d6		*85.3 %*	*24-113*			"	"	"	"	
Surrogate: Nitrobenzene-d5		*87.9 %*	*23-120*			"	"	"	"	
Surrogate: 2-Fluorobiphenyl		*90.4 %*	*30-115*			"	"	"	"	
Surrogate: 2,4,6-Tribromophenol		*75.3 %*	*19-122*			"	"	"	"	
Surrogate: Terphenyl-d14		*85.4 %*	*18-137*			"	"	"	"	

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Ninyo & Moore - Irvine 475 Goddard Suite 200 Irvine CA, 92618	Project: NPDES Permit Project Number: [none] Project Manager: Michael Cushner	**Reported:** 07/21/14 09:30

Methanol by Headspace GC-FID
Sierra Analytical Labs, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
BP-1 (1407011-01) Liquid	**Sampled: 07/01/14 09:00**		**Received: 07/01/14 13:55**							
Methanol	ND	1.0	1.0	mg/L	1	B4G0852	07/09/14	07/09/14 13:47	EPA 8015B	
BP-2 (1407011-02) Liquid	**Sampled: 07/01/14 11:00**		**Received: 07/01/14 13:55**							
Methanol	ND	1.0	1.0	mg/L	1	B4G0852	07/09/14	07/09/14 13:47	EPA 8015B	

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Ninyo & Moore - Irvine
475 Goddard Suite 200
Irvine CA, 92618

Project: NPDES Permit
Project Number: [none]
Project Manager: Michael Cushner

Reported:
07/21/14 09:30

Total Volatile Petroleum Hydrocarbons (TVPH) by GC/FID
Sierra Analytical Labs, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
BP-1 (1407011-01) Liquid Sampled: 07/01/14 09:00 Received: 07/01/14 13:55										
Gasoline Range Hydrocarbons (C4-C12)	ND	14	50	µg/L	1	B4G0219	07/02/14	07/02/14 12:45	EPA 8015B	
Surrogate: a,a,a-Trifluorotoluene		*85.5 %*	*70-125*			"	"	"	"	
BP-2 (1407011-02) Liquid Sampled: 07/01/14 11:00 Received: 07/01/14 13:55										
Gasoline Range Hydrocarbons (C4-C12)	ND	14	50	µg/L	1	B4G0219	07/02/14	07/02/14 12:45	EPA 8015B	
Surrogate: a,a,a-Trifluorotoluene		*86.0 %*	*70-125*			"	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Ninyo & Moore - Irvine 475 Goddard Suite 200 Irvine CA, 92618	Project: NPDES Permit Project Number: [none] Project Manager: Michael Cushner	**Reported:** 07/21/14 09:30

Total Petroleum Hydrocarbons (TPH) by GC/FID
Sierra Analytical Labs, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
BP-1 (1407011-01) Liquid Sampled: 07/01/14 09:00 Received: 07/01/14 13:55										
Diesel Range Organics (C10-C24)	ND	0.050	0.050	mg/L	1	B4G0733	07/02/14	07/07/14 18:22	EPA 8015B	
Surrogate: o-Terphenyl		*82.0 %*	*60-175*			"	"	"	"	
BP-2 (1407011-02) Liquid Sampled: 07/01/14 11:00 Received: 07/01/14 13:55										
Diesel Range Organics (C10-C24)	ND	0.050	0.050	mg/L	1	B4G0733	07/02/14	07/07/14 18:33	EPA 8015B	
Surrogate: o-Terphenyl		*87.6 %*	*60-175*			"	"	"	"	

Ninyo & Moore - Irvine	Project: NPDES Permit	
475 Goddard Suite 200	Project Number: [none]	**Reported:**
Irvine CA, 92618	Project Manager: Michael Cushner	07/21/14 09:30

Ethanol by EPA 8260B (SIM- Selective Ion Mode)
Sierra Analytical Labs, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
BP-1 (1407011-01) Liquid Sampled: 07/01/14 09:00 Received: 07/01/14 13:55										
Ethanol	ND	50	50	µg/L	1	B4G0218	07/02/14	07/02/14 15:26	EPA 8260B	
Surrogate: Dibromofluoromethane		*112 %*	*86-118*			"	"	"	"	
Surrogate: Toluene-d8		*99.0 %*	*88-110*			"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*99.6 %*	*86-115*			"	"	"	"	
BP-2 (1407011-02) Liquid Sampled: 07/01/14 11:00 Received: 07/01/14 13:55										
Ethanol	ND	50	50	µg/L	1	B4G0218	07/02/14	07/02/14 16:02	EPA 8260B	
Surrogate: Dibromofluoromethane		*110 %*	*86-118*			"	"	"	"	
Surrogate: Toluene-d8		*101 %*	*88-110*			"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*103 %*	*86-115*			"	"	"	"	

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SIERRA ANALYTICAL

Ninyo & Moore - Irvine	Project: NPDES Permit	
475 Goddard Suite 200	Project Number: [none]	Reported:
Irvine CA, 92618	Project Manager: Michael Cushner	07/21/14 09:30

Metals by EPA 200 Series Methods - Quality Control

Sierra Analytical Labs, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B4G0226 - EPA 200 Series										
Blank (B4G0226-BLK1)				Prepared: 07/02/14 Analyzed: 07/08/14						
Antimony	2.00	3.0	µg/L							J
Arsenic	ND	3.0	"							
Beryllium	ND	3.0	"							
Cadmium	ND	2.0	"							
Chromium	ND	3.0	"							
Copper	ND	10	"							
Lead	0.700	2.0	"							J
Nickel	ND	5.0	"							
Selenium	2.00	6.5	"							J
Silver	ND	1.5	"							
Thallium	ND	2.0	"							
Zinc	ND	14	"							
LCS (B4G0226-BS1)				Prepared: 07/02/14 Analyzed: 07/08/14						
Antimony	101	3.0	µg/L	100		101	85-115			
Arsenic	99.8	3.0	"	100		99.8	85-115			
Beryllium	99.8	3.0	"	100		99.8	78-115			
Cadmium	103	2.0	"	100		103	85-115			
Chromium	97.4	3.0	"	100		97.4	85-115			
Copper	98.9	10	"	100		98.9	85-115			
Lead	107	2.0	"	100		107	85-115			
Nickel	104	5.0	"	100		104	85-115			
Selenium	95.3	6.5	"	100		95.3	85-115			
Silver	100	1.5	"	100		100	85-115			
Thallium	97.7	2.0	"	100		97.7	85-115			
Zinc	113	14	"	100		113	85-115			
Matrix Spike (B4G0226-MS1)	**Source: 1407011-01**			Prepared: 07/02/14 Analyzed: 07/08/14						
Antimony	107	3.0	µg/L	100	5.8	101	70-130			
Arsenic	101	3.0	"	100	ND	101	70-130			
Beryllium	99.2	3.0	"	100	ND	99.2	70-130			
Cadmium	99.0	2.0	"	100	5.3	93.7	70-130			
Chromium	97.4	3.0	"	100	1.9	95.5	75-130			
Copper	130	10	"	100	24	106	70-130			
Lead	113	2.0	"	100	12	101	70-130			
Nickel	102	5.0	"	100	1.8	100	70-130			
Selenium	83.9	6.5	"	100	ND	83.9	70-130			
Silver	97.9	1.5	"	100	ND	97.9	70-130			

SIERRA ANALYTICAL

Ninyo & Moore - Irvine	Project: NPDES Permit	
475 Goddard Suite 200	Project Number: [none]	Reported:
Irvine CA, 92618	Project Manager: Michael Cushner	07/21/14 09:30

Metals by EPA 200 Series Methods - Quality Control

Sierra Analytical Labs, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B4G0226 - EPA 200 Series										
Matrix Spike (B4G0226-MS1)		**Source: 1407011-01**		Prepared: 07/02/14	Analyzed: 07/08/14					
Thallium	87.2	2.0	µg/L	100	ND	87.2	70-130			
Zinc	139	14	"	100	38	101	70-130			
Matrix Spike Dup (B4G0226-MSD1)		**Source: 1407011-01**		Prepared: 07/02/14	Analyzed: 07/08/14					
Antimony	106	3.0	µg/L	100	5.8	100	70-130	0.939	30	
Arsenic	100	3.0	"	100	ND	100	70-130	0.995	30	
Beryllium	97.9	3.0	"	100	ND	97.9	70-130	1.32	30	
Cadmium	96.5	2.0	"	100	5.3	91.2	70-130	2.56	30	
Chromium	96.2	3.0	"	100	1.9	94.3	75-130	1.24	30	
Copper	129	10	"	100	24	105	70-130	0.772	30	
Lead	110	2.0	"	100	12	98.0	70-130	2.69	30	
Nickel	100	5.0	"	100	1.8	98.2	70-130	1.98	30	
Selenium	82.8	6.5	"	100	ND	82.8	70-130	1.32	30	
Silver	96.8	1.5	"	100	ND	96.8	70-130	1.13	30	
Thallium	81.2	2.0	"	100	ND	81.2	70-130	7.13	30	
Zinc	136	14	"	100	38	98.0	70-130	2.18	30	
Batch B4G0228 - EPA 200 Series										
Blank (B4G0228-BLK1)				Prepared: 07/02/14	Analyzed: 07/09/14					
Hexavalent Chromium	ND	0.0020	mg/L							
LCS (B4G0228-BS1)				Prepared: 07/02/14	Analyzed: 07/09/14					
Hexavalent Chromium	0.00311	0.0020	mg/L	0.00300		104	85-115			
Matrix Spike (B4G0228-MS1)		**Source: 1407011-01**		Prepared: 07/02/14	Analyzed: 07/09/14					
Hexavalent Chromium	0.00286	0.0020	mg/L	0.00300	ND	95.3	80-120			

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475 Goddard Suite 200	Project Number: [none]	**Reported:**
Irvine CA, 92618	Project Manager: Michael Cushner	07/21/14 09:30

Metals by EPA 200 Series Methods - Quality Control

Sierra Analytical Labs, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B4G0228 - EPA 200 Series										
Matrix Spike Dup (B4G0228-MSD1)		**Source: 1407011-01**		Prepared: 07/02/14	Analyzed: 07/09/14					
Hexavalent Chromium	0.00288	0.0020	mg/L	0.00300	ND	96.0	80-120	0.697	20	
Batch B4G0236 - EPA 200 Series										
Blank (B4G0236-BLK1)				Prepared: 07/02/14	Analyzed: 07/08/14					
Boron	ND	0.066	mg/L							
LCS (B4G0236-BS1)				Prepared: 07/02/14	Analyzed: 07/08/14					
Boron	0.191	0.066	mg/L	0.200		95.5	80-121			
Matrix Spike (B4G0236-MS1)		**Source: 1407014-02**		Prepared: 07/02/14	Analyzed: 07/08/14					
Boron	0.431	0.066	mg/L	0.200	0.25	90.5	70-130			
Matrix Spike Dup (B4G0236-MSD1)		**Source: 1407014-02**		Prepared: 07/02/14	Analyzed: 07/08/14					
Boron	0.434	0.066	mg/L	0.200	0.25	92.0	70-130	0.694	20	
Batch B4G0237 - EPA 200 Series										
Blank (B4G0237-BLK1)				Prepared: 07/02/14	Analyzed: 07/03/14					
Mercury	0.00004	0.00030	mg/L							J
LCS (B4G0237-BS1)				Prepared: 07/02/14	Analyzed: 07/03/14					
Mercury	0.00091	0.00030	mg/L	0.00100		91.0	75-125			
Matrix Spike (B4G0237-MS1)		**Source: 1407011-01**		Prepared: 07/02/14	Analyzed: 07/03/14					
Mercury	0.00083	0.00030	mg/L	0.00100	0.00003	80.0	75-125			

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Ninyo & Moore - Irvine	Project: NPDES Permit	
475 Goddard Suite 200	Project Number: [none]	**Reported:**
Irvine CA, 92618	Project Manager: Michael Cushner	07/21/14 09:30

Metals by EPA 200 Series Methods - Quality Control

Sierra Analytical Labs, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B4G0237 - EPA 200 Series										
Matrix Spike Dup (B4G0237-MSD1)		**Source: 1407011-01**		Prepared: 07/02/14	Analyzed: 07/03/14					
Mercury	0.00089	0.00030	mg/L	0.00100	0.00003	86.0	75-125	6.98	20	

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Irvine CA, 92618	Project Manager: Michael Cushner	07/21/14 09:30

Metals (Dissolved) by EPA 200 Series Methods - Quality Control

Sierra Analytical Labs, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B4G0227 - EPA 200 Series										
Blank (B4G0227-BLK1)				Prepared: 07/02/14 Analyzed: 07/08/14						
Antimony	1.20	3.0	µg/L							J
Arsenic	ND	3.0	"							
Beryllium	ND	3.0	"							
Cadmium	ND	2.0	"							
Chromium	ND	3.0	"							
Copper	ND	10	"							
Lead	0.500	2.0	"							J
Nickel	ND	5.0	"							
Selenium	ND	6.5	"							
Silver	ND	1.5	"							
Thallium	ND	2.0	"							
Zinc	ND	14	"							
LCS (B4G0227-BS1)				Prepared: 07/02/14 Analyzed: 07/08/14						
Antimony	110	3.0	µg/L	100		110	85-115			
Arsenic	107	3.0	"	100		107	85-115			
Beryllium	106	3.0	"	100		106	85-115			
Cadmium	115	2.0	"	100		115	85-115			
Chromium	110	3.0	"	100		110	85-115			
Copper	111	10	"	100		111	85-115			
Lead	111	2.0	"	100		111	85-115			
Nickel	110	5.0	"	100		110	85-115			
Selenium	104	6.5	"	100		104	85-115			
Silver	105	1.5	"	100		105	85-115			
Thallium	107	2.0	"	100		107	85-115			
Zinc	101	14	"	100		101	85-115			
Matrix Spike (B4G0227-MS1)	**Source: 1407011-01**			Prepared: 07/02/14 Analyzed: 07/08/14						
Antimony	117	3.0	µg/L	100	3.0	114	70-130			
Arsenic	111	3.0	"	100	ND	111	70-130			
Beryllium	108	3.0	"	100	ND	108	70-130			
Cadmium	110	2.0	"	100	1.8	108	70-130			
Chromium	107	3.0	"	100	1.1	106	70-130			
Copper	136	10	"	100	15	121	70-130			
Lead	118	2.0	"	100	7.2	111	70-130			
Nickel	110	5.0	"	100	1.5	108	70-130			
Selenium	88.1	6.5	"	100	ND	88.1	70-130			
Silver	107	1.5	"	100	ND	107	70-130			

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Project: NPDES Permit
Project Number: [none]
Project Manager: Michael Cushner

Reported: 07/21/14 09:30

Metals (Dissolved) by EPA 200 Series Methods - Quality Control

Sierra Analytical Labs, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B4G0227 - EPA 200 Series										
Matrix Spike (B4G0227-MS1)		**Source: 1407011-01**		Prepared: 07/02/14	Analyzed: 07/08/14					
Thallium	97.8	2.0	µg/L	100	ND	97.8	70-130			
Zinc	144	14	"	100	37	107	70-130			
Matrix Spike Dup (B4G0227-MSD1)		**Source: 1407011-01**		Prepared: 07/02/14	Analyzed: 07/08/14					
Antimony	118	3.0	µg/L	100	3.0	115	70-130	0.851	30	
Arsenic	109	3.0	"	100	ND	109	70-130	1.82	30	
Beryllium	110	3.0	"	100	ND	110	70-130	1.83	30	
Cadmium	109	2.0	"	100	1.8	107	70-130	0.913	30	
Chromium	111	3.0	"	100	1.1	110	70-130	3.67	30	
Copper	136	10	"	100	15	121	70-130	0.00	30	
Lead	118	2.0	"	100	7.2	111	70-130	0.00	30	
Nickel	112	5.0	"	100	1.5	110	70-130	1.80	30	
Selenium	94.8	6.5	"	100	ND	94.8	70-130	7.33	30	
Silver	108	1.5	"	100	ND	108	70-130	0.930	30	
Thallium	88.3	2.0	"	100	ND	88.3	70-130	10.2	30	
Zinc	144	14	"	100	37	107	70-130	0.00	30	
Batch B4G0229 - EPA 200 Series										
Blank (B4G0229-BLK1)				Prepared: 07/02/14	Analyzed: 07/09/14					
Hexavalent Chromium	ND	0.0020	mg/L							
LCS (B4G0229-BS1)				Prepared: 07/02/14	Analyzed: 07/09/14					
Hexavalent Chromium	0.00302	0.0020	mg/L	0.00300		101	85-115			
Matrix Spike (B4G0229-MS1)		**Source: 1407011-01**		Prepared: 07/02/14	Analyzed: 07/09/14					
Hexavalent Chromium	0.00300	0.0020	mg/L	0.00300	ND	100	80-120			

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Project: NPDES Permit
Project Number: [none]
Project Manager: Michael Cushner

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07/21/14 09:30

Metals (Dissolved) by EPA 200 Series Methods - Quality Control

Sierra Analytical Labs, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B4G0229 - EPA 200 Series										
Matrix Spike Dup (B4G0229-MSD1)		**Source: 1407011-01**		Prepared: 07/02/14 Analyzed: 07/09/14						
Hexavalent Chromium	0.00300	0.0020	mg/L	0.00300	ND	100	80-120	0.00	20	
Batch B4G0232 - EPA 200 Series										
Blank (B4G0232-BLK1)				Prepared: 07/02/14 Analyzed: 07/03/14						
Mercury	ND	0.00073	mg/L							
LCS (B4G0232-BS1)				Prepared: 07/02/14 Analyzed: 07/03/14						
Mercury	0.00088	0.00073	mg/L	0.00100		88.0	80-120			
Matrix Spike (B4G0232-MS1)		**Source: 1407011-01**		Prepared: 07/02/14 Analyzed: 07/03/14						
Mercury	0.00088	0.00073	mg/L	0.00100	ND	88.0	80-120			
Matrix Spike Dup (B4G0232-MSD1)		**Source: 1407011-01**		Prepared: 07/02/14 Analyzed: 07/03/14						
Mercury	0.00081	0.00073	mg/L	0.00100	ND	81.0	80-120	8.28	20	

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Total Recoverable Petroleum Hydrocarbons (TRPH) by IR - Quality Control

Sierra Analytical Labs, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B4G0850 - 418.1										
Blank (B4G0850-BLK1)				Prepared & Analyzed: 07/08/14						
TRPH	ND	1.0	mg/L							
LCS (B4G0850-BS1)				Prepared & Analyzed: 07/08/14						
TRPH	8.48	1.0	mg/L	10.0		84.8	80-120			
LCS (B4G0850-BS2)				Prepared & Analyzed: 07/08/14						
TRPH	9.04	1.0	mg/L	10.0		90.4	80-120			
LCS Dup (B4G0850-BSD1)				Prepared & Analyzed: 07/08/14						
TRPH	8.88	1.0	mg/L	10.0		88.8	80-120	4.61	30	

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Organochlorine Pesticides and PCBs by EPA Method 608 - Quality Control

Sierra Analytical Labs, Inc.

Batch B4G0220 - EPA 3510C Sep Funnel

Blank (B4G0220-BLK1) Prepared: 07/02/14 Analyzed: 07/08/14

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Aldrin	ND	0.075	µg/L							
HCH-alpha	ND	0.010	"							
HCH-beta	ND	0.050	"							
HCH-delta	ND	0.10	"							
HCH-gamma (Lindane)	ND	0.20	"							
Chlordane	ND	0.050	"							
4,4´-DDD	ND	0.010	"							
4,4´-DDE	ND	0.010	"							
4,4´-DDT	ND	0.010	"							
Dieldrin	ND	0.020	"							
Endosulfan I	ND	0.020	"							
Endosulfan II	ND	0.050	"							
Endosulfan sulfate	ND	0.050	"							
Endrin	ND	0.10	"							
Endrin aldehyde	ND	0.050	"							
Heptachlor	ND	0.010	"							
Heptachlor epoxide	ND	0.010	"							
Toxaphene	ND	1.0	"							
PCB-1016	ND	0.50	"							
PCB-1221	ND	0.50	"							
PCB-1232	ND	0.50	"							
PCB-1242	ND	0.50	"							
PCB-1248	ND	0.50	"							
PCB-1254	ND	0.50	"							
PCB-1260	ND	0.50	"							
Surrogate: Decachlorobiphenyl	*0.147*		*"*	*0.250*		*58.8*	*42-147*			
Surrogate: Tetrachloro-meta-xylene	*0.198*		*"*	*0.250*		*79.2*	*42-147*			

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Organochlorine Pesticides and PCBs by EPA Method 608 - Quality Control

Sierra Analytical Labs, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B4G0220 - EPA 3510C Sep Funnel										
LCS (B4G0220-BS1)				Prepared: 07/02/14 Analyzed: 07/08/14						
Aldrin	0.0748	0.075	µg/L	0.0800		93.5	80-120			J
HCH-gamma (Lindane)	0.0803	0.20	"	0.0800		100	80-120			J
4,4´-DDT	0.175	0.010	"	0.200		87.5	80-120			
Dieldrin	0.170	0.020	"	0.200		85.0	80-120			
Heptachlor	0.0795	0.010	"	0.0800		99.4	80-120			
LCS (B4G0220-BS2)				Prepared: 07/02/14 Analyzed: 07/08/14						
Aldrin	0.0719	0.075	µg/L	0.0800		89.9	80-120			J
HCH-gamma (Lindane)	0.0854	0.20	"	0.0800		107	80-120			J
4,4´-DDT	0.195	0.010	"	0.200		97.5	80-120			
Dieldrin	0.191	0.020	"	0.200		95.5	80-120			
Heptachlor	0.0712	0.010	"	0.0800		89.0	80-120			
LCS Dup (B4G0220-BSD1)				Prepared: 07/02/14 Analyzed: 07/08/14						
Aldrin	0.0737	0.075	µg/L	0.0800		92.1	80-120	1.48	30	J
HCH-gamma (Lindane)	0.0865	0.20	"	0.0800		108	80-120	7.43	30	J
4,4´-DDT	0.177	0.010	"	0.200		88.5	80-120	1.14	30	
Dieldrin	0.189	0.020	"	0.200		94.5	80-120	10.6	30	
Heptachlor	0.0724	0.010	"	0.0800		90.5	80-120	9.35	30	

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Irvine CA, 92618	Project Manager: Michael Cushner	07/21/14 09:30

Volatile Organics by EPA Method 624 - Quality Control

Sierra Analytical Labs, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B4G0218 - EPA 5030B P & T										
Blank (B4G0218-BLK1)				Prepared & Analyzed: 07/02/14						
Acetone	ND	10	µg/L							
Acrolein	ND	5.0	"							
Acrylonitrile	ND	2.0	"							
Benzene	ND	1.0	"							
Bromobenzene	ND	1.0	"							
Bromodichloromethane	ND	1.0	"							
Bromoform	ND	1.0	"							
Bromomethane	ND	1.0	"							
2-Butanone	ND	5.0	"							
Carbon tetrachloride	ND	0.50	"							
Chlorobenzene	ND	1.0	"							
Chloroethane	ND	1.0	"							
2-Chloroethylvinyl ether	ND	1.0	"							
Chloroform	ND	1.0	"							
Chloromethane	ND	1.0	"							
Dibromochloromethane	ND	1.0	"							
1,2-Dichlorobenzene	ND	1.0	"							
1,3-Dichlorobenzene	ND	1.0	"							
1,4-Dichlorobenzene	ND	1.0	"							
1,1-Dichloroethane	ND	1.0	"							
1,2-Dichloroethane	ND	0.50	"							
1,1-Dichloroethene	ND	1.0	"							
cis-1,2-Dichloroethene	ND	1.0	"							
trans-1,2-Dichloroethene	ND	1.0	"							
1,2-Dichloropropane	ND	1.0	"							
1,1-Dichloropropene	ND	1.0	"							
cis-1,3-Dichloropropene	ND	1.0	"							
trans-1,3-Dichloropropene	ND	1.0	"							
Ethylbenzene	ND	1.0	"							
Methylene chloride	ND	1.0	"							
1,1,2,2-Tetrachloroethane	ND	1.0	"							
Tetrachloroethene	ND	1.0	"							
Toluene	ND	1.0	"							
1,1,1-Trichloroethane	ND	1.0	"							
1,1,2-Trichloroethane	ND	1.0	"							
Trichloroethene	ND	1.0	"							
Trichlorofluoromethane	ND	1.0	"							

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Ninyo & Moore - Irvine	Project: NPDES Permit	
475 Goddard Suite 200	Project Number: [none]	**Reported:**
Irvine CA, 92618	Project Manager: Michael Cushner	07/21/14 09:30

Volatile Organics by EPA Method 624 - Quality Control

Sierra Analytical Labs, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B4G0218 - EPA 5030B P & T										
Blank (B4G0218-BLK1)				Prepared & Analyzed: 07/02/14						
Vinyl chloride	ND	0.50	µg/L							
m,p-Xylene	ND	1.0	"							
o-Xylene	ND	1.0	"							
1,2-Dibromoethane (EDB)	ND	1.0	"							
1,2,4-Trichlorobenzene	ND	1.0	"							
Methyl tert-butyl ether	ND	1.0	"							
Di-isopropyl ether	ND	1.0	"							
Ethyl tert-butyl ether	ND	1.0	"							
Tert-amyl methyl ether	ND	1.0	"							
Tert-butyl alcohol	ND	5.0	"							
Surrogate: Dibromofluoromethane	*51.1*		*"*	*50.0*		*102*	*86-118*			
Surrogate: Toluene-d8	*49.8*		*"*	*50.0*		*99.6*	*88-110*			
Surrogate: 4-Bromofluorobenzene	*45.8*		*"*	*50.0*		*91.6*	*86-115*			
LCS (B4G0218-BS1)				Prepared & Analyzed: 07/02/14						
Benzene	54.1	1.0	µg/L	50.0		108	80-120			
Chlorobenzene	50.6	1.0	"	50.0		101	80-120			
1,1-Dichloroethene	52.1	1.0	"	50.0		104	80-120			
Toluene	52.2	1.0	"	50.0		104	80-120			
Trichloroethene	46.5	1.0	"	50.0		93.0	80-120			
Matrix Spike (B4G0218-MS1)	**Source: 1407011-01**			Prepared & Analyzed: 07/02/14						
Benzene	31.4	1.0	µg/L	50.0	ND	62.8	37-151			
Chlorobenzene	60.2	1.0	"	50.0	ND	120	37-160			
1,1-Dichloroethene	52.3	1.0	"	50.0	ND	105	50-150			
Toluene	37.7	1.0	"	50.0	ND	75.4	47-150			
Trichloroethene	43.6	1.0	"	50.0	ND	87.2	71-157			

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Volatile Organics by EPA Method 624 - Quality Control

Sierra Analytical Labs, Inc.

Batch B4G0218 - EPA 5030B P & T

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Matrix Spike Dup (B4G0218-MSD1)	**Source: 1407011-01**		Prepared & Analyzed: 07/02/14							
Benzene	31.6	1.0	µg/L	50.0	ND	63.2	37-151	0.635	30	
Chlorobenzene	55.6	1.0	"	50.0	ND	111	37-160	7.94	30	
1,1-Dichloroethene	50.5	1.0	"	50.0	ND	101	50-150	3.50	30	
Toluene	40.1	1.0	"	50.0	ND	80.2	47-150	6.17	30	
Trichloroethene	44.6	1.0	"	50.0	ND	89.2	71-157	2.27	30	

Ninyo & Moore - Irvine	Project: NPDES Permit	
475 Goddard Suite 200	Project Number: [none]	Reported:
Irvine CA, 92618	Project Manager: Michael Cushner	07/21/14 09:30

Semivolatile Organics by EPA Method 625 - Quality Control

Sierra Analytical Labs, Inc.

Batch B4G0919 - EPA 3510C Sep Funnel

Blank (B4G0919-BLK1) Prepared: 07/02/14 Analyzed: 07/07/14

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Acenaphthene	ND	5.0	µg/L							
Acenaphthylene	ND	5.0	"							
Anthracene	ND	5.0	"							
Benzidine	ND	5.0	"							
Benzo (a) anthracene	ND	5.0	"							
Benzo (b) fluoranthene	ND	5.0	"							
Benzo (k) fluoranthene	ND	5.0	"							
Benzo (a) pyrene	ND	5.0	"							
Benzo (g,h,i) perylene	ND	5.0	"							
Butyl benzyl phthalate	ND	5.0	"							
Bis(2-chloroethyl)ether	ND	5.0	"							
Bis(2-chloroethoxy)methane	ND	5.0	"							
Bis(2-ethylhexyl)phthalate	ND	5.0	"							
Bis(2-chloroisopropyl)ether	ND	5.0	"							
4-Bromophenyl phenyl ether	ND	5.0	"							
2-Chlorophenol	ND	1.0	"							
4-Chloro-3-methylphenol	ND	5.0	"							
2-Chloronaphthalene	ND	5.0	"							
4-Chlorophenyl phenyl ether	ND	5.0	"							
Chrysene	ND	5.0	"							
Dibenz (a,h) anthracene	ND	5.0	"							
1,3-Dichlorobenzene	ND	5.0	"							
1,2-Dichlorobenzene	ND	5.0	"							
1,4-Dichlorobenzene	ND	5.0	"							
3,3´-Dichlorobenzidine	ND	5.0	"							
2,4-Dichlorophenol	ND	1.0	"							
Diethyl phthalate	ND	5.0	"							
2,4-Dimethylphenol	ND	1.0	"							
Dimethyl phthalate	ND	5.0	"							
Di-n-butyl phthalate	ND	5.0	"							
2,4-Dinitrophenol	ND	1.0	"							
2,4-Dinitrotoluene	ND	5.0	"							
2,6-Dinitrotoluene	ND	5.0	"							
Di-n-octyl phthalate	ND	5.0	"							
1,2-Diphenylhydrazine	ND	5.0	"							
Fluoranthene	ND	5.0	"							
Fluorene	ND	5.0	"							

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Irvine CA, 92618

Project: NPDES Permit
Project Number: [none]
Project Manager: Michael Cushner

Reported: 07/21/14 09:30

Semivolatile Organics by EPA Method 625 - Quality Control

Sierra Analytical Labs, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B4G0919 - EPA 3510C Sep Funnel										
Blank (B4G0919-BLK1)				Prepared: 07/02/14 Analyzed: 07/07/14						
Hexachlorobenzene	ND	5.0	µg/L							
Hexachlorobutadiene	ND	5.0	"							
Hexachlorocyclopentadiene	ND	5.0	"							
Hexachloroethane	ND	5.0	"							
Indeno (1,2,3-cd) pyrene	ND	5.0	"							
Isophorone	ND	5.0	"							
2-Methyl-4,6-dinitrophenol	ND	5.0	"							
Naphthalene	ND	5.0	"							
Nitrobenzene	ND	5.0	"							
2-Nitrophenol	ND	1.0	"							
4-Nitrophenol	ND	1.0	"							
N-Nitrosodimethylamine	ND	5.0	"							
Diphenylamine	ND	5.0	"							
N-Nitrosodi-n-propylamine	ND	5.0	"							
Pentachlorophenol	ND	1.0	"							
Phenanthrene	ND	5.0	"							
Phenol	ND	1.0	"							
Pyrene	ND	5.0	"							
1,2,4-Trichlorobenzene	ND	5.0	"							
2,4,6-Trichlorophenol	ND	1.0	"							
Surrogate: 2-Fluorophenol	*11.8*		*"*	*15.0*		*78.7*	*25-121*			
Surrogate: Phenol-d6	*11.4*		*"*	*15.0*		*76.0*	*24-113*			
Surrogate: Nitrobenzene-d5	*8.22*		*"*	*10.0*		*82.2*	*23-120*			
Surrogate: 2-Fluorobiphenyl	*8.52*		*"*	*10.0*		*85.2*	*30-115*			
Surrogate: 2,4,6-Tribromophenol	*10.5*		*"*	*15.0*		*70.0*	*19-122*			
Surrogate: Terphenyl-d14	*7.99*		*"*	*10.0*		*79.9*	*18-137*			
LCS (B4G0919-BS1)				Prepared: 07/02/14 Analyzed: 07/07/14						
Acenaphthene	9.56	5.0	µg/L	10.0		95.6	47-145			
2-Chlorophenol	12.2	1.0	"	20.0		61.0	23-134			
4-Chloro-3-methylphenol	11.1	5.0	"	20.0		55.5	22-147			
1,4-Dichlorobenzene	8.79	5.0	"	10.0		87.9	20-124			
2,4-Dinitrotoluene	8.62	5.0	"	10.0		86.2	39-139			
4-Nitrophenol	7.49	1.0	"	20.0		37.4	0-132			
N-Nitrosodi-n-propylamine	8.66	5.0	"	10.0		86.6	0-230			
Pentachlorophenol	9.31	1.0	"	20.0		46.6	14-176			
Phenol	11.3	1.0	"	20.0		56.5	5-112			

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475 Goddard Suite 200
Irvine CA, 92618

Project: NPDES Permit
Project Number: [none]
Project Manager: Michael Cushner

Reported:
07/21/14 09:30

Semivolatile Organics by EPA Method 625 - Quality Control

Sierra Analytical Labs, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B4G0919 - EPA 3510C Sep Funnel										
LCS (B4G0919-BS1)				Prepared: 07/02/14 Analyzed: 07/07/14						
Pyrene	8.41	5.0	µg/L	10.0		84.1	52-115			
1,2,4-Trichlorobenzene	9.07	5.0	"	10.0		90.7	44-142			
LCS (B4G0919-BS2)				Prepared: 07/02/14 Analyzed: 07/07/14						
Acenaphthene	8.89	5.0	µg/L	10.0		88.9	47-145			
2-Chlorophenol	10.7	1.0	"	20.0		53.5	23-134			
4-Chloro-3-methylphenol	12.4	5.0	"	20.0		62.0	22-147			
1,4-Dichlorobenzene	9.05	5.0	"	10.0		90.5	20-124			
2,4-Dinitrotoluene	8.41	5.0	"	10.0		84.1	39-139			
4-Nitrophenol	7.66	1.0	"	20.0		38.3	0-132			
N-Nitrosodi-n-propylamine	8.13	5.0	"	10.0		81.3	0-230			
Pentachlorophenol	9.22	1.0	"	20.0		46.1	14-176			
Phenol	11.7	1.0	"	20.0		58.5	5-112			
Pyrene	8.80	5.0	"	10.0		88.0	52-115			
1,2,4-Trichlorobenzene	9.23	5.0	"	10.0		92.3	44-142			
LCS Dup (B4G0919-BSD1)				Prepared: 07/02/14 Analyzed: 07/07/14						
Acenaphthene	9.71	5.0	µg/L	10.0		97.1	47-145	1.56	30	
2-Chlorophenol	12.4	1.0	"	20.0		62.0	23-134	1.63	30	
4-Chloro-3-methylphenol	11.7	5.0	"	20.0		58.5	22-147	5.26	30	
1,4-Dichlorobenzene	9.41	5.0	"	10.0		94.1	20-124	6.81	30	
2,4-Dinitrotoluene	8.16	5.0	"	10.0		81.6	39-139	5.48	30	
4-Nitrophenol	7.84	1.0	"	20.0		39.2	0-132	4.57	30	
N-Nitrosodi-n-propylamine	8.62	5.0	"	10.0		86.2	0-230	0.463	30	
Pentachlorophenol	8.79	1.0	"	20.0		44.0	14-176	5.75	30	
Phenol	10.5	1.0	"	20.0		52.5	5-112	7.34	30	
Pyrene	8.84	5.0	"	10.0		88.4	52-115	4.99	30	
1,2,4-Trichlorobenzene	9.33	5.0	"	10.0		93.3	44-142	2.83	30	

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475 Goddard Suite 200	Project Number: [none]	Reported:
Irvine CA, 92618	Project Manager: Michael Cushner	07/21/14 09:30

Methanol by Headspace GC-FID - Quality Control

Sierra Analytical Labs, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B4G0852 - EPA 3810 Headspace										
Blank (B4G0852-BLK1)				Prepared & Analyzed: 07/09/14						
Methanol	ND	1.0	mg/L							
LCS (B4G0852-BS1)				Prepared & Analyzed: 07/09/14						
Methanol	95.6	1.0	mg/L	100		95.6	80-120			
Duplicate (B4G0852-DUP1)	**Source: 1407011-01**			Prepared & Analyzed: 07/09/14						
Methanol	ND	1.0	mg/L		ND				30	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

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475 Goddard Suite 200	Project Number: [none]	Reported:
Irvine CA, 92618	Project Manager: Michael Cushner	07/21/14 09:30

Total Volatile Petroleum Hydrocarbons (TVPH) by GC/FID - Quality Control

Sierra Analytical Labs, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B4G0219 - EPA 5030B P & T										
Blank (B4G0219-BLK1)				Prepared & Analyzed: 07/02/14						
Gasoline Range Hydrocarbons (C4-C12)	ND	50	µg/L							
Surrogate: a,a,a-Trifluorotoluene	*14.7*		*"*	*20.0*		*73.5*	*70-125*			
LCS (B4G0219-BS1)				Prepared & Analyzed: 07/02/14						
Gasoline Range Hydrocarbons (C4-C12)	480	50	µg/L	600		80.0	80-120			
Matrix Spike (B4G0219-MS1)		**Source: 1407011-02**		Prepared & Analyzed: 07/02/14						
Gasoline Range Hydrocarbons (C4-C12)	654	50	µg/L	600	ND	109	50-150			
Matrix Spike Dup (B4G0219-MSD1)		**Source: 1407011-02**		Prepared & Analyzed: 07/02/14						
Gasoline Range Hydrocarbons (C4-C12)	569	50	µg/L	600	ND	94.8	50-150	13.9	30	

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475 Goddard Suite 200
Irvine CA, 92618

Project: NPDES Permit
Project Number: [none]
Project Manager: Michael Cushner

Reported:
07/21/14 09:30

Total Petroleum Hydrocarbons (TPH) by GC/FID - Quality Control

Sierra Analytical Labs, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B4G0733 - EPA 3510C Sep Funnel										
Blank (B4G0733-BLK1)				Prepared & Analyzed: 06/30/14						
Diesel Range Organics (C10-C24)	ND	0.050	mg/L							
Surrogate: o-Terphenyl	*0.0202*		"	*0.0250*		*80.8*	*60-175*			
LCS (B4G0733-BS1)				Prepared & Analyzed: 06/30/14						
Diesel Range Organics (C10-C24)	0.485	0.050	mg/L	0.500		97.0	80-120			
LCS (B4G0733-BS2)				Prepared & Analyzed: 06/30/14						
Diesel Range Organics (C10-C24)	0.513	0.050	mg/L	0.500		103	80-120			
LCS Dup (B4G0733-BSD1)				Prepared & Analyzed: 06/30/14						
Diesel Range Organics (C10-C24)	0.463	0.050	mg/L	0.500		92.6	80-120	4.64	30	

Ninyo & Moore - Irvine
475 Goddard Suite 200
Irvine CA, 92618

Project: NPDES Permit
Project Number: [none]
Project Manager: Michael Cushner

Reported:
07/21/14 09:30

Ethanol by EPA 8260B (SIM- Selective Ion Mode) - Quality Control

Sierra Analytical Labs, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B4G0218 - EPA 5030B P & T										
Blank (B4G0218-BLK1)				Prepared & Analyzed: 07/02/14						
Ethanol	ND	50	µg/L							
Surrogate: Dibromofluoromethane	*51.1*		"	*50.0*		*102*	*86-118*			
Surrogate: Toluene-d8	*49.8*		"	*50.0*		*99.6*	*88-110*			
Surrogate: 4-Bromofluorobenzene	*45.8*		"	*50.0*		*91.6*	*86-115*			
LCS (B4G0218-BS1)				Prepared & Analyzed: 07/02/14						
Methyl tert-butyl ether	47.6	0.50	µg/L	50.0		95.2	80-120			
Matrix Spike (B4G0218-MS1)	**Source: 1407011-01**			Prepared & Analyzed: 07/02/14						
Methyl tert-butyl ether	30.5	0.50	µg/L	50.0	ND	61.0	37-160			
Matrix Spike Dup (B4G0218-MSD1)	**Source: 1407011-01**			Prepared & Analyzed: 07/02/14						
Methyl tert-butyl ether	32.1	0.50	µg/L	50.0	ND	64.2	37-160	5.11	30	

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Ninyo & Moore - Irvine	Project: NPDES Permit	
475 Goddard Suite 200	Project Number: [none]	**Reported:**
Irvine CA, 92618	Project Manager: Michael Cushner	07/21/14 09:30

Notes and Definitions

_NTU>	>180
J	Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

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Certificate of Analysis

Report Date: 07/14/14 15:38
Received Date: 07/03/14 11:35
Turnaround Time: Normal

Project: 1407011

Phones: (949) 348-9389
Fax: (949) 348-9115

P.O. #:

Attn: Rick Forsyth

Client: Sierra Analytical Labs, Inc.
26052 Merit Circle, Suite 104
Laguna Hills, CA 92653

Dear Rick Forsyth :

Enclosed are the results of analyses for samples received 7/3/2014 with the Chain of Custody document. The samples were received in good condition, at 9.9 °C and on ice. All analysis met the method criteria except as noted below or in the report with data qualifiers.

Lab Sample ID: 4G03034-01 **Sample ID: BP-1 (1407011-01)** **Matrix:** Water
Sampled by: Client **Sampled: 07/01/14 09:00**

Analyte	Result	MDL	MRL	Units	Dil	Method	Prepared	Analyzed	Batch	Qualifier
Cyanide, Total	ND		5.0	ug/l	1	EPA 335.4	7/7/14	7/8/14 12:24	W4G0264	
1,4-Dioxane	ND		0.50	ug/l	1	EPA 8270M	7/7/14	7/10/14 18:25	W4G0251	

Lab Sample ID: 4G03034-02 **Sample ID: BP-2 (1407011-02)** **Matrix:** Water
Sampled by: Client **Sampled: 07/01/14 11:00**

Analyte	Result	MDL	MRL	Units	Dil	Method	Prepared	Analyzed	Batch	Qualifier
Cyanide, Total	ND		5.0	ug/l	1	EPA 335.4	7/7/14	7/8/14 12:25	W4G0264	
1,4-Dioxane	ND		0.50	ug/l	1	EPA 8270M	7/7/14	7/10/14 18:43	W4G0251	

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Certificate of Analysis

Quality Control Section

1,4-Dioxane Low Level by isotopic dilution GC/MS - Quality Control

Batch W4G0251 - EPA 8270M

Blank (W4G0251-BLK1) Prepared: 07/07/14 Analyzed: 07/10/14 13:12

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
1,4-Dioxane		ND		ug/l					

LCS (W4G0251-BS1) Prepared: 07/07/14 Analyzed: 07/10/14 13:31

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
1,4-Dioxane		10.9		ug/l	10.0	109	84-125		

LCS Dup (W4G0251-BSD1) Prepared: 07/07/14 Analyzed: 07/10/14 13:49

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
1,4-Dioxane		11.2		ug/l	10.0	112	84-125	2	30

Conventional Chemistry/Physical Parameters by APHA/EPA/ASTM Methods - Quality Control

Batch W4G0264 - EPA 335.4

Blank (W4G0264-BLK1) Prepared: 07/07/14 Analyzed: 07/08/14 12:20

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Cyanide, Total		ND		ug/l					

LCS (W4G0264-BS1) Prepared: 07/07/14 Analyzed: 07/08/14 12:11

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Cyanide, Total		66.3		ug/l	67.9	98	90-110		

Matrix Spike (W4G0264-MS1) Source: 4G03050-01 Prepared: 07/07/14 Analyzed: 07/08/14 12:13

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Cyanide, Total	ND	67.3		ug/l	67.9	99	90-110		

Matrix Spike (W4G0264-MS2) Source: 4G03050-03 Prepared: 07/07/14 Analyzed: 07/08/14 12:15

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Cyanide, Total	ND	69.5		ug/l	67.9	102	90-110		

Matrix Spike Dup (W4G0264-MSD1) Source: 4G03050-01 Prepared: 07/07/14 Analyzed: 07/08/14 12:14

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Cyanide, Total	ND	67.3		ug/l	67.9	99	90-110	0	20

Matrix Spike Dup (W4G0264-MSD2) Source: 4G03050-03 Prepared: 07/07/14 Analyzed: 07/08/14 12:16

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Cyanide, Total	ND	69.7		ug/l	67.9	103	90-110	0.3	20

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Certificate of Analysis

Notes:
The Chain of Custody document is part of the analytical report.
Any remaining sample(s) for testing will be disposed of one month from the final report date unless other arrangements are made in advance.
All results are expressed on wet weight basis unless otherwise specified.

An Absence of Total Coliform meets the drinking water standards as established by the State of California Department of Health Services.
The Reporting Limit (RL) is referenced as laboratory's Practical Quantitation Limit (PQL).
For Potable water analysis, the Reporting Limit (RL) is referenced as Detection Limit for reporting purposes (DLRs) defined by EPA.

If sample collected by Weck Laboratories, sampled in accordance to lab SOP MIS002

Authorized Signature
Contact: Kim G Tu
(Project Manager)

ELAP # 1132
LACSD # 10143
NELAC # 04229CA

The results in this report apply to the samples analyzed in accordance with the chain of custody document. Weck Laboratories certifies that the test results meet all requirements of NELAC unless noted in the Case Narrative. This analytical report must be reproduced in its entirety.

Flags for Data Qualifiers:

ND	NOT DETECTED at or above the Reporting Limit. If J-value reported, then NOT DETECTED at or above the Method Detection Limit (MDL).
Sub	Subcontracted analysis, original report enclosed.
DL	Method Detection Limit
RL	Method Reporting Limit
MDA	Minimum Detectable Activity
NR	Not Reportable

Associated Laboratories

806 N. Batavia - Orange, CA 92868
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Info@associatedlabs.com

ACCREDITED IN ACCORDANCE WITH nelac
04232CA

Client:	Sierra Laboratories	Lab Request:	342925
Address:	26052 Merit Circle	Report Date:	07/15/2014
	Suite 104	Date Received:	07/03/2014
	Laguna Hills, CA 92653	Client ID:	6906
Attn:	Rick Forsyth		

Comments: 1407011

This laboratory request covers the following listed samples which were analyzed for the parameters indicated on the attached Analytical Result Report. All analyses were conducted using the appropriate methods. Methods accredited by NELAC are indicated on the report. This cover letter is an integral part of the final report.

Sample #	Client Sample ID
342925-001	BP-1 (1407011-01)
342925-002	BP-2 (1407011-02)

Thank you for the opportunity to be of service to your company. Please feel free to call if there are any questions regarding this report or if we can be of further service.

ASSOCIATED LABORATORIES by,

Nina Prasad
President

NOTE: Unless notified in writing , all samples will be discarded by appropriate disposal protocol 45 days from date reported.

TESTING & CONSULTING
Chemical
Microbiological
Environmental

Matrix: Water | **Client:** Sierra Laboratories | **Collector:** Client
Sampled: 07/01/2014 09:00 | **Site:**
Sample #: **342925-001** | **Client Sample #:** BP-1 (1407011-01) | **Sample Type:**

Analyte	Result	DF	RDL	Units	Analyzed	By	Notes
Method: EPA 314.0	**Prep Method:** 314.0					**QCBatchID:**	QC1147658
Perchlorate	ND	1	4	ug/L	07/03/14	wyu	

Matrix: Water | **Client:** Sierra Laboratories | **Collector:** Client
Sampled: 07/01/2014 11:00 | **Site:**
Sample #: **342925-002** | **Client Sample #:** BP-2 (1407011-02) | **Sample Type:**

Analyte	Result	DF	RDL	Units	Analyzed	By	Notes
Method: EPA 314.0	**Prep Method:** 314.0					**QCBatchID:**	QC1147658
Perchlorate	ND	1	4	ug/L	07/03/14	wyu	

QCBatchID: QC1147658	Analyst: wei	Method: EPA 314.0
Matrix: Water	Analyzed: 07/03/2014	Instrument: CHEM (group)

Blank Summary

Analyte	Blank Result	Units		RDL	Notes	
QC1147658MB1						
Perchlorate	ND	ug/L		4		

Lab Control Spike/ Lab Control Spike Duplicate Summary

	Spike Amount		Spike Result			Recoveries			Limits		
Analyte	LCS	LCSD	LCS	LCSD	Units	LCS	LCSD	RPD	%Rec	RPD	Notes
QC1147658LCS1											
Perchlorate	50		49.9		ug/L	100			85-115		

Matrix Spike/Matrix Spike Duplicate Summary

	Sample	Spike Amount		Spike Result			Recoveries			Limits		
Analyte	Amount	MS	MSD	MS	MSD	Units	MS	MSD	RPD	%Rec	RPD	Notes
QC1147658MS1, QC1147658MSD1												**Source: 342657-001**
Perchlorate	ND	50	50	50.2	49.6	ug/L	100	99	1.2	80-120	20	

Notes and Definitions

B	Analyte was present in an associated method blank. Associated sample data was reported with qualifier.
BQ1	No valid test replicates. Result may be greater. Best result was reported with qualifier. Sample toxicity possible.
BQ2	No valid test replicates.
BQ3	Minimum DO is less than 1.0 mg/L. Result may be greater and reported with qualifier.
C	Laboratory Contamination.
D	The sample duplicate RPD was not within control limits, the sample data was reported without further clarification.
DF	Dilution Factor
DW	Sample result is calculated on a dry weigh basis
J	Reported value is estimated
L	The laboratory control sample (LCS) or laboratory control sample duplicate (LCSD) was out of control limits. Associated sample data was reported with qualifier.
M	The matrix spike (MS) or matrix spike duplicate (MSD) was not within control limits due to matrix interference. The associated LCS and/or LCSD was within control limits and the sample data was reported without further clarification.
MDL	Method Detection Limit
NC	The analyte concentration in the sample exceeded the spike level by a factor of four or greater, spike recovery and limits do not apply.
ND	Analyte was not detected or was less than the detection limit.
P	Sample was received without proper preservation according to EPA guidelines.
Q1	Analyte Calibration Verification exceeds criteria and the result was reported with qualifier.
Q2	Analyte calibration was not verified and the result was estimated and reported with qualifier.
Q3	Analyte initial calibration was not available or exceeds criteria. The result was estimated and reported with qualifier.
Q4	Analyte result out of calibration range and was reported with qualifier
RDL	Reporting Detection Limit
S	The surrogate recovery was out of control limits due to matrix interference. The associated method blank surrogate recovery was within control limits and the sample data was reported without further clarification.
T	Sample was extracted/analyzed past the holding time.
T2	Sample was analyzed ASAP but received and analyzed past the 15 minute holding time.
TIC	Tentatively Identified Compounds

SUBCONTRACT ORDER

Sierra Analytical Labs, Inc.

Sierra Project #: 1407011

342925

Comments

SENDING LABORATORY:

Sierra Analytical Labs, Inc.
26052 Merit Circle, Suite 104
Laguna Hills, CA 92653
Phone: (949) 348-9389
Fax: (949) 348-9115
Laboratory Contact: Rick Forsyth (rickf@sierralabs.net)

Turn Around Time Requested: ☒ Normal ☐ 24 Hour ☐ 48 Hour ☐ 72 Hour ☐ 4 Day ☐ 5 Day

RECEIVING LABORATORY:

Associated Laboratories
806 N. Batavia
Orange, CA 92868
Phone : (714) 771-6900
Fax: (714) 538-1209

Analysis	Expires	Sampled:	Laboratory ID	Comments
Sample ID: BP-1 (1407011-01)	**Liquid**	**07/01/14 09:00**		
EPA 314.0-Perchlorate	07/29/14 09:00			
Containers Supplied: 1L Poly (B)				
Sample ID: BP-2 (1407011-02)	**Liquid**	**07/01/14 11:00**		
EPA 314.0-Perchlorate	07/29/14 11:00			
Containers Supplied: 1L Poly (B)				

Special Instructions :

☐ Intact ☐ Sample Seals
☐ Properly Labeled ☐ Chilled TEMP (°C) ______
☐ Appropriate Container ☐ Preservatives - Verified By ______

Relinquished By	Date / Time	Received By	Date / Time
R. Mo	7/3/14 1340	Chris O.	7/3/14 1340

ASSOCIATED LABORATORIES

806 North Batavia – Orange, California 92868 – 714-771-6900 FAX 714-538-1209

SAMPLE ACCEPTANCE CHECKLIST

Section 1
Client: Sierra Analytical Labs, Inc. Project: 1407011
Date Received: 7/3/14 Sampler's Name: Yes No
Sample temperature: 12°C
Sample(s) received in cooler: Yes No (Skip Section 2)
Shipping Information: ______

Section 2
Was the cooler packed with: ___ Ice ✓ Ice Packs ___ Bubble Wrap ___ Styrofoam
___ Paper ___ None ___ Other______
Cooler Temperature: 2°C

(Acceptance range is 0 to 6 Deg. C. or arrival on ice; For Microbiology sample ≤10 Deg. C or arrival on ice)

Section 3	YES	NO	N/A
Was a COC received?	✓		
Is it properly completed? (IDs, sampling date and time, signature, test)	✓		
Were custody seals present?			✓
If Yes – were they intact?			✓
Were all samples sealed in plastic bags?	✓		
Did all samples arrive intact? If no, indicate below.	✓		
Did all bottle labels agree with COC? (ID, dates and times)	✓		
Were correct containers used for the tests required?	✓		
Was a sufficient amount of sample sent for tests indicated?	✓		
Was there headspace in VOA vials?			✓
Were the containers labeled with correct preservatives?			✓
Was total residual chlorine measured (Fish Bioassay samples only)? *			✓

*: If the answer is no, please inform Fish Bioassay Dept. immediately.

Section 4
Explanations/Comments

Section 5
Was Project Manager notified of discrepancies: Y / N N/A
Project Manager's response: ______

Completed By: Chris Ok Date: 7/3/14

SIERRA ANALYTICAL
TEL: 949•348•9389
FAX: 949•348•9115
26052 Merit Circle• Suite 104•Laguna Hills, CA•92653

CHAIN OF CUSTODY RECORD

Date: 7 / 1 / 14   Page 1 of 2

Lab Project No.: 1407011

Client: Ninyo & Moore
Client Address: 475 Goddard #200
Irvine, CA 92618

Client Tel. No.: 949-753-7070
Client Fax. No.: 949-753-7070
Client Proj. Mgr.: Michael Cushner

Client Project ID:

Turn Around Time Requested: ☐ Immediate ☐ 24 Hour ☐ 48 Hour ☐ 72 Hour ☐ 4 Day ☐ 5 Day ☒ Normal ☐ Mobile

Geotracker EDD Info:

Client LOGCODE

Site Global ID

Analysis Requested

Client Sample ID.	Sierra No.	Date	Time	Matrix	Preservative	Container Type	No. of Containers	NPDES												Field Point Names/ Comments
BP-1	01	7/1/14	0900	ground-water	Various	Various	20	X												No Asbestos or Dioxins
BP-2	02	↓	1100	↓	↓	↓	20	X												↓

1 Sampler Signature: [signature]
Printed Name: Pedro Rodriguez
Shipped Via:
(Carrier/Waybill No.)

2 Relinquished By: [signature] Date: 7-1-14
Company: Ninyo & Moore Time: 1355
Received By: [signature] Date: 7-1-14
Company: Sierra Time: 13:55

3 Relinquished By: Date
Company: Time:
Received By: Date:
Company: Time:

4 Relinquished By: Date
Company: Time:
Received By: Date:
Company: Time:

Special Instructions:

Total Number of Containers Submitted to Laboratory 40 (40)

The delivery of samples and the signature on this chain of custody form constitutes authorization to perform the analysis specified above under SIERRA's Terms and Conditions, unless otherwise agreed upon in writing between SIERRA and CLIENT.
* - Samples determined to be hazardous by SIERRA will be returned to CLIENT.

Total Number of Containers Received by Laboratory (40)

Sample Disposal:
☐ Return to Client
☐ Lab Disposal*
☐ Archive ______ mos.
☐ Other ______

FOR LABORATORY USE ONLY - Sample Receipt Conditions:
☑ Intact
☐ Sample Seals
☑ Properly Labelled
☑ Appropriate Sample Container
☑ Chilled - Temp. (°C) 4.0
☐ Preservatives - Verified By
☐ Other
☑ Storage Location (WSA-Rack-Bottom)

Rev: 102005

DISTRIBUTION: White - To Accompany Samples, Yellow - Laboratory Copy, Pink - Field Personnel Copy

APPENDIX G

NOISE CALCULATIONS SHEETS

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NOISE LEVEL CALCULATIONS

LONG-TERM OPERATIONS

Belmont Pool Noise Analysis

	Distance (ft)	Exterior Noise Level	Energy	Interior Noise Level (Windows and Doors Open)	Energy	Interior Noise Level (Windows and Doors Closed)	Energy	Building Attenuation		Exterior Noise Standard						Interior Noise Standard		
										L50	L25	L8	L2	Lmax		L8	L2	Lmax
Children's Center										**50**	**55**	**60**	**65**	**70**		**45**	**50**	**55**
Bleacher	190	48.9	77624.7	36.9	4897.8	24.9	309.0	8		N	N	N	N	N		N	N	N
PA System		54.2	263026.8	42.2	16595.9	30.2	1047.1			Y	N	N	N	N		N	N	N
Combined		**55.3**		**43.3**		**31.3**				Y	Y	N	N	N		N	N	N
Residences (Across from Ocean Boulevard)																		
Bleacher	325	47.3	53703.2	35.3	3388.4	23.3	213.8	5		N	N	N	N	N		N	N	N
PA System		54.5	281838.3	42.5	17782.8	30.5	1122.0			Y	N	N	N	N		N	N	N
Combined		**55.3**		**43.3**		**31.3**				Y	Y	N	N	N		N	N	N
Residences (Across from Termino Avenue)																		
Bleacher	320	47.4	54954.1	35.4	3467.4	23.4	218.8	5		N	N	N	N	N		N	N	N
PA System		54.3	269153.5	42.3	16982.4	30.3	1071.5			Y	N	N	N	N		N	N	N
Combined		**55.1**		**43.1**		**31.1**				Y	Y	N	N	N		N	N	N

Speaker Analysis

PA System	Reference Distance (ft)	Reference Noise	Energy
Speaker 1	50	71.3	13489628.8
Speaker 2	50	71.3	13489628.8
Speaker 3	50	71.3	13489628.8
Speaker 4	50	71.3	13489628.8
Speakers 1-4		**77.3**	

PA System	Reference Distance (ft)	Reference Noise	Energy
Speaker 5	50	71.3	13489628.8
Speaker 6	50	71.3	13489628.8
Speakers 5-6		**74.3**	

PA System	Reference Distance (ft)	Reference Noise	Energy
Speaker 7	50	71.3	13489628.8
Speaker 8	50	71.3	13489628.8
Speaker 9	50	71.3	13489628.8
Speaker 10	50	71.3	13489628.8
Speakers 7-10		**77.3**	

PA System	Reference Distance (ft)	Reference Noise	Energy
Speaker 11	50	71.3	13489628.8
Speaker 12	50	71.3	13489628.8
Speaker 13	50	71.3	13489628.8
Speakers 11-13		**76.1**	

Children's Center

PA System	Reference Distance (ft)	Reference Noise	Distance (ft)	Noise Level	Intervening Buildings	Directionality Attenuation	Final Noise Level	Energy
Speakers 1-4	50	77.3	307	61.5	8	5	48.5	70794.6
Speakers 5-6	50	74.3	349	57.4	8	1	48.4	69183.1
Speakers 7-10	50	77.3	412	59	8	1	50	100000.0
Speakers 11-13	50	76.1	444	57.1	8	5	44.1	25704.0
						Exterior	**54.2**	
						Interior	**30.2**	

Residential 1 (Across from Ocean Boulevard)

PA System	Reference Distance (ft)	Reference Noise	Distance (ft)	Noise Level	Intervening Buildings	Directionality Attenuation	Final Noise Level	Energy
Speakers 1-4	50	77.3	440	58.4	5	5	48.4	69183.1
Speakers 5-6	50	74.3	363	57.1	5	5	47.1	51286.1
Speakers 7-10	50	77.3	328	61	5	5	51	125892.5
Speakers 11-13	50	76.1	527	55.6	5	5	45.6	36307.8
						Exterior	**54.5**	
						Interior	**30.5**	

Residential 2 (Across from Termino Avenue)

PA System	Reference Distance (ft)	Reference Noise	Distance (ft)	Noise Level	Intervening Buildings	Directionality Attenuation	Final Noise Level	Energy
Speakers 1-4	50	77.3	426	58.7	5	5	48.7	74131.0
Speakers 5-6	50	74.3	509	54.1	5	1	48.1	64565.4
Speakers 7-10	50	77.3	589	55.9	5	1	49.9	97723.7
Speakers 11-13	50	76.1	538	55.5	5	5	45.5	35481.3
						Exterior	**54.3**	
						Interior	**30.3**	

EXISTING TRAFFIC NOISE LEVEL OUTPUT FILE

TABLE Existing NP (PM)-01
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/09/2016
ROADWAY SEGMENT: Ocean Boulevard West of Redondo Avenue
NOTES: Belmont Pool Revitalization - Existing - Existing NP (PM)

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 25230   SPEED (MPH): 30   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24   SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 65.10

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	75.0	154.9	330.6

TABLE Existing NP (PM)-02
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/09/2016
ROADWAY SEGMENT: Ocean Boulevard Between Redondo Avenue and Loma Avenue
NOTES: Belmont Pool Revitalization - Existing - Existing NP (PM)

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 27195   SPEED (MPH): 30   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 65.43

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	78.5	162.7	347.4

TABLE Existing NP (PM)-03
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/09/2016
ROADWAY SEGMENT: Ocean Boulevard Between Loma Avenue and Mira-Mar Avenue
NOTES: Belmont Pool Revitalization - Existing - Existing NP (PM)

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 27855   SPEED (MPH): 30   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 65.53

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	79.6	165.2	353.0

TABLE Existing NP (PM)-04
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/09/2016
ROADWAY SEGMENT: Ocean Boulevard Between Mira-Mar Avenue and Termino Avenue
NOTES: Belmont Pool Revitalization - Existing - Existing NP (PM)

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 9240   SPEED (MPH): 30   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 60.74

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	82.0	170.5

TABLE Existing NP (PM)-05
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/09/2016
ROADWAY SEGMENT: Ocean Boulevard Between Termino Avenue and Bennett Avenue
NOTES: Belmont Pool Revitalization - Existing - Existing NP (PM)

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 9575   SPEED (MPH): 30   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 60.89

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	83.8	174.5

TABLE Existing NP (PM)-06

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/09/2016
ROADWAY SEGMENT: Ocean Boulevard Between Bennett Avenue and Granada Avenue
NOTES: Belmont Pool Revitalization - Existing - Existing NP (PM)

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 8500   SPEED (MPH): 30   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 60.37

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	77.9	161.5

TABLE Existing NP (PM)-07
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/09/2016
ROADWAY SEGMENT: Ocean Boulevard East of Granada Avenue
NOTES: Belmont Pool Revitalization - Existing - Existing NP (PM)

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 7730   SPEED (MPH): 30   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 59.96

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	73.6	151.8

TABLE Existing NP (PM)-08

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/09/2016
ROADWAY SEGMENT: Livingston Avenue Between Mira-Mar Avenue and Termino Avenue
NOTES: Belmont Pool Revitalization - Existing - Existing NP (PM)

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 19405   SPEED (MPH): 35   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 65.57

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	80.0	166.2	355.1

TABLE Existing NP (PM)-09

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/09/2016
ROADWAY SEGMENT: Livingston Avenue Between Termino Avenue and 2nd Street
NOTES: Belmont Pool Revitalization - Existing - Existing NP (PM)

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 20155   SPEED (MPH): 35   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 65.73

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	81.9	170.4	364.2

TABLE Existing NP (PM)-10
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/09/2016
ROADWAY SEGMENT: Livingston Avenue East of 2nd Street
NOTES: Belmont Pool Revitalization - Existing - Existing NP (PM)

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 3190   SPEED (MPH): 25   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 55.76

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	62.9

TABLE Existing NP (PM)-11
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/09/2016
ROADWAY SEGMENT: 2nd Street South of Livingston Avenue
NOTES: Belmont Pool Revitalization - Existing - Existing NP (PM)

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 20860   SPEED (MPH): 25   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 62.41

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	104.2	219.7

TABLE Existing NP (PM)-12
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/09/2016
ROADWAY SEGMENT: Termino Avenue South of Ocean Boulevard
NOTES: Belmont Pool Revitalization - Existing - Existing NP (PM)

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 3110   SPEED (MPH): 35   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 18   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 58.05

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	106.2

TABLE Existing NP (PM)-13

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/09/2016
ROADWAY SEGMENT: Termino Avenue Between Ocean Boulevard and Livingston Avenue
NOTES: Belmont Pool Revitalization - Existing - Existing NP (PM)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 3495 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 18 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 58.55

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	55.5	114.5

TABLE Existing NP (PM)-14
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/09/2016
ROADWAY SEGMENT: Termino Avenue North of Livingston Avenue
NOTES: Belmont Pool Revitalization - Existing - Existing NP (PM)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 830   SPEED (MPH): 25   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 49.92

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	0.0

TABLE Existing NP (PM)-15
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/09/2016
ROADWAY SEGMENT: Bennett Avenue South of Ocean Boulevard
NOTES: Belmont Pool Revitalization - Existing - Existing NP (PM)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 1120   SPEED (MPH): 25   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 51.22

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	0.0

TABLE Existing NP (PM)-16

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/09/2016

ROADWAY SEGMENT: Bennett Avenue North of Ocean Boulevard

NOTES: Belmont Pool Revitalization - Existing - Existing NP (PM)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 740   SPEED (MPH): 25   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 49.42

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	0.0

TABLE Existing NP (PM)-17
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/09/2016
ROADWAY SEGMENT: Granada Avenue South of Ocean Boulevard
NOTES: Belmont Pool Revitalization - Existing - Existing NP (PM)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 710   SPEED (MPH): 25   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 49.24

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	0.0

TABLE Existing NP (PM)-18
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/09/2016
ROADWAY SEGMENT: Granada Avenue North of Ocean Boulevard
NOTES: Belmont Pool Revitalization - Existing - Existing NP (PM)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 1500   SPEED (MPH): 25   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 52.49

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	0.0

TABLE Existing P (PM)-01

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/09/2016
ROADWAY SEGMENT: Ocean Boulevard West of Redondo Avenue
NOTES: Belmont Pool Revitalization - Existing - Existing P (PM)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 26110   SPEED (MPH): 30   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 65.25

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	76.6	158.4	338.2

TABLE Existing P (PM)-02
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/09/2016
ROADWAY SEGMENT: Ocean Boulevard Between Redondo Avenue and Loma Avenue
NOTES: Belmont Pool Revitalization - Existing - Existing P (PM)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 28505   SPEED (MPH): 30   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 65.63

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	80.7	167.8	358.4

TABLE Existing P (PM)-03

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/09/2016
ROADWAY SEGMENT: Ocean Boulevard Between Loma Avenue and Mira-Mar Avenue
NOTES: Belmont Pool Revitalization - Existing - Existing P (PM)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 29095   SPEED (MPH): 30   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 65.72

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	81.7	170.0	363.3

TABLE Existing P (PM)-04
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/09/2016
ROADWAY SEGMENT: Ocean Boulevard Between Mira-Mar Avenue and Termino Avenue
NOTES: Belmont Pool Revitalization - Existing - Existing P (PM)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 10435   SPEED (MPH): 30   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 61.27

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	88.3	184.6

TABLE Existing P (PM)-05
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/09/2016
ROADWAY SEGMENT: Ocean Boulevard Between Termino Avenue and Bennett Avenue
NOTES: Belmont Pool Revitalization - Existing - Existing P (PM)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 10815   SPEED (MPH): 30   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 61.42

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	90.3	189.0

TABLE Existing P (PM)-06
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/09/2016
ROADWAY SEGMENT: Ocean Boulevard Between Bennett Avenue and Granada Avenue
NOTES: Belmont Pool Revitalization - Existing - Existing P (PM)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 9590   SPEED (MPH): 30   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 60.90

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	83.8	174.7

TABLE Existing P (PM)-07
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/09/2016
ROADWAY SEGMENT: Ocean Boulevard East of Granada Avenue
NOTES: Belmont Pool Revitalization - Existing - Existing P (PM)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 8360   SPEED (MPH): 30   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 60.30

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	77.1	159.7

TABLE Existing P (PM)-08

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/09/2016
ROADWAY SEGMENT: Livingston Avenue Between Mira-Mar Avenue and Termino Avenue
NOTES: Belmont Pool Revitalization - Existing - Existing P (PM)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 19555   SPEED (MPH): 35   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 65.60

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	80.4	167.1	356.9

TABLE Existing P (PM)-09
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/09/2016
ROADWAY SEGMENT: Livingston Avenue Between Termino Avenue and 2nd Street
NOTES: Belmont Pool Revitalization - Existing - Existing P (PM)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 20420   SPEED (MPH): 35   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 65.79

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	82.6	171.9	367.4

TABLE Existing P (PM)-10

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/09/2016
ROADWAY SEGMENT: Livingston Avenue East of 2nd Street
NOTES: Belmont Pool Revitalization - Existing - Existing P (PM)

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 3190   SPEED (MPH): 25   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 55.76

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	62.9

TABLE Existing P (PM)-11

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/09/2016

ROADWAY SEGMENT: 2nd Street South of Livingston Avenue

NOTES: Belmont Pool Revitalization - Existing - Existing P (PM)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 21110   SPEED (MPH): 25   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 62.47

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	105.0	221.4

TABLE Existing P (PM)-12
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/09/2016
ROADWAY SEGMENT: Termino Avenue South of Ocean Boulevard
NOTES: Belmont Pool Revitalization - Existing - Existing P (PM)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 3930   SPEED (MPH): 35   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 18   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 59.06

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	59.6	123.6

TABLE Existing P (PM)-13

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/09/2016

ROADWAY SEGMENT: Termino Avenue Between Ocean Boulevard and Livingston Avenue

NOTES: Belmont Pool Revitalization - Existing - Existing P (PM)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 3955 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 18 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 59.09

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	59.8	124.1

TABLE Existing P (PM)-14

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/09/2016
ROADWAY SEGMENT: Termino Avenue North of Livingston Avenue
NOTES: Belmont Pool Revitalization - Existing - Existing P (PM)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 910   SPEED (MPH): 25   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 50.32

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	0.0

TABLE Existing P (PM)-15
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/09/2016
ROADWAY SEGMENT: Bennett Avenue South of Ocean Boulevard
NOTES: Belmont Pool Revitalization - Existing - Existing P (PM)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 3600   SPEED (MPH): 25   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS			
	75.51	12.57	9.34
M-TRUCKS			
	1.56	0.09	0.19
H-TRUCKS			
	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 56.29

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	68.1

TABLE Existing P (PM)-16

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/09/2016
ROADWAY SEGMENT: Bennett Avenue North of Ocean Boulevard
NOTES: Belmont Pool Revitalization - Existing - Existing P (PM)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 740   SPEED (MPH): 25   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 49.42

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	0.0

TABLE Existing P (PM)-17

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/09/2016
ROADWAY SEGMENT: Granada Avenue South of Ocean Boulevard
NOTES: Belmont Pool Revitalization - Existing - Existing P (PM)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 710   SPEED (MPH): 25   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 49.24

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	0.0

TABLE Existing P (PM)-18
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/09/2016
ROADWAY SEGMENT: Granada Avenue North of Ocean Boulevard
NOTES: Belmont Pool Revitalization - Existing - Existing P (PM)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 1810   SPEED (MPH): 25   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 53.30

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	0.0

TABLE Existing NP (Sat)-01
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/09/2016
ROADWAY SEGMENT: Ocean Boulevard West of Redondo Avenue
NOTES: Belmont Pool Revitalization - Existing - Existing NP (Sat)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 18050   SPEED (MPH): 30   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 63.64

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	61.7	124.8	264.8

TABLE Existing NP (Sat)-02

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/09/2016
ROADWAY SEGMENT: Ocean Boulevard Between Redondo Avenue and Loma Avenue
NOTES: Belmont Pool Revitalization - Existing - Existing NP (Sat)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 19720   SPEED (MPH): 30   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 64.03

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	64.9	132.1	280.8

TABLE Existing NP (Sat)-03

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/09/2016
ROADWAY SEGMENT: Ocean Boulevard Between Loma Avenue and Mira-Mar Avenue
NOTES: Belmont Pool Revitalization - Existing - Existing NP (Sat)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 20655 SPEED (MPH): 30 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 64.23

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	66.7	136.1	289.5

TABLE Existing NP (Sat)-04

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/09/2016

ROADWAY SEGMENT: Ocean Boulevard Between Mira-Mar Avenue and Termino Avenue

NOTES: Belmont Pool Revitalization - Existing - Existing NP (Sat)

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 8540   SPEED (MPH): 30   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 60.39

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	78.1	161.9

TABLE Existing NP (Sat)-05
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/09/2016
ROADWAY SEGMENT: Ocean Boulevard Between Termino Avenue and Bennett Avenue
NOTES: Belmont Pool Revitalization - Existing - Existing NP (Sat)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 8900   SPEED (MPH): 30   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 60.57

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	80.1	166.4

TABLE Existing NP (Sat)-06
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/09/2016
ROADWAY SEGMENT: Ocean Boulevard Between Bennett Avenue and Granada Avenue
NOTES: Belmont Pool Revitalization - Existing - Existing NP (Sat)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 7705   SPEED (MPH): 30   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 59.95

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	73.5	151.5

TABLE Existing NP (Sat)-07

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/09/2016
ROADWAY SEGMENT: Ocean Boulevard East of Granada Avenue
NOTES: Belmont Pool Revitalization - Existing - Existing NP (Sat)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 7240 SPEED (MPH): 30 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 59.68

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	70.8	145.5

TABLE Existing NP (Sat)-08
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/09/2016
ROADWAY SEGMENT: Livingston Avenue Between Mira-Mar Avenue and Termino Avenue
NOTES: Belmont Pool Revitalization - Existing - Existing NP (Sat)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 12785   SPEED (MPH): 35   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 63.76

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	62.6	126.8	269.4

TABLE Existing NP (Sat)-09

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/09/2016

ROADWAY SEGMENT: Livingston Avenue Between Termino Avenue and 2nd Street

NOTES: Belmont Pool Revitalization - Existing - Existing NP (Sat)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 14490   SPEED (MPH): 35   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 64.30

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	67.3	137.5	292.6

TABLE Existing NP (Sat)-10
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/09/2016
ROADWAY SEGMENT: Livingston Avenue East of 2nd Street
NOTES: Belmont Pool Revitalization - Existing - Existing NP (Sat)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 3050   SPEED (MPH): 25   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 55.57

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	61.0

TABLE Existing NP (Sat)-11
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/09/2016
ROADWAY SEGMENT: 2nd Street South of Livingston Avenue
NOTES: Belmont Pool Revitalization - Existing - Existing NP (Sat)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 16370   SPEED (MPH): 25   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 61.36

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	89.5	187.3

TABLE Existing NP (Sat)-12
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/09/2016
ROADWAY SEGMENT: Termino Avenue South of Ocean Boulevard
NOTES: Belmont Pool Revitalization - Existing - Existing NP (Sat)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 2990   SPEED (MPH): 35   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 18   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 57.88

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	103.5

TABLE Existing NP (Sat)-13
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/09/2016
ROADWAY SEGMENT: Termino Avenue Between Ocean Boulevard and Livingston Avenue
NOTES: Belmont Pool Revitalization - Existing - Existing NP (Sat)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 3440   SPEED (MPH): 35   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 18   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 58.48

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	55.0	113.3

TABLE Existing NP (Sat)-14

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/09/2016
ROADWAY SEGMENT: Termino Avenue North of Livingston Avenue
NOTES: Belmont Pool Revitalization - Existing - Existing NP (Sat)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 600   SPEED (MPH): 25   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 48.51

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	0.0

TABLE Existing NP (Sat)-15
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/09/2016
ROADWAY SEGMENT: Bennett Avenue South of Ocean Boulevard
NOTES: Belmont Pool Revitalization - Existing - Existing NP (Sat)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 1560   SPEED (MPH): 25   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 52.66

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	0.0

TABLE Existing NP (Sat)-16

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/09/2016
ROADWAY SEGMENT: Bennett Avenue North of Ocean Boulevard
NOTES: Belmont Pool Revitalization - Existing - Existing NP (Sat)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 700   SPEED (MPH): 25   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 49.18

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	0.0

TABLE Existing NP (Sat)-17

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/09/2016
ROADWAY SEGMENT: Granada Avenue South of Ocean Boulevard
NOTES: Belmont Pool Revitalization - Existing - Existing NP (Sat)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 1150 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 51.33

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	0.0

TABLE Existing NP (Sat)-18
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/09/2016
ROADWAY SEGMENT: Granada Avenue North of Ocean Boulevard
NOTES: Belmont Pool Revitalization - Existing - Existing NP (Sat)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 1420   SPEED (MPH): 25   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 52.25

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	0.0

TABLE Existing P (Sat)-01

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/09/2016
ROADWAY SEGMENT: Ocean Boulevard West of Redondo Avenue
NOTES: Belmont Pool Revitalization - Existing - Existing P (Sat)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 20210   SPEED (MPH): 30   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 64.14

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	65.8	134.2	285.4

TABLE Existing P (Sat)-02

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/09/2016
ROADWAY SEGMENT: Ocean Boulevard Between Redondo Avenue and Loma Avenue
NOTES: Belmont Pool Revitalization - Existing - Existing P (Sat)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 23050   SPEED (MPH): 30   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 64.71

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	71.1	146.1	311.3

TABLE Existing P (Sat)-03

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/09/2016
ROADWAY SEGMENT: Ocean Boulevard Between Loma Avenue and Mira-Mar Avenue
NOTES: Belmont Pool Revitalization - Existing - Existing P (Sat)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 23655   SPEED (MPH): 30   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24   SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 64.82

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	72.2	148.6	316.7

TABLE Existing P (Sat)-04

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/09/2016
ROADWAY SEGMENT: Ocean Boulevard Between Mira-Mar Avenue and Termino Avenue
NOTES: Belmont Pool Revitalization - Existing - Existing P (Sat)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 11540   SPEED (MPH): 30   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 61.70

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	94.0	197.2

TABLE Existing P (Sat)-05

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/09/2016
ROADWAY SEGMENT: Ocean Boulevard Between Termino Avenue and Bennett Avenue
NOTES: Belmont Pool Revitalization - Existing - Existing P (Sat)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 12280   SPEED (MPH): 30   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
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AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 61.97

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
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0.0	0.0	97.7	205.4

TABLE Existing P (Sat)-06

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/09/2016

ROADWAY SEGMENT: Ocean Boulevard Between Bennett Avenue and Granada Avenue

NOTES: Belmont Pool Revitalization - Existing - Existing P (Sat)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 10665   SPEED (MPH): 30   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 61.36

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	89.5	187.3

TABLE Existing P (Sat)-07
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/09/2016
ROADWAY SEGMENT: Ocean Boulevard East of Granada Avenue
NOTES: Belmont Pool Revitalization - Existing - Existing P (Sat)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 8940   SPEED (MPH): 30   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 60.59

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	80.3	166.9

TABLE Existing P (Sat)-08
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/09/2016
ROADWAY SEGMENT: Livingston Avenue Between Mira-Mar Avenue and Termino Avenue
NOTES: Belmont Pool Revitalization - Existing - Existing P (Sat)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 12895   SPEED (MPH): 35   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24   SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 63.79

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	62.9	127.5	270.9

TABLE Existing P (Sat)-09
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/09/2016
ROADWAY SEGMENT: Livingston Avenue Between Termino Avenue and 2nd Street
NOTES: Belmont Pool Revitalization - Existing - Existing P (Sat)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 15215   SPEED (MPH): 35   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 64.51

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	69.2	141.9	302.2

TABLE Existing P (Sat)-10
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/09/2016
ROADWAY SEGMENT: Livingston Avenue East of 2nd Street
NOTES: Belmont Pool Revitalization - Existing - Existing P (Sat)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 3050 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 55.57

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	61.0

TABLE Existing P (Sat)-11

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/09/2016

ROADWAY SEGMENT: 2nd Street South of Livingston Avenue

NOTES: Belmont Pool Revitalization - Existing - Existing P (Sat)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 17060   SPEED (MPH): 25   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 61.54

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	91.9	192.5

TABLE Existing P (Sat)-12

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/09/2016

ROADWAY SEGMENT: Termino Avenue South of Ocean Boulevard

NOTES: Belmont Pool Revitalization - Existing - Existing P (Sat)

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 5230   SPEED (MPH): 35   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 18   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 60.30

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	71.0	149.0

TABLE Existing P (Sat)-13
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/09/2016
ROADWAY SEGMENT: Termino Avenue Between Ocean Boulevard and Livingston Avenue
NOTES: Belmont Pool Revitalization - Existing - Existing P (Sat)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 4560   SPEED (MPH): 35   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 18   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 59.71

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	65.2	136.2

TABLE Existing P (Sat)-14

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/09/2016
ROADWAY SEGMENT: Termino Avenue North of Livingston Avenue
NOTES: Belmont Pool Revitalization - Existing - Existing P (Sat)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 850   SPEED (MPH): 25   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 50.02

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	0.0

TABLE Existing P (Sat)-15
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/09/2016
ROADWAY SEGMENT: Bennett Avenue South of Ocean Boulevard
NOTES: Belmont Pool Revitalization - Existing - Existing P (Sat)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 8320   SPEED (MPH): 25   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 59.93

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	55.4	118.7

TABLE Existing P (Sat)-16

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/09/2016
ROADWAY SEGMENT: Bennett Avenue North of Ocean Boulevard
NOTES: Belmont Pool Revitalization - Existing - Existing P (Sat)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 700   SPEED (MPH): 25   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 49.18

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	0.0

TABLE Existing P (Sat)-17
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/09/2016
ROADWAY SEGMENT: Granada Avenue South of Ocean Boulevard
NOTES: Belmont Pool Revitalization - Existing - Existing P (Sat)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 1150   SPEED (MPH): 25   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 51.33

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	0.0

TABLE Existing P (Sat)-18
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/09/2016
ROADWAY SEGMENT: Granada Avenue North of Ocean Boulevard
NOTES: Belmont Pool Revitalization - Existing - Existing P (Sat)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 2260 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 54.27

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	0.0

APPENDIX H

TRAFFIC MODELING AND CALCULATIONS

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Belmont Pool

Vistro File: P:\...\Belmont Pool.vistro

Report File: P:\...\01 Existing No Project AM.pdf

Scenario 1: 01 Existing No Project AM

3/4/2016

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Redondo Avenue/Ocean Boulevard	Signalized	ICU 1	SB Left	0.700	-	B
2	Loma Avenue/Ocean Boulevard	Signalized	ICU 1	EB Left	0.612	-	B
3	Ocean Boulevard/Livingston Drive	Signalized	ICU 1	NB Left	0.490	-	A
4	Termino Avenue/Livingston Drive	Signalized	ICU 1	WB Left	0.403	-	A
5	Bennett Avenue/Livingston Drive	Two-way stop	HCM 2010	SB Right	0.006	8.4	A
6	Ximeno Avenue/Livington Drive	Signalized	ICU 1	EB Left	0.144	-	A
7	2nd Street/Livingston Drive	Signalized	ICU 1	NWB Left	0.690	-	B
8	Termino Avenue/Ocean Boulevard	Signalized	ICU 1	NB Left	0.296	-	A
9	Bennett Avenue/Ocean Boulevard	All-way stop	HCM 2010	WB Thru		9.6	A
10	Granada Avenue/Ocean Boulevard	All-way stop	HCM 2010	WB Thru		8.6	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. for all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Redondo Avenue/Ocean Boulevard

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.700

Intersection Setup

Name	Redondo Avenue		Ocean Boulevard		Ocean Boulevard	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Redondo Avenue		Ocean Boulevard		Ocean Boulevard	
Base Volume Input [veh/h]	105	74	51	707	1435	113
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	105	74	51	707	1435	113
Peak Hour Factor	0.9690	0.9690	0.9690	0.9690	0.9690	0.9690
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	27	19	13	182	370	29
Total Analysis Volume [veh/h]	108	76	53	730	1481	117
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Split	Split	Protected	Permissive	Permissive	Permissive
Signal group	5	0	3	8	4	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	Lead	-	-	-

Movement, Approach, & Intersection Results

Intersection LOS	B
Intersection V/C	0.700

Intersection Level Of Service Report
Intersection 2: Loma Avenue/Ocean Boulevard

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.612

Intersection Setup

Name	Loma Avenue		Ocean Boulevard		Livingston Drive	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		No	

Volumes

Name	Loma Avenue		Ocean Boulevard		Livingston Drive	
Base Volume Input [veh/h]	8	17	10	805	1534	29
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	8	17	10	805	1534	29
Peak Hour Factor	0.9750	0.9750	0.9750	0.9750	0.9750	0.9750
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	4	3	206	393	7
Total Analysis Volume [veh/h]	8	17	10	826	1573	30
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal group	5	0	0	8	4	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-

Movement, Approach, & Intersection Results

Intersection LOS	B
Intersection V/C	0.612

Intersection Level Of Service Report
Intersection 3: Ocean Boulevard/Livingston Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.490

Intersection Setup

Name	Ocean Boulevard			Mira Mar Avenue			Livingston Drive			Livingston Drive		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0	1	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	50.00	100.00	100.00	100.00	60.00	100.00	100.00	100.00	100.00	50.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	Ocean Boulevard			Mira Mar Avenue			Livingston Drive			Livingston Drive		
Base Volume Input [veh/h]	411	0	3	0	0	7	18	629	0	0	1132	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	411	0	3	0	0	7	18	629	0	0	1132	10
Peak Hour Factor	0.9730	1.0000	0.9730	1.0000	1.0000	0.9730	0.9730	0.9730	1.0000	1.0000	0.9730	0.9730
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	106	0	1	0	0	2	5	162	0	0	291	3
Total Analysis Volume [veh/h]	422	0	3	0	0	7	18	646	0	0	1163	10
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Generated with PTV VISTRO Belmont Pool LSA
Version 4.00-03 Scenario 1: 1: 01 Existing No Project AM

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Split	Permiss	Split	Split	Permiss	Split	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	1	0	0	0	0	2	3	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	Lead	-	-	-	-	-

Movement, Approach, & Intersection Results

Intersection LOS	A
Intersection V/C	0.490

Intersection Level Of Service Report
Intersection 4: Termino Avenue/Livingston Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.403

Intersection Setup

Name	Termino Avenue			Termino Avenue			Livingston Drive			Livingston Drive		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	120.00	95.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Termino Avenue			Termino Avenue			Livingston Drive			Livingston Drive		
Base Volume Input [veh/h]	24	0	64	30	22	5	0	618	12	45	1106	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	24	0	64	30	22	5	0	618	12	45	1106	0
Peak Hour Factor	0.9550	1.0000	0.9550	0.9550	0.9550	0.9550	1.0000	0.9550	0.9550	0.9550	0.9550	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	0	17	8	6	1	0	162	3	12	290	0
Total Analysis Volume [veh/h]	25	0	67	31	23	5	0	647	13	47	1158	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	1	0	0	0	6	0	0	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	Lead	-	-

Movement, Approach, & Intersection Results

Intersection LOS	A
Intersection V/C	0.403

Intersection Level Of Service Report
Intersection 5: Bennett Avenue/Livingston Drive

Control Type:	Two-way stop	Delay (sec / veh):	8.4
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.006

Intersection Setup

Name	Bennett Avenue		Livingston Drive		Livingston Drive	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name	Bennett Avenue		Livingston Drive		Livingston Drive	
Base Volume Input [veh/h]	0	4	0	0	7	4
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	4	0	0	7	4
Peak Hour Factor	1.0000	0.6250	1.0000	1.0000	0.6250	0.6250
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	2	0	0	3	2
Total Analysis Volume [veh/h]	0	6	0	0	11	6
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	8.40	0.00	0.00	0.00	0.00
Movement LOS		A			A	A
95th-Percentile Queue Length [veh]	0.00	0.02	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.42	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	8.40		0.00		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	2.19					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 6: Ximeno Avenue/Livington Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.144

Intersection Setup

Name	Ximeno Avenue		Livingston Drive		Livingston Drive	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		Yes	

Volumes

Name	Ximeno Avenue		Livingston Drive		Livingston Drive	
Base Volume Input [veh/h]	0	39	66	0	1116	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	39	66	0	1116	1
Peak Hour Factor	1.0000	0.9460	0.9460	0.9460	0.9460	0.9460
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	10	17	0	295	0
Total Analysis Volume [veh/h]	0	41	70	0	1180	1
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

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Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permissive	Overlap	ProtectedPermissi	Permissive	Permissive	Permissive
Signal group	0	2	3	8	4	0
Auxiliary Signal Groups		2				
Lead / Lag	-	-	Lead	-	-	-

Movement, Approach, & Intersection Results

Intersection LOS	A
Intersection V/C	0.144

Intersection Level Of Service Report
Intersection 7: 2nd Street/Livingston Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.690

Intersection Setup

Name	Quincy Avenue				Livingston Drive				Livingston Drive			
Approach	Southbound				Eastbound				Westbound			
Lane Configuration												
Turning Movement	Left	Left	Right	Right	Left	Left	Thru	Right	Left	Thru	Right	Right2
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00				30.00				30.00			
Grade [%]	0.00				0.00				0.00			
Crosswalk	Yes				Yes				Yes			

Volumes

Name	Quincy Avenue				Livingston Drive				Livingston Drive			
Base Volume Input [veh/h]	0	0	0	0	1	0	87	616	0	93	7	3
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	1	0	87	616	0	93	7	3
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	0.9500	1.0000	0.9500	0.9500	1.0000	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	0	0	23	162	0	24	2	1
Total Analysis Volume [veh/h]	0	0	0	0	1	0	92	648	0	98	7	3
Pedestrian Volume [ped/h]	0				0				0			
Bicycle Volume [bicycles/h]	0				0				0			

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Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Overlap	Overlap	Permiss	Permiss	Permiss	Permiss
Signal group	0	0	0	0	0	0	8	0	0	4	0	0
Auxiliary Signal Groups							8					
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

Intersection LOS	B
Intersection V/C	0.690

Intersection Setup

Name	2nd Street					2nd Street			
Approach	Northwestbound					Southeastbound			
Lane Configuration									
Turning Movement	U-turn	Left	Thru	Right	Right2	Left	Thru	Right	Right2
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00					30.00			
Grade [%]	0.00					0.00			
Crosswalk	Yes					No			

Volumes

Name	2nd Street					2nd Street			
Base Volume Input [veh/h]	0	1030	155	2	4	13	187	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	1030	155	2	4	13	187	0	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	271	41	1	1	3	49	0	0
Total Analysis Volume [veh/h]	0	1084	163	2	4	14	197	0	0
Pedestrian Volume [ped/h]	0					0			
Bicycle Volume [bicycles/h]	0					0			

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Split	Split	Split
Signal group	0	0	6	0	0	0	2	0	0
Auxiliary Signal Groups									
Lead / Lag	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

Intersection LOS	B
Intersection V/C	0.690

Intersection Level Of Service Report
Intersection 8: Termino Avenue/Ocean Boulevard

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.296

Intersection Setup

Name	Termino Avenue			Termino Avenue			Ocean Boulevard			Ocean Boulevard		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0	0	0	0	1	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	70.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Termino Avenue			Termino Avenue			Ocean Boulevard			Ocean Boulevard		
Base Volume Input [veh/h]	34	28	17	27	33	11	44	212	20	49	353	39
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	34	28	17	27	33	11	44	212	20	49	353	39
Peak Hour Factor	0.9260	0.9260	0.9260	0.9260	0.9260	0.9260	0.9260	0.9260	0.9260	0.9260	0.9260	0.9260
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	8	5	7	9	3	12	57	5	13	95	11
Total Analysis Volume [veh/h]	37	30	18	29	36	12	48	229	22	53	381	42
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	6	0	0	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

Intersection LOS	A
Intersection V/C	0.296

Intersection Level Of Service Report
Intersection 9: Bennett Avenue/Ocean Boulevard

Control Type:	All-way stop	Delay (sec / veh):	9.6
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Bennett Avenue			Bennett Avenue			Ocean Boulevard			Ocean Boulevard		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	1	0	0	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	50.00	100.00	100.00	60.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Bennett Avenue			Bennett Avenue			Ocean Boulevard			Ocean Boulevard		
Base Volume Input [veh/h]	16	0	5	0	0	0	30	239	8	39	372	4
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	16	0	5	0	0	0	30	239	8	39	372	4
Peak Hour Factor	0.9280	0.9280	0.9280	1.0000	1.0000	1.0000	0.9280	0.9280	0.9280	0.9280	0.9280	0.9280
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	0	1	0	0	0	8	64	2	11	100	1
Total Analysis Volume [veh/h]	17	0	5	0	0	0	32	258	9	42	401	4
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.10	0.02		0.17	0.72	0.72	0.04	0.21	1.19	1.19	0.02
95th-Percentile Queue Length [ft]	2.39	0.57		4.15	17.88	17.88	0.90	5.30	29.84	29.84	0.38
Approach Delay [s/veh]	9.15		0.00	9.31				9.83			
Approach LOS	A		A	A				A			
Intersection Delay [s/veh]	9.61										
Intersection LOS	A										

Intersection Level Of Service Report
Intersection 10: Granada Avenue/Ocean Boulevard

Control Type:	All-way stop	Delay (sec / veh):	8.6
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Granada Avenue			Granada Avenue			Ocean Boulevard			Ocean Boulevard		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	1	0	1	1	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	60.00	100.00	100.00	60.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Granada Avenue			Granada Avenue			Ocean Boulevard			Ocean Boulevard		
Base Volume Input [veh/h]	1	4	8	16	5	19	17	213	2	18	268	14
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	4	8	16	5	19	17	213	2	18	268	14
Peak Hour Factor	0.9320	0.9320	0.9320	0.9320	0.9320	0.9320	0.9320	0.9320	0.9320	0.9320	0.9320	0.9320
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	1	2	4	1	5	5	57	1	5	72	4
Total Analysis Volume [veh/h]	1	4	9	17	5	20	18	229	2	19	288	15
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.06	0.20	0.08	0.55	0.55	0.01	0.09	0.72	0.72	0.05
95th-Percentile Queue Length [ft]	1.56	4.99	2.09	13.81	13.81	0.18	2.19	18.01	18.01	1.33
Approach Delay [s/veh]	8.35	8.72	8.50				8.64			
Approach LOS	A	A	A				A			
Intersection Delay [s/veh]	8.58									
Intersection LOS	A									

Belmont Pool

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Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Redondo Avenue/Ocean Boulevard	Signalized	ICU 1	SB Left	0.722	-	C
2	Loma Avenue/Ocean Boulevard	Signalized	ICU 1	EB Left	0.650	-	B
3	Ocean Boulevard/Livingston Drive	Signalized	ICU 1	NB Left	0.584	-	A
4	Termino Avenue/Livingston Drive	Signalized	ICU 1	WB Left	0.630	-	B
5	Bennett Avenue/Livingston Drive	Two-way stop	HCM 2010	SB Right	0.005	8.4	A
6	Ximeno Avenue/Livington Drive	Signalized	ICU 1	EB Left	0.185	-	A
7	2nd Street/Livingston Drive	Signalized	ICU 1	NWB Left	0.617	-	B
8	Termino Avenue/Ocean Boulevard	Signalized	ICU 1	SB Left	0.402	-	A
9	Bennett Avenue/Ocean Boulevard	All-way stop	HCM 2010	EB Thru		11.2	B
10	Granada Avenue/Ocean Boulevard	All-way stop	HCM 2010	EB Thru		9.6	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. for all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Redondo Avenue/Ocean Boulevard

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.722

Intersection Setup

Name	Redondo Avenue		Ocean Boulevard		Ocean Boulevard	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Redondo Avenue		Ocean Boulevard		Ocean Boulevard	
Base Volume Input [veh/h]	242	91	85	1459	888	134
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	242	91	85	1459	888	134
Peak Hour Factor	0.9770	0.9770	0.9770	0.9770	0.9770	0.9770
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	62	23	22	373	227	34
Total Analysis Volume [veh/h]	248	93	87	1493	909	137
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Split	Split	Protected	Permissive	Permissive	Permissive
Signal group	5	0	3	8	4	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	Lead	-	-	-

Movement, Approach, & Intersection Results

Intersection LOS	C
Intersection V/C	0.722

Intersection Level Of Service Report
Intersection 2: Loma Avenue/Ocean Boulevard

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.650

Intersection Setup

Name	Loma Avenue		Ocean Boulevard		Livingston Drive	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		No	

Volumes

Name	Loma Avenue		Ocean Boulevard		Livingston Drive	
Base Volume Input [veh/h]	10	8	27	1677	1004	45
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	8	27	1677	1004	45
Peak Hour Factor	0.9630	0.9630	0.9630	0.9630	0.9630	0.9630
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	2	7	435	261	12
Total Analysis Volume [veh/h]	10	8	28	1741	1043	47
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

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Version 4.00-03 Scenario 2: 2: 01 Existing No Project PM

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal group	5	0	0	8	4	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-

Movement, Approach, & Intersection Results

Intersection LOS	B
Intersection V/C	0.650

Intersection Level Of Service Report
Intersection 3: Ocean Boulevard/Livingston Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.584

Intersection Setup

Name	Ocean Boulevard			Mira Mar Avenue			Livingston Drive			Livingston Drive		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0	1	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	50.00	100.00	100.00	100.00	60.00	100.00	100.00	100.00	100.00	50.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	Ocean Boulevard			Mira Mar Avenue			Livingston Drive			Livingston Drive		
Base Volume Input [veh/h]	348	0	6	0	0	17	20	1137	0	0	770	21
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	348	0	6	0	0	17	20	1137	0	0	770	21
Peak Hour Factor	0.9790	1.0000	0.9790	1.0000	1.0000	0.9790	0.9790	0.9790	1.0000	1.0000	0.9790	0.9790
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	89	0	2	0	0	4	5	290	0	0	197	5
Total Analysis Volume [veh/h]	355	0	6	0	0	17	20	1161	0	0	787	21
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Split	Permiss	Split	Split	Permiss	Split	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	1	0	0	0	0	2	3	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	Lead	-	-	-	-	-

Movement, Approach, & Intersection Results

Intersection LOS	A
Intersection V/C	0.584

Intersection Level Of Service Report
Intersection 4: Termino Avenue/Livingston Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.630

Intersection Setup

Name	Termino Avenue			Termino Avenue			Livingston Drive			Livingston Drive		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	120.00	95.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Termino Avenue			Termino Avenue			Livingston Drive			Livingston Drive		
Base Volume Input [veh/h]	52	0	105	28	50	4	0	1132	29	112	729	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	52	0	105	28	50	4	0	1132	29	112	729	0
Peak Hour Factor	0.9550	1.0000	0.9550	0.9550	0.9550	0.9550	1.0000	0.9550	0.9550	0.9550	0.9550	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	14	0	27	7	13	1	0	296	8	29	191	0
Total Analysis Volume [veh/h]	54	0	110	29	52	4	0	1185	30	117	763	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	1	0	0	0	6	0	0	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	Lead	-	-

Movement, Approach, & Intersection Results

Intersection LOS	B
Intersection V/C	0.630

Intersection Level Of Service Report
Intersection 5: Bennett Avenue/Livingston Drive

Control Type:	Two-way stop	Delay (sec / veh):	8.4
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.005

Intersection Setup

Name	Bennett Avenue		Livingston Drive		Livingston Drive	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name	Bennett Avenue		Livingston Drive		Livingston Drive	
Base Volume Input [veh/h]	0	5	0	0	14	3
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	5	0	0	14	3
Peak Hour Factor	1.0000	0.9170	1.0000	1.0000	0.9170	0.9170
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	1	0	0	4	1
Total Analysis Volume [veh/h]	0	5	0	0	15	3
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	8.40	0.00	0.00	0.00	0.00
Movement LOS		A			A	A
95th-Percentile Queue Length [veh]	0.00	0.01	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.35	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	8.40		0.00		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.83					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 6: Ximeno Avenue/Livington Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.185

Intersection Setup

Name	Ximeno Avenue		Livingston Drive		Livingston Drive	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		Yes	

Volumes

Name	Ximeno Avenue		Livingston Drive		Livingston Drive	
Base Volume Input [veh/h]	0	67	130	0	786	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	67	130	0	786	2
Peak Hour Factor	1.0000	0.9580	0.9580	0.9580	0.9580	0.9580
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	17	34	0	205	1
Total Analysis Volume [veh/h]	0	70	136	0	820	2
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

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Version 4.00-03 | Scenario 2: 2: 01 Existing No Project PM

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permissive	Overlap	ProtectedPermissi	Permissive	Permissive	Permissive
Signal group	0	2	3	8	4	0
Auxiliary Signal Groups		2				
Lead / Lag	-	-	Lead	-	-	-

Movement, Approach, & Intersection Results

Intersection LOS	A
Intersection V/C	0.185

Intersection Level Of Service Report
Intersection 7: 2nd Street/Livingston Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.617

Intersection Setup

Name	Quincy Avenue				Livingston Drive				Livingston Drive			
Approach	Southbound				Eastbound				Westbound			
Lane Configuration												
Turning Movement	Left	Left	Right	Right	Left	Left	Thru	Right	Left	Thru	Right	Right2
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00				30.00				30.00			
Grade [%]	0.00				0.00				0.00			
Crosswalk	Yes				Yes				Yes			

Volumes

Name	Quincy Avenue				Livingston Drive				Livingston Drive			
Base Volume Input [veh/h]	0	0	0	0	5	0	121	1036	1	113	32	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	5	0	121	1036	1	113	32	5
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	0.9820	1.0000	0.9820	0.9820	1.0000	0.9820	0.9820	0.9820
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	1	0	31	264	0	29	8	1
Total Analysis Volume [veh/h]	0	0	0	0	5	0	123	1055	1	115	33	5
Pedestrian Volume [ped/h]	0				0				0			
Bicycle Volume [bicycles/h]	0				0				0			

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Overlap	Overlap	Permiss	Permiss	Permiss	Permiss
Signal group	0	0	0	0	0	0	8	0	0	4	0	0
Auxiliary Signal Groups							8					
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

Intersection LOS	B
Intersection V/C	0.617

Intersection Setup

Name	2nd Street					2nd Street			
Approach	Northwestbound					Southeastbound			
Lane Configuration									
Turning Movement	U-turn	Left	Thru	Right	Right2	Left	Thru	Right	Right2
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00					30.00			
Grade [%]	0.00					0.00			
Crosswalk	Yes					No			

Volumes

Name	2nd Street					2nd Street			
Base Volume Input [veh/h]	0	654	178	8	15	37	202	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	654	178	8	15	37	202	0	0
Peak Hour Factor	0.9820	0.9820	0.9820	0.9820	0.9820	0.9820	0.9820	0.9820	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	166	45	2	4	9	51	0	0
Total Analysis Volume [veh/h]	0	666	181	8	15	38	206	0	0
Pedestrian Volume [ped/h]	0					0			
Bicycle Volume [bicycles/h]	0					0			

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Split	Split	Split
Signal group	0	0	6	0	0	0	2	0	0
Auxiliary Signal Groups									
Lead / Lag	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

Intersection LOS	B
Intersection V/C	0.617

Intersection Level Of Service Report
Intersection 8: Termino Avenue/Ocean Boulevard

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.402

Intersection Setup

Name	Termino Avenue			Termino Avenue			Ocean Boulevard			Ocean Boulevard		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0	0	0	0	1	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	70.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Termino Avenue			Termino Avenue			Ocean Boulevard			Ocean Boulevard		
Base Volume Input [veh/h]	42	60	33	84	63	28	63	481	66	47	271	53
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	42	60	33	84	63	28	63	481	66	47	271	53
Peak Hour Factor	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	11	15	8	21	16	7	16	123	17	12	69	14
Total Analysis Volume [veh/h]	43	61	34	86	64	29	64	492	67	48	277	54
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	6	0	0	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

Intersection LOS	A
Intersection V/C	0.402

Intersection Level Of Service Report
Intersection 9: Bennett Avenue/Ocean Boulevard

Control Type:	All-way stop	Delay (sec / veh):	11.2
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes		

Intersection Setup

Name	Bennett Avenue			Bennett Avenue			Ocean Boulevard			Ocean Boulevard		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	1	0	0	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	50.00	100.00	100.00	60.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Bennett Avenue			Bennett Avenue			Ocean Boulevard			Ocean Boulevard		
Base Volume Input [veh/h]	25	3	18	0	0	0	54	513	28	38	326	17
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	25	3	18	0	0	0	54	513	28	38	326	17
Peak Hour Factor	0.9320	0.9320	0.9320	1.0000	1.0000	1.0000	0.9320	0.9320	0.9320	0.9320	0.9320	0.9320
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	1	5	0	0	0	14	138	8	10	87	5
Total Analysis Volume [veh/h]	27	3	19	0	0	0	58	550	30	41	350	18
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.18	0.09		0.32	2.09	2.09	0.13	0.23	1.16	1.16	0.08
95th-Percentile Queue Length [ft]	4.53	2.36		8.00	52.23	52.23	3.13	5.80	29.04	29.04	1.98
Approach Delay [s/veh]	9.46		0.00	11.70				10.56			
Approach LOS	A		A	B				B			
Intersection Delay [s/veh]	11.17										
Intersection LOS	B										

Intersection Level Of Service Report
Intersection 10: Granada Avenue/Ocean Boulevard

Control Type:	All-way stop	Delay (sec / veh):	9.6
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Granada Avenue			Granada Avenue			Ocean Boulevard			Ocean Boulevard		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	1	0	1	1	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	60.00	100.00	100.00	60.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Granada Avenue			Granada Avenue			Ocean Boulevard			Ocean Boulevard		
Base Volume Input [veh/h]	15	14	16	23	5	27	49	416	8	13	273	32
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	15	14	16	23	5	27	49	416	8	13	273	32
Peak Hour Factor	0.9480	0.9480	0.9480	0.9480	0.9480	0.9480	0.9480	0.9480	0.9480	0.9480	0.9480	0.9480
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	4	4	6	1	7	13	110	2	3	72	8
Total Analysis Volume [veh/h]	16	15	17	24	5	28	52	439	8	14	288	34
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.25	0.30	0.27	1.34	1.34	0.03	0.07	0.80	0.80	0.14
95th-Percentile Queue Length [ft]	6.30	7.50	6.63	33.54	33.54	0.75	1.73	19.91	19.91	3.40
Approach Delay [s/veh]	9.32	9.34	9.99				9.19			
Approach LOS	A	A	A				A			
Intersection Delay [s/veh]	9.63									
Intersection LOS	A									

Belmont Pool

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Report File: P:\...\01 Existing No Project Weekend.pdf | 3/4/2016

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Redondo Avenue/Ocean Boulevard	Signalized	ICU 1	SB Left	0.593	-	A
2	Loma Avenue/Ocean Boulevard	Signalized	ICU 1	SB Left	0.461	-	A
3	Ocean Boulevard/Livingston Drive	Signalized	ICU 1	NB Left	0.452	-	A
4	Termino Avenue/Livingston Drive	Signalized	ICU 1	WB Left	0.468	-	A
5	Bennett Avenue/Livingston Drive	Two-way stop	HCM 2010	SB Right	0.007	8.4	A
6	Ximeno Avenue/Livington Drive	Signalized	ICU 1	EB Left	0.169	-	A
7	2nd Street/Livingston Drive	Signalized	ICU 1	NWB Left	0.647	-	B
8	Termino Avenue/Ocean Boulevard	Signalized	ICU 1	SB Left	0.339	-	A
9	Bennett Avenue/Ocean Boulevard	All-way stop	HCM 2010	WB Thru		10.8	B
10	Granada Avenue/Ocean Boulevard	All-way stop	HCM 2010	WB Thru		9.5	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. for all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Redondo Avenue/Ocean Boulevard

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.593

Intersection Setup

Name	Redondo Avenue		Ocean Boulevard		Ocean Boulevard	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Redondo Avenue		Ocean Boulevard		Ocean Boulevard	
Base Volume Input [veh/h]	179	101	71	805	828	166
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	179	101	71	805	828	166
Peak Hour Factor	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	47	27	19	213	219	44
Total Analysis Volume [veh/h]	189	107	75	851	875	175
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Split	Split	Protected	Permissive	Permissive	Permissive
Signal group	5	0	3	8	4	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	Lead	-	-	-

Movement, Approach, & Intersection Results

Intersection LOS	A
Intersection V/C	0.593

Intersection Level Of Service Report
Intersection 2: Loma Avenue/Ocean Boulevard

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.461

Intersection Setup

Name	Loma Avenue		Ocean Boulevard		Livingston Drive	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		No	

Volumes

Name	Loma Avenue		Ocean Boulevard		Livingston Drive	
Base Volume Input [veh/h]	18	17	16	956	977	38
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	18	17	16	956	977	38
Peak Hour Factor	0.9380	0.9380	0.9380	0.9380	0.9380	0.9380
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	5	4	255	260	10
Total Analysis Volume [veh/h]	19	18	17	1019	1042	41
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal group	5	0	0	8	4	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-

Movement, Approach, & Intersection Results

Intersection LOS	A
Intersection V/C	0.461

Intersection Level Of Service Report
Intersection 3: Ocean Boulevard/Livingston Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.452

Intersection Setup

Name	Ocean Boulevard			Mira Mar Avenue			Livingston Drive			Livingston Drive		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0	1	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	50.00	100.00	100.00	100.00	60.00	100.00	100.00	100.00	100.00	50.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	Ocean Boulevard			Mira Mar Avenue			Livingston Drive			Livingston Drive		
Base Volume Input [veh/h]	433	0	7	0	0	21	13	596	0	0	644	24
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	433	0	7	0	0	21	13	596	0	0	644	24
Peak Hour Factor	0.9500	1.0000	0.9500	1.0000	1.0000	0.9500	0.9500	0.9500	1.0000	1.0000	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	114	0	2	0	0	6	3	157	0	0	169	6
Total Analysis Volume [veh/h]	456	0	7	0	0	22	14	627	0	0	678	25
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Split	Permiss	Split	Split	Permiss	Split	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	1	0	0	0	0	2	3	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	Lead	-	-	-	-	-

Movement, Approach, & Intersection Results

Intersection LOS	A
Intersection V/C	0.452

Intersection Level Of Service Report
Intersection 4: Termino Avenue/Livingston Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.468

Intersection Setup

Name	Termino Avenue			Termino Avenue			Livingston Drive			Livingston Drive		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	120.00	95.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Termino Avenue			Termino Avenue			Livingston Drive			Livingston Drive		
Base Volume Input [veh/h]	39	0	131	16	39	5	0	592	20	115	630	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	39	0	131	16	39	5	0	592	20	115	630	0
Peak Hour Factor	0.9490	1.0000	0.9490	0.9490	0.9490	0.9490	1.0000	0.9490	0.9490	0.9490	0.9490	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	0	35	4	10	1	0	156	5	30	166	0
Total Analysis Volume [veh/h]	41	0	138	17	41	5	0	624	21	121	664	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	1	0	0	0	6	0	0	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	Lead	-	-

Movement, Approach, & Intersection Results

Intersection LOS	A
Intersection V/C	0.468

Intersection Level Of Service Report
Intersection 5: Bennett Avenue/Livingston Drive

Control Type:	Two-way stop	Delay (sec / veh):	8.4
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.007

Intersection Setup

Name	Bennett Avenue		Livingston Drive		Livingston Drive	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name	Bennett Avenue		Livingston Drive		Livingston Drive	
Base Volume Input [veh/h]	0	5	0	0	5	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	5	0	0	5	1
Peak Hour Factor	1.0000	0.6880	1.0000	1.0000	0.6880	0.6880
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	2	0	0	2	0
Total Analysis Volume [veh/h]	0	7	0	0	7	1
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	8.37	0.00	0.00	0.00	0.00
Movement LOS		A			A	A
95th-Percentile Queue Length [veh]	0.00	0.02	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.49	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	8.37		0.00		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	3.91					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 6: Ximeno Avenue/Livington Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.169

Intersection Setup

Name	Ximeno Avenue		Livingston Drive		Livingston Drive	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		Yes	

Volumes

Name	Ximeno Avenue		Livingston Drive		Livingston Drive	
Base Volume Input [veh/h]	0	70	108	0	685	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	70	108	0	685	10
Peak Hour Factor	1.0000	0.9740	0.9740	1.0000	0.9740	0.9740
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	18	28	0	176	3
Total Analysis Volume [veh/h]	0	72	111	0	703	10
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permissive	Overlap	ProtectedPermissi	Permissive	Permissive	Permissive
Signal group	0	2	3	8	4	0
Auxiliary Signal Groups		2				
Lead / Lag	-	-	Lead	-	-	-

Movement, Approach, & Intersection Results

Intersection LOS	A
Intersection V/C	0.169

Intersection Level Of Service Report
Intersection 7: 2nd Street/Livingston Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.647

Intersection Setup

Name	Quincy Avenue				Livingston Drive				Livingston Drive			
Approach	Southbound				Eastbound				Westbound			
Lane Configuration												
Turning Movement	Left	Left	Right	Right	Left	Left	Thru	Right	Left	Thru	Right	Right2
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00				30.00				30.00			
Grade [%]	0.00				0.00				0.00			
Crosswalk	Yes				Yes				Yes			

Volumes

Name	Quincy Avenue				Livingston Drive				Livingston Drive			
Base Volume Input [veh/h]	0	0	0	0	2	0	86	610	2	121	41	8
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	2	0	86	610	2	121	41	8
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	0.9350	1.0000	0.9350	0.9350	0.9350	0.9350	0.9350	0.9350
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	1	0	23	163	1	32	11	2
Total Analysis Volume [veh/h]	0	0	0	0	2	0	92	652	2	129	44	9
Pedestrian Volume [ped/h]	0				0				0			
Bicycle Volume [bicycles/h]	0				0				0			

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Overlap	Overlap	Permiss	Permiss	Permiss	Permiss
Signal group	0	0	0	0	0	0	8	0	0	4	0	0
Auxiliary Signal Groups							8					
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

Intersection LOS	B
Intersection V/C	0.647

Intersection Setup

Name	2nd Street					2nd Street			
Approach	Northwestbound					Southeastbound			
Lane Configuration									
Turning Movement	U-turn	Left	Thru	Right	Right2	Left	Thru	Right	Right2
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00					30.00			
Grade [%]	0.00					0.00			
Crosswalk	Yes					No			

Volumes

Name	2nd Street					2nd Street			
Base Volume Input [veh/h]	0	597	212	15	16	39	200	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	597	212	15	16	39	200	0	0
Peak Hour Factor	0.9350	0.9350	0.9350	0.9350	0.9350	0.9350	0.9350	0.9350	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	160	57	4	4	10	53	0	0
Total Analysis Volume [veh/h]	0	639	227	16	17	42	214	0	0
Pedestrian Volume [ped/h]	0					0			
Bicycle Volume [bicycles/h]	0					0			

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Split	Split	Split
Signal group	0	0	6	0	0	0	2	0	0
Auxiliary Signal Groups									
Lead / Lag	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

Intersection LOS	B
Intersection V/C	0.647

Intersection Level Of Service Report
Intersection 8: Termino Avenue/Ocean Boulevard

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.339

Intersection Setup

Name	Termino Avenue			Termino Avenue			Ocean Boulevard			Ocean Boulevard		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0	0	0	0	1	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	70.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Termino Avenue			Termino Avenue			Ocean Boulevard			Ocean Boulevard		
Base Volume Input [veh/h]	48	54	23	68	71	12	57	328	50	53	338	82
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	48	54	23	68	71	12	57	328	50	53	338	82
Peak Hour Factor	0.9740	0.9740	0.9740	0.9740	0.9740	0.9740	0.9740	0.9740	0.9740	0.9740	0.9740	0.9740
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	12	14	6	17	18	3	15	84	13	14	87	21
Total Analysis Volume [veh/h]	49	55	24	70	73	12	59	337	51	54	347	84
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	6	0	0	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

Intersection LOS	A
Intersection V/C	0.339

Intersection Level Of Service Report
Intersection 9: Bennett Avenue/Ocean Boulevard

Control Type:	All-way stop	Delay (sec / veh):	10.8
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes		

Intersection Setup

Name	Bennett Avenue			Bennett Avenue			Ocean Boulevard			Ocean Boulevard		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	1	0	0	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	50.00	100.00	100.00	60.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Bennett Avenue			Bennett Avenue			Ocean Boulevard			Ocean Boulevard		
Base Volume Input [veh/h]	48	1	22	0	0	0	51	357	37	48	395	18
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	48	1	22	0	0	0	51	357	37	48	395	18
Peak Hour Factor	0.9150	0.9150	0.9150	1.0000	1.0000	1.0000	0.9150	0.9150	0.9150	0.9150	0.9150	0.9150
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	13	0	6	0	0	0	14	98	10	13	108	5
Total Analysis Volume [veh/h]	52	1	24	0	0	0	56	390	40	52	432	20
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.33	0.12		0.32	1.33	1.33	0.18	0.29	1.52	1.52	0.09
95th-Percentile Queue Length [ft]	8.24	2.94		8.06	33.26	33.26	4.47	7.37	38.09	38.09	2.15
Approach Delay [s/veh]	9.70		0.00	10.66				11.05			
Approach LOS	A		A	B				B			
Intersection Delay [s/veh]	10.77										
Intersection LOS	B										

Intersection Level Of Service Report
Intersection 10: Granada Avenue/Ocean Boulevard

Control Type:	All-way stop	Delay (sec / veh):	9.5
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Granada Avenue			Granada Avenue			Ocean Boulevard			Ocean Boulevard		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	1	0	1	1	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	60.00	100.00	100.00	60.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Granada Avenue			Granada Avenue			Ocean Boulevard			Ocean Boulevard		
Base Volume Input [veh/h]	16	12	26	26	3	31	35	287	20	38	312	35
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	16	12	26	26	3	31	35	287	20	38	312	35
Peak Hour Factor	0.8720	0.8720	0.8720	0.8720	0.8720	0.8720	0.8720	0.8720	0.8720	0.8720	0.8720	0.8720
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	3	7	7	1	9	10	82	6	11	89	10
Total Analysis Volume [veh/h]	18	14	30	30	3	36	40	329	23	44	358	40
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.32	0.36	0.21	0.95	0.95	0.09	0.23	1.05	1.05	0.16
95th-Percentile Queue Length [ft]	8.03	9.03	5.17	23.74	23.74	2.28	5.69	26.29	26.29	4.02
Approach Delay [s/veh]	9.24	9.32	9.51				9.55			
Approach LOS	A	A	A				A			
Intersection Delay [s/veh]	9.50									
Intersection LOS	A									

Belmont Pool

Vistro File: P:\...\Belmont Pool.vistro | Scenario 4: 02 Existing Plus Project AM
Report File: P:\...\02 Existing Plus Project AM.pdf | 3/4/2016

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Redondo Avenue/Ocean Boulevard	Signalized	ICU 1	SB Left	0.732	-	C
2	Loma Avenue/Ocean Boulevard	Signalized	ICU 1	SB Left	0.653	-	B
3	Ocean Boulevard/Livingston Drive	Signalized	ICU 1	NB Left	0.522	-	A
4	Termino Avenue/Livingston Drive	Signalized	ICU 1	WB Left	0.414	-	A
5	Bennett Avenue/Livingston Drive	Two-way stop	HCM 2010	SB Right	0.006	8.4	A
6	Ximeno Avenue/Livington Drive	Signalized	ICU 1	EB Left	0.145	-	A
7	2nd Street/Livingston Drive	Signalized	ICU 1	NWB Left	0.692	-	B
8	Termino Avenue/Ocean Boulevard	Signalized	ICU 1	NB Left	0.343	-	A
9	Bennett Avenue/Ocean Boulevard	All-way stop	HCM 2010	WB Thru		10.7	B
10	Granada Avenue/Ocean Boulevard	All-way stop	HCM 2010	WB Thru		8.8	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. for all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Redondo Avenue/Ocean Boulevard

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.732

Intersection Setup

Name	Redondo Avenue		Ocean Boulevard		Ocean Boulevard	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Redondo Avenue		Ocean Boulevard		Ocean Boulevard	
Base Volume Input [veh/h]	118	74	51	731	1483	139
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	118	74	51	731	1483	139
Peak Hour Factor	0.9690	0.9690	0.9690	0.9690	0.9690	0.9690
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	30	19	13	189	383	36
Total Analysis Volume [veh/h]	122	76	53	754	1530	143
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

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Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Split	Split	Protected	Permissive	Permissive	Permissive
Signal group	5	0	3	8	4	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	Lead	-	-	-

Movement, Approach, & Intersection Results

Intersection LOS	C
Intersection V/C	0.732

Intersection Level Of Service Report
Intersection 2: Loma Avenue/Ocean Boulevard

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.653

Intersection Setup

Name	Loma Avenue		Ocean Boulevard		Livingston Drive	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		No	

Volumes

Name	Loma Avenue		Ocean Boulevard		Livingston Drive	
Base Volume Input [veh/h]	21	17	10	842	1608	55
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	21	17	10	842	1608	55
Peak Hour Factor	0.9750	0.9750	0.9750	0.9750	0.9750	0.9750
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	4	3	216	412	14
Total Analysis Volume [veh/h]	22	17	10	864	1649	56
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal group	5	0	0	8	4	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-

Movement, Approach, & Intersection Results

Intersection LOS	B
Intersection V/C	0.653

Intersection Level Of Service Report
Intersection 3: Ocean Boulevard/Livingston Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.522

Intersection Setup

Name	Ocean Boulevard			Mira Mar Avenue			Livingston Drive			Livingston Drive		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0	1	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	50.00	100.00	100.00	100.00	60.00	100.00	100.00	100.00	100.00	50.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	Ocean Boulevard			Mira Mar Avenue			Livingston Drive			Livingston Drive		
Base Volume Input [veh/h]	511	0	3	0	0	7	18	629	0	0	1132	18
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	511	0	3	0	0	7	18	629	0	0	1132	18
Peak Hour Factor	0.9730	1.0000	0.9730	1.0000	1.0000	0.9730	0.9730	0.9730	1.0000	1.0000	0.9730	0.9730
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	131	0	1	0	0	2	5	162	0	0	291	5
Total Analysis Volume [veh/h]	525	0	3	0	0	7	18	646	0	0	1163	18
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Split	Permiss	Split	Split	Permiss	Split	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	1	0	0	0	0	2	3	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	Lead	-	-	-	-	-

Movement, Approach, & Intersection Results

Intersection LOS	A
Intersection V/C	0.522

Intersection Level Of Service Report
Intersection 4: Termino Avenue/Livingston Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.414

Intersection Setup

Name	Termino Avenue			Termino Avenue			Livingston Drive			Livingston Drive		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	120.00	95.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Termino Avenue			Termino Avenue			Livingston Drive			Livingston Drive		
Base Volume Input [veh/h]	32	0	81	30	26	5	0	618	12	53	1106	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	32	0	81	30	26	5	0	618	12	53	1106	0
Peak Hour Factor	0.9550	1.0000	0.9550	0.9550	0.9550	0.9550	1.0000	0.9550	0.9550	0.9550	0.9550	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	0	21	8	7	1	0	162	3	14	290	0
Total Analysis Volume [veh/h]	34	0	85	31	27	5	0	647	13	55	1158	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	1	0	0	0	6	0	0	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	Lead	-	-

Movement, Approach, & Intersection Results

Intersection LOS	A
Intersection V/C	0.414

Intersection Level Of Service Report
Intersection 5: Bennett Avenue/Livingston Drive

Control Type:	Two-way stop	Delay (sec / veh):	8.4
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.006

Intersection Setup

Name	Bennett Avenue		Livingston Drive		Livingston Drive	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name	Bennett Avenue		Livingston Drive		Livingston Drive	
Base Volume Input [veh/h]	0	4	0	0	7	4
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	4	0	0	7	4
Peak Hour Factor	1.0000	0.6250	1.0000	1.0000	0.6250	0.6250
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	2	0	0	3	2
Total Analysis Volume [veh/h]	0	6	0	0	11	6
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	8.40	0.00	0.00	0.00	0.00
Movement LOS		A			A	A
95th-Percentile Queue Length [veh]	0.00	0.02	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.42	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	8.40		0.00		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	2.19					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 6: Ximeno Avenue/Livington Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.145

Intersection Setup

Name	Ximeno Avenue		Livingston Drive		Livingston Drive	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		Yes	

Volumes

Name	Ximeno Avenue		Livingston Drive		Livingston Drive	
Base Volume Input [veh/h]	0	40	68	0	1123	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	40	68	0	1123	1
Peak Hour Factor	1.0000	0.9460	0.9460	0.9460	0.9460	0.9460
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	11	18	0	297	0
Total Analysis Volume [veh/h]	0	42	72	0	1187	1
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

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Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permissive	Overlap	ProtectedPermissi	Permissive	Permissive	Permissive
Signal group	0	2	3	8	4	0
Auxiliary Signal Groups		2				
Lead / Lag	-	-	Lead	-	-	-

Movement, Approach, & Intersection Results

Intersection LOS	A
Intersection V/C	0.145

Intersection Level Of Service Report
Intersection 7: 2nd Street/Livingston Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.692

Intersection Setup

Name	Quincy Avenue				Livingston Drive				Livingston Drive			
Approach	Southbound				Eastbound				Westbound			
Lane Configuration												
Turning Movement	Left	Left	Right	Right	Left	Left	Thru	Right	Left	Thru	Right	Right2
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00				30.00				30.00			
Grade [%]	0.00				0.00				0.00			
Crosswalk	Yes				Yes				Yes			

Volumes

Name	Quincy Avenue				Livingston Drive				Livingston Drive			
Base Volume Input [veh/h]	0	0	0	0	1	0	87	631	0	93	7	3
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	1	0	87	631	0	93	7	3
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	0.9500	1.0000	0.9500	0.9500	1.0000	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	0	0	23	166	0	24	2	1
Total Analysis Volume [veh/h]	0	0	0	0	1	0	92	664	0	98	7	3
Pedestrian Volume [ped/h]	0				0				0			
Bicycle Volume [bicycles/h]	0				0				0			

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Overlap	Overlap	Permiss	Permiss	Permiss	Permiss
Signal group	0	0	0	0	0	0	8	0	0	4	0	0
Auxiliary Signal Groups							8					
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

Intersection LOS	B
Intersection V/C	0.692

Intersection Setup

Name	2nd Street					2nd Street			
Approach	Northwestbound					Southeastbound			
Lane Configuration									
Turning Movement	U-turn	Left	Thru	Right	Right2	Left	Thru	Right	Right2
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00					30.00			
Grade [%]	0.00					0.00			
Crosswalk	Yes					No			

Volumes

Name	2nd Street					2nd Street			
Base Volume Input [veh/h]	0	1037	155	2	4	13	187	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	1037	155	2	4	13	187	0	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	273	41	1	1	3	49	0	0
Total Analysis Volume [veh/h]	0	1092	163	2	4	14	197	0	0
Pedestrian Volume [ped/h]	0					0			
Bicycle Volume [bicycles/h]	0					0			

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Split	Split	Split
Signal group	0	0	6	0	0	0	2	0	0
Auxiliary Signal Groups									
Lead / Lag	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

Intersection LOS	B
Intersection V/C	0.692

Intersection Level Of Service Report
Intersection 8: Termino Avenue/Ocean Boulevard

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.343

Intersection Setup

Name	Termino Avenue			Termino Avenue			Ocean Boulevard			Ocean Boulevard		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0	0	0	0	1	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	70.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Termino Avenue			Termino Avenue			Ocean Boulevard			Ocean Boulevard		
Base Volume Input [veh/h]	59	53	17	27	45	11	44	250	32	49	428	39
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	59	53	17	27	45	11	44	250	32	49	428	39
Peak Hour Factor	0.9260	0.9260	0.9260	0.9260	0.9260	0.9260	0.9260	0.9260	0.9260	0.9260	0.9260	0.9260
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	16	14	5	7	12	3	12	67	9	13	116	11
Total Analysis Volume [veh/h]	64	57	18	29	49	12	48	270	35	53	462	42
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	6	0	0	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

Intersection LOS	A
Intersection V/C	0.343

Intersection Level Of Service Report
Intersection 9: Bennett Avenue/Ocean Boulevard

Control Type:	All-way stop	Delay (sec / veh):	10.7
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes		

Intersection Setup

Name	Bennett Avenue			Bennett Avenue			Ocean Boulevard			Ocean Boulevard		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	1	0	0	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	50.00	100.00	100.00	60.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Bennett Avenue			Bennett Avenue			Ocean Boulevard			Ocean Boulevard		
Base Volume Input [veh/h]	91	0	80	0	0	0	30	239	46	77	372	4
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	91	0	80	0	0	0	30	239	46	77	372	4
Peak Hour Factor	0.9280	0.9280	0.9280	1.0000	1.0000	1.0000	0.9280	0.9280	0.9280	0.9280	0.9280	0.9280
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	25	0	22	0	0	0	8	64	12	21	100	1
Total Analysis Volume [veh/h]	98	0	86	0	0	0	32	258	50	83	401	4
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.66	0.46		0.19	0.84	0.84	0.25	0.52	1.44	1.44	0.02
95th-Percentile Queue Length [ft]	16.54	11.47		4.74	21.11	21.11	6.18	12.92	35.89	35.89	0.44
Approach Delay [s/veh]	10.07		0.00	10.29				11.26			
Approach LOS	B		A	B				B			
Intersection Delay [s/veh]	10.72										
Intersection LOS	B										

Intersection Level Of Service Report
Intersection 10: Granada Avenue/Ocean Boulevard

Control Type:	All-way stop	Delay (sec / veh):	8.8
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Granada Avenue			Granada Avenue			Ocean Boulevard			Ocean Boulevard		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	1	0	1	1	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	60.00	100.00	100.00	60.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Granada Avenue			Granada Avenue			Ocean Boulevard			Ocean Boulevard		
Base Volume Input [veh/h]	1	4	8	16	5	29	35	251	2	18	287	14
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	4	8	16	5	29	35	251	2	18	287	14
Peak Hour Factor	0.9320	0.9320	0.9320	0.9320	0.9320	0.9320	0.9320	0.9320	0.9320	0.9320	0.9320	0.9320
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	1	2	4	1	8	9	67	1	5	77	4
Total Analysis Volume [veh/h]	1	4	9	17	5	31	38	269	2	19	308	15
Pedestrian Volume [ped/h]	0			0			0			0		

Generated with PTV VISTRO Belmont Pool LSA
Version 4.00-03 Scenario 4: 4: 02 Existing Plus Project AM

Intersection Settings

Lanes

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.06	0.26	0.18	0.68	0.68	0.01	0.09	0.80	0.80	0.05
95th-Percentile Queue Length [ft]	1.60	6.47	4.59	16.99	16.99	0.18	2.23	20.03	20.03	1.36
Approach Delay [s/veh]	8.49	8.88	8.77				8.89			
Approach LOS	A	A	A				A			
Intersection Delay [s/veh]	8.83									
Intersection LOS	A									

Belmont Pool

Vistro File: P:\...\Belmont Pool.vistro

Scenario 5: 02 Existing Plus Project PM

Report File: P:\...\02 Existing Plus Project PM.pdf

3/4/2016

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Redondo Avenue/Ocean Boulevard	Signalized	ICU 1	SB Left	0.753	-	C
2	Loma Avenue/Ocean Boulevard	Signalized	ICU 1	SB Left	0.691	-	B
3	Ocean Boulevard/Livingston Drive	Signalized	ICU 1	NB Left	0.608	-	B
4	Termino Avenue/Livingston Drive	Signalized	ICU 1	WB Left	0.648	-	B
5	Bennett Avenue/Livingston Drive	Two-way stop	HCM 2010	SB Right	0.005	8.4	A
6	Ximeno Avenue/Livington Drive	Signalized	ICU 1	EB Left	0.186	-	A
7	2nd Street/Livingston Drive	Signalized	ICU 1	NWB Left	0.621	-	B
8	Termino Avenue/Ocean Boulevard	Signalized	ICU 1	SB Left	0.444	-	A
9	Bennett Avenue/Ocean Boulevard	All-way stop	HCM 2010	EB Thru		12.3	B
10	Granada Avenue/Ocean Boulevard	All-way stop	HCM 2010	EB Thru		10.1	B

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. for all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Redondo Avenue/Ocean Boulevard

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.753

Intersection Setup

Name	Redondo Avenue		Ocean Boulevard		Ocean Boulevard	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Redondo Avenue		Ocean Boulevard		Ocean Boulevard	
Base Volume Input [veh/h]	268	91	85	1507	928	151
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	268	91	85	1507	928	151
Peak Hour Factor	0.9770	0.9770	0.9770	0.9770	0.9770	0.9770
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	69	23	22	386	237	39
Total Analysis Volume [veh/h]	274	93	87	1542	950	155
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Split	Split	Protected	Permissive	Permissive	Permissive
Signal group	5	0	3	8	4	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	Lead	-	-	-

Movement, Approach, & Intersection Results

Intersection LOS	C
Intersection V/C	0.753

Intersection Level Of Service Report
Intersection 2: Loma Avenue/Ocean Boulevard

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.691

Intersection Setup

Name	Loma Avenue		Ocean Boulevard		Livingston Drive	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		No	

Volumes

Name	Loma Avenue		Ocean Boulevard		Livingston Drive	
Base Volume Input [veh/h]	36	8	27	1751	1061	62
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	36	8	27	1751	1061	62
Peak Hour Factor	0.9630	0.9630	0.9630	0.9630	0.9630	0.9630
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	2	7	455	275	16
Total Analysis Volume [veh/h]	37	8	28	1818	1102	64
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal group	5	0	0	8	4	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-

Movement, Approach, & Intersection Results

Intersection LOS	B
Intersection V/C	0.691

Intersection Level Of Service Report
Intersection 3: Ocean Boulevard/Livingston Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.608

Intersection Setup

Name	Ocean Boulevard			Mira Mar Avenue			Livingston Drive			Livingston Drive		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0	1	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	50.00	100.00	100.00	100.00	60.00	100.00	100.00	100.00	100.00	50.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	Ocean Boulevard			Mira Mar Avenue			Livingston Drive			Livingston Drive		
Base Volume Input [veh/h]	422	0	6	0	0	17	20	1137	0	0	770	36
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	422	0	6	0	0	17	20	1137	0	0	770	36
Peak Hour Factor	0.9790	1.0000	0.9790	1.0000	1.0000	0.9790	0.9790	0.9790	1.0000	1.0000	0.9790	0.9790
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	108	0	2	0	0	4	5	290	0	0	197	9
Total Analysis Volume [veh/h]	431	0	6	0	0	17	20	1161	0	0	787	37
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Split	Permiss	Split	Split	Permiss	Split	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	1	0	0	0	0	2	3	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	Lead	-	-	-	-	-

Movement, Approach, & Intersection Results

Intersection LOS	B
Intersection V/C	0.608

Intersection Level Of Service Report
Intersection 4: Termino Avenue/Livingston Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.648

Intersection Setup

Name	Termino Avenue			Termino Avenue			Livingston Drive			Livingston Drive		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	120.00	95.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Termino Avenue			Termino Avenue			Livingston Drive			Livingston Drive		
Base Volume Input [veh/h]	67	0	116	28	58	4	0	1132	29	129	729	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	67	0	116	28	58	4	0	1132	29	129	729	0
Peak Hour Factor	0.9550	1.0000	0.9550	0.9550	0.9550	0.9550	1.0000	0.9550	0.9550	0.9550	0.9550	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	18	0	30	7	15	1	0	296	8	34	191	0
Total Analysis Volume [veh/h]	70	0	121	29	61	4	0	1185	30	135	763	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	1	0	0	0	6	0	0	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	Lead	-	-

Movement, Approach, & Intersection Results

Intersection LOS	B
Intersection V/C	0.648

Intersection Level Of Service Report
Intersection 5: Bennett Avenue/Livingston Drive

Control Type:	Two-way stop	Delay (sec / veh):	8.4
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.005

Intersection Setup

Name	Bennett Avenue		Livingston Drive		Livingston Drive	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name	Bennett Avenue		Livingston Drive		Livingston Drive	
Base Volume Input [veh/h]	0	5	0	0	14	3
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	5	0	0	14	3
Peak Hour Factor	1.0000	0.9170	1.0000	1.0000	0.9170	0.9170
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	1	0	0	4	1
Total Analysis Volume [veh/h]	0	5	0	0	15	3
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	8.40	0.00	0.00	0.00	0.00
Movement LOS		A			A	A
95th-Percentile Queue Length [veh]	0.00	0.01	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.35	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	8.40		0.00		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.83					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 6: Ximeno Avenue/Livington Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.186

Intersection Setup

Name	Ximeno Avenue		Livingston Drive		Livingston Drive	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		Yes	

Volumes

Name	Ximeno Avenue		Livingston Drive		Livingston Drive	
Base Volume Input [veh/h]	0	69	131	0	801	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	69	131	0	801	2
Peak Hour Factor	1.0000	0.9580	0.9580	0.9580	0.9580	0.9580
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	18	34	0	209	1
Total Analysis Volume [veh/h]	0	72	137	0	836	2
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permissive	Overlap	ProtectedPermissi	Permissive	Permissive	Permissive
Signal group	0	2	3	8	4	0
Auxiliary Signal Groups		2				
Lead / Lag	-	-	Lead	-	-	-

Movement, Approach, & Intersection Results

Intersection LOS	A
Intersection V/C	0.186

Intersection Level Of Service Report
Intersection 7: 2nd Street/Livingston Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.621

Intersection Setup

Name	Quincy Avenue				Livingston Drive				Livingston Drive			
Approach	Southbound				Eastbound				Westbound			
Lane Configuration												
Turning Movement	Left	Left	Right	Right	Left	Left	Thru	Right	Left	Thru	Right	Right2
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00				30.00				30.00			
Grade [%]	0.00				0.00				0.00			
Crosswalk	Yes				Yes				Yes			

Volumes

Name	Quincy Avenue				Livingston Drive				Livingston Drive			
Base Volume Input [veh/h]	0	0	0	0	5	0	121	1046	1	113	32	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	5	0	121	1046	1	113	32	5
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	0.9820	1.0000	0.9820	0.9820	1.0000	0.9820	0.9820	0.9820
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	1	0	31	266	0	29	8	1
Total Analysis Volume [veh/h]	0	0	0	0	5	0	123	1065	1	115	33	5
Pedestrian Volume [ped/h]	0				0				0			
Bicycle Volume [bicycles/h]	0				0				0			

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Overlap	Overlap	Permiss	Permiss	Permiss	Permiss
Signal group	0	0	0	0	0	0	8	0	0	4	0	0
Auxiliary Signal Groups							8					
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

Intersection LOS	B
Intersection V/C	0.621

Intersection Setup

Name	2nd Street					2nd Street			
Approach	Northwestbound					Southeastbound			
Lane Configuration									
Turning Movement	U-turn	Left	Thru	Right	Right2	Left	Thru	Right	Right2
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00					30.00			
Grade [%]	0.00					0.00			
Crosswalk	Yes					No			

Volumes

Name	2nd Street					2nd Street			
Base Volume Input [veh/h]	0	669	178	8	15	37	202	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	669	178	8	15	37	202	0	0
Peak Hour Factor	0.9820	0.9820	0.9820	0.9820	0.9820	0.9820	0.9820	0.9820	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	170	45	2	4	9	51	0	0
Total Analysis Volume [veh/h]	0	681	181	8	15	38	206	0	0
Pedestrian Volume [ped/h]	0					0			
Bicycle Volume [bicycles/h]	0					0			

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Split	Split	Split
Signal group	0	0	6	0	0	0	2	0	0
Auxiliary Signal Groups									
Lead / Lag	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

Intersection LOS	B
Intersection V/C	0.621

Intersection Level Of Service Report
Intersection 8: Termino Avenue/Ocean Boulevard

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.444

Intersection Setup

Name	Termino Avenue			Termino Avenue			Ocean Boulevard			Ocean Boulevard		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0	0	0	0	1	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	70.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Termino Avenue			Termino Avenue			Ocean Boulevard			Ocean Boulevard		
Base Volume Input [veh/h]	58	76	33	84	88	28	63	556	91	47	320	53
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	58	76	33	84	88	28	63	556	91	47	320	53
Peak Hour Factor	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	15	19	8	21	22	7	16	142	23	12	82	14
Total Analysis Volume [veh/h]	59	78	34	86	90	29	64	569	93	48	327	54
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	6	0	0	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

Intersection LOS	A
Intersection V/C	0.444

Intersection Level Of Service Report
Intersection 9: Bennett Avenue/Ocean Boulevard

Control Type:	All-way stop	Delay (sec / veh):	12.3
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes		

Intersection Setup

Name	Bennett Avenue			Bennett Avenue			Ocean Boulevard			Ocean Boulevard		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	1	0	0	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	50.00	100.00	100.00	60.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Bennett Avenue			Bennett Avenue			Ocean Boulevard			Ocean Boulevard		
Base Volume Input [veh/h]	74	3	67	0	0	0	54	513	103	113	326	17
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	74	3	67	0	0	0	54	513	103	113	326	17
Peak Hour Factor	0.9320	0.9320	0.9320	1.0000	1.0000	1.0000	0.9320	0.9320	0.9320	0.9320	0.9320	0.9320
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	20	1	18	0	0	0	14	138	28	30	87	5
Total Analysis Volume [veh/h]	79	3	72	0	0	0	58	550	111	121	350	18
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.56	0.40		0.36	2.49	2.49	0.60	0.89	1.33	1.33	0.09
95th-Percentile Queue Length [ft]	13.94	9.98		8.94	62.37	62.37	15.01	22.33	33.15	33.15	2.21
Approach Delay [s/veh]	10.21		0.00	13.08				11.81			
Approach LOS	B		A	B				B			
Intersection Delay [s/veh]	12.30										
Intersection LOS	B										

Intersection Level Of Service Report
Intersection 10: Granada Avenue/Ocean Boulevard

Control Type:	All-way stop	Delay (sec / veh):	10.1
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes		

Intersection Setup

Name	Granada Avenue			Granada Avenue			Ocean Boulevard			Ocean Boulevard		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	1	0	1	1	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	60.00	100.00	100.00	60.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Granada Avenue			Granada Avenue			Ocean Boulevard			Ocean Boulevard		
Base Volume Input [veh/h]	15	14	16	23	5	46	61	441	8	13	311	32
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	15	14	16	23	5	46	61	441	8	13	311	32
Peak Hour Factor	0.9480	0.9480	0.9480	0.9480	0.9480	0.9480	0.9480	0.9480	0.9480	0.9480	0.9480	0.9480
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	4	4	6	1	12	16	116	2	3	82	8
Total Analysis Volume [veh/h]	16	15	17	24	5	49	64	465	8	14	328	34
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.26	0.43	0.34	1.51	1.51	0.03	0.07	0.97	0.97	0.14
95th-Percentile Queue Length [ft]	6.48	10.67	8.54	37.73	37.73	0.77	1.77	24.26	24.26	3.50
Approach Delay [s/veh]	9.50	9.61	10.44				9.66			
Approach LOS	A	A	B				A			
Intersection Delay [s/veh]	10.05									
Intersection LOS	B									

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3/4/2016

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Redondo Avenue/Ocean Boulevard	Signalized	ICU 1	SB Left	0.682	-	B
2	Loma Avenue/Ocean Boulevard	Signalized	ICU 1	SB Left	0.563	-	A
3	Ocean Boulevard/Livingston Drive	Signalized	ICU 1	NB Left	0.502	-	A
4	Termino Avenue/Livingston Drive	Signalized	ICU 1	WB Left	0.518	-	A
5	Bennett Avenue/Livingston Drive	Two-way stop	HCM 2010	SB Right	0.007	8.4	A
6	Ximeno Avenue/Livington Drive	Signalized	ICU 1	EB Left	0.171	-	A
7	2nd Street/Livingston Drive	Signalized	ICU 1	NWB Left	0.662	-	B
8	Termino Avenue/Ocean Boulevard	Signalized	ICU 1	SB Thru	0.478	-	A
9	Bennett Avenue/Ocean Boulevard	All-way stop	HCM 2010	WB Left		16.4	C
10	Granada Avenue/Ocean Boulevard	All-way stop	HCM 2010	WB Thru		11.0	B

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. for all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Redondo Avenue/Ocean Boulevard

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.682

Intersection Setup

Name	Redondo Avenue		Ocean Boulevard		Ocean Boulevard	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Redondo Avenue		Ocean Boulevard		Ocean Boulevard	
Base Volume Input [veh/h]	257	101	71	949	900	205
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	257	101	71	949	900	205
Peak Hour Factor	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	68	27	19	251	238	54
Total Analysis Volume [veh/h]	272	107	75	1003	951	217
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Split	Split	Protected	Permissive	Permissive	Permissive
Signal group	5	0	3	8	4	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	Lead	-	-	-

Movement, Approach, & Intersection Results

Intersection LOS	B
Intersection V/C	0.682

Intersection Level Of Service Report
Intersection 2: Loma Avenue/Ocean Boulevard

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.563

Intersection Setup

Name	Loma Avenue		Ocean Boulevard		Livingston Drive	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		No	

Volumes

Name	Loma Avenue		Ocean Boulevard		Livingston Drive	
Base Volume Input [veh/h]	96	17	16	1178	1088	77
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	96	17	16	1178	1088	77
Peak Hour Factor	0.9380	0.9380	0.9380	0.9380	0.9380	0.9380
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	26	5	4	314	290	21
Total Analysis Volume [veh/h]	102	18	17	1256	1160	82
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

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Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal group	5	0	0	8	4	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-

Movement, Approach, & Intersection Results

Intersection LOS	A
Intersection V/C	0.563

Intersection Level Of Service Report
Intersection 3: Ocean Boulevard/Livingston Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.502

Intersection Setup

Name	Ocean Boulevard			Mira Mar Avenue			Livingston Drive			Livingston Drive		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0	1	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	50.00	100.00	100.00	100.00	60.00	100.00	100.00	100.00	100.00	50.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	Ocean Boulevard			Mira Mar Avenue			Livingston Drive			Livingston Drive		
Base Volume Input [veh/h]	583	0	7	0	0	21	13	596	0	0	644	35
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	583	0	7	0	0	21	13	596	0	0	644	35
Peak Hour Factor	0.9500	1.0000	0.9500	1.0000	1.0000	0.9500	0.9500	0.9500	1.0000	1.0000	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	153	0	2	0	0	6	3	157	0	0	169	9
Total Analysis Volume [veh/h]	614	0	7	0	0	22	14	627	0	0	678	37
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Split	Permiss	Split	Split	Permiss	Split	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	1	0	0	0	0	2	3	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	Lead	-	-	-	-	-

Movement, Approach, & Intersection Results

Intersection LOS	A
Intersection V/C	0.502

Intersection Level Of Service Report
Intersection 4: Termino Avenue/Livingston Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.518

Intersection Setup

Name	Termino Avenue			Termino Avenue			Livingston Drive			Livingston Drive		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	120.00	95.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Termino Avenue			Termino Avenue			Livingston Drive			Livingston Drive		
Base Volume Input [veh/h]	50	0	157	16	64	5	0	592	20	165	630	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	50	0	157	16	64	5	0	592	20	165	630	0
Peak Hour Factor	0.9490	1.0000	0.9490	0.9490	0.9490	0.9490	1.0000	0.9490	0.9490	0.9490	0.9490	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	13	0	41	4	17	1	0	156	5	43	166	0
Total Analysis Volume [veh/h]	53	0	165	17	67	5	0	624	21	174	664	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	1	0	0	0	6	0	0	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	Lead	-	-

Movement, Approach, & Intersection Results

Intersection LOS	A
Intersection V/C	0.518

Intersection Level Of Service Report
Intersection 5: Bennett Avenue/Livingston Drive

Control Type:	Two-way stop	Delay (sec / veh):	8.4
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.007

Intersection Setup

Name	Bennett Avenue		Livingston Drive		Livingston Drive	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name	Bennett Avenue		Livingston Drive		Livingston Drive	
Base Volume Input [veh/h]	0	5	0	0	5	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	5	0	0	5	1
Peak Hour Factor	1.0000	0.6880	1.0000	1.0000	0.6880	0.6880
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	2	0	0	2	0
Total Analysis Volume [veh/h]	0	7	0	0	7	1
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	8.37	0.00	0.00	0.00	0.00
Movement LOS		A			A	A
95th-Percentile Queue Length [veh]	0.00	0.02	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.49	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	8.37		0.00		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	3.91					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 6: Ximeno Avenue/Livington Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.171

Intersection Setup

Name	Ximeno Avenue		Livingston Drive		Livingston Drive	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		Yes	

Volumes

Name	Ximeno Avenue		Livingston Drive		Livingston Drive	
Base Volume Input [veh/h]	0	74	111	0	731	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	74	111	0	731	10
Peak Hour Factor	1.0000	0.9740	0.9740	1.0000	0.9740	0.9740
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	19	28	0	188	3
Total Analysis Volume [veh/h]	0	76	114	0	751	10
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permissive	Overlap	ProtectedPermissi	Permissive	Permissive	Permissive
Signal group	0	2	3	8	4	0
Auxiliary Signal Groups		2				
Lead / Lag	-	-	Lead	-	-	-

Movement, Approach, & Intersection Results

Intersection LOS	A
Intersection V/C	0.171

Intersection Level Of Service Report
Intersection 7: 2nd Street/Livingston Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.662

Intersection Setup

Name	Quincy Avenue				Livingston Drive				Livingston Drive			
Approach	Southbound				Eastbound				Westbound			
Lane Configuration												
Turning Movement	Left	Left	Right	Right	Left	Left	Thru	Right	Left	Thru	Right	Right2
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00				30.00				30.00			
Grade [%]	0.00				0.00				0.00			
Crosswalk	Yes				Yes				Yes			

Volumes

Name	Quincy Avenue				Livingston Drive				Livingston Drive			
Base Volume Input [veh/h]	0	0	0	0	2	0	86	633	2	121	41	8
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	2	0	86	633	2	121	41	8
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	0.9350	1.0000	0.9350	0.9350	0.9350	0.9350	0.9350	0.9350
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	1	0	23	169	1	32	11	2
Total Analysis Volume [veh/h]	0	0	0	0	2	0	92	677	2	129	44	9
Pedestrian Volume [ped/h]	0				0				0			
Bicycle Volume [bicycles/h]	0				0				0			

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Overlap	Overlap	Permiss	Permiss	Permiss	Permiss
Signal group	0	0	0	0	0	0	8	0	0	4	0	0
Auxiliary Signal Groups							8					
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

Intersection LOS	B
Intersection V/C	0.662

Intersection Setup

Name	2nd Street					2nd Street			
Approach	Northwestbound					Southeastbound			
Lane Configuration									
Turning Movement	U-turn	Left	Thru	Right	Right2	Left	Thru	Right	Right2
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00					30.00			
Grade [%]	0.00					0.00			
Crosswalk	Yes					No			

Volumes

Name	2nd Street					2nd Street			
Base Volume Input [veh/h]	0	643	212	15	16	39	200	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	643	212	15	16	39	200	0	0
Peak Hour Factor	0.9350	0.9350	0.9350	0.9350	0.9350	0.9350	0.9350	0.9350	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	172	57	4	4	10	53	0	0
Total Analysis Volume [veh/h]	0	688	227	16	17	42	214	0	0
Pedestrian Volume [ped/h]	0					0			
Bicycle Volume [bicycles/h]	0					0			

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Version 4.00-03 | Scenario 6: 6: 02 Existing Plus Project Weekend

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Split	Split	Split
Signal group	0	0	6	0	0	0	2	0	0
Auxiliary Signal Groups									
Lead / Lag	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

Intersection LOS	B
Intersection V/C	0.662

Intersection Level Of Service Report
Intersection 8: Termino Avenue/Ocean Boulevard

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.478

Intersection Setup

Name	Termino Avenue			Termino Avenue			Ocean Boulevard			Ocean Boulevard		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0	0	0	0	1	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	70.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Termino Avenue			Termino Avenue			Ocean Boulevard			Ocean Boulevard		
Base Volume Input [veh/h]	85	91	23	68	146	12	57	553	125	53	451	82
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	85	91	23	68	146	12	57	553	125	53	451	82
Peak Hour Factor	0.9740	0.9740	0.9740	0.9740	0.9740	0.9740	0.9740	0.9740	0.9740	0.9740	0.9740	0.9740
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	22	23	6	17	37	3	15	142	32	14	116	21
Total Analysis Volume [veh/h]	87	93	24	70	150	12	59	568	128	54	463	84
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Generated with PTV VISTRO Belmont Pool LSA
Version 4.00-03 Scenario 6: 6: 02 Existing Plus Project Weekend

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	6	0	0	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

Intersection LOS	A
Intersection V/C	0.478

Intersection Level Of Service Report
Intersection 9: Bennett Avenue/Ocean Boulevard

Control Type:	All-way stop	Delay (sec / veh):	16.4
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes		

Intersection Setup

Name	Bennett Avenue			Bennett Avenue			Ocean Boulevard			Ocean Boulevard		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	1	0	0	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	50.00	100.00	100.00	60.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Bennett Avenue			Bennett Avenue			Ocean Boulevard			Ocean Boulevard		
Base Volume Input [veh/h]	161	1	135	0	0	0	51	357	262	273	395	18
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	161	1	135	0	0	0	51	357	262	273	395	18
Peak Hour Factor	0.9150	0.9150	0.9150	1.0000	1.0000	1.0000	0.9150	0.9150	0.9150	0.9150	0.9150	0.9150
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	44	0	37	0	0	0	14	98	72	75	108	5
Total Analysis Volume [veh/h]	176	1	148	0	0	0	56	390	286	298	432	20
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	1.67	1.06		0.42	1.94	1.94	3.16	4.50	2.21	2.21	0.11
95th-Percentile Queue Length [ft]	41.70	26.60		10.54	48.42	48.42	79.09	112.5	55.13	55.13	2.85
Approach Delay [s/veh]	13.10		0.00	15.65				18.68			
Approach LOS	B		A	C				C			
Intersection Delay [s/veh]	16.45										
Intersection LOS	C										

Intersection Level Of Service Report
Intersection 10: Granada Avenue/Ocean Boulevard

Control Type:	All-way stop	Delay (sec / veh):	11.0
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes		

Intersection Setup

Name	Granada Avenue			Granada Avenue			Ocean Boulevard			Ocean Boulevard		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	1	0	1	1	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	60.00	100.00	100.00	60.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Granada Avenue			Granada Avenue			Ocean Boulevard			Ocean Boulevard		
Base Volume Input [veh/h]	16	12	26	26	3	87	63	344	20	38	425	35
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	16	12	26	26	3	87	63	344	20	38	425	35
Peak Hour Factor	0.8720	0.8720	0.8720	0.8720	0.8720	0.8720	0.8720	0.8720	0.8720	0.8720	0.8720	0.8720
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	3	7	7	1	25	18	99	6	11	122	10
Total Analysis Volume [veh/h]	18	14	30	30	3	100	72	394	23	44	487	40
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.35	0.80	0.43	1.35	1.35	0.10	0.25	1.82	1.82	0.18
95th-Percentile Queue Length [ft]	8.65	20.08	10.70	33.81	33.81	2.51	6.13	45.39	45.39	4.40
Approach Delay [s/veh]	9.73	10.34	10.79				11.47			
Approach LOS	A	B	B				B			
Intersection Delay [s/veh]	11.00									
Intersection LOS	B									

FINAL ENVIRONMENTAL IMPACT REPORT

BELMONT POOL REVITALIZATION PROJECT

RESPONSE TO COMMENTS

AND ERRATA

CITY OF LONG BEACH

SCH NO. 2013041063

LSA

August 2016

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FINAL ENVIRONMENTAL IMPACT REPORT

BELMONT POOL REVITALIZATION PROJECT

RESPONSE TO COMMENTS

AND ERRATA

CITY OF LONG BEACH

SCH NO. 2013041063

Submitted to:

City of Long Beach
Development Services/Planning Bureau
333 West Ocean Boulevard, 5th Floor
Long Beach, California 90802

Prepared by:

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Project No. CLB1302

LSA

August 2016

TABLE OF CONTENTS

TABLES

ATTACHMENT

1.0 INTRODUCTION

This document comprises the Comments and Responses and Errata volume of the Final Environmental Impact Report (EIR) for the proposed Belmont Pool Revitalization project (proposed Project). The purpose of this document is to respond to all comments received by the City of Long Beach (City) regarding the environmental information and analyses contained in the Draft EIR. As noted in some of the responses, corrections and clarifications to the Draft EIR have been proposed. These changes are reflected in Chapter 3.0, Project Description, of this document and should be considered part of the Final EIR for consideration by the City prior to a vote to certify the Final EIR.

As required by the *California Environmental Quality Act (CEQA) Guidelines (State CEQA Guidelines)* Section 15087, a Notice of Completion (NOC) of the Draft EIR for the proposed Project was filed with the State Clearinghouse on April 13, 2016, and the Notice of Availability (NOA) of the Draft EIR was filed with the County of Orange (County) Clerk on April 13, 2016.

The Draft EIR was circulated for public review for a period of 65 days, from April 13, 2016, to June 16, 2016. The NOA and/or copies of the Draft EIR were distributed to all Responsible Agencies and to the State Clearinghouse in addition to various public agencies, citizen groups, and interested individuals. Copies of the Draft EIR were also made available for public review at the City Development Services Department, the Long Beach Main Library, the Bay Shore Neighborhood Library, and on the City's website.

A total of 61 comment letters were received during the public review period or immediately thereafter. Comments were received from State and local agencies and organizations, as well as interested individuals. Comments that address environmental issues are responded to thoroughly. Comments that (1) do not address the adequacy or completeness of the Draft EIR; (2) do not raise environmental issues; or (3) do request the incorporation of additional information not relevant to environmental issues do not require a response, pursuant to Section 15088(a) of the *State CEQA Guidelines*.

Section 15088 of the *State CEQA Guidelines*, Evaluation of and Response to Comments, states:

> a) The lead agency shall evaluate comments on environmental issues received from persons who reviewed the Draft EIR and shall prepare a written response. The lead agency shall respond to comments received during the noticed comment period and any extensions and may respond to late comments.
>
> b) The written response shall describe the disposition of significant environmental issues raised (e.g., revisions to the proposed Project to mitigate anticipated impacts or objections). In particular, major environmental issues raised when the lead agency's position is at variance with recommendations and objections raised in the comments must be

addressed in detail, giving the reasons that specific comments and suggestions were not accepted. There must be good faith, reasoned analysis in response. Conclusory statements unsupported by factual information will not suffice.

c) The response to comments may take the form of a revision to the Draft EIR or may be a separate section in the Final EIR. Where the response to comments makes important changes in the information contained in the text of the Draft EIR, the lead agency should either:

1. Revise the text in the body of the Draft EIR; or
2. Include marginal notes showing that the information is revised in the responses to comments.

Information provided in this Final EIR clarifies, amplifies, or makes minor modifications to the Draft EIR. No significant changes have been made to the information or analysis contained in the Draft EIR as a result of the responses to comments, and no significant new information has been added that would require recirculation of the Draft EIR document.

1.1 INDEX OF COMMENTS RECEIVED

The following Table A consists of an index list of the agencies, organizations, and individuals that commented on the Draft EIR prior to the close of the public comment period or immediately thereafter. Comments received during public meetings were transcribed, responded to this Final EIR, and are included in the table. The comments received have been organized by date received and in a manner that facilitates finding a particular comment or set of comments. Each comment letter received is indexed with a number below.

Table A: List of Comments Received

Comment Code	Signatory	Date
State Agencies		
S-1	California Department of Transportation	June 15, 2016
S-2	California Coastal Commission	June 16, 2016
S-3	State Clearinghouse and Planning Unit	June 17, 2016
Local Agencies/Utility Providers		
L-1	Los Angeles County Sanitation District	May 27, 2016
Interested Parties		
I-1	James Lent	April 18, 2016
I-2	Brian Patno	April 26, 2016
I-3	Jason Ziccardi	April 30, 2016
I-4	Billy Covington	May 3, 2016
I-5	Laura Silmer (Study Session)	May 5, 2016
I-6	Anna Christensen (Study Session) (1 of 2)	May 5, 2016
I-7	Lucy Johnson (Study Session) (1 of 3)	May 5, 2016
I-8	Lucy Johnson (2 of 3)	June 3, 2016
I-9	Tracy Barden	June 9, 2016

Table A: List of Comments Received

Comment Code	Signatory	Date
I-10	Donald Leas	June 9, 2016
I-11	Edric Guise	June 10, 2016
I-12	Merritt Morris	June 10, 2016
I-13	John Mclareninsinc	June 10, 2016
I-14	Steve Foley	June 10, 2016
I-15	Debby McCormick	June 11, 2016
I-16	Richard Miller	June 11, 2016
I-17	Jack Simon	June 12, 2016
I-18	Jake Jeffery	June 12, 2016
I-19	Jeff Hoffman	June 12, 2016
I-20	Carol Ostberg	June 13, 2016
I-21	Lyle Nalli	June 13, 2016
I-22	Lucy Johnson (3 of 3)	June 13, 2016
I-23	Curt Russell	June 14, 2016
I-24	David A. Koch	June 14, 2016
I-25	Bill Kanter	June 14, 2016
I-26	Erica Robinett (1 of 2)	June 13, 2016
I-27	Charles Collins	June 14, 2016
I-28	Jerry and Cheryl Jeffery	June 14, 2016
I-29	Jerry Nulty	June 14, 2016
I-30	Bruce Bradley	June 9, 2016
I-31	Veronica A. Gates	June 14, 2016
I-32	Amy Opheim	June 14, 2016
I-33	Lisa Conner	June 14, 2016
I-34	Gina Craig	June 14, 2016
I-35	Joanne Nelson	June 14, 2016
I-36	Kathy Magana-Gomez	June 14, 2016
I-37	Patrick and Ricki Milne	June 15, 2016
I-38	Susan Miller (1 of 4)	June 15, 2016
I-39	Susan Miller (2 of 4)	June 15, 2016
I-40	Susan Miller (3 of 4)	June 15, 2016
I-41	Susan Miller (4 of 4)	June 15, 2016
I-42	Jeff Miller	June 15, 2016
I-43	Gene Simpson	June 15, 2016
I-44	Aidan O’Neill	June 15, 2016
I-45	Joseph P. O’Neill	June 15, 2016
I-46	Melinda Cotton	June 16, 2016
I-47	Ellen P. Mathis	June 15, 2016
I-48	Denise Burrelli	June 15, 2016
I-49	Anthony Burrelli	June 15, 2016
I-50	Nikki Burrelli	June 15, 2016
I-51	Jessica Payne	June 16, 2016
I-52	Anna Christensen (2 of 2)	June 16, 2016
I-53	Lynne Cox	June 16, 2016
I-54	John W. McMullen	June 17, 2016
I-55	Ron O’Brien	June 6, 2016
I-56	Carol Hansen	June 14, 2016

Table A: List of Comments Received

Comment Code	Signatory	Date
I-57	Erica Robinett (2 of 2)	June 14, 2016

1.2 FORMAT OF RESPONSES TO COMMENTS

Responses to each of the comment letters are provided on the following pages. The comment index numbers are provided in the upper right corner of each comment letter, and individual points within each letter are numbered along the right-hand margin of each letter. The City's responses to each comment letter immediately follow each letter and are referenced by the index numbers in the margins. The comments received during public meetings are organized by commenter and the entire public meeting transcript for the Planning Commission (May 5, 2016), Marine Advisory Commission (May 12, 2016), and the City Council (June 14, 2016) Study Sessions are included in Appendix A of this Final EIR for reference. An Errata section, with text revisions, has been prepared to provide corrections and clarifications to the Draft EIR where required.

2.0 COMMENT LETTERS AND RESPONSES

2.1 FREQUENT COMMENTS AND COMMON RESPONSES

The following responses have been prepared to address frequent and similar comments received on the Draft EIR. These comments and responses are provided prior to the individual comment letters from State agencies, local agencies, and interested individuals and are referenced throughout Section 2.0, Comment Letters and Responses, of this Final EIR.

Common Comment 1: A number of comments were made during the public review period for the Draft EIR that expressed concern related to the fact that the proposed Project would be providing 1,250 permanent indoor seats. These comments indicated that more seating was required for typical swim meets and events, and the suggested the number of seats was 1,500. Some commenters requested that up to 1,750 permanent seats should be provided in order to meet the needs of the aquatic community and to allow more events to be held at the pool.

Common Response 1: There are several organizations that set standards for aquatic events. FINA (Federation Internationale de Natation) is the international governing body of swimming, diving, water polo, synchronized swimming, and open water swimming. FINA specifies that for a World Championship, 2,000 spectator seats are required. USA Swimming requires 1,000 to 2,000 seats, specifically calling out 1,000 permanent and 500 temporary seats for National level meets. The NCAA (National Collegiate Athletic Association) is silent on spectator seating requirements.

The number of indoor seats for the proposed Project was determined through a collaborative process with a technical advisory stakeholder committee. The number of seats, which affects the size of the building and many of the design criteria (e.g., the number of restrooms required) was balanced with various project constraints and was considered and approved by the City Council as part of the baseline programmatic requirements for the Project. Therefore, the Project was designed with 1,250 indoor seats. It should be noted that in addition to the 1,250 seats that would be permanently located indoors at the proposed facility, the Project would allow for the addition of temporary seating for up to 3,000 spectators at the outdoor pool. Therefore, the Project would have the capability of using both pools with maximum seating for 4,250 spectators.

Common Comment 2: Several comments were received expressing concern regarding Alternative 3, which included placing the diving platforms outside to reduce the height of the main structure. The comments indicated that outdoor diving wells are not desirable for divers due to wind, sun, and other weather conditions that can create safety concerns.

Common Response 2: As described further in Chapter 5.0, Alternatives, of the Draft EIR, the California Environmental Quality Act (CEQA) requires that an Environmental Impact Report (EIR) include a discussion of reasonable project alternatives that would "feasibly attain most of the basic objectives of the project, but would avoid or substantially lessen any significant effects of the project, and evaluate the comparative merits of the alternatives" (*State CEQA Guidelines*, Section 15126.6). Therefore, the purpose of the alternatives put forth in the Draft EIR, including Alternative 3, was to determine whether any of the potential impacts associated with the proposed Project could be reduced or eliminated through alternative designs. The City considered all of the Alternatives in order to ensure compliance with CEQA in exhausting all possible project alternatives that could meet the Project Objectives while also reducing impacts to the environment.

The site plan proposed under Alternative 3 would locate the diving well component outside in order to reduce the height of the Bubble structure. This would reduce visual impacts associated with the structure; however, a height variance would still be required. The Draft EIR determined that environmental impacts associated with Alternative 3 would be incrementally less than the proposed Project, with the exception of noise impacts, which would be greater. Despite incrementally reducing environmental impacts associated with the Project, Alternative 3 was determined to meet only a few of the Project Objectives, and to a lesser degree than the Project. For these reasons, Alternative 3 was not identified as the Environmentally Superior Alternative nor was Alternative 3 identified as the Preferred Alternative. Therefore, the City intends to proceed with the design as included under the proposed Project, which would locate the diving well inside the structure.

Common Comment 3: Several comments expressed concern that a mitigation measure was proposed that required special events, defined as events with 450 or more spectators, to prepare an Event Traffic Management Plan for review and approval by the City Traffic Engineer. The commenters indicated, based on their personal experiences at the former facility, that there was always sufficient parking in the adjacent public parking lots. Therefore, the comments requested removal of the mitigation measure requiring an Event Traffic Management Plan.

Common Response 3: Potential traffic impacts resulting from the proposed Project are described in the Section 4.12, Transportation and Traffic, of the Draft EIR. As described throughout this section, the proposed Project increases the pool square footage and would allow multiple user groups to be programmed concurrently throughout the day. In addition, one of the pools could remain open to the general public while a private event is using the other pool. As such, to analyze traffic impacts resulting from project implementation, operational traffic was doubled. Even with this conservative approach, the results of this analysis indicated that all study area intersections would operate at Level-of-Service (LOS) C or better in the future with new traffic generated by the Project. In addition, because events are scheduled throughout the day, increased concurrent programming would not necessarily affect traffic during the peak hours.

The proposed Project would provide 1,250 permanent seats for the indoor pool, and up to 3,000 temporary seats for the outdoor pool. No permanent outdoor spectator seating is included in the proposed Project. With typical average vehicle occupancy of 1.5 passengers per vehicle, an event with 450 spectators would be expected to generate 300 outbound trips, which is the same traffic volume that was analyzed in the weekend midday peak hour. Therefore, this threshold of 450 spectators, or 300 outbound trips, was chosen as a very conservative number for the definition of a large special event that would require an Event Traffic Management Plan. This plan may include active traffic management and/or off-site parking and shuttles. Because special events are sporadic and would occur at specific times per year consistent with existing (pre-closure) conditions, the impacts of special event traffic would not cause significant peak-hour LOS impacts.

Mitigation Measure 4.12.1 was identified to reduce potential traffic impacts resulting from special events, and would require the preparation of an Event Traffic Management Plan for events with more than 450 spectators. Implementation of this measure was determined to reduce potential impacts associated with special events at the project site to a less than significant level.

It should be noted that special events at the former facility, and the temporary pool, require that an application be submitted to City staff. A special event is any permitted activity that requires extended hours of operation outside of regularly scheduled public hours or an event that requires the cancellation of regularly scheduled public hours. These events are permitted via request from the user group if time and space are available. Any event that requires cancellation of regularly scheduled programming must be authorized by the Bureau Manager of Community Recreation Services and the Director of Parks, Recreation, and Marine.

Parking for the proposed Project would continue to be provided by the two existing pay lots adjacent to the Project site: (1) the Belmont Veteran's Memorial Pier Parking Lot (Pier Parking Lot), and (2) the Beach Parking Lot. Both lots contain an approximate total of 1,050 public parking spaces. Although pool patrons would utilize these lots that are jointly used by visitors to the beach, pier and nearby retail/commercial uses, and are not solely designated for pool visitors.

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2.2 STATE OF CALIFORNIA

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STATE OF CALIFORNIA—CALIFORNIA STATE TRANSPORTATION AGENCY EDMUND G. BROWN Jr., Governor

DEPARTMENT OF TRANSPORTATION
DISTRICT 7-OFFICE OF TRANSPORTATION PLANNING
100 S. MAIN STREET, MS 16
LOS ANGELES, CA 90012
PHONE (213) 897-9140
FAX (213) 897-1337
www.dot.ca.gov

S-1

Serious drought.
Help save water!

June 15, 2016

Mr. Craig Chalfant
City of Long Beach
333 West Ocean Boulevard, 5th Floor
Long Beach, CA 90802

RE: Belmont Pool Revitalization Project
Draft Environmental Impact Report
SCH#2013041063; IGR#160431-FL
Vic. LA 1/ PM 0.6

Dear Mr. Chalfant:

Thank you for including the California Department of Transportation (Caltrans) in the environmental review process for the above referenced project. The proposed project includes the construction and operation of approximately 125,500 square feet pool complex that includes indoor and outdoor pool components and an approximately 1,500 square feet café. Permanent indoor seating for approximately 1,250 spectators, and temporary outdoor seating would be provided for larger events with a maximum seating capacity of up to 3,000 spectators. S-1-1

The nearest State facility to the proposed project is SR-1. Caltrans does not expect project approval to result in direct adverse impact to the existing State transportation facilities. S-1-2

Caltrans acknowledges that "in the event that a large special event is held at Belmont Pool, an Event Traffic Management Plan would need to be developed that addresses potential congestion and parking impacts," and that "this plan may include active traffic management and/or off-site parking and shuttles." S-1-3

Caltrans continues to strive to improve its standards and processes to provide flexibility while maintaining the safety and integrity of the State's transportation system. It is our goal to implement strategies that are in keeping with our mission statement, which is to "*provide a safe, sustainable, integrated, and efficient transportation system to enhance California's economy and livability.*"

Good geometric and traffic engineering design to accommodate bicyclists and pedestrians are critical at every on and off ramp and freeway terminus intersection with local streets. Caltrans will work with the City to look for every opportunity to develop projects that improve safety and connectivity for pedestrians and bicyclists. Opportunities for improvements may exist on State facilities such as: freeway termini, on/off-ramp intersections, overcrossings, under crossings, tunnels, bridges, on both conventional state highways and freeways. S-1-4

With regard to public transit, we recommend planning for gradual continual improvement of transit stops, bus bays, or other facilities, to accommodate traffic flow, especially on streets that are State Route locations or are near freeway intersections. S-1-5

We want to remind you that transportation of heavy construction equipment and/or materials, which requires the use of oversized-transport vehicles on State highways will require a Caltrans transportation permit. Please limit large size truck trips to off-peak commute periods. S-1-6

Storm water run-off is a sensitive issue for Los Angeles and Ventura counties. Please be mindful of your need to discharge clean run-off water and it is not permitted to discharge onto State highway facilities. S-1-7

If you have any questions or concerns regarding these comments, please feel free to contact me at (213) 897 – 9140 or project coordinator Frances Lee at (213) 897-0673 or electronically at frances.lee@dot.ca.gov. S-1-8

Sincerely,

Dianna Watson

DIANNA WATSON
Branch Chief, Community Planning & LD IGR Review

cc: Scott Morgan, State Clearinghouse

CALIFORNIA DEPARTMENT OF TRANSPORTATION- DISTRICT 7

LETTER CODE: S-1

DATE: JUNE 15, 2016

RESPONSE S-1-1

This comment thanks the City of Long Beach (City) for including the California Department of Transportation (Caltrans) in the environmental review process for the proposed Project and briefly summarizes the primary Project components.

This comment does not contain any substantive comments or questions about the Draft Environmental Impact Report (EIR) or analysis therein. This comment will be forwarded to the decision-makers for their review and consideration. No further response is necessary.

RESPONSE S-1-2

This comment notes that the nearest Caltrans facility to the project site is State Route 1 (SR-1). The comment notes that Caltrans does not expect Project approval to result in a direct adverse impact to existing State transportation facilities.

This comment does not contain any substantive comments or questions about the Draft EIR or analysis therein. This comment will be forwarded to the decision-makers for their review and consideration. No further response is necessary.

RESPONSE S-1-3

This comment acknowledges the requirement included in Section 4.12, Transportation and Traffic, of the Draft EIR to prepare an Event Management Plan in the event a large special event is held at the Belmont Pool.

This comment does not contain any substantive comments or questions about the Draft EIR or analysis therein. This comment will be forwarded to the decision-makers for their review and consideration. No further response is necessary.

RESPONSE S-1-4

The comment expresses Caltrans's commitment to improve its standards and processes to provide flexibility while maintaining the safety and integrity of the State's transportation system. The comment goes on to note that it is Caltrans's goal to implement strategies that further its commitment to provide a sustainable, integrated, and efficient transportation system.

As part of this commitment to provide safe facilities and an efficient transportation system, Caltrans notes that good geometric and traffic engineering design to accommodate bicyclists and pedestrians is essential at every on- and off-ramp and freeway terminus intersection with local streets. The comment goes on to note that Caltrans will continue to coordinate with the City to look for opportunities to develop projects that promote bicyclist and pedestrian safety. Caltrans notes that opportunities for such improvements may exist on State facilities.

This comment does not contain any substantive comments or questions about the Draft EIR or analysis therein. This comment will be forwarded to the decision-makers for their review and consideration. No further response is necessary.

RESPONSE S-1-5

This comment recommends planning for the gradual implementation of improvements to transit stops, bus bays, and other transportation facilities to accommodate traffic flow on streets that are State routes or are near freeway facilities.

This comment does not contain any substantive comments or questions about the Draft EIR or analysis therein. This comment will be forwarded to the decision-makers for their review and consideration. No further response is necessary.

RESPONSE S-1-6

This comment is intended to remind the City that heavy construction equipment and/or materials that may require the use of oversized-transport vehicles on State highways will require a Caltrans transportation permit. The comment also notes that large size truck trips, should they be required by the Project, should be limited to off-peak commute hours.

As previously stated, there are no State facilities within the vicinity of the Project site. As such, it would be unlikely that the Project would require the transfer of oversized materials on vehicles requiring a transportation permit from Caltrans. In the unlikely event such a permit would be necessary, the City would take all necessary precautions to obtain such a permit from Caltrans prior to transporting any materials on an oversized-transport vehicle on Caltrans roadway facilities. No further response is necessary.

RESPONSE S-1-7

This comment notes that stormwater runoff is a sensitive issue for Los Angeles and Ventura Counties, and as such, reminds the City to be mindful to discharge clean runoff. The comment also notes that discharging runoff from the site is not permitted onto State facilities.

Runoff from the Project site during Project construction and operation is addressed in Section 4.8, Hydrology and Water Quality, of the Draft EIR. As described throughout this section, the Project would result in less than significant impacts with respect to runoff and its potential impact on water quality with mitigation incorporated. Furthermore, as previously noted, there are no Caltrans facilities within the vicinity of the Project site. Therefore, the Project is not anticipated to discharge runoff on any State facilities.

RESPONSE S-1-8

This comment provides contact information for the author of the comment letter should the City have any questions or concerns related to Comments S-1-1 through S-1-8.

This comment does not contain any substantive comments or questions about the Draft EIR or analysis therein. This comment will be forwarded to the decision-makers for their review and consideration. No further response is necessary.

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STATE OF CALIFORNIA - NATURAL RESOURCES AGENCY EDMUND G. BROWN JR, Governor

CALIFORNIA COASTAL COMMISSION
South Coast Area Office
200 Oceangate, Suite 1000
Long Beach, CA 90802-4302
(562) 590-5071

June 16, 2016

Craig Chalfant, Senior Planner
City of Long Beach
Development Services/Planning Bureau
333 W. Ocean Boulevard, 5th Floor
Long Beach, CA 90802

RE: Belmont Pool Project, City of Long Beach
Comments on Draft Environmental Impact Report

Dear Mr. Chalfant:

In response to the Notice of Availability of a Draft Environmental Impact Report (DEIR) for the Belmont Pool Project, California Coastal Commission staff concurs that an EIR is necessary for the proposed project and requests that the Final EIR consider alternative project designs and project locations which may reduce or avoid adverse impacts to visual resources and public access, and which consider the potential impacts of sea level rise. S-2-1

According to the Notice, the proposed project includes the construction of a 125,500 square foot pool complex including indoor and outdoor components and a 1,500 square foot café on top of the public beach in the same area that previously supported the Belmont Pool (1968-2014).

Commission staff has determined that the area on which the pool complex is proposed is within a portion of the coastal zone that is subject to the requirements of the City of Long Beach certified Local Coastal Program (LCP), and is also partially within the Commission's area of original jurisdiction. Therefore, the proposed project will require a local coastal development permit from the City and a coastal development permit from the Coastal Commission. S-2-2

The Final EIR should analyze the project for consistency with the policies of both the certified LCP and the Coastal Act (including Sections 30210, 30211, 30212, 30251, and 30253), and provide mitigation or alternatives for any identified impacts to visual resources, public access and recreation, and potential hazards. Specifically Commission staff recommends that the Final EIR analyze the following coastal issues: S-2-3

- Visual resource impacts of the project from vantage points along the public beach and from Ocean Boulevard, which the Draft EIR identifies as a designated scenic roadway – does the project preserve or enhance identified view corridors and is the project consistent with the height limit identified in the LCP? Would an alternative project design or location serve to preserve or enhance visual resources?

- The Wave Uprush Study included in the Draft EIR indicates that "the high sea level rise projections for 2100 would have a significant impact on the facility. Both the project site as well as much of the Long Beach Peninsula and Belmont Shore would be exposed to coastal flooding. Although the proposed design sets the main pool deck elevation at +17' (above the projected run-up/still water elevation of +10.4'), the lower level of the building (pool equipment and storage) as well as the entire site, parking and vicinity would be below the projected water line." Given the potential impacts caused by sea level rise over the expected life of the project – under low, medium, and high sea level rise scenarios, considering astronomical tides and potential wave uprush, will the structure require a shoreline protective S-2-4 device in the future? Will the primary pool structure itself serve as a shoreline protective device in the future (e.g. could the foundational elements become exposed and contribute to beach erosion or restrict lateral public access along the public beach? S-2-5 Would an alternative project design serve to prevent the primary structure from acting as a shoreline protective device? Would an alternative location serve to prevent the pool complex from being regularly flooded in the future? Please amend the Wave Uprush Study to include an analysis of all feasible alternative locations that could accommodate the pool complex (including but not limited to the three sites identified in the DEIR) and indicate whether such locations are subject to wave uprush/hazards over the expected life of the pool complex. S-2-6

- The Draft EIR indicates that the existing bicycle and pedestrian paths might be relocated to make room for the pool complex. Is there adequate space to relocate the paths, considering existing beach use activities in the area and future impacts caused by sea level rise? S-2-7

Each of the issues identified in this letter, as well as other environmental impacts identified in the Draft EIR, should be analyzed in the context of potential alternative project designs and project locations. Could adverse impacts to visual resources, potential beach erosion, loss of public access, and risk of damage to the pool complex be reduced or eliminated if the design or location of the project was changed? S-2-8

Please note that the comments provided herein are preliminary in nature. More specific comments may be appropriate as the project develops. Coastal Commission staff requests notification of any future activity associated with this project or related projects. Additionally, the comments contained herein are those of Coastal Commission staff only and should not be construed as representing the opinion of the Coastal Commission itself. Thank you for the opportunity to comment on the Draft EIR. S-2-9

Sincerely,

ZRRehm

Zach Rehm
Coastal Program Analyst

CALIFORNIA COASTAL COMMISSION
LETTER CODE: S-2

DATE: June 16, 2016

RESPONSE S-2-1

This comment is introductory in nature and states the California Coastal Commission's (Coastal Commission) concurrence with the decision to prepare an Environmental Impact Report (EIR) for the proposed Project. This comment requests that the Final EIR consider alternatives that would reduce or avoid impacts related to visual resources, public access, and sea level rise. Chapter 5.0, Alternatives, of the Draft EIR includes a complete analysis of several Alternatives that would have reduced the height of the building, thereby reducing visual impacts. Public access will be retained and enhanced on the Project site under the proposed Project due to the extensive open space and walkways that traverse all sides of the facility. Public access to the site and the beach has not been reduced or restricted. It should be noted that the base of the building has been elevated 7 feet (ft) to account for sea level rise.

This comment does not contain any substantive comments or questions about the Draft EIR or analysis therein. This comment will be forwarded to the decision-makers for their review and consideration. No further response is necessary.

RESPONSE S-2-2

This comment notes that the Project site is within a portion of the Coastal Zone that is subject to the Long Beach certified Local Coastal Program (LCP) and is within the Coastal Commission's area of original jurisdiction. The comment further states that the proposed Project would require Coastal Development Permits (CDPs) from both the City of Long Beach (City) and the Coastal Commission.

The commenter is correct in asserting that a portion of the project site is located within an area regulated by the Coastal Commission. As described further in Section 4.9, Land Use and Planning, of the Draft EIR, the Project site includes areas within the Tidelands and submerged lands (Draft EIR, page 4.9-19). As such, the Coastal Commission retains jurisdiction over the approval of a CDP for the portion of the Project site located within the Tidelands and submerged lands; the City retains jurisdiction over the approval of a CDP for the remainder of the site. It should be noted that in September 2014, the City adopted a resolution (Resolution-14-0088) indicating that staff intends to process a Consolidated Coastal Development Permit Application (CCDP), consistent with Section 30601.3 of the Public Resources Code (Coastal Act). The Coastal Act authorizes the California Coastal Commission to process a CCDP when requested by a local jurisdiction for a project that would otherwise require a CDP from both entities.

Section 4.9, Land Use and Planning, of the Draft EIR, also includes a consistency analysis demonstrating the Project's consistency with the City's LCP and the California Coastal Act (Coastal Act).

RESPONSE S-2-3

This comment notes that the Final EIR should analyze the proposed Project's consistency with the policies included in the LCP and the Coastal Act and provide mitigation where needed. The commenter expresses concerns regarding visual impacts from the public beach and Ocean Boulevard. The commenter further questions the height limit defined in the LCP as compared to the proposed Project. This comment also inquires if an alternative project design or location would preserve or enhance visual resources when compared to the proposed Project.

As described in Response S-2-3, Section 4.9, Land Use and Planning, of the Draft EIR, includes a consistency analysis demonstrating the Project's consistency with the City's LCP and the Coastal Act.

Visual impacts resulting from Project construction and implementation, including the obstruction or degradation of views from public vantage points (including the beach and Ocean Boulevard) are addressed in Section 4.1, Aesthetics, of the Draft EIR. As discussed in Section 4.1, Aesthetics, views of the ocean from nearby roadways and public sidewalks would be improved as compared to the previous pool facilities because the new pool has been designed to be narrower and the elliptical shape would slope in height at the edges of the building (refer to Figure 4.1.4, Pre- and Post-Project Building Orientation). While the maximum height for the proposed Project is 19 ft higher than the previous Belmont Pool building, the sloping shape of the proposed Project would reduce the bulk and massing of the new facility in comparison to the former facility which was characterized by a consistent roof line that maintained the maximum height throughout the entire length of the building. Further, the proposed Project would enhance the visual quality of the Project site by constructing a new building and introduce an enhanced architecture with upgraded landscaping. Preservation of the scenic coastal character is consistent with the objectives of the California Coastline Preservation and Recreation Plan. Therefore, the proposed Project would be consistent with Coastal Act Section 30251.

While the proposed Project was determined to have less than significant impacts with respect to aesthetics, an alternative project design or location could preserve or enhance visual resources when compared to the proposed Project. As described in Chapter 5.0, Alternatives, Alternatives 1 through 5 would all result in reduced visual impacts. However, despite incrementally reducing visual impacts, these alternatives were determined to meet only a few of the Project Objectives, or meet the objectives to a lesser degree than the Project. Therefore, none of these alternatives were identified as the Environmentally Superior Alternative or the Preferred Alternative. Therefore, the City intends to proceed with the design as included under the proposed Project.

RESPONSE S-2-4

This comment acknowledges the analysis of sea level rise included in the Draft EIR and questions if the proposed Project would require a shoreline protective device in the future.

Impacts with respect to sea level rise (SLR) are addressed in Section 4.6, Global Climate Change, of the Draft EIR. It should be noted that the base of the building has been designed and elevated by 7 ft to account for sea level rise. As discussed in this section and in the *Wave Uprush Study*[1] prepared for the proposed Project, wave run-up for the high 2060 and 2100 sea level rise scenarios would result in a run-up elevation up to 8.2 ft and 10.4 ft (or greater) at the Project site. Without preventative measures, the upper 2100 sea level rise estimate would not only inundate much of the pool facility, but much of the Long Beach Peninsula and Belmont Shore as well. This 2100 condition is not a result of the Project but rather the result of the projected worst-case sea level rise and erosion conditions.

The main pool deck would be elevated 17 ft amsl, which would be set 8.8 ft above the projected high water levels in 2060. The lower level of the building (pool equipment and storage) and associated parking areas would be below the projected water line in 2060; however, this area would not be open for public use, and therefore, would not subject visitors to the Project site to significant cumulative impacts related to sea level rise. Furthermore, additional GHG reduction strategies implemented at the State, national, and international levels could reduce sea-level rise between now and the year 2100. Therefore, the proposed Project would not be adversely impacted by sea level rise due to climate change, and no mitigation is required.

RESPONSE S-2-5

The commenter inquires if the primary pool structure will serve as a shore protective device in the future. The comment makes specific reference to the possible exposure of foundational elements that could contribute to beach erosion or restrict lateral public access along the public beach.

See Response S-2-4, above. There is no provision in the *State CEQA Guidelines* that indicates that CEQA requires an evaluation of existing environmental conditions at the project site that may cause significant adverse impacts to visitors to the project site. However, CEQA does mandate that an analysis of a project's impacts consider whether the project might cause existing environmental hazards to worsen. For this reason, the potential impacts with respect to beach erosion are analyzed in the *Wave Uprush Study* prepared for the Project. As discussed in this report, the modeled 100-year storm would erode 18 to 48 percent of the beach berm in 2060. The modeled 100-year storm would erode 30 percent in the low scenario for 2100, but erosion under the high scenario would pose more of a serious threat to the pool structure than wave run-up. This projected erosion may also be exacerbated by smaller erosional events (e.g., 5-year, 10-year, 25-year scenarios, etc.) The western portion of the site is more vulnerable than the remainder of the site because it is 40 to 50 ft closer to the shoreline. While the western portion of the site is more vulnerable to erosion than the rest of the site, the proposed building will not affect erosion at the adjacent beaches until the berm fronting the building erodes away. As described throughout the *Wave Uprush Study*, there is approximately 50 ft of berm remaining under the highest sea level rise and all breakwater scenarios. Furthermore, the structure is not impounding sand (i.e., it is not preventing sand from entering the coastal littoral zone for sand transport along the coast). Therefore, the primary structure would not contribute to beach erosion or restrict lateral public access along the public beach.

[1] Moffatt & Nichol 2014, *Wave Uprush Study* for Belmont Pool Plaza. October.

The proposed foundation will consist of deep piles to support a system of beams and vertical structures to support the pool, walls, floors, and roof structures. The piles will be constructed very deep (below grade) so they will not be exposed to wave activity. The exposed portion of the foundation will be the vertical walls, stairs, or other structures that are vertically supported by the underground piles. The exposed portions will act as a barrier to water flow, including wave activity, should waves reach the structure in an uprush scenario. Unless there are unreasonable amounts of erosion (which as described previously, is not expected at the site), the building will behave more like a wall than a pier, since the piles would not become exposed. Therefore, the proposed Project would not require the use of shoreline protective devices nor would the primary pool structure serve as a shoreline protective device protecting the remainder of the Project.

RESPONSE S-2-6

This comment inquires if alternative locations would prevent regular flooding of the proposed Project in the future. The comment requests that the *Wave Uprush Study* is amended to include analysis of alternative project locations.

As stated above, Section 5.0, Alternatives of the Draft EIR contains a complete analysis of alternative sites for the proposed Project. As explained on Draft EIR Page 5-8, funding for the proposed Project is entirely sourced from the Tidelands Operating Fund, an umbrella fund that allocates expenditures for Tidelands operations and capital improvements projects within the Tidelands area of the City. Tidelands are defined as those lands and water areas along the coast of the Pacific Ocean seaward of the ordinary high tide line to a distance of 3 miles. The Tidelands Trust not only restricts the use of the Tidelands, but also restricts the use of income and revenue generated from businesses and activities conducted on the Tidelands to be used solely for projects within the Tidelands area. Because the proposed Project is dependent on funding from the Tidelands Operating Fund, any alternative location not in the Tidelands would have to be funded through alternative sources. Due to a lack of available finances from other City sources, a project that would not be funded by the Tidelands Operating Fund would not be economically feasible. Therefore, all three alternative sites were located in the Tidelands. Additionally, according to the City, no other properties within the City's Tidelands would be large enough or are currently available to be considered as an alternative location. Furthermore, the primary objective of the Project is to replace the former facility in its original location. Therefore, it is not fiscally prudent to amend the Wave Uprush Study to consider alternative locations which have been determined infeasible. It should also be noted that the proposed Project was initiated prior to the demolition and removal of the old facility, as it has long been the City's intention to replace the old facility on the same site.

RESPONSE S-2-7

This comment questions the relocation of the existing bicycle and pedestrian paths under the proposed Project. The comment further questions if there is adequate space for relocation of the paths due to existing beach activities and future sea level rise.

The proposed relocation of the bicycle and pedestrian path bordering the southern portion of the site has been completed under a separate project.[1] Therefore, there is adequate space for the pathway and existing beach activities on this stretch of Long Beach's coastline.

RESPONSE S-2-8

This comment requests that impacts identified in this comment letter and the Draft EIR are analyzed in the context of alternative project designs and locations.

Alternative designs and locations are analyzed in Chapter 5.0, of the Draft EIR. As described in this chapter of the Draft EIR, an alternative project design or location could lessen potential environmental impacts when compared to the proposed Project. However, these alternatives were determined to meet only a few of the Project Objectives, or meet the objectives to a lesser degree than the Project. Therefore, none of these alternatives were identified as the Environmentally Superior Alternative or the Preferred Alternative. In addition, the EIR has addressed and analyzed all feasible alternative locations within the City's Tidelands area (see Response S-2-6). Consequently, the City intends to proceed with the design as included under the proposed Project.

RESPONSE S-2-9

This comment is conclusory in nature and notes that the Coastal Commission staff requests notification of future activity associated with the proposed Project.

This comment does not contain any substantive comments or questions about the Draft EIR or analysis therein. This comment will be forwarded to the decision-makers for their review and consideration. No further response is necessary.

[1] Press Telegram, Long Beach Coastline Pedestrian Path to Be Unveiled. Website: http://www.presstelegram.com/environment-and-nature/20150529/long-beach-coastline-pedestrian-path-to-be-unveiled (accessed July 21, 2016).

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STATE OF CALIFORNIA

GOVERNOR'S OFFICE *of* PLANNING AND RESEARCH

STATE CLEARINGHOUSE AND PLANNING UNIT

EDMUND G. BROWN JR.
GOVERNOR

KEN ALEX
DIRECTOR

June 17, 2016

Craig Chalfant
City of Long Beach
333 W. Ocean Boulevard, 5th Floor
Long Beach, CA 90802

Subject: Belmont Pool Revitalization Project
SCH#: 2013041063

Dear Craig Chalfant:

The State Clearinghouse submitted the above named Draft EIR to selected state agencies for review. On the enclosed Document Details Report please note that the Clearinghouse has listed the state agencies that reviewed your document. The review period closed on June 16, 2016, and the comments from the responding agency (ies) is (are) enclosed. If this comment package is not in order, please notify the State Clearinghouse immediately. Please refer to the project's ten-digit State Clearinghouse number in future correspondence so that we may respond promptly.

Please note that Section 21104(c) of the California Public Resources Code states that:

> "A responsible or other public agency shall only make substantive comments regarding those activities involved in a project which are within an area of expertise of the agency or which are required to be carried out or approved by the agency. Those comments shall be supported by specific documentation."

S-3-1

These comments are forwarded for use in preparing your final environmental document. Should you need more information or clarification of the enclosed comments, we recommend that you contact the commenting agency directly.

This letter acknowledges that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act. Please contact the State Clearinghouse at (916) 445-0613 if you have any questions regarding the environmental review process.

Sincerely,

Scott Morgan
Director, State Clearinghouse

Enclosures
cc: Resources Agency

SCH# 2013041063
Project Title Belmont Pool Revitalization Project
Lead Agency Long Beach, City of

Type EIR Draft EIR

Description Note: Review Per Lead

The proposed project would replace the former Belmont Pool facility and provide the City with a revitalized and modern pool complex. The project proposes the construction and operation of an approximately 125,500 sf pool complex that includes indoor and outdoor pool components and an approximately 1,500 sf cafe. Permanent indoor seating for approximately 1,250 spectators would be provided to view competitive events at the 50-Meter Competition Pool and the Dive Pool. Temporary outdoor seating would be provided for larger events at the Outdoor 50-Meter Competition Pool with a max seating capacity of up to 3,000 spectators. The proposed project does not include any permanent outdoor seating designed for spectator viewing.

Lead Agency Contact

Name Craig Chalfant
Agency City of Long Beach
Phone 562-570-6368 **Fax**
email
Address 333 W. Ocean Boulevard, 5th Floor
City Long Beach **State** CA **Zip** 90802

Project Location

County Los Angeles
City Long Beach
Region
Lat / Long 33° 45' 28.6" N / 118° 8' 44.4" W
Cross Streets 43rd Place/Bennett Ave
Parcel No. 7256-039-903
Township **Range** **Section** **Base**

Proximity to:

Highways SR-1
Airports
Railways
Waterways Alamitos Bay, Pacific Ocean, Colorado Lagoon
Schools Various
Land Use Z: Park & Belmont Pier Planned Development District (PD-2)
GP=No. 7 Mixed Use & LUD No. 11, Open Space and Park

Project Issues Aesthetic/Visual; Air Quality; Archaeologic-Historic; Biological Resources; Coastal Zone; Drainage/Absorption; Flood Plain/Flooding; Geologic/Seismic; Noise; Public Services; Recreation/Parks; Schools/Universities; Septic System; Sewer Capacity; Soil Erosion/Compaction/Grading; Solid Waste; Toxic/Hazardous; Traffic/Circulation; Vegetation; Water Quality; Water Supply; Wetland/Riparian; Growth Inducing; Landuse; Cumulative Effects

---

Reviewing Agencies Resources Agency; California Coastal Commission; Department of Fish and Wildlife, Region 5; Office of Historic Preservation; Department of Parks and Recreation; Department of Water Resources; California Highway Patrol; Caltrans, District 7; Regional Water Quality Control Board, Region 4; Department of Toxic Substances Control; Native American Heritage Commission; State Lands Commission

S-3

Date Received 04/13/2016 ***Start of Review*** 04/13/2016 ***End of Review*** 06/16/2016

S-3

STATE OF CALIFORNIA—CALIFORNIA STATE TRANSPORTATION AGENCY EDMUND G. BROWN Jr., Governor

DEPARTMENT OF TRANSPORTATION
DISTRICT 7-OFFICE OF TRANSPORTATION PLANNING
100 S. MAIN STREET, MS 16
LOS ANGELES, CA 90012
PHONE (213) 897-9140
FAX (213) 897-1337
www.dot.ca.gov

Serious drought. Help save water!

Governor's Office of Planning & Research
JUN 15 2016
STATE CLEARINGHOUSE

clear 6/16/16

Governor's Office of Planning & Research
JUN 1
STATE CLEARINGHOUSE

June 15, 2016

Mr. Craig Chalfant
City of Long Beach
333 West Ocean Boulevard, 5th Floor
Long Beach, CA 90802

RE: Belmont Pool Revitalization Project
Draft Environmental Impact Report
SCH#2013041063; IGR#160431-FL
Vic. LA 1/ PM 0.6

Dear Mr. Chalfant:

Thank you for including the California Department of Transportation (Caltrans) in the environmental review process for the above referenced project. The proposed project includes the construction and operation of approximately 125,500 square feet pool complex that includes indoor and outdoor pool components and an approximately 1,500 square feet café. Permanent indoor seating for approximately 1,250 spectators, and temporary outdoor seating would be provided for larger events with a maximum seating capacity of up to 3,000 spectators.

Attachment 1

The nearest State facility to the proposed project is SR-1. Caltrans does not expect project approval to result in direct adverse impact to the existing State transportation facilities.

Caltrans acknowledges that "in the event that a large special event is held at Belmont Pool, an Event Traffic Management Plan would need to be developed that addresses potential congestion and parking impacts," and that "this plan may include active traffic management and/or off-site parking and shuttles."

Caltrans continues to strive to improve its standards and processes to provide flexibility while maintaining the safety and integrity of the State's transportation system. It is our goal to implement strategies that are in keeping with our mission statement, which is to "*provide a safe, sustainable, integrated, and efficient transportation system to enhance California's economy and livability.*"

Good geometric and traffic engineering design to accommodate bicyclists and pedestrians are critical at every on and off ramp and freeway terminus intersection with local streets. Caltrans will work with the City to look for every opportunity to develop projects that improve safety and connectivity for pedestrians and bicyclists. Opportunities for improvements may exist on State facilities such as: freeway termini, on/off-ramp intersections, overcrossings, under crossings, tunnels, bridges, on both conventional state highways and freeways.

Mr. Craig Chalfant
06/15/2016
Page 2

With regard to public transit, we recommend planning for gradual continual improvement of transit stops, bus bays, or other facilities, to accommodate traffic flow, especially on streets that are State Route locations or are near freeway intersections.

We want to remind you that transportation of heavy construction equipment and/or materials, which requires the use of oversized-transport vehicles on State highways will require a Caltrans transportation permit. Please limit large size truck trips to off-peak commute periods.

Attachment 1

Storm water run-off is a sensitive issue for Los Angeles and Ventura counties. Please be mindful of your need to discharge clean run-off water and it is not permitted to discharge onto State highway facilities.

If you have any questions or concerns regarding these comments, please feel free to contact me at (213) 897 – 9140 or project coordinator Frances Lee at (213) 897-0673 or electronically at frances.lee@dot.ca.gov.

Sincerely,

Dianna Watson

DIANNA WATSON
Branch Chief, Community Planning & LD IGR Review

cc: Scott Morgan, State Clearinghouse

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STATE CLEARINGHOUSE AND PLANNING UNIT
LETTER CODE: S-3

DATE: June 17, 2016

RESPONSE S-3-1

This comment is introductory and indicates that the State Clearinghouse submitted the Draft Environmental Impact Report (EIR) for the proposed Project to selected State agencies for review. It further indicates that comments from the reviewing agency are enclosed. The enclosed comment letter is a duplicate of the California Department of Transportation (Caltrans) letter responded to in this Response to Comments document as Letter S-2. The comment states that the lead agency has complied with the State Clearinghouse review requirements for draft environmental documents pursuant to the California Environmental Quality Act (CEQA).

This comment does not contain any substantive statements or questions about the environmental analysis or conclusions contained in the Draft Supplemental EIR or the analysis therein. Refer to Comment Letter S-2 for responses to comments made by Caltrans (Attachment 1 of this letter). This comment will be forwarded to the decision-makers for their review and consideration. No further response is necessary.

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2.3 LOCAL AGENCIES/UTILITY PROVIDERS

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L-1

COUNTY SANITATION DISTRICTS
OF LOS ANGELES COUNTY

1955 Workman Mill Road, Whittier, CA 90601-1400
Mailing Address: P.O. Box 4998, Whittier, CA 90607-4998
Telephone: (562) 699-7411, FAX: (562) 699-5422
www.lacsd.org

GRACE ROBINSON HYDE
Chief Engineer and General Manager

May 27, 2016

Ref File No.: 3690701

Mr. Craig Chalfant, Senior Planner
Development Services Department
City of Long Beach
333 West Ocean Boulevard, 5th Floor
Long Beach, CA 90802

Dear Mr. Chalfant:

Comment Letter for the Belmont Pool Revitalization Project

The County Sanitation Districts of Los Angeles County (Districts) received a Draft Environmental Impact Report for the subject project on April 13, 2016. The proposed development is located within the jurisdictional boundaries of District No. 3. We offer the following comments and updates: L-1-1

4.13 UTILITIES AND SERVICE SYSTEMS

1. *Page 4.13-7*, first paragraph under **Wastewater** – The Joint Water Pollution Control Plant currently processes an average flow of 258.4 million gallons per day (mgd). L-1-2

2. *Page 4.13-7*, second paragraph under **Wastewater** – The proposed Project is located within the jurisdictional boundaries of District 3. L-1-3

3. *Page 4.13-7*, third paragraph under **Wastewater** – The 51-inch diameter Joint Outfall C Unit 3D Trunk Sewer conveyed a peak flow of 12.2 mgd when last measured in 2013. L-1-4

4. *Page 4.13-24*, first paragraph under **Wastewater** – The 51-inch diameter Joint Outfall C Unit 3D Trunk Sewer conveyed a peak flow of 12.2 mgd when last measured in 2013. L-1-5

5. *Page* 4.13-33, first paragraph under **Wastewater** – The information states that "LACSD uses United States Census Bureau population information with population projections, as well as current land use and build out or zoned land use to project current and future wastewater flows". The Districts use actual flowrates and population data from the California Department of Finance and Census Bureau to estimate per capita generation of sewerage. Population projections from SCAG (Southern California Association of Governments) and estimated per capita generation of sewage are then used to project future wastewater flow. The capacity of District facilities are routinely monitored relative to projected needs, and capacity increase projects are undertaken as needed to meet SCAG's population projections. L-1-6

DOC: #3729805.D03

L-1

6. Previous comments submitted by the Districts in correspondence dated May 6, 2016 (copy enclosed) still apply to the subject project. L-1-7

7. All other information concerning Districts' facilities and sewerage service contained in the document is current. L-1-8

If you have any questions, please contact the undersigned at (562) 908-4288, extension 2717.

Very truly yours,

for:

Adriana Raza
Customer Service Specialist
Facilities Planning Department

AR:ar

Enclosure

cc: L. Shadler
M. Sullivan
M. Tatalovich

L-1

COUNTY SANITATION DISTRICTS
OF LOS ANGELES COUNTY

1955 Workman Mill Road, Whittier, CA 90601-1400
Mailing Address: P.O. Box 4998, Whittier, CA 90607-4998
Telephone: (562) 699-7411, FAX: (562) 699-5422
www.lacsd.org

GRACE ROBINSON HYDE
Chief Engineer and General Manager

May 6, 2014

Ref File No.: 2942490

Mr. Craig Chalfant
Planning Bureau
Development Services Department
City of Long Beach
333 West Ocean Boulevard, 5th Floor
Long Beach, CA 90802

Dear Mr. Chalfant:

Belmont Pool Revitalization Project

The County Sanitation Districts of Los Angeles County (Districts) received a Notice of Preparation of a Draft Environmental Impact Report for the subject project on April 9, 2014. The proposed development is located within the jurisdictional boundaries of District No. 3. We offer the following comments regarding sewerage service:

1. The proposed project may require a Districts' permit for Industrial Wastewater Discharge. Project developers should contact the Districts' Industrial Waste Section at extension 2900, in order to reach a determination on this matter. If this permit is necessary, project developers will be required to forward copies of final plans and supporting information for the proposed project to the Districts for review and approval before beginning project construction. For additional Industrial Wastewater Discharge Permit information, go to http://www.lacsd.org/wastewater/industrial_waste/permit.asp.

2. The wastewater flow originating from the proposed project will discharge to a local sewer line, which is not maintained by the Districts, for conveyance to either or both the Districts' Anaheim Street Trunk Sewer, located in 11th Street at Orange Avenue, or the Joint Outfall C Unit 3D Trunk Sewer, located in 11th Street at Belmont Avenue. The 36–inch diameter Anaheim Street Trunk Sewer has a design capacity of 19.7 million gallons per day (mgd) and conveyed a peak flow of 5.7 mgd when last measured in 2012. The 51–inch diameter Joint Outfall C Unit 3D Trunk Sewer has a design capacity of 29.2 mgd and conveyed a peak flow of 12.2 mgd when last measured in 2013. Attachment 1

3. The wastewater generated by the proposed project will be treated at the Joint Water Pollution Control Plant located in the City of Carson, which has a design capacity of 400 mgd and currently processes an average flow of 263.7 mgd.

4. The expected increase in average wastewater flow from the project site is 19,322 gallons per day. For a copy of the Districts' average wastewater generation factors, go to www.lacsd.org,

L-1

Wastewater & Sewer Systems, click on Will Serve Program, and click on the Table 1, Loadings for Each Class of Land Use link.

5. The Districts are empowered by the California Health and Safety Code to charge a fee for the privilege of connecting (directly or indirectly) to the Districts' Sewerage System for increasing the strength or quantity of wastewater attributable to a particular parcel or operation already connected. This connection fee is a capital facilities fee that is imposed in an amount sufficient to construct an incremental expansion of the Sewerage System to accommodate the proposed project. Payment of a connection fee will be required before a permit to connect to the sewer is issued. For more information and a copy of the Connection Fee Information Sheet, go to www.lacsd.org, Wastewater & Sewer Systems, click on Will Serve Program, and search for the appropriate link. For more specific information regarding the connection fee application procedure and fees, please contact the Connection Fee Counter at extension 2727.

6. In order for the Districts to conform to the requirements of the Federal Clean Air Act (CAA), the design capacities of the Districts' wastewater treatment facilities are based on the regional growth forecast adopted by the Southern California Association of Governments (SCAG). Specific policies included in the development of the SCAG regional growth forecast are incorporated into clean air plans, which are prepared by the South Coast and Antelope Valley Air Quality Management Districts in order to improve air quality in the South Coast and Mojave Desert Air Basins as mandated by the CCA. All expansions of Districts' facilities must be sized and service phased in a manner that will be consistent with the SCAG regional growth forecast for the counties of Los Angeles, Orange, San Bernardino, Riverside, Ventura, and Imperial. The available capacity of the Districts' treatment facilities will, therefore, be limited to levels associated with the approved growth identified by SCAG. As such, this letter does not constitute a guarantee of wastewater service, but is to advise you that the Districts intend to provide this service up to the levels that are legally permitted and to inform you of the currently existing capacity and any proposed expansion of the Districts' facilities.

Attachment 1

If you have any questions, please contact the undersigned at (562) 908-4288, extension 2717.

Very truly yours,

Grace Robinson Hyde

Adriana Raza
Customer Service Specialist
Facilities Planning Department

AR:ar

cc: L. Shadler
M. Tremblay
J. Ganz

DOC: #2966582.D03

LOS ANGELES COUNTY SANITATION DISTRICT
LETTER CODE: L-1

DATE: May 27, 2016

RESPONSE L-1-1

This comment is introductory in nature and notes that the proposed Project is located within the jurisdictional boundaries of District 3 of the Los Angeles County Sanitation District (LACSD).

This comment does not contain any substantive comments or questions about the Draft Environmental Impact Report (EIR) or analysis therein. This comment will be forwarded to the decision-makers for their review and consideration. No further response is necessary.

RESPONSE L-1-2

This comment notes that Page 4.13-7 of the Utilities section of the Draft EIR should be revised to indicate that the Joint Water Pollution Control Plant (JWPCP) currently processes an average of 258.4 million gallons per day (mgd).

This change will be incorporated in the Errata to the Final EIR and does not change the analysis or conclusions contained in the Draft EIR. Therefore, no further response is necessary.

RESPONSE L-1-3

This comment notes that Page 4.13-7 of the Utilities section of the Draft EIR should be revised to state that the Project site is located within the jurisdictional boundaries of District 3 of the LASCD.

This change will be incorporated in the Errata to the Final EIR and does not change the analysis or conclusions contained in the Draft EIR. Therefore, no further response is necessary.

RESPONSE L-1-4

This comment notes that Page 4.13-7 of the Utilities section of the Draft EIR should be revised to state that the 51-inch diameter Joint Outfall C Unit 3D Trunk System conveyed a peak flow of 12.2 mgd when last measured in 2013.

This change will be incorporated in the Errata to the Final EIR and does not change the analysis or conclusions contained in the Draft EIR. Therefore, no further response is necessary.

RESPONSE L-1-5

This comment notes that Page 4.13-24 of the Utilities section of the Draft EIR should be revised to state that the 51-inch diameter Joint Outfall C Unit 3D Trunk System conveyed a peak flow of 12.2 mgd when last measured in 2013.

This change will be incorporated in the Errata to the Final EIR and does not change the analysis or conclusions contained in the Draft EIR. Therefore, no further response is necessary.

RESPONSE L-1-6

This comment notes that Page 4.13-33 of the Utilities Section of the Draft EIR states that, "LACSD uses United States Census Bureau population information with population projections, as well as current land use and build out or zone land use to project current and future wastewater flows." The comment goes on to affirm that while the LACSD utilizes population information from the United States Census Bureau, the LACSD also utilizes actual flowrates and population data from the California Department of Finance to estimate per capita generation of sewage. Additional, the comment notes that population projects provided by the Southern California Association of Governments (SCAG) and estimated per capita generation of sewage are utilized to project future wastewater flow. Additionally, the comment indicates that LACSD facilities are routinely monitored relative to project needs, and capacity increase projects are undertaken on an as-needed basis to meet SCAG's population projections.

This change will be incorporated in the Errata to the Final EIR and does not change the analysis or conclusions contained in the Draft EIR. Therefore, no further response is necessary.

RESPONSE L-1-7

This comment notes that comments previously submitted by the LACSD on May 6, 2014, in response to the Notice of Preparation for the proposed Project remain applicable to the Draft EIR. These comments are included as Attachment 1 and can be summarized as follows:

(1) The Project may require a permit for Industrial Waste Discharge.

(2) Wastewater originating from the Project will discharge into a local sewer line, which is not maintained by LACSD, for conveyance to either the Anaheim Street Trunk Sewer or the 51-inch diameter Joint Outcall C Unity 3D Trunk Sewer. The capacity of each of these sewers is 19.7 mgd with a conveyed peak flow of 5.7 mgd and 29.2 mgd with a conveyed peak flow of 12.2 mgd when last measured in 2013.

(3) Wastewater generated by the Project will be treated at the JWPCP, which has a design capacity of 400 mgd and currently processes 263.7 mgd.

(4) The expected increase in wastewater flow from the project is 19,322 gallons per day (gpd) based on the LACSD generation factors.

(5) LACSD charges a fee for connecting to the District's Sewage System for increasing the strength and/or quantity of wastewater attributable to a parcel or operation already connected.

(6) The design capacities of the LACSD wastewater treatment facilities are based on growth forecasts provided by SCAG.

Information outlined in the comment letter submitted by LACSD is outlined in the "Scoping Process" and the "Existing Environmental Setting" subsections of Section 4.13, Utilities, of the Draft EIR.

RESPONSE L-1-8

This comment notes that all other information regarding LACSD facilities and sewage service in the document is current.

This comment does not contain any substantive comments or questions about the Draft EIR or analysis therein. This comment will be forwarded to the decision-makers for their review and consideration. No further response is necessary.

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2.4 INTERESTED PARTIES

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Alyssa Helper

From: Craig Chalfant <Craig.Chalfant@longbeach.gov>
Sent: Monday, April 18, 2016 8:21 AM
To: Ashley Davis; Alyssa Helper
Cc: Dino D'Emilia
Subject: FW: Belmont Pool

Include with DEIR comments.

Dino, do you want to be copied on all comment transmittals?

From: James Lent [mailto:j2lent@verizon.net]
Sent: Monday, April 18, 2016 8:09 AM
To: Craig Chalfant
Subject: Belmont Pool

Having sat at virtually all of the public meetings from the beginning I would like to state a couple concerns:

With the idea that this structure should be around 50 years from completion and knowing that sea levels will rise apx 3 ft by 2025 I would suggest that the site level be 10 feet and not 5 feet above base grade. I-1-1

The architect has called out the use of what looks like treated wood on part of the exterior. I would highly suggest the use of Trex or other composite on any non load bearing surface due to the exposure to moisture and the elements. I have a 100 ft long fence that I made using Trex apx 10 years ago and its still in the same condition as when installed. I am 1 block in one direction and 5 in another from the water. Even treated woods seems to get termites after 5-7 years. Exposed load bearing surfaces should not be steel. Note the damage done to the shade structure at the Bola Chica beach. I-1-2

My last concern is the moveable floor. As a handicapped person that uses the pool I do understand the need to walk into the pool and walk in 4-5 ft water; however a moveable floor is just going to break at some point which will add operating expense. That said I would like to see one pool with a portion at a 4 to 7 ft level. With the old pool, at times there were almost to many people in the shallow end at the same time there were openings at the deep end which was 2/3 of the pool. See what the architect can come up with. In the long run it will save the city money. I-1-3

Thank you

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JAMES LENT

LETTER CODE: I-1

DATE: April 18, 2016

RESPONSE I-1-1

This comment begins by stating that the proposed structure should be 50 years from completion and asserts that sea levels will rise by approximately 3 feet (ft) by 2025. As such, the commenter recommends that the site level be 10 ft rather than 5 ft above base grade.

As described in Section 4.6, Global Climate Change, of the Draft Environmental Impact Report (EIR), a *Wave Uprush Study* was prepared for the proposed Project (Moffat & Nichol, October 2014) (Appendix B). As part of this study, sea level rise was estimated at the Project site for the horizon years of 2060 and 2100. As described in this report, sea level rise is projected to reach a maximum level of 2.6 ft in 2060, which would result in a run-up elevation of 8.2 ft at the Project site in 2060. Therefore, while sea level rise was not projected for the year 2035, the projected maximum sea level rise associated with the horizon year 2060 would still be less than the 3 ft estimation in the year 2025.

The main pool deck would be elevated 17 ft above mean sea level (amsl), which would be set 8.8 ft above the projected high water levels in 2060. The lower level of the building (pool equipment and storage) and associated parking areas would be below the projected water line in 2060; however, this area would not be open for public use, and therefore, would not subject visitors to the Project site to significant cumulative impacts related to sea level rise. Furthermore, additional greenhouse gas (GHG) reduction strategies implemented at the State, national, and international levels could reduce sea-level rise between now and the year 2100. Therefore, the proposed Project would not be adversely impacted by sea level rise due to climate change, and no mitigation is required.

RESPONSE I-1-2

The comment notes the proposed use of treated wood on the exterior of the pool facility. The commenter speaks from personal experience in recommending the use of Trex or another composite on non-load-bearing surfaces to minimize maintained costs associated with the exposure of treated wood to the natural coastal elements. The commenter also recommends against the use of steel on any exposed load-bearing surfaces associated with the proposed Project, citing the example of damage to the shade structure at Bolsa Chica Beach.

The proposed Project does not include the use of wood, treated or otherwise. Materials used on the Project will be wood-like where applicable (e.g., benches, first and second floor mezzanines, and the western screen or ship wall) and will be composite, synthetic, or other non-wood materials. In addition, any exposed steel structure, specifically any structure supporting the bubble, will be either stainless steel or treated with high performance base prime coatings that will protect the steel from corrosion, while the top coats of high performance synthetics will protect the prime coat and provide the color and sheen desired.

RESPONSE I-1-3

The commenter opines that a moveable floor will add to the operating expenses of the Project. The commenter also notes that despite the proposed moveable floor, the overall depth of the indoor pool detracts from its use by individuals with varying physical abilities. As such, a possible solution would be to include a shallow area (4 to 7 ft) that would gradually feed into the deeper area of the pool to serve the needs of all individuals utilizing the pool. The commenter also notes that having a shallower area would allow for optimal use of the pool because often times, the shallow end of the old pool was more frequently utilized than the deeper end.

This comment does not contain any substantive comments or questions about the Draft EIR or analysis therein. This comment will be forwarded to the decision-makers for their review and consideration. No further response is necessary.

From: Craig Chalfant <Craig.Chalfant@longbeach.gov>
Sent: Wednesday, April 27, 2016 11:59 AM
To: Ashley Davis; Alyssa Helper
Subject: FW: Belmont Pool EIR Endorsement

-----Original Message-----
From: law2mom [mailto:bpatno@gmail.com]
Sent: Tuesday, April 26, 2016 9:26 AM
To: Craig Chalfant
Subject: Belmont Pool EIR Endorsement

Dear Mr. Chalfant,

As a young child swimmer, I have fond memories swimming at the Belmont Pool. As a master swimmer, I hope one day to swim in the new Belmont pool proposed. I-2-1

After reviewing the Belmont DEIR, I fully support the proposed Project. I expect the project will make Long Beach, and the greater Los Angeles Area very happy with this wonderful facility that meets your project goals for providing utility to all swimmers, divers and other pool users including the young residens in Long Beach who need to learn to swim. I-2-2

All the best with the Belmont Pool Project!
Brian Patno

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BRIAN PATNO
LETTER CODE: I-2

DATE: April 26, 2016

RESPONSE I-2-1

This commenter expresses fondness for the former Belmont Pool facility and looks forward to the development of the revitalized Belmont Pool.

This comment does not contain any substantive comments or questions about the Draft Environmental Impact Report (EIR) or analysis therein. Therefore, no additional response is necessary.

RESPONSE I-2-2

This comment expresses support for the proposed Project and notes that the Project will serve all swimmers, divers, and recreational swimmers in the City of Long Beach, including young residents.

This comment does not contain any substantive comments or questions about the Draft EIR or analysis therein. Therefore, no additional response is necessary.

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Alyssa Helper

I-3

From: Craig Chalfant <Craig.Chalfant@longbeach.gov>
Sent: Tuesday, May 03, 2016 12:34 PM
To: Ashley Davis; Alyssa Helper
Subject: FW: New Belmont Pool

Include with DEIR comments. Thanks!

From: Jason Ziccardi [mailto:jbziccardi@gmail.com]
Sent: Saturday, April 30, 2016 12:50 PM
To: Craig Chalfant
Subject: New Belmont Pool

Hi Craig,

This article said I could email you with comments about the new pool.

It might be a little late for this, but I was super disappointed to see that it looks like there's no plan to return lighted volleyball courts to this area. The lit volleyball courts that were behind the old pool were a vibrant area of community recreation pretty much every summer night. There were at least 30-50 people playing every evening, with different people showing up all the time. I-3-1

It was a really big loss to recreation and the volleyball community in the city to have them removed with the demolition, but most people had hope that the new pool would include this design element. Really sad that it looks like it wont.

Jason Ziccardi

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JASON ZICCARDI
LETTER CODE: I-3

DATE: April 30, 2016

RESPONSE I-3-1

This comment expresses disappointment that the proposed Project does not include lighted volleyball courts that were previously present on the Project site as part of the former Belmont Pool facility. The comment goes on to state that the loss of the lighted volleyball courts is a loss to the community, as these courts were a valuable recreational resource.

As described in Chapter 3.0, Project Description, of the Draft Environmental Impact Report (EIR), the Pacific Ocean, the beach, bicycle and pedestrian pathways, and volleyball courts are located south of the Project site. The Project site would not interfere with the existing volleyball courts directly south of the site. It should be noted that these courts are not supported by lighting at this time; however, there were lights mounted on the former Belmont Pool facility that were directed at the beach volleyball courts adjacent to the building. The volleyball courts currently present south of the site would remain in operation in the post-project condition. Therefore, no additional response is necessary.

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Alyssa Helper I-4

Subject: FW: New Pool Question

-----Original Message-----
From: Billy [mailto:wrcovington@gmail.com]
Sent: Tuesday, May 03, 2016 5:33 AM
To: Craig Chalfant
Subject: New Pool Question

Hi Craig,
Just a quick, practical question about the new pool design:

If the roof is going to be glass, how the heck are we going to be able to keep it clean and maintained?

I love the look of it on paper, but I can't tell if anyone has thought about the practicalities of bird droppings and dirt buildup. I-4-1

Just something to think about.

Thanks,

--Billy Covington

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BILLY COVINGTON

LETTER CODE: I-4

DATE: May 3, 2016

RESPONSE I-4-1

This commenter asks how the proposed Belmont Pool facility would be clean and maintained. The commenter makes specific reference to the potential for bird droppings and dirt buildup.

It is industry standard for annual inspections to be performed by experienced inspectors. The proposed Ethylene tetrafluoroethylene (ETFE) material is chemically related to "Teflon" and shares many of its properties, such has having a low coefficient of friction and a non-porous surface allowing the natural action of rain to clean its surface. Deposits of dirt, dust, and bird droppings remain unattached to the surface and are washed away by rain. The natural process of wind will remove dust and dirt. In climates where rain is too infrequent to be considered the main cleansing process, a simple cleaning regimen can be implemented that consists of low pressure running water. No use of chemicals or physical wiping of the surface would be required, as debris does not adhere to the surface and the material does not streak when drying. Fritting of the ETFE will help hide accumulated dirt or dust.

This comment does not contain any substantive comments or questions about the Draft Environmental Impact Report (EIR) or analysis therein. Therefore, no additional response is necessary.

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 I-5

MS. BODEK: I'm going to go off the top of my head. I believe the existing height limit is 36 feet, and this will be somewhere around 68 feet.

The existing -- I should not say the existing facility. The old Belmont Pool was 58 feet or so, so that already exceeded the height limits for the specific zoning area, and this will also exceed that.

So there is an expectation that this project would require a variance.

COMMISSIONER VAN HORIK: And again, repeat what's the height of the new?

MS. BODEK: I'm going to just clarify that and get back to you.

COMMISSIONER VAN HORIK: Okay. Thank you.

CHAIRMAN CHRISTOFFELS: Seeing no other commissioners requesting additional information, thank you, Mr. Modica.

And with that, we will open it to the public. If you are present tonight to speak on this matter, please come forward. Come to the podium. I need you to say your name and address for the record. You'll have three minutes to speak, and for your convenience, there will be a clock behind me.

MS. SILMER: Thank you. My name is Laura Silmer. My address is on file with the City.

I-5-1

I did not come to speak about this project, but I'm fascinated. I think it's a beautiful, just a stunning building, as the Commissioner said over here. I-5-1

My question is cleaning the building. Has the architect addressed how to keep those beautiful transparent windows transparent? Because we are located near a port, and I know that some of our solar panels were unworkable that the City owned because so much soot had collected on the horizontal structures. Plus the maintenance, you know, the extra cost of maintaining that style of design to keep it looking the way it's shown. I-5-2

Thank you.

CHAIRMAN CHRISTOFFELS: You're welcome. Thank you.

MS. CHRISTENSEN: I'd like to ask a quick question before my time starts, and that is while I understand that oral comments tonight will not get a response, are they entered into the EIR record?

CHAIRMAN CHRISTOFFELS: Yes. So your comment will go on the record, but if you're looking for a formal response to that, you'll need to provide it --

MS. CHRISTENSEN: Thank you.

My name is Ann Christensen. I live at 259 Termino, so I am local, very local resident. I am

LAURA SILMER
LETTER CODE: I-5

DATE: May 5, 2016

RESPONSE I-5-1

This comment is introductory in nature and provides background information about the commenter.

This comment does not contain any substantive comments or questions about the Draft Environmental Impact Report (EIR) or analysis therein. This comment will be forwarded to the decision-makers for their review and consideration. No further response is necessary.

RESPONSE I-5-2

This comment expresses concern with respect to the cleaning and maintenance of the Ethylene tetrafluoroethylene (ETFE) materials. The commenter goes on to note that solar panels are not feasible on many projects in the City of Long Beach because of maintenance costs, and as such, questions the maintenance costs associated with ETFE materials.

It is industry standard for annual inspections to be performed by experienced inspectors. The proposed Ethylene tetrafluoroethylene (ETFE) material is chemically related to "Teflon" and shares many of its properties, such has having a low coefficient of friction and a non-porous surface allowing the natural action of rain to clean its surface. Deposits of dirt, dust, and bird droppings remain unattached to the surface and are washed away by rain. The natural process of wind will remove dust and dirt. In climates where rain is too infrequent to be considered the main cleansing process, a simple cleaning regimen can be implemented that consist of low pressure running water. No use of chemicals or physical wiping of the surface would be required, as debris does not adhere to the surface and the foil does not streak when drying. Fritting of the ETFE will help hid accumulated dirt or dust.

This comment does not contain any substantive comments or questions about the Draft EIR or analysis therein. This comment will be forwarded to the decision-makers for their review and consideration. No further response is necessary.

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I did not come to speak about this project, but I'm fascinated. I think it's a beautiful, just a stunning building, as the Commissioner said over here.

My question is cleaning the building. Has the architect addressed how to keep those beautiful transparent windows transparent? Because we are located near a port, and I know that some of our solar panels were unworkable that the City owned because so much soot had collected on the horizontal structures. Plus the maintenance, you know, the extra cost of maintaining that style of design to keep it looking the way it's shown.

Thank you.

CHAIRMAN CHRISTOFFELS: You're welcome. Thank you.

MS. CHRISTENSEN: I'd like to ask a quick question before my time starts, and that is while I understand that oral comments tonight will not get a response, are they entered into the EIR record?

CHAIRMAN CHRISTOFFELS: Yes. So your comment will go on the record, but if you're looking for a formal response to that, you'll need to provide it --

MS. CHRISTENSEN: Thank you.

My name is Ann Christensen. I live at 259 Termino, so I am local, very local resident. I am I-6-1

 I-6

also a member loosely of the aquatics community. However -- I don't know if I can do this in three minutes, but I'll just state right off the bat that I don't think we need a double wide. This is double wide, like a double wide trailer. I-6-1

I think the main reason right now, the reason I think has maybe the most hope of before a planning committee that already approved a giant glass building in our wetlands sanctuary and had to be stopped with a $50,000 lawsuit from a nonprofit wetlands group a number of years ago, I don't think you will hesitate to follow the mitigation plan of avoiding impact from the bird -- shorebirds. I-6-2

And these are not just any birds. These are protected wildlife shorebirds -- by the suggested mitigation chop down the trees they nest in. I mean, really? That's how you mitigate the fact that there are shorebirds? Insane.

So anyway, but what I'm concerned about as a member of the aquatics community is that kids in Long Beach learn how to swim. Now, there wasn't an Olympic pool when I was a kid. I had to wait 'til I was four feet high, which took a long time, and learn to swim at Wilson High School. I-6-3

Now the Wilson High School pool apparently isn't good enough for the Wilson High School water polo team, which has used this facility and now brings the band and plays water polo outside while the shorebirds are trying to nest. I-6-3

So I don't know with this extended outdoor pool, it seems like it's just going to continue. But I'm really concerned -- and I hope this is heard -- when it talks about how all these other plans aren't workable. First of all, if the Harry Bridges Park is federally mandated to have outdoor recreation, then you can put an outdoor pool there, and then the inner city kids in the First District would have someplace to learn to swim. I-6-4

Now, I understand, you know, 'cause I am very close with someone at Leeway Sailing -- which, by the way, needs a lot more promotion, could be run yearlong. It's an amazingly great program. And I know they have an arrangement. I'm not saying build no pool, but I'm saying can't we share the wealth? I know it may be Tidelands Oil money, but I'm sure there's other money, as well. I-6-5

All I'm saying is that people in Long Beach are in the long run -- this is the Long Beach City project. This is going to be supported by the City Council, and while one district may say I'll stay out of I-6-6

I-6

your backyard if you stay out of mine, we need to plan that our whole city, all the kids learn to swim, and it's crazy to put two gigantic pools right next to each other in the most affluent part of town. That just is not -- it's not -- it's not good. It's not smart. I-6-6

CHAIRMAN CHRISTOFFELS: Thank you.

MS. CHRISTENSEN: And also, just one last thing. Don't we have eminent domain regarding these 30-year leases for the better public? I-6-7

MS. JOHNSON: Good evening, Commissioners. My name is Lucy Johnson. I'm a resident of the Fifth District and a very passionate advocate for this new project. I first want to commend Mayor Garcia, Assistant City Manager Tom Modica, Director Amy Bodek, and all the staff, City staff, especially Councilmember Suzie Price and her staff for all their work in getting us this far in the process. I also want to commend the project and design teams for all their efforts. I think you've seen a very stunning presentation.

The Draft EIR is on the table now, and yes, there are opponents to the project; however, I sincerely hope that the Planning Commission accepts this draft as the final EIR without letting the naysayers control, or just as importantly, delay the process with specious arguments, while adding hundreds of thousands of dollars

ANNA CHRISTENSEN

LETTER CODE: I-6

DATE: May 5, 2016

RESPONSE I-6-1

This comment is introductory and expresses concern about the aesthetics of the proposed Project. The commenter expresses the opinion that the proposed Project would look like a double-wide trailer.

Section 4.1, Aesthetics, of the Draft Environmental Impact Report (EIR) includes an analysis of the design and visual character of the proposed Project with relation to public views and scenic vistas. As described throughout this section of the Draft EIR, implementation of the proposed Project would not result in significant impacts related to aesthetics. Furthermore, this comment is expressive of the opinion of the commenter and does not contain any substantive comments or questions about the Draft EIR or analysis therein. This comment will be forwarded to the decision-makers for their review and consideration. Therefore, no additional response is necessary.

RESPONSE I-6-2

This comment references a different project that was presented before the Planning Commission and expresses concern relating to that project's impacts to shorebirds.

The comment mistakenly suggests that impacts to birds would be mitigated through the removal of trees. Impacts to shoreline birds in the Project area are discussed in Section 4.3, Biological Resources, of the Draft EIR. As described further in this section of the Draft EIR, the proposed Project would result in less than significant impacts to nesting birds in the Project area with adherence to Mitigation Measure 4.3.1. Mitigation Measure 4.3.1 requires that if construction is proposed during the active nesting season, a qualified biologist familiar with local avian species and the requirements of the Migratory Bird Treaty Act (MBTA) and the California Fish and Game Code shall conduct a preconstruction survey for nesting birds prior to construction and shall record the results of the survey in a memorandum to be submitted to the City of Long Beach (City) Parks, Recreation, and Marine Director. If the survey identifies nesting, the memorandum shall be submitted to the California Department of Fish and Wildlife (CDFW) to determine the appropriate action. If nesting birds are present, a qualified biologist shall also be retained to monitor the site during initial vegetation clearing and grading, as well as other activities that would have the potential to disrupt nesting behavior. With implementation of this measure, construction impacts (including construction noise impacts) to nesting birds were determined to be less than significant.

In addition to construction noise, it is important to note that operational activities associated with the proposed Project would be similar in scale and nature to those at the former Belmont Pool facility. As such, operational noise impacts to potential on-site nesting birds would similar to those at the former facility. Furthermore, as described further on Page 4.3-18 of Section 4.3, Biological Resources, "the bird species present in the Project area are currently coexisting with pool and park users and are accustomed to human intrusion and noise and are anticipated to be able to reestablish to the relocated trees and adapt to the additional trees installed as part of the proposed Project. Therefore, long-term operation of the proposed Project is anticipated to have less than significant impacts on nesting and/or roosting birds."

RESPONSE I-6-3

This comment provides background information about the commenter and expresses the importance of swimming in the community. The comment states that the pool at Wilson High School is no longer used by the school water polo team and suggests that the Wilson High School water polo team now uses the temporary Belmont Pool facility. As such, the commenter expresses concern related to noise from the band and water polo games and how this noise disrupts the shoreline birds while they are nesting near the Project site.

This comment is information in nature and does not contain any substantive comments or questions about the Draft EIR or analysis therein. This comment will be forwarded to the decision-makers for their review and consideration. Therefore, no additional response is necessary.

RESPONSE I-6-4

This comment expresses concern that the outdoor component of the proposed Project will continue to have similar issues related to disturbing shorebirds, as described in comment I-6-3. This comment also questions why other plans are not workable. The commenter makes reference to the Harry Bridges Park alternative site. The commenter further states that locating the proposed Project at Harry Bridges Park would be allowed and would provide access to children in the First District.

Please refer to Response I-6-3, above, for further discussion related to the Project's impacts on nesting/roosting birds.

Chapter 5.0, Alternatives, in the Draft EIR considered and analyzed Harry Bridges Memorial Park as an alternative project location for the proposed Project. As stated in the Draft EIR, the Harry Bridges Memorial Park site was ultimately determined to be infeasible because this park was designated as part of the parkland mitigation for the development of the Aquarium of the Pacific and Rainbow Harbor to replace recreational open space in Shoreline Park funded under the Land and Water Conservation Fund (LWCF) Act. Under Section 6(f)(3) of the LWCF Act, the Harry Bridges Memorial Park may not be converted to uses other than a public outdoor recreation use. For this protection to include the proposed Project's enclosed areas as an allowable use, a petition to the Secretary of the Interior would be required. The petition process with the Secretary of the Interior was considered prohibitive due to the extended time, cost, and uncertain outcome. There are additional constraints related to park size and available parking that eliminated the consideration of this alternative project location. For these reasons, the Harry Bridges Memorial Park is not considered a feasible alternative project site on which the proposed Project could be developed.

RESPONSE I-6-5

This comment states that the commenter is not against implementation of the proposed Project, but would like to make the pool accessible to other areas/communities in the City. The commenter also references other funding mechanisms for the proposed Project.

This comment does not contain any substantive comments or questions about the Draft EIR or analysis therein. This comment will be forwarded to the decision-makers for their review and consideration. No further response is necessary.

RESPONSE I-6-6

This comment suggests that the pool should be developed in another location of the City rather than having two pools next to each other in an affluent part of the City. Chapter 5.0, Alternatives, in the Draft EIR considered and analyzed alternative project locations for the proposed Project. The analysis concluded that relocating the Project to an alternative location would not avoid or reduce any of the potentially significant impacts of the proposed Project. Furthermore, a large majority of the funding for the proposed Project would originate from Tidelands funds, which are legally mandated to fund development within the City's Tidelands area. Therefore, developing the proposed Project at an alternative location in the City outside of the Tidelands area with Tidelands funds would be expressly prohibited. Due to the cost of the Project, developing the Project outside of the Tidelands area without the Tidelands funds would also be infeasible due to a lack of funding sources. Furthermore, the primary objective of the Project is to replace the former facility in its original location. It should also be noted that the proposed Project was initiated prior to the demolition and removal of the old facility, as it has long been the City's intention to replace the old facility on the same site.

RESPONSE I-6-7

This comment asks whether eminent domain can be used for 30-year leases if they are for public betterment. It is assumed that the 30-year lease referenced in this comment refers to the "Elephant Lot" at the Long Beach Convention Center (LBCC), which is a parking lot on the east side of LBCC that is leased to the Jehovah's Witness organization to accommodate parking demands during the annual convention at LBCC. The lease expires in 2030 and requires 3,000 parking spaces in two different lots, one of which is the Elephant Lot that provides 1,915 of these spaces.

While Eminent Domain could be exercised to obtain the use of this parking lot for the development of the proposed Project, the loss of the 1,915 parking spaces for the Jehovah's Witness Organization or LBCC would require additional mitigation. Additionally, special events, such as the annual Grand Prix of Long Beach, also use this parking lot for events and staging. For these reasons, the use of Eminent Domain for purposes of developing the Project on the Elephant Lot would not be considered reasonable because development of the Project on this alternative site would not be the highest and best land use for the area adjacent to LBCC.

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your backyard if you stay out of mine, we need to plan that our whole city, all the kids learn to swim, and it's crazy to put two gigantic pools right next to each other in the most affluent part of town. That just is not -- it's not -- it's not good. It's not smart.

CHAIRMAN CHRISTOFFELS: Thank you.

MS. CHRISTENSEN: And also, just one last thing. Don't we have eminent domain regarding these 30-year leases for the better public?

MS. JOHNSON: Good evening, Commissioners. My name is Lucy Johnson. I'm a resident of the Fifth District and a very passionate advocate for this new project. I first want to commend Mayor Garcia, Assistant City Manager Tom Modica, Director Amy Bodek, and all the staff, City staff, especially Councilmember Suzie Price and her staff for all their work in getting us this far in the process. I also want to commend the project and design teams for all their efforts. I think you've seen a very stunning presentation. I-7-1

The Draft EIR is on the table now, and yes, there are opponents to the project; however, I sincerely hope that the Planning Commission accepts this draft as the final EIR without letting the naysayers control, or just as importantly, delay the process with specious arguments, while adding hundreds of thousands of dollars I-7-2 to the eventual cost due to their delaying tactics.

While it is nice that there are people in the community who care passionately about birds and trees, this project will have a tremendously beneficial -- will be tremendously beneficial to the 460,000 plus citizens of Long Beach and many more in the surrounding region.

This project is not some new monstrosity being placed on our coastline for the benefit of a few private interests. Instead, it is a replacement for the now defunct world-renowned Belmont Plaza Olympic Pool. I-7-2

Please signify that you all understand the project serves many needs for our community and, at the appropriate time, approve the project as presented.

I do want to comment a little bit on Commissioner Templin's question on the parking. The existing pool that was there starting with the Olympic Trials in 1968 has had two Olympic Trials, two NCAA men's championships, myriads of regional meets during the years, and there has never been that parking lot filled on the west side, east side of the building. I-7-3

So I think there's a lot -- if you keep that in mind that we've had all these projects and special events in the past, and parking hasn't been that much of a problem. You've got a lot of other uses down

I-7

there with the dog beach and volleyball, but it's still -- Touch-A-Truck on Sunday. That parking lot, I've never seen it filled before Sunday. And there's parking on the other side of the structure, as well. I-7-3

So I do hope you will keep those things in mind and keep in mind that this is replacing an existing facility that had all of those special events, as well as the fact that we only currently have three public pools in this entire city for over 460,000 people. I-7-4

The high school pools that open in the summer are open for only two months in the summer, and we do need to get all the kids trained in learning how to swim. And adults, too.

So again, I hope you take all of this into account and approve the EIR as it comes forward to you. Thank you. I-7-5

CHAIRMAN CHRISTOFFELS: Thank you for your comments.

Is there anybody else that would like to speak on this matter? Please come forward.

Seeing none, Mr. Modica, could you answer a few questions? One was I would be interested in knowing, as well, how do you keep that glass clean.

MR. MODICA: So I will start with my understanding, and then we have Duane Fisher here, one

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LUCY JOHNSON
LETTER CODE: I-7

DATE: May 5, 2016

RESPONSE I-7-1

This comment is introductory in nature and expresses the commenter's appreciation for the City of Long Beach's (City) efforts on the proposed Project.

This comment does not contain any substantive comments or questions about the Draft Environmental Impact Report (EIR) or analysis therein. Therefore, no additional response is necessary.

RESPONSE I-7-2

This comment expresses support for the Project and recommends that the Planning Commission approves the Draft EIR as the Final EIR. The commenter further notes the opinion that the proposed Project will be beneficial to the citizens of the City and the region.

This comment does not contain any substantive comments or questions about the Draft EIR or analysis therein. Therefore, no additional response is necessary.

RESPONSE I-7-3

This comment discusses current and past parking conditions on the Project site. The commenter states that even during large aquatic events, there is sufficient parking available.

Refer to Common Response 3 in Section 2.1, Frequent Comments and Common Responses, of this Final EIR for further discussion related to parking and the proposed mitigation measure requiring an Event Traffic Management Plan.

RESPONSE I-7-4

This comment notes that the proposed Project is replacing an existing facility. In addition, the commenter further notes that only three public pools currently serves the City, and the pools at high schools are only open during the summer months.

This comment does not contain any substantive comments or questions about the Draft EIR or analysis therein. Therefore, no additional response is necessary.

RESPONSE I-7-5

This comment expresses support for approval of the EIR and the proposed Project.

This comment does not contain any substantive comments or questions about the Draft EIR or analysis therein. Therefore, no additional response is necessary.

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Maryanne Cronin

Subject: FW: Comments on the Draft EIR for the proposed Belmont pool project
Attachments: Draft EIR LJ comments 160603.docx

From: Lucy Johnson [mailto:lucyjohnson1@gmail.com]
Sent: Friday, June 03, 2016 12:37 PM
To: Craig Chalfant
Cc: Amy Bodek; Ashley Davis
Subject: Comments on the Draft EIR for the proposed Belmont pool project

Craig,

I am a passionate advocate for the proposed Belmont pool project, with a strong desire to see Long Beach once again offering a world-class, state-of-the-art aquatics facility, even better than the original Belmont Plaza Olympic Pool was in its heyday.

My comments (see attached) are lengthy, because I went through the DEIR in some detail. My intent is to perhaps shed some perspective on what we once had here, and what I fervently wish Long Beach to have once again.

Some of the comments are housekeeping in nature, where I saw what might have been an error or two. Other comments are, I hope, intended to strengthen or bolster some of the points made in the document, particularly in discussing the alternatives (location and scope of the project). I hope no one reading them will take offense at any of my suggestions, as they are not intended to be criticisms of either the proposed project or the DEIR. I-8-1

Overall, I am quite pleased with this DEIR, and truly admire the work and knowledge that has been put into the document by all parties involved in its creation.

Thanks to you all,

Lucy

P.S. I tried to keep the outlining format consistent, but ran into problems starting with Section 5. If it causes any issues, please feel free to call or email me with any questions.

--
Lucy Johnson
Vice President & Development Director
Aquatic Capital of America
www.aquaticcapital.org
lucyjohnson1@gmail.com
562-431-0052
www.facebook.com/RebuildBelmontPlazaOlympicPool

I-8

Written Comments to Draft Environmental Impact Report (DEIR) for Belmont Pool Revitalization Project

June 3, 2016

From
Lucy Johnson
2402 Petaluma Avenue
Long Beach, CA 90815-2424
562-431-0052
lucyjohnson1@gmail.com

1. **EXECUTIVE SUMMARY**
   No comments on this section.

2. **INTRODUCTION**

   2.1. Purpose and Type of EIR/Intended Uses of the EIR
   No comments on this section.

   2.2. Public Review Process

   2.2.1.No comments on this section

I-8-2

   2.2.2.Areas of controversy (page 2-3, first paragraph)

<u>Potential for increased traffic</u> – This project replaces n aquatics facility that had been in the same location for over 46 years. In addition to the daily recreational uses of the original facility, it served as the site of numerous local, regional, national and international competitive aquatic events, some of which attracted more spectators than the replacement facility is designed to accommodate. Therefore, it is highly unlikely that there will be increased traffic to the location when compared to past events. I-8-3

<u>Potential for discovery of cultural resources</u> – No comments for this Area.

<u>Potential for air quality impacts</u> - No comments for this Area.

<u>Increase in wastewater discharges</u> - No comments for this Area.

<u>Potential for impacts to storm drain facilities</u> - no comments for this Area.

I-8-4

<u>Concerns of pool design and amenities meeting the overall desires of the swimming community</u> – *First* (housekeeping), these concerns were not just from the swimming community, but also the water polo and diving communities. I-8-5

Second, keep in mind that the original Belmont Plaza Olympic Pool was a world-class, state-of-the-art aquatic center at the time is was constructed in 1968, but with I-8-6 subsequent rule changes by the various governing bodies for diving, swimming, synchronized swimming and water polo, plus many years of deferred maintenance, it became obsolete a number of years ago, no longer able to attract most major events. I-8-6

Third, most of the concerns were resolved through the meetings with the stakeholder committee members. *However*, there remains a major concern with the number of permanent seats planned for the new indoor facility. A planned capacity of 1,250 *might* be barely adequate to once again attract NCAA championship events. (Compare that number to the 2,400 seats in the original facility.) A majority of the stakeholder committee recognized this deficiency, and fought, to no avail, to include a larger number of permanent seats. Following the closure of the original pool, the Mayor and Councilmembers had all agreed that the replacement facility should once again give the City of Long Beach a world-class, state-of-the-art aquatic facility. With just 1,250 permanent seats, the new complex is most likely to attract local, regional, and perhaps statewide events, but not the numerous national and occasional international events that the former facility once attracted. In my opinion, the lack of adequate permanent seating is the one single thing that will keep us all from reaching the goal of a world-class facility. Many others agree. I-8-7

2.3. through 2.8 - No comments on these sections, as they refer to other sections that follow. I-8-8

3. PROJECT DESCRIPTION

3.1. PROJECT LOCATION AND SITE DESCRIPTION

3.1.1. Former Belmont Pool Characteristics

(Page 3-1, 4th line) "…(2) the restaurant/banquet hall…"
Comment: On the ground level, that space at the west end of the building, was originally constructed and intended to be a snack bar for users of both the pool patrons and spectators, and beach users. The upper level was intended to be a community meeting space. However, the City later decided to lease the snack bar and community rooms to private, for-profit restaurant operators for dining and banquet/wedding receptions. The pool and beach patrons no longer had public access to a snack bar or community meeting rooms. I-8-9

The new complex should include space that will honor the original purpose of a snack bar serving pool and beach patrons, and community meeting space, rather than offering a restaurant space to a for-profit operator.

3.1.2. **Temporary Pool** - No comments on this Section. I-8-10

3.1.3. **Existing Access and Parking**

(Page 3-7) Existing access and parking are adequate for the new facilities. Per City staff, there are in excess of 1,000 parking spaces between the Beach Parking Lot on the east side of the project and the Pier Parking Lot on the west side. Past events held at the original I-8-11

Belmont Plaza Olympic Pool have not filled the two lots. It is unlikely that both will be filled during future events at the new aquatic complex. I-8-11

3.1.4. **Surrounding Land Uses** - No comments on this section. I-8-12

3.2. CITY OF LONG BEACH LAND USE AND ZONING DESIGNATIONS

No comments on this section.

3.3. PROJECT HISTORY AND BACKGROUND

3.3.1. **Notable Aquatic Events** (page 3-8)

(Housekeeping)

a) The last two (2) sentences of the last paragraph on page 3-13 of this section 3.3.1 works better if moved to follow the first (1st) sentence of the second paragraph on page 3-8. I-8-13

b) Delete the entire third sentence (fourth sentence if the suggested change in a) above is made), and replace with the following, "The facility hosted both the 1968 Men's and the 1976 Men's and Women's U.S. Olympic swimming trials, as well as the 1974 and 1978 Men's National Collegiate Athletic Association (NCAA) swimming championships, and from 1969 through 1994, hosted 23 of the first 26 Men's NCAA water polo championships." I-8-14

3.3.2. Proposed Project Planning

Based solely on budgetary concerns of City staff, the Stakeholder Committee agreed to a design that would include 1,250 permanent seats within the indoor component. However, many of the Stakeholder Committee members believe that number is inadequate, and would like to see it increased to at least 1,500. The cost estimate for 1,500 permanent seats that was provided to the Stakeholder Committee in August, 2014, was $2,000,000 higher than the estimated cost for 1,250 seats. (See also my comments in Section 2.2.2, under Concerns of pool design and amenities meeting the overall desires of the swimming community.) I-8-15

3.3.3. **Notable Aquatic Events**

(page 3-8) (Housekeeping)

a) The last two (2) sentences of the last paragraph on page 3-13 of this section 3.3.1 works better if moved to follow the first (1st) sentence of the second paragraph on page 3-8. I-8-16

b) Delete the entire third sentence (fourth sentence if the suggested change in a) above is made), and replace with the following, "The facility hosted both the 1968 Men's and the 1976 Men's and Women's U.S. Olympic swimming trials, as well as the 1974 and 1978 Men's National Collegiate Athletic Association (NCAA) swimming championships, and from 1969 through 1994, hosted 23 of the first 26 Men's NCAA water polo championships." I-8-17

3.4. PROJECT CHARACTERISTICS

See comments for 2.2.2 and 3.3.2 regarding permanent seating. I-8-18

3.4.1. **Site Design/Layout** – No comments on this Section. I-8-19

3.4.2. **Structural Components** – No comments on this Section.

3.4.3. Indoor Aquatic Components

First bullet point, page 3-36 – Indoor 50-meter Competition Pool. Regarding the moveable floor. I am concerned about the ability to maintain this feature in a smoothly working condition over the long-term. Even without the moveable floor, the indoor pool will be used primarily for recreation, with lap swimmers, lessons, games, open recreation times, deep water aerobics, lessons and more regularly taking place. Almost all lap/recreational swimmers I have observed over many years do not feel a need to stand on the bottom of a pool during their recreational activity. I-8-20

Second bullet point, page 3-36 – Indoor Teaching Pool. I offer two alternatives to the moveable floor for recreational users, the first of which I had proposed during the Stakeholder Committee meetings. <u>One</u>, expanding the Indoor Teaching Pool (as shown in figure 3.6a) from 820sqft. (roughly equivalent to 22.5 ft. wide x 36.5 ft. long.) to 1,350 sf. (22.5 ft.wide x 60 ft. long) will allow for three 7.5 ft. wide lanes of 20 yards each for those who want to lap swim while being able to stand up at any time. It would also offer a space for shallow water aerobics classes, lessons for beginners, and the warm water for aquatic therapy activities. This would negate the need for the moveable floor. The cost estimate for the moveable floor in August 2014 was $1,900,000 (including a “maintenance fund budget” of $500,000).The cost estimate at the same time indicated a cost of $2,200,000 for a 900 sf. teaching pool. I-8-21
<u>Two</u>, in lieu of the moveable floor, the main 50-meter by 25-yard pool could have a small ledge indented into the walls of the pool at approximately a 5ft. depth all around for patrons to rest their feet between lengths of swimming.

No additional comments on this Section.

3.4.4. **Outdoor Aquatic Components** - No comments on this Section. I-8-22

3.4.5. Did I miss seeing this Section? Page 3-39 seems to have finished 3.4.4, then jumped to 3.4.6. I-8-23

3.4.6. **Operational Characteristics**

The addition of a second 50-meter pool with this project enhances the ability of the City of Long Beach to offer expanded water activities. With just three public pools in a city with over 460,000 residents, the city has long suffered a shortage of pool time it can offer to the myriad of users and potential users. While the Long Beach Unified School District has several pools, the newest of which opened just over two years ago, but five of the six I-8-24 (including Lakewood HS) were constructed around 1930, and are not in the best of condition. LBUSD does allow Parks Recreation & Marine to operate three of its pools, but for just two months each summer. I-8-24

3.4.7.**Passive Park/Landscaping**

Regarding paragraph 2, some residents living near to the original facility have argued that the trees in the existing passive park area are "old growth trees." A Google search for the term "old growth trees" results in the following: "Old-growth forests are natural forests that have developed over a long period of time, generally at least **120 years…"** Pictures of the Belmont Plaza Olympic Pool site from its earliest days confirm that the trees in the park now were planted at some date later than the opening of the pool, and therefore do not meet the definition of "old growth trees." I-8-25

3.4.8.**Proposed Pedestrian Access and Parking** – No comments on this Section.

3.4.9.**Signage** – No comments on this Section.

3.4.10. **Utilities and Public Services** – No comments on this Section.

3.4.11. **Conservation and Sustainability Features** – No comments on this Section.

3.5. CONSTRUCTION ACTIVITIES – No comments on this Section. I-8-26

3.6. PROJECT GOALS AND OBJECTIVES - No comments on this Section.

3.7. DESCRETIONARY PERMITS, APPROVALS, OR ACTIONS REQUIRED - No comments on this Section.

4. EXISTING ENVIRONMENTAL SETTING

4.1. AESTHETICS - No comments on this preamble Section.

4.1.1 **Methodology** - No comments for this Section.

4.1.2 **Existing Environmental Setting**

(Housekeeping) In the last sentence of the first paragraph, where it reads, "…concrete wall lines the western side of Ocean Boulevard…" should say the "…south side of Ocean Boulevard…" because Ocean runs east and west. I-8-27

In the second paragraph, please add the point that the Belmont Shore Condominiums were constructed approximately 20 years AFTER the original pool complex was built, meaning that those residents have never had a clear, straight-on view of the ocean from the lower floors of their units. I-8-28

In the section titled, "Existing Visual Character of the Project Site" subtitled, "Pool Complex," please remove the clause in the first paragraph that says, "La Palapa restaurant I-8-29 located in the same building as the existing pool;" as the pool complex was not built the intent of that building being a part of a privately owned restaurant and event place. Instead, it was a part of the pool complex to serve as a snack bar for the pool and beach users, and as a community meeting space. (Section 4.10.2, second paragraph, third line also says "restaurant," but should refer instead to the original intent of, and use as, a snack bar and community room.) I-8-29

In the second paragraph of that same section, the third sentence refers to "a two-story community building that was rented for private events (such as weddings and conferences) on the west side." Please refer to my comment directly above this one. Also, to my knowledge, the city does not have any other city-owned community rooms that are leased to private, for-profit entities which are allowed to rent out those community rooms, and keep the revenue from those rentals for their own accounts. To my knowledge, the libraries and senior centers with community rooms control the usage of those rooms, with any revenue going to the departments that oversee those facilities. Prior to the first Stakeholder Committee meeting, I had a telephone conversation with Chuck Posner, a staff member of the California Coastal Commission, who informed me that the owner of La Palapa had never received a CCC permit granting her the use of the second floor community room for private parties, wedding receptions, etc. He further indicated that the CCC would not have looked favorably on such a request. I-8-30

No additional comments on this Section.

4.1.3 through 4.1.9 No comments on these Sections.

4.2. AIR QUALITY - No comments on this Section.

4.3. BIOLOGICAL RESOURCES - No comments on this Section. I-8-31

4.4. CULTURAL AND PALEONTOLOGICAL RESOURCES - No comments on this Section.

4.5. GEOLOGY - No comments on this Section, with the exception of *4.5.5, Project Impacts, response to Threshold 4.5.1: ii) on page 4.5-9.*

(Housekeeping) The second sentence states that the "site is located approximately 1.5 miles northeast of the Newport-Inglewood Structural Zone," but the map in Figure 4.5.1 shows the site to be south of that fault, and the last sentence of section 4.5.2 *Existing Environmental Setting Regional Geology* on page 4.5-2, states "…active fault traces of the Newport-Inglewood Fault Zone 1.5 miles to the north…" I-8-32

4.6. GLOBAL CLIMATE CHANGE - No comments on this Section, with the exception of *4.6.3, Local Policies and Regulations, City of Long Beach Sustainable City Action Plan.*

(Housekeeping) The first sentence reads, "The City adopted the Long Beach Sustainable City Action Plan on February 2, 2019." "Adopted" is past tense, while the date of "February 2, 2019" is in the future. I-8-33

4.7. HAZARDS AND HAZARDOUS MATERIALS - No comments on this Section. I-8-34

4.8. HYDROLOGY AND WATER QUALITY - - No comments on this Section.

4.9. LAND USE - No comments on this Section, with the exception of Tables 4.9.A and 4.9.B.

1) *Table 4.9.A: Consistency with California Coastal Act Policies, Page 4.9-2, California Coastal Act Policies, Section 301212.5:, Discussion/Analysis of the Proposed Project, Consistent*

   Starting in line 8, and continuing through line 23, "As discussed in Section 4.13, (Housekeeping – the reference in the eighth line should be to 4.12, not 4.13.) Transportation and Traffic, of this Draft EIR, unless special events are held at both the indoor and outdoor pools simultaneously, the total number of spectators for the proposed Project is expected to be similar to the baseline conditions of the existing pool facility. Additionally, any event with more than 450 spectators would be considered a large special event that would require an Event Traffic Management Plan (Mitigation Measure 4.13.1)." (Housekeeping – reference should be to Mitigation Measure 4.12.1.) I-8-35

   The baseline conditions of the original facility routinely had events with more than 450 spectators (in a facility that had 2,400 seats), with no Event Traffic Management Plan required. The parking lots at each end of the project contain over 1,000 spaces for cars. The fact is that a good percentage of the cars parking for a large special event will contain more than one spectator; therefore, I suggest that the requirement for an Event Traffic Management Plan be applied only if the expectation for the number of spectators exceeds 1,250, which is the limit for spectators allowable due to the available number of permanent *seats.* I-8-36

2) *Table 4.9.B: General Plan Land Use Policy Consistency Analysis, Page 4.9-23, Policies - Land Use, Consistency Analysis, Consistent*

   The second paragraph in that Table again refers to requiring an "Event Traffic Management Plan, Mitigation Measure 4.12.1" for any event with more than 450 spectators. See my comments above for Table 4.9.A, Section 301212.5: and in my comments for Mitigation Measure 4.12.1.in Table 7.A, 4.12 Transportation and Traffic, on page 7-15.

4.10.NOISE

4.10.1. Methodology – No comments on this Section.

4.10.2. Existing Environmental Setting - No comments on this Section. I-8-37

4.10.3. Regulatory Setting - No comments on this Section.

4.10.4. Impact Significance Criteria - No comments on this Section.

4.10.5. Project Impacts, Long Term Operations, page 4.10-15 I-8-38

Delete the words, "…daily events or…" from the sixth line of the first paragraph. There will not be a PA system in operation on a daily basis. Saying that noises from typical daily events would be similar to the noise generated by a PA system at a championship high school football game is not a correct analogy. Special events, yes. Daily events, no. The second paragraph in this subsection is correct. I-8-38

4.10.6. through **4.10.9** – No comments on these Sections.

4.11. RECREATION I-8-39

4.11.1. Methodology – No comments on this Section.

4.11.2. Existing Environmental Setting, Overview of Existing Recreational Environment

The City's Parks, Recreation and Marine Department was not the owner of the pool named in the third bullet point. The Will J. Reid Scout Camp (within which the pool was located) was owned until 2013 by the Greater Long Beach Area Council of Boy Scouts prior to being sold to a private developer for a new housing project. I-8-40
http://www.gazettes.com/news/developer-ready-to-build-on-historic-will-j-reid-scout/article_cd96dde8-ff44-11e4-8c69-d7e4c0bf3ae5.html

4.11.3. Regulatory Setting – No comments for this Section.

4.11.4. Impact Significance Criteria - No comments for this Section. I-8-41

4.11.5. Project Impacts, Threshold 4.11.2, Less than Significant Impact with Mitigation Incorporated. I-8-42

Regarding the eighth and ninth bullet points, please refer to my comments for 3.4.3 on page xxx of this document.

4.11.6. through 4.11.9 – No comments on these Sections.

4.12. TRANSPORTATION AND TRAFFIC

4.12.1. Methodology - No comments for this Section.

4.12.2. Existing Environmental Setting - No comments for this Section. I-8-43

4.12.3. Regulatory Setting - No comments for this Section.

4.12.4. Impact Significance Criteria - No comments for this Section.

4.12.5. Project Impacts and Mitigation Measures, Threshold 4.12.1, Special Event Traffic, second paragraph, page 4.12-12 I-8-44

See my comments for Section 4.9 regarding an Event Traffic Management Plan.

4.12.6. Cumulative Impacts – No comments for this Section. I-8-45

4.12.7. Level of Significance Prior to Mitigation

Second paragraph, page 4.12-14 **-** See my comments for Section 4.9 regarding an Event Traffic Management Plan. I-8-46

4.12.8. Mitigation Measures, Mitigation Measure 4.12.1

See my comments for Section 4.9 regarding an Event Traffic Management Plan.

4.12.9. Level of Significance After Mitigation – No comments on this Section.

4.1. UTILITIES – No comments on this Section.

5. **ALTERNATIVES** I-8-47

5.1 INTRODUCTION – No Comments on this Section.

5.1.1 **Project Objectives**

Delete #2 in its entirety, and expand #1 to read as follows:

Redevelop the City-owned site of the former Belmont Pool with similar aquatic recreational purposes, consistent with the original ballot measure, while replacing the former Belmont Pool, a state-of-the-art, world-class facility when opened in 1968, with a more modern, state-of-the-art, world-class facility that better meets the needs of the today's local community, region and State's recreational and competitive swimmers, divers, aquatic sports participants, and additional pool users due to the tremendous demand for these services in the local community, region and State; I-8-48

5.1.2 **Significant Unavoidable Impacts of the Proposed Project** - No comments on this Section. I-8-49

5.2 ALTERNATIVES INITIALLY CONSIDERED BUT REJECTED FROM FURTHER CONSIDERATION

5.2.1 Fully Enclosed Pools Alternative

I am not aware that this alternative was ever requested or discussed by members of the Stakeholders Committee. Is it necessary to include it in this Draft EIR? I-8-50

5.2.2 Alternative Project Locations

I completely agree with the Conclusion in this Section. Additionally, the three alternative sites are located primarily in commercial areas, well away from residential locations, and therefore are not easily accessible for as many residents and facility users, whether on foot, on a bicycle or in a car. I-8-51

5.3 ALTERNATIVES UNDER CONSIDERATION - Comments pertain to the alternatives shown in Table 5.A. I-8-52

Table 5.A: Summary of Development Alternatives – I would like to see the Analysis comments made a little stronger for some of the Alternatives.

Alternative 1. Make stronger by changing the second bullet point in the Basis for Selection and Summary Analysis from "Inconsistent with the majority of Project objectives." to "Inconsistent with 13 of the 15 Project Objectives." Also, add a third bullet point that would say, "Will reduce available aquatic recreational and training opportunities to a level below what was available with the former Belmont pool." I-8-53

Alternative 2. Make stronger by moving the seventh bullet point in the Basis for Selection and Summary Analysis upward to become the first bullet point. I-8-54

Alternative 3. Make stronger by adding a fifth bullet point in the Basis for Selection and Summary Analysis along the lines of, "The prevailing afternoon winds in Long Beach raise a safety issue for divers training on the 5- and 10-meter towers." Also, add a sixth bullet point that local divers training and competing on the tower apparatus now have to travel to Federal Way, WA or Colorado Springs, CO to find an indoor diving facility that offers tower diving. In addition, add a seventh bullet point stating that an indoor diving facility with tower diving will replace what was on the site previously within the former Belmont pool. I-8-55

Alternative 4. Make stronger by adding a sixth bullet point in the Basis for Selection and Summary Analysis saying, "Unable to provide adequate programmable space." (Same statement as made in the current seventh bullet point for Alternative 2.) I-8-56

Alternative 5. Make stronger by inserting the word, "much" in front of "lesser degree" in the sixth bullet point in the Basis for Selection and Summary Analysis. Again, the objective here is to emphasize that this Alternative is not viable. I-8-57

5.4 ALTERNATIVE 1: NO PROJECT/NO NEW DEVELOPMENT

5.4.1 and 5.4.2 – No comments for these Sections. I-8-58

5.4.3 Attainment of Project Objectives

Make stronger by adding the word, "fifteen" in front of the word, "…Project" in the first line of the first paragraph, to read, "…achieve two of the fifteen Project..." I-8-59

5.4.4 Conclusion

Make stronger in the fourth line by adding the word, "vast" in front of the word, "majority." I-8-60

5.5 ALTERNATIVE 2: MAINTAIN TEMPORARY POOL WITH ANCILLARY USES

5.5.1 and 5.5.2 – No comments for these Sections. I-8-61

5.5.3 Attainment of Project Objectives

For the fifth and sixth lines of the second paragraph on page 5-17 that now reads, "…Alternative 2 would maintain the pool facility in a location that would serve the existing users, although not to the same extent as the proposed Project,…" I suggest inserting the words, "as no additional space for increased growth of aquatic activities would be gained (Objective xx)" after the comma following the word "Project" but before the words, "…and would provide a passive…" I-8-62

Thus the entire phrase reads, "…Alternative 2 would maintain the pool facility in a location that would serve the existing users, although not to the same extent as the proposed Project as no additional space for increased growth of aquatic activities would be gained (Objectives 4, 5, and 8), and would provide a passive…." (The inserted language is underlined here for visibility.)

5.5.4 Conclusion

Referring to the use of the word, "incrementally" in the third line of the last paragraph, the definition of that word implies small. I do not agree that the elimination of the indoor component of the proposed project would be small. In fact, it would have a huge impact, as even with the temporary pool, there is a dearth of aquatic recreational and training opportunities in Long Beach. Perhaps there is a better word than incrementally that could be used? I-8-63

5.6 ALTERNATIVE 3: OUTDOOR DIVING WELL/REVISED SITE PLAN

5.6.1 and 5.6.2 – No comments for these Sections. I-8-64

5.5.3 Attainment of Project Objectives

1) This section as written is problematic in several respects.

   The first paragraph on page 5-23 includes, "…, the site plan under Alternative 3 would be revised to locate the diving well component outside in order to reduce the height of the Bubble structure." The third paragraph includes, "…space constraints would require the consolidation of pools. Which is it? A relocation of the diving well, or a consolidation of pools? This language is unclear as to what is meant by the word "consolidation." Does that mean a diving area would be included as a part of the outdoor pool (as implied by the word "consolidation), or does it mean that there would be a stand-alone diving well? The latter is much preferred, due to the temperature variations needed for divers versus swimmers. Please clarify. I-8-65

2) Also in the third paragraph is this sentence, starting in the sixth line: "Competitive divers and certain competitive events prefer indoor competitive facilities over outdoor facilities." Strike the first word of that sentence, and add a clause after "outdoor facilities" to the effect that the reason divers and competitive diving events prefer an indoor facility is due to the vagaries of weather, a consistent air temperature is ideal. I-8-66

3) It should also be pointed out here that the former Belmont pool offered one of just three indoor diving areas with tower diving equipment in the western United States, the others being in Federal Way, WA and Colorado Springs, CO. I-8-67

4) Would a height variance be needed for an outdoor 10-meter diving tower, as that exceeds the 30' limit? I-8-68

5) An outdoor diving facility with a 10-meter tower will require another structure (the tower equipment and associated stairs), which may have a negative impact on the views. I-8-69

5.6.4 Conclusion

This Alternative does not demonstrate any appreciable differences for the overall project, except a) noise levels will be increased, and b) to make it less comfortable for the users. I-8-70

5.7 ALTERNATIVE 4: REDUCED PROJECT - NO OUTDOOR COMPONENTS

5.7.1 Description. I-8-71

Last sentence, page 5-25**: "**A height variance would still be required under this alternative ~~due to indoor diving well~~." Delete all after the word alternative.

5.7.2 Environmental Analysis – No comments for this Section. I-8-72

5.7.3. Attainment of Project Objectives

In the fifth and sixth lines of the first full paragraph on page 5-29, "…pool complex would not be able to hold as many special events and public aquatic opportunities" change to: "offer as many public aquatic opportunities or hold as many special events..." (Same comment for the third paragraph in 5.8.3.) I-8-73

5.7.4 Conclusion – No comments for this Section.

5.8 ALTERNATIVE 5: REDUCED PROJECT - NO DIVING WELL AND NO OUTDOOR COMPONENTS I-8-74

5.8.1 and 5.8.2 – No comments for these Sections.

5.8.3 Attainment of Project Objectives

The fourth paragraph , in the first line on page 5-35 includse the statement of, "…and **increases** programmable water space to minimize scheduling conflicts…" (emphasis is mine). How is this possible? Under this alternative, there would just the one 50-meter pool inside, without the water from the former T-shaped design, and the small therapy/teaching pool. This Alternative does not indicate that the two small outdoor pools (which have more water surface than the therapy/teaching pool) would be I-8-75 retained. Overall this alternative would result in a decrease of water surface area than was in the former Belmont pool. I-8-75

5.8.4 Conclusion - No comments for this Section.

6. **LONG-TERM IMPLICATIONS** – No comments for this Section. I-8-76

7. **MITIGATION, MONITORING, AND REPORTING PROGRAM**

7.1. **MITIGATION MONITORING REQUIREMENTS** – No comments for this Section.

7.2. **MITIGATION MONITORING PROCEDURES** – No comments, with the exception of Table 7.A: Mitigation and Monitoring Reporting Program, Mitigation Measure 4.12.1:

Again, the definition of a "large special event" is ridiculously low. No such plan was ever required during the life of the former Belmont Pool, which routinely had events with more than 450 spectators, and often in excess of 1,000. If this mitigation measure is truly required, then the definition should show an increase to as a minimum the number of permanent seats (1,250). As stated earlier in this DEIR, there are in excess of 1,000 parking spaces in the two city-owned parking lots flanking the Proposed Project. I-8-77

8. **LIST OF PREPARERS** – No comments on this Section. I-8-78

9. **REFERENCES** - No comments on this Section.

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For either a cover letter, or the text in the sending email to which these comments will be attached.

As some of you reading these comments know, I am a passionate advocate for the proposed project, with a strong desire to see Long Beach offering a world-class, state-of-the-art aquatics facility, even better that the original Belmont Plaza Olympic Pool was in its heyday.

My comments {enclosed, or attached} are lengthy, because I went through the DEIR in detail. My intent is to perhaps shed some perspective on what we once had here, and what I fervently wish Long Beach to have once again.

Some of the comments are housekeeping in nature, where I saw what might have been an error or two. Other comments are, I hope, intended to strengthen or bolster some of the points made in the document, particularly in discussing the alternatives (location and scope of the project). I hope no one reading them will take offense at any of my suggestions, as they are not intended to be criticisms of either the proposed project or the DEIR. I-8-79

Overall, I am quite pleased with this DEIR, and truly admire the work and knowledge that has been put into the document by all parties involved in its creation.
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LUCY JOHNSON

LETTER CODE: I-8

DATE: June 3, 2016

RESPONSE I-8-1

This comment is introductory in nature and expresses the commenter's appreciation and support for the proposed Project. This comment also expresses admiration for the Draft Environmental Impact Report (EIR).

This comment does not contain any substantive comments or questions about the Draft EIR or analysis therein. Therefore, no additional response is necessary.

RESPONSE I-8-2

This comment indicates that the commenter does not have any comments on the Executive Summary chapter or the Purpose and Type of EIR/Intended Uses of the Draft EIR and Public Review Process subsections of the Introduction chapter of the Draft EIR.

This comment does not contain any substantive comments or questions about the Draft EIR or analysis therein. Therefore, no additional response is necessary.

RESPONSE I-8-3

This comment describes the history of the site's use as the Belmont Pool Facility for the past 46 years. The commenter describes the daily recreational uses and completive events that occurred at the site and argues that because the proposed Project would replace the former facility with a similar facility, the new facility would not generate an increase in traffic compared to the former facility.

Section 4.12, Transportation and Traffic, of the Draft EIR addresses traffic impacts resulting from the proposed Project. The proposed Project could serve twice as many users compared to the former Belmont Pool facility. Consequently, operational traffic was doubled in order to analyze traffic impacts resulting from Project implementation. The results of this analysis indicated that all study area intersections would operate at Level-of-Service (LOS) C or better in the future with Project implementation. Therefore, the commenter is correct to state that the project-related increase in traffic would be less than significant with mitigation incorporated.

RESPONSE I-8-4

This comment notes that the commenter does not have any comments in relation to the "Potential for Discovery of Cultural Resources," "Potential for Air Quality Impacts," "Increase in Wastewater Discharges," and the "Potential for Impacts to Storm Drain Facilities" subsections of the Introduction of the Draft EIR.

This comment does not contain any substantive comments or questions about the Draft EIR or analysis therein. Therefore, no additional response is necessary.

RESPONSE I-8-5

This comment notes that while the Draft EIR is correct in describing the community's concern that the pool's design and amenities meet the overall desires of the swimming community, the Draft EIR should also note that these concerns were not just from the swimming community, but also the water polo and diving communities.

Although this suggested edit would improve the readability of this portion of the Draft EIR and clarify the interest groups, this comment does not contain any substantive comments or questions about the Draft EIR or analysis therein. Therefore, no additional response is necessary.

RESPONSE I-8-6

This comment notes that while the former pool facility was a world-class, state-of-the-art center at the time it was constructed in 1968, subsequent rule changes by various governing bodies for swimming, synchronized swimming, and water polo (in addition to years of deferred maintenance) caused the facility to become obsolete and no longer able to attract most major events.

This comment does not contain any substantive comments or questions about the Draft EIR or analysis therein. Therefore, no additional response is necessary.

RESPONSE I-8-7

This comment notes that while most of the community's concerns were resolved through stakeholder meetings, a major concern related to the number of permanent seats planned for the indoor facility remains. The commenter notes that a planned capacity of 1,250 seats may be insufficient for attracting National Collegiate Athletic Association (NCAA) championship events, particularly because the former facility had a total of 2,400 seats. The commenter notes that this reduction in permanent seating would be the primary project component that would keep the Project from being characterized as a world-class facility.

Refer to Common Response 1 in Section 2.1, Frequent Comments and Common Responses, of this Final EIR for further discussion related to the permanent seating capacity provided by the proposed Project.

RESPONSE I-8-8

This comment indicates that the commenter does not have any comments on the remaining subsections of the Introduction chapter of the Draft EIR.

This comment does not contain any substantive comments or questions about the Draft EIR or analysis therein. Therefore, no additional response is necessary.

RESPONSE I-8-9

This comment notes that the former snack bar on the Project site included a snack bar on the first floor to serve pool patrons and beach users and a meeting space on the upper level. The commenter notes that the meeting space was originally intended to be available for use by the public, but both the snack bar and meeting spaces were later leased for dining and banquet/wedding receptions. As a result, the commenter notes that the pool and beach patrons no longer had public access to this facility. The commenter opines that the proposed Project should include a space that would serve the original purpose of the snack bar rather than offering a restaurant space to a for-profit operator.

This comment is an opinion regarding the design and use of the proposed Project but does not contain any substantive comments or questions about the Draft EIR or analysis therein. This comment will be forwarded to the City of Long Beach (City) decision-makers for their consideration. Therefore, no additional response is necessary.

RESPONSE I-8-10

This comment indicates that the commenter does not have any comments on the "Temporary Pool" subsection of Chapter 3.0, Project Description.

This comment does not contain any substantive comments or questions about the Draft EIR or analysis therein. Therefore, no additional response is necessary.

RESPONSE I-8-11

This comment indicates that the existing access and parking are adequate to serve the proposed Project. The commenter notes that per City staff, there is an excess of 1,000 parking spaces between the Beach Parking Lot on the east side of the site and the Pier Parking Lot west of the site. The commenter speaks from personal experience when noting that past events held at the former facility have not filled these parking lots, and, therefore, are not likely to fill these lots following Project implementation.

The commenter is correct in stating that past events held at the former facility have not filled existing parking lots serving the Belmont Pool and are not likely to be filled beyond their capacity following Project implementation. Refer to Common Response 3 in Section 2.1, Frequent Comments and Common Responses, of this Final EIR for further discussion related to parking and the proposed mitigation measure requiring an Event Traffic Management Plan.

RESPONSE I-8-12

This comment indicates that the commenter has no comments on the "Surrounding Land Uses" and "City of Long Beach Land Use and Zoning Designations" subsections of Chapter 3.0, Project Description, of the Draft EIR.

This comment does not contain any substantive comments or questions about the Draft EIR or analysis therein. Therefore, no additional response is necessary.

RESPONSE I-8-13

This comment suggests moving the last two sentences of the last paragraph on Page 3-13 of Section 3.3.1 of Chapter 3.0, Project Description, of the Draft EIR to follow the first sentence of the second paragraph on Page 3-8.

Although this suggested edit improves the readability of this portion of the Draft EIR, this comment does not contain any substantive comments or questions about the Draft EIR or analysis therein. Therefore, no additional response is necessary.

RESPONSE I-8-14

This comment suggests replacing the third sentence from Subsection 3.3.1 of Chapter 3.0, Project Description, (or the fourth sentence if the suggested change in Comment I-8-3 is incorporated) with the following sentence:

> "The facility hosted both the 1968 Men's and the 1976 Men's and Women's U.S. Olympic swimming trials, as well as the 1974 and 1978 Men's National Collegiate Athletic Association (NCAA) swimming championships, and from 1969 through 1994, hosted 23 of the first 26 Men's NCAA water polo championships."

While the editorial suggestion may help clarify the history of the facility, this comment does not raise questions, concerns, or issues related to the analysis contained in the Draft EIR. Therefore, while such suggestions are acknowledged, no changes to the text have been made, and no further response is required.

RESPONSE I-8-15

This comment echoes the concerns addressed in Response I-8-7 related to the Project's decrease in permanent seating as compared to the previous Belmont Pool facility. The commenter also notes that the cost estimate to provide an additional 250 permanent seats, which was echoed at the Stakeholder Committee in August, was estimated to be $2,000,000 higher than the cost for 1,250 seats.

Refer to Common Response 1 in Section 2.1, Frequent Comments and Common Responses, of this Final EIR, for further discussion related to the permanent seating capacity provided by the proposed Project. This comment will be forwarded to the decision-makers for their review and consideration. Therefore, no additional response is necessary.

RESPONSE I-8-16

This comment reiterates the suggestions in Comment I-8-13 and suggests moving the last two sentences of the last paragraph on Page 3-13 of Subsection 3.3.1 (Chapter 3.0, Project Description) to follow the first sentence of the second paragraph on Page 3-8.

While the editorial suggestion may help clarify the discussion or text, this comment does not raise questions, concerns, or issues related to the analysis contained in the Draft EIR. Therefore, while such suggestions are acknowledged, no changes to the text have been made, and no further response is required.

RESPONSE I-8-17

This comment reiterates the suggestions in Comment I-8-14 and suggests deleting the third sentence (or the fourth sentence if the suggested change in Comment I-8-3 is incorporated) and replace with the following sentence:

> "The facility hosted both the 1968 Men's and the 1976 Men's and Women's U.S. Olympic swimming trials, as well as the 1974 and 1978 Men's National Collegiate Athletic Association (NCAA) swimming championships, and from 1969 through 1994, hosted 23 of the first 26 Men's NCAA water polo championships."

While the editorial suggestion may help clarify the discussion or text, this comment does not raise questions, concerns, or issues related to the analysis contained in the Draft EIR. Therefore, while such suggestions are acknowledged, no changes to the text have been made, and no further response is required.

RESPONSE I-8-18

This comment reiterates the comments addressed in Comments I-8-7 and I-8-15 regarding the reduction in permanent seating associated with the proposed Project as compared to the former Belmont Pool facility.

Refer to Common Response 1 in Section 2.1, Frequent Comments and Common Responses, of this Final EIR, for further discussion related to the permanent seating capacity provided by the proposed Project.

RESPONSE I-8-19

This comment indicates that the commenter does not have any comments on the "Site Design/Layout" and "Structural Components" subsections of Chapter 3.0, Project Description, of the Draft EIR.

This comment does not contain any substantive comments or questions about the Draft EIR or analysis therein. Therefore, no additional response is necessary.

RESPONSE I-8-20

This comment expresses concern regarding the moveable floor because of the maintenance required to keep this component working properly on a long-term basis. The commenter goes on to note that the moveable floor is not required for the indoor pool because the pool will be primarily used for recreational activities, which do not require recreational users to stand on the pool bottom during such activities.

This comment is related to the pool mechanics and does not contain any substantive comments or questions about the Draft EIR or analysis therein. This comment will be forwarded to the decision-makers for their review and consideration. Therefore, no additional response is necessary.

RESPONSE I-8-21

This comment outlines two alternatives to the movable floor. First, the commenter suggests expanding the Indoor Teaching Pool from 820 square feet (sf) (22.5 [ft] wide by 36.5 ft long) to 1,350 sf (22.5 ft wide by 60 ft long) to allow for three 7.5 ft wide lanes of 20 yards to provide additional space for users to swim laps while also being able to stand up at any time. The commenter also notes that this expanded area would also allow for additional space for shallow water aerobics classes, beginners swimming lessons, and warm water aquatic activities. For these reasons, the commenter notes that the suggested changes to the Indoor Pool would negate the need for a moveable floor, which would ultimately reduce costs associated with constructing and maintaining the moveable floor.

The second alternative suggested by the commenter is to provide a small ledge at the edge of the main 50-meter by 25-yard pool in lieu of the movable floor. This ledge would be indented to the walls at approximately 5 ft to allow for patrons to rest their feet between lengths of swimming.

This comment is related to the physical design of the pools and does not contain any substantive comments or questions about the Draft EIR or analysis therein. This comment will be forwarded to the decision-makers for their review and consideration. Therefore, no additional response is necessary.

RESPONSE I-8-22

This comment indicates that the commenter does not have any comments on subsection "Outdoor Aquatic Components" of Chapter 3.0, Project Description, of the Draft EIR.

This comment does not contain any substantive comments or questions about the Draft EIR or analysis therein. Therefore, no additional response is necessary.

RESPONSE I-8-23

This comment indicates that the numbering of the pagination is off as the subsections skip "3.4.5" and move directly from "3.4.3" to "3.4.6."

This revision and will be incorporated in the Errata to the Final EIR and does not change the analysis or conclusions contained in the Draft EIR. Therefore, no further response is necessary.

RESPONSE I-8-24

This comment expresses support for the proposed Project and notes that the addition of the second 50-meter pool included as part of the Project would enhance the ability of the City to offer expanded water activities and would serve to complement existing pool facilities.

This comment is related to the physical design of the pools and does not contain any substantive comments or questions about the Draft EIR or analysis therein. This comment will be forwarded to the decision-makers for their review and consideration. Therefore, no additional response is necessary.

RESPONSE I-8-25

This comment describes complaints from some residents living near the Project site surrounding the removal of existing "old growth trees" on the site. The commenter describes research indicating that old growth trees as trees that are at least 120 years in age. As such, the commenter indicates that based on aerial imagery of the site from the site's earliest operation, these trees were planted after the construction of the former pool facility and, therefore, should not be described as old growth.

This comment addresses other opinions, not a statement in the Draft EIR. However, the removal of on-site trees in order to facilitate Project implementation is addressed in Section 4.3, Biological Resources, of the Draft EIR. As described in this section of the Draft EIR, a tree removal permit would be obtained prior to any grading or construction activities and trees would be replaced at a 1:1 replacement ratio and a payment of a fee equivalent cost of a City-approved 15-gallon tree would be required (Mitigation Measure 4.3.2). Furthermore, these trees were determined to be ornamental and nonnative to the site. Therefore, impacts related to the removal of on-site trees were determined to be less than significant with mitigation incorporated.

RESPONSE I-8-26

This comment indicates that the commenter does not have any comments on Subsections 3.4.8 through 3.4.11 of Chapter 3.0, Project Description, or on Subsection 4.1.1 of Section 4.1, Aesthetics, of the Draft EIR.

This comment does not contain any substantive comments or questions about the Draft EIR or analysis therein. Therefore, no additional response is necessary.

RESPONSE I-8-27

This comment suggests that the last sentence of the first paragraph in Subsection 4.1.2 of Section 4.1, Aesthetics, of the Draft EIR should be revised to read "…south side of Ocean Boulevard…" rather than "…concrete wall lines the western side of Ocean Boulevard…" because Ocean Boulevard runs east and west.

This commenter is correct and the text will be revised to read: "An approximately six ft concrete wall lines <u>on the southern side</u> ~~the western side~~ of Ocean Boulevard, impairing much of the public view of the Pacific Ocean from this area." This revision and will be incorporated in the Errata to the Final EIR and does not change the analysis or conclusions contained in the Draft EIR. Therefore, no further response is necessary.

RESPONSE I-8-28

This comment suggests adding language to the second paragraph under Subsection 4.1.2, Existing Environmental Setting, describing the fact that the Belmont Shore Condominiums were constructed approximately 20 years after the original pool complex was built, meaning that the residents of the Belmont Shore Condominiums never had a clear and direct view of the ocean.

The commenter is correct; however, while the editorial suggestion may help clarify the discussion or text, this comment does not raise questions, concerns, or issues related to the analysis contained in the Draft EIR. Therefore, while such suggestions are acknowledged, no changes to the text have been made, and no further response is required.

RESPONSE I-8-29

This comment suggests removing the following clause in the first paragraph in Subsection 4.1.2: "La Palapa restaurant located in the same building as the existing pool" because the pool complex was not built with the intent of the restaurant facility being privately owned and operated. Rather, the commenter opines that this facility was intended for use as a snack bar open to pool and beach users, and as a community space. The commenter suggests removing a similar clause in Subsection 4.10.2.

Although the commenter is correct and the editorial suggestion may help clarify the discussion or text, this comment does not raise questions, concerns, or issues related to the analysis contained in the Draft EIR. Therefore, while such suggestions are acknowledged, no changes to the text have been made, and no further response is required.

RESPONSE I-8-30

This comment states that the second paragraph of the "Existing Visual Character of the Project Site" subsection refers to a two-story community building that was rented for private events. The commenter goes on to state that the City does not have any other City-owned community rooms that are leased to private entities and states that similar facilities at libraries and senior centers lease these entities out with revenue going to the departments that oversee these facilities. The comment concludes by stating that the commenter has no additional comments on the Aesthetics section of the Draft EIR.

This comment provides historic context, but does not contain any substantive comments or questions about the Draft EIR or analysis therein. This comment will be forwarded to the decision-makers for their review and consideration. Therefore, no additional response is necessary.

RESPONSE I-8-31

This comment indicates that the commenter has no comments on Section 4.2, Air Quality; Section 4.3, Biological Resources; and Section 4.4, Cultural Resources of the Draft EIR.

This comment does not contain any substantive comments or questions about the Draft EIR or analysis therein. Therefore, no additional response is necessary.

RESPONSE I-8-32

This comment notes that Section 4.5, Geology and Soils, describes the Project site as being located approximately 1.5 miles northeast of the Newport-Inglewood Structural Zone, but Figure 4.5.1 shows the site being located south of this fault zone. Further, the commenter notes that the last section of Subsection 4.5.1 describes active fault traces of the Newport-Inglewood Fault Zone 1.5 miles north of the site.

The commenter is correct in asserting that the site is incorrectly described as being located 1.5 miles northeast of the Newport-Inglewood Fault Zone on Page 4.5-5 of Section 4.5, Geology and Soils, of the Draft EIR. This change is illustrated below.

> "Since the site is located approximately 1.5 miles southwest ~~northeast~~ of the Newport-Inglewood Structural Zone, significant ground shaking or secondary seismic ground deformation effects could occur at the site should a major seismic event occur along the Newport-Inglewood Structural Zone." (Page 4.5-9)

This revision is an editorial suggestion that is intended to help clarify the discussion or text.

This comment does not raise questions, concerns, or issues related to the analysis contained in the Draft EIR. This revision will be incorporated in the Errata to the Final EIR and does not change the analysis or conclusions contained in the Draft EIR. Therefore, no further response is necessary.

RESPONSE I-8-33

This comment notes an error in Section 4.6, Global Climate Change, of the Draft EIR, where the section describes the Long Beach Sustainable City Action Plan as being adopted on February 2, 2019.

The commenter is correct in asserting that this is the incorrect date of adoption for the City's Sustainable City Action Plan. The following change reflects the corrected date of adoption:

"The City adopted the Long Beach Sustainable City Action Plan on February 2, 2010 ~~2019~~." (Page 4.6-19).

This revision is an editorial suggestion that is intended to help clarify the discussion or text.

This comment does not raise questions, concerns, or issues related to the analysis contained in the Draft EIR. This revision and will be incorporated in the Errata to the Final EIR and does not change the analysis or conclusions contained in the Draft EIR. Therefore, no further response is necessary.

RESPONSE I-8-34

This comment indicates that the commenter does not have any comments on Sections 4.7, Hazards and Hazards Materials, and Section 4.8, Hydrology and Water Quality, of the Draft EIR.

This comment does not contain any substantive comments or questions about the Draft EIR or analysis therein. Therefore, no additional response is necessary.

RESPONSE I-8-35

This comment notes that the reference to Section 4.13, Transportation in Traffic (Table 4.9.A, Page 4.9-2) in Section 4.9, Land Use and Planning, is incorrect. The commenter notes that this reference, as well as the reference to Mitigation Measure 4.13.1 should be revised as follows:

As discussed in Section 4.12~~3~~, Transportation and Traffic, of the Draft EIR, unless special events are held at both the indoor and outdoor pools simultaneously, the total number of spectators for the proposed Project is expected to be similar to the baseline conditions of the existing pool facility. Additionally, any event with more than 450 spectators would be considered a large special event that would require an Event Traffic Management Plan (Mitigation Measure 4.12~~3~~.1).

This editorial revision will be incorporated in the Errata to the Final EIR and does not change the analysis or conclusions contained in the Draft EIR. Therefore, no further response is necessary.

RESPONSE I-8-36

This comment speaks from personal familiarity with the former Belmont Pool facility when stating that the former facility had events with more than 450 spectators with no requirement for an Event Traffic Management Plan, as required in Section 4.12, Transportation and Traffic, of the Draft EIR. The commenter goes on to state that the surface parking lots at each end of the site contain over 1,000 spaces and have provided ample parking for spectators visiting the site. As such, the commenter suggests that the requirement for an Event Traffic Management Plan only be required if the number of spectators exceeds 1,250, which is equivalent to the number of permanent seats provided by the proposed Project.

Refer to Common Response 3 in Section 2.1, Frequent Comments and Common Responses, of this Final EIR for further discussion related to parking and the proposed mitigation measure requiring an Event Traffic Management Plan.

RESPONSE I-8-37

This comment indicates that the commenter does not have any comments on Subsections 4.10.1 through 4.10.4 of Section 4.10, Noise, of the Draft EIR.

This comment does not contain any substantive comments or questions about the Draft EIR or analysis therein. Therefore, no additional response is necessary.

RESPONSE I-8-38

This comment suggests deleting the words "…daily events or..." from the sixth line of the first paragraph in Subsection 4.10.5 of Section 4.1.0, Noise, because there will not be a Programmatic Agreement (PA) system in operation on a daily basis. The commenter also disagrees with the statement in the Noise section stating that noise associated with typical daily events would be similar to noise generated by a PA system at a championship high school football game is incorrect, as typical daily noise associated with the proposed Project would be significantly less than a championship football game. The comment concludes by stating that the second paragraph in this subsection is correct.

The commenter is correct in noting that the PA system would not be in use during typical daily operations. The sentence on Page 4.10-16 of Section 4.10, Noise, of the Draft EIR has been revised as follows:

Crowd noise was measured to be 65 A-weighted decibels (dBA) equivalent continuous sound level (L_{eq}) at 75 ft. It is anticipated that reference noise level measurements obtained from RECON at the high school championship football game would be similar to ~~typical daily events or~~ special events <u>using the PA system</u> at the proposed Project.

This editorial revision will be incorporated in the Errata to the Final EIR and does not change the analysis or conclusions contained in the Draft EIR. Therefore, no further response is necessary.

RESPONSE I-8-39

This comment indicates that the commenter does not have any comments on Subsections 4.10.6 through 4.10.9 of Section 4.10, Noise, or on Subsection 4.11.1, of Section, 4.11, Recreation, of the Draft EIR.

This comment does not contain any substantive comments or questions about the Draft EIR or analysis therein. Therefore, no additional response is necessary.

RESPONSE I-8-40

This comment asserts that the City's Parks, Recreation, and Marine Department is not the owner of the Will Reid Scout Pool, but rather the pool was owned by the Greater Long Beach Area Council of Boy Scouts prior to being sold to a private developer for a new housing project in 2013.

The commenter is correct and the text on Page 4.11-2 of Section 4.11, Recreation, of the Draft EIR will be revised as follows:

In addition to the aquatic operations at the Project, the City's Department of Parks, Recreation, and Marine own and operate three additional Public Pool facilities <u>(with the exception of the pool formerly known as the Will Reid Scout Pool, which is owned by Integral Communities).</u>

This editorial revision will be incorporated in the Errata to the Final EIR and does not change the analysis or conclusions contained in the Draft EIR. Therefore, no further response is necessary.

RESPONSE I-8-41

This comment indicates that the commenter does not have any comments on Subsections 4.11.3 and 4.11.4 of Section 4.11, Recreation, of the Draft EIR.

This comment does not contain any substantive comments or questions about the Draft EIR or analysis therein. Therefore, no additional response is necessary.

RESPONSE I-8-42

This comment reiterates the comments related to the proposed moveable floor. Please refer to Response I-8-21 for further discussion related to this commenter's suggestions regarding the moveable floor.

RESPONSE I-8-43

This comment indicates that the commenter does not have any comments on Subsections 4.12.1 through 4.12.4 of Section 4.12, Transportation and Traffic, of the Draft EIR.

This comment does not contain any substantive comments or questions about the Draft EIR or analysis therein. Therefore, no additional response is necessary.

RESPONSE I-8-44

This comment expresses concern regarding the requirements of 450 spectators as the baseline for requiring an Event Traffic Management Plan, as required by Mitigation Measure 4.12.1.

Refer to Common Response 3 in Section 2.1, Frequent Comments and Common Responses, of this Final EIR for further discussion related to parking and the proposed mitigation measure requiring an Event Traffic Management Plan.

RESPONSE I-8-45

This comment indicates that the commenter does not have any comments on Subsection 4.12.6 of Section 4.12, Transportation and Traffic, of the Draft EIR.

This comment does not contain any substantive comments or questions about the Draft EIR or analysis therein. Therefore, no additional response is necessary.

RESPONSE I-8-46

This comment expresses concern regarding the requirements of 450 spectators as the baseline for requiring an Event Traffic Management Plan, as required by Mitigation Measure 4.12.1.

Refer to Common Response 3 in Section 2.1, Frequent Comments and Common Responses, of this Final EIR for further discussion related to parking and the proposed mitigation measure requiring an Event Traffic Management Plan.

RESPONSE I-8-47

This comment indicates that the commenter does not have any comments on Section 4.13, Utilities, or Section 5.1 of Chapter 5.0, Alternatives, of the Draft EIR.

This comment does not contain any substantive comments or questions about the Draft EIR or analysis therein. Therefore, no additional response is necessary.

RESPONSE I-8-48

This comment suggests deleting Project Objective 2 and expanding Project Objective 1 to read as follows:

> "Redevelop the City-owned site of the former Belmont Pool with similar aquatic recreational purposes, consistent with the original ballot measure, while replacing the former Belmont Pool, a state-of-the-art, world-class facility when opened in 1968, with a more modern, state-of-the-art, world-class facility that better meets the needs of the today's local community, region and State's recreational and competitive swimmers, divers, aquatic sports participants, and additional pool users due to the tremendous demand for these services in the local community, region and State."

The Project Objectives were developed with careful consideration by the City. While the suggested revision may improve the readability of the objectives, the City has decided to retain both Project Objectives 1 and 2.

RESPONSE I-8-49

This comment indicates that the commenter does not have any comments on Subsection 5.1.2, of Chapter 5.0, Alternatives, of the Draft EIR.

This comment does not contain any substantive comments or questions about the Draft EIR or analysis therein. Therefore, no additional response is necessary.

RESPONSE I-8-50

This comment states that the commenter is not aware that the "Fully Enclosed Pools Alternative" was ever requested by the members of the Stakeholders Committee and asks if it is necessary to include this Alternative in the Draft EIR.

While the Fully Enclosed Pool Alternative was not an alternative suggested to the City by the members of the Stakeholder Committee, Section 15126.6(c) of the *State California Environmental Quality Act* (CEQA) *Guidelines* requires that a project EIR analyze potential project alternatives that could accomplish most of the basic project objectives and avoid or substantially reduce significant environmental effects of the project. The Fully Enclosed Pool Alternative was considered by the City in its evaluation of reasonable project alternatives, but was ultimately considered infeasible because of its failure to meet most of the Project Objectives, its infeasibility, and its inability to avoid significant environmental impacts. Therefore, while this alternative was not requested by the members of the Stakeholder Committee, the City considered the Fully Enclosed Pool Alternative to ensure its compliance with CEQA in exhausting all possible project alternatives that could meet the Project Objectives while also reducing impacts to the environment.

RESPONSE I-8-51

This comment expresses support of the analysis contained in the Conclusion Subsection of Subsection 5.2.2. The comment goes on to state that in addition to the conclusion in this Subsection that alternative project locations would be infeasible for the proposed Project, the three alternative locations would also be infeasible because these sites are located in commercial areas, away from residential locations, and therefore would not be easily accessible for as many residents and users, whether on foot, on a bicycle, or in a car.

This comment does not contain any substantive comments or questions about the Draft EIR or analysis therein. Therefore, no additional response is necessary.

RESPONSE I-8-52

This comment indicates that the commenter would like to see the analysis in Table 5.A made stronger for some of the alternatives. The commenter goes on to provide suggested language to strengthen the alternatives analysis in Comments I-8-53 though I-8-58. Responses to Comments I-8-53 though I-8-58 are provided below. Therefore, no additional response to this comment is necessary.

RESPONSE I-8-53

This comment suggests that the analysis for Alternative 1 could be strengthened by changing the second bullet point in the "Basis for Selection and Summary Analysis" Subsection from "Inconsistent with the majority of Project objectives" to "Inconsistent with 13 of the 15 Project Objectives." The commenter also suggests adding a third bullet point that would read "Will reduce available aquatic recreational and training opportunities to a level below what was available with the former Belmont Pool.

While the editorial suggestion may help clarify the discussion or text, this comment does not raise questions, concerns, or issues related to the analysis contained in the Draft EIR. Therefore, while such suggestions are acknowledged, no changes to the text have been made, and no further response is required.

RESPONSE I-8-54

This comment suggests that the analysis for Alternative 2 could be strengthened by moving the second bullet point in the "Basis for Selection and Summary Analysis" Subsection upward to become the first bullet.

While the editorial suggestion may help clarify the discussion or text, this comment does not raise questions, concerns, or issues related to the analysis contained in the Draft EIR. Therefore, while such suggestions are acknowledged, no changes to the text have been made, and no further response is required.

RESPONSE I-8-55

This comment suggests that the analysis for Alternative 3 could be strengthened by adding three bullet points at the end of the "Basis for Selection and Summary Analysis" Subsection that would read as follows:

- The prevailing afternoon winds in Long Beach raise a safety issue for divers training on the 5- and 10-meter towers.
- Local divers training and competing on the tower apparatus now have to travel to Federal Way, Washington, or Colorado Springs, Colorado, to find an indoor diving facility that offers tower diving.
- An indoor diving facility with tower diving will replace what was on the site previously within the former Belmont Facility.

While the editorial suggestion may help clarify the discussion or text, this comment does not raise questions, concerns, or issues related to the analysis contained in the Draft EIR. Therefore, while such suggestions are acknowledged, no changes to the text have been made, and no further response is required.

RESPONSE I-8-56

This comment suggests that the analysis for Alternative 4 could be strengthened by adding a sixth bullet point at the end of the "Basis for Selection and Summary Analysis" Subsection section that would read as follows:

- Unable to provide adequate programmable space.

While the editorial suggestion may help clarify the discussion or text, this comment does not raise questions, concerns, or issues related to the analysis contained in the Draft EIR. Therefore, while such suggestions are acknowledged, no changes to the text have been made, and no further response is required.

RESPONSE I-8-57

This comment suggests that the text for Alternative 5 be revised to insert the word "much" in front of "lesser degree" in the sixth bullet point in the "Basis for Selection and Summary Analysis" to emphasize that this Alternative is not viable.

While the editorial suggestion may help clarify the discussion or text, this comment does not raise questions, concerns, or issues related to the analysis contained in the Draft EIR. Therefore, while the suggestion is acknowledged, no changes to the text have been made, and no further response is required.

RESPONSE I-8-58

This comment indicates that the commenter has no comments on Subsections 5.4.1 and 5.4.2 of Chapter 5.0, Alternatives, of the Draft EIR.

This comment does not contain any substantive comments or questions about the Draft EIR or analysis therein. Therefore, no additional response is necessary.

RESPONSE I-8-59

This comment suggesting adding the word "fifteen" in front of the word "Project" in the first line of the first paragraph of Subsection 5.4.3 of Chapter 5.0, Alternatives of the Draft EIR, to read, "achieve two of the fifteen Project" within this sentence.

While the editorial suggestion may help clarify the discussion or text, this comment does not raise questions, concerns, or issues related to the analysis contained in the Draft EIR. Therefore, while such suggestions are acknowledged, no changes to the text have been made, and no further response is required.

RESPONSE I-8-60

This comment suggests adding the word "vast" in front of the word "majority" in Subsection 5.4.4 in Chapter 5.0, Alternatives of the Draft EIR.

While the editorial suggestion may help clarify the discussion or text, this comment does not raise questions, concerns, or issues related to the analysis contained in the Draft EIR. Therefore, while such suggestions are acknowledged, no changes to the text have been made, and no further response is required.

RESPONSE I-8-61

This comment indicates that the commenter has no comments on Subsections 5.5.1 and 5.5.2 of Chapter 5.0, Alternatives, of the Draft EIR.

This comment does not contain any substantive comments or questions about the Draft EIR or analysis therein. Therefore, no additional response is necessary.

RESPONSE I-8-62

This comment suggests revising the fifth and sixth lines of Subsection 5.5.3 of Chapter 5.0, Alternatives, of the Draft EIR as follows:

> "Alternative 2 would maintain the pool facility in a location that would serve the existing users, although not to the same extent as the proposed Project, as no additional space for increased growth of aquatic activities would be gained (Objectives 4, 5, and 8)."

The comment also suggests underlining this addition for emphasis and visibility.

While the editorial suggestion may help clarify the discussion or text, this comment does not raise questions, concerns, or issues related to the analysis contained in the Draft EIR. Therefore, while such suggestions are acknowledged, no changes to the text have been made, and no further response is required.

RESPONSE I-8-63

This comment disagrees with the language in Subsection 5.5.4 of Chapter 5.0, Alternatives, which currently refers to the elimination of the indoor pool component as having "incrementally less" impacts than the proposed Project with the exception of land use and recreational impacts, which would be greater. The commenter opines that the elimination of the indoor pool would have a "huge impact' associated with the loss of recreational training opportunities the indoor pool could provide. As such, the commenter asks if there is a better word than incrementally that could be used to describe the impacts associated with the elimination of the indoor pool.

While the editorial suggestion may help clarify the discussion or text, this comment does not raise questions, concerns, or issues related to the analysis contained in the Draft EIR. Therefore, while such suggestions are acknowledged, no changes to the text have been made, and no further response is required.

RESPONSE I-8-64

This comment indicates that the commenter has no comments on Subsections 5.6.1 and 5.6.2 of Chapter 5.0, Alternatives, of the Draft EIR.

This comment does not contain any substantive comments or questions about the Draft EIR or analysis therein. Therefore, no additional response is necessary.

RESPONSE I-8-65

This comment notes that Page 5-23 of Chapter 5.0, Alternatives, of the Draft EIR indicates that the diving well would be located outside under Alternative 3 and then later notes that space constraints would require the consolidation of pools. The commenter asks for clarification as to whether or not Alternative 3 proposes that the diving well be located outside or that the pools be consolidated. The comment goes on to express confusion regarding the use of the term "consolidation" as it is unclear if this refers to the inclusion of the diving well outside with the outdoor pool or if it implies that there would be a stand-alone diving well. The commenter concludes by expressing preference for a stand-alone diving well over an outdoor pool with a diving area due to temperature variations needed for divers verses swimmers.

Page 5-23 of Chapter 5.0, Alternatives, has been revised as follows:

> "However, because Alternative 3 would relocate the diving well to the outdoor pool component, space constraints would require the ~~consolidation of pools and~~ removal of the divers' whirlpool and the loss of an indoor competitive diving facility."

This revision will be incorporated in the Errata to the Final EIR and does not change the analysis or conclusions contained in the Draft EIR. Therefore, no further response is necessary.

Refer to Common Response 2 in Section 2.1, Frequent Comments and Common Responses, of this Final EIR for further discussion related to Alternative 3 included in the Draft EIR, which does include an outdoor diving well component.

RESPONSE I-8-66

This comment suggests revising the third paragraph of Subsection 5.5.3 of Chapter 5.0, Alternatives as follows:

> "~~Competitive~~ Divers and certain competitive events prefer indoor competitive facilities over outdoor facilities because due to the vagaries of weather, a consistent air temperature is ideal."

While the editorial suggestion may help clarify the discussion or text, this comment does not raise questions, concerns, or issues related to the analysis contained in the Draft EIR. Therefore, while such suggestions are acknowledged, no changes to the text have been made, and no further response is required.

RESPONSE I-8-67

This notes that the former Belmont Pool facility offered one of three indoor diving areas with tower diving equipment in the Western Unites States with the other two facilities being located in Federal Way, Washington, and Colorado Springs, Colorado.

This comment does not contain any substantive comments or questions about the Draft EIR or analysis therein. Therefore, no additional response is necessary.

RESPONSE I-8-68

This comment asks whether or not a high variance would be needed for an outdoor 10-meter diving tower as that it would exceed the 30 ft height limit.

The proposed Project requires a single height-related variance. This variance will encompass all Project components that are in excess of the 25 ft/30 ft height maximums established in the City's Zoning Code. Specific Project components that would be above the height maximum are the proposed bubble structure and, were it included in the Project, the outdoor dive tower (as proposed under Alternative 3).

RESPONSE I-8-69

This comment states that an outdoor 10-meter diving tower will require another structure to accommodate the tower equipment and associated stairs, which may have a negative impact on views.

As discussed further in Section 4.1, Aesthetics, of the Draft EIR, the proposed Project would not result in significant impacts related to the obstruction of a scenic vista. The diving tower considered in the aesthetic analysis considered the height of the proposed dive tower, which has been designed to include all required structural components, including the area proposed for the tower equipment and stairs. As described in Section 4.1, Aesthetics, the proposed placement and alignment of the Project would allow for increased views of the coastline that were previously blocked by the former Belmont Pool. Therefore, while the 10-meter dive tower could slightly alter views in the post-Project condition, this Project component would not result in a substantial adverse effect on a scenic vista, and impacts to a scenic vista could continue to be less than significant.

RESPONSE I-8-70

This comment asserts that Alternative 3, Outdoor Diving Well/Revised Site Plan, does not demonstrate any appreciable difference for the overall project except that noise levels will be increased and it would less user-friendly.

The comment regarding an outdoor diving facility being less user-friendly is acknowledged. As described further in Chapter 5.0, Alternatives, of the Draft EIR, environmental impacts associated with Alternative 3 would be incrementally less than the proposed Project, with the exception of noise impacts, which would be greater. Despite incrementally reducing environmental impacts associated with the Project, Alternative 3 was determined to meet only a few of the Project Objectives, and to a lesser degree than the Project. For these reasons, Alternative 3 was not identified as the Environmentally Superior Alternative nor was Alternative 3 identified as the Preferred Alternative.

RESPONSE I-8-71

This comment suggests revising the last sentence on Page 5-25 of Chapter 5.0, Alternatives, of the Draft EIR as follows:

> "A height variance would still be required under this alternative ~~due to the indoor diving well.~~"

While the editorial suggestion may help clarify the discussion or text, this comment does not raise questions, concerns, or issues related to the analysis contained in the Draft EIR. Therefore, while such suggestions are acknowledged, no changes to the text have been made, and no further response is required.

RESPONSE I-8-72

This comment indicates that the commenter has no comments on Subsection 5.7.2 of Chapter 5.0, Alternatives, of the Draft EIR.

This comment does not contain any substantive comments or questions about the Draft EIR or analysis therein. Therefore, no additional response is necessary.

RESPONSE I-8-73

This comment suggests revising the fifth and sixth lines of the first full paragraph on Page 5-29 of Chapter 5.0, Alternatives, of the Draft EIR as follows:

> "…pool complex would not be able to ~~hold as many special events and~~ <u>offer as many</u> public aquatic opportunities <u>or hold as many special events</u>…"

This comment also suggests carrying over this revision to the third paragraph in Subsection 5.8.3.

While the editorial suggestions may help clarify the discussion or text, the comments do not raise questions, concerns, or issues related to the analysis contained in the Draft EIR. Therefore, while such suggestions are acknowledged, no changes to the text have been made, and no further response is required.

RESPONSE I-8-74

This comment indicates that the commenter does not have any comments on Subsection 5.8.1 or 5.8.2 of Chapter 5.0, Alternatives, of the Draft EIR.

This comment does not contain any substantive comments or questions about the Draft EIR or analysis therein. Therefore, no additional response is necessary.

RESPONSE I-8-75

The comment questions how the Reduced Project-No Diving Well and No Outdoor Components Alternative (Alternative 5) can increase programmable water space to minimize scheduling conflicts with the reduction of pools under this Alternative. The commenter goes on to note that the reduced outdoor pools would result in a decrease of water surface area than was previously included as part of the former Belmont Pool facility.

The commenter is correct in that Alternative 5 would not increase programmable water space. As such, Pages 5-35 and 5-36 of Chapter 5.0, Alternatives, have been revised as follows:

> "Although Alternative 5 would redevelop and replace the former Belmont Pool with a more modern facility that better meets the needs of recreational and competitive swimmers, divers, and aquatic sports participants~~,~~ (Objectives 1, and 2)~~, and increases programmable water space to minimize scheduling conflicts (Objective 5)~~, it does not meet these objectives to the same degree as the proposed Project. Alternative 5 provides only 200 sf more pool area than the former Belmont Pool facility, and is 49 percent less pool area than the proposed Project. The small increase in pool area would not alleviate the overcrowding and schedule conflicts of the former Belmont Pool as compared to the proposed Project <u>(Objective 5)</u>."

RESPONSE I-8-76

This comment indicates that the commenter has no comments on Chapter 6.0, Long-Term Implications, or Subsection 7.1 of Chapter 7.0, Mitigation, Monitoring, and Reporting Program (MMRP), of the Draft EIR.

This comment does not contain any substantive comments or questions about the Draft EIR or analysis therein. Therefore, no additional response is necessary.

RESPONSE I-8-77

This comment opines that the definition of a “large special event” is too low for the Project, as no such plan was ever required during the life of the former Belmont Pool facility, which the commenter opines routinely had more than 450 spectators without the need for such a plan. The commenter goes on to note that if this plan is truly needed, then the definition of a special event needs to be redefined to be consistent with the minimum number of permanent seats to be provided by the Project.

Refer to Common Response 3 in Section 2.1, Frequent Comments and Common Responses, of this Final EIR for further discussion related to parking and the proposed mitigation measure requiring an Event Traffic Management Plan.

RESPONSE I-8-78

This comment indicates that the commenter has no comments on Chapter 8.0, List of Preparers, or Chapter 9.0, References, of the Draft EIR.

This comment does not contain any substantive comments or questions about the Draft EIR or analysis therein. Therefore, no additional response is necessary.

RESPONSE I-8-79

This comment expresses support for approval of the EIR and the proposed Project and indicates that the commenter’s suggested edits and comments on the Draft EIR are detailed because the commenter intends to improve the Project and strengthen the analysis made in the Draft EIR. The commenter concludes by expressing admiration for the analysis in the Draft EIR and the work that has been put forth into the document by all parties involved in its creation.

This comment does not contain any substantive comments or questions about the Draft EIR or analysis therein. Therefore, no additional response is necessary.

Alyssa Helper

From:	Craig Chalfant <Craig.Chalfant@longbeach.gov>
Sent:	Monday, June 13, 2016 9:57 AM
To:	Ashley Davis; Alyssa Helper
Cc:	Dino D'Emilia
Subject:	FW: Belmont Pool

-----Original Message-----
From: Tra [mailto:trapilates@yahoo.com]
Sent: Thursday, June 09, 2016 10:13 PM
To: Craig Chalfant
Subject: Belmont Pool

I have two areas of concern with the proposed Belmont Pool

1) The plan includes just 1,250 permanent seats for the indoor pool. It is my understanding that 1,500 seats are required for NCAA events and other world class diving events. Why would we build a pool that doesn't have enough seats to draw the appropriate events to the pool? What a waste!!! Why even build it if we aren't going to build it to be world class and provide potential income to the City in the form of sales tax & tourism from these large events. I-9-1

2) In Section 5.3 ALTERNATIVES UNDER CONSIDERATION:

Alternative 3 indicates that moving the diving well outdoor remains under consideration. That would be ridiculous, more expensive, would also not attract world class diving events and would decrease the potential earning potential of the proposed pool. The diving well MUST be indoors as agreed upon and voted upon by the City Council in 2014 after hearing testimony of experts in the field. I-9-2

Thank you for your time and consideration.

Tracy Barden MPT
Core Pilates Center

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TRACY BARDEN

LETTER CODE: I-9

DATE: June 9, 2016

RESPONSE I-9-1

This comment expresses concern about the seating capacity for the indoor pool component of the proposed Project. The comment further notes that 1,500 seats are required for National Collegiate Athletic Association (NCAA) or other world class diving events.

Refer to Common Response 1 in Section 2.1, Frequent Comments and Common Responses, of this Final Environmental Impact Report (EIR) for further discussion related to the permanent seating capacity provided by the proposed Project.

RESPONSE I-9-2

This comment expresses concern for the outdoor diving well included in Alternative 3. The commenter states that the proposed Project must include an indoor diving well as voted by the City Council in 2014.

Refer to Common Response 2 in Section 2.1, Frequent Comments and Common Responses, of this Final EIR for further discussion related to Alternative 3 included in the Draft EIR, which includes an outdoor diving well component.

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Alyssa Helper

From: Craig Chalfant <Craig.Chalfant@longbeach.gov>
Sent: Monday, June 13, 2016 10:03 AM
To: Ashley Davis; Alyssa Helper
Cc: Dino D'Emilia
Subject: FW: Long Beach Aquatic Center

From: Donald Leas [mailto:donleas@hotmail.com]
Sent: Thursday, June 09, 2016 5:06 PM
To: Craig Chalfant
Cc: Steve Foley; Linda Paul
Subject: Long Beach Aquatic Center

Craig Chalfant, Senior Planner
City of Long Beach

Dear Mr. Chalfant:

I have been asked to offer some comments concerning the progress of the Aquatic Center for the City of Long Beach. I had the privilege of attending your community meeting on Saturday, April 9th at the Golden Sails Hotel in Long Beach. At the meeting, I had the opportunity to meet and speak with many people about the proposed Belmont Pool design. I found it very informative and was glad to see the city keeping its citizens informed of the developments and to give them the opportunity to ask questions to the various speakers. I also spoke personally with the architect during my visit.

Let me give you a little history of my extended background in the field of aquatics and especially in the sport of diving. I started in swimming competition in 1943 and in diving competition in 1950. I have coached both swimming and diving at the high school, university, YMCA, and club level since 1957. I have been a consultant to and for FINA, USA Diving, the NCAA, and the National Federation of High Schools for over 35 years. In 1995 I ran the FINA World Cup and in 1996 I ran the diving competition at the Atlanta Olympic Games where I also oversaw the construction of the Georgia Tech Aquatic Center. I was national chairman of USA Diving (then called the AAU) in the middle 70s and a member of the Executive Committee of the United States Olympic Committee. For eight years I was national chairman of the women's national collegiate committee for swimming and diving. I am currently, since 1981, the international chairman of the World University Games diving committee. I was the consultant for the revised diving well at the United States Air Force Academy and the designer of the premiere high school diving well in the country at the Northside Independent School District in San Antonio where they have eight springboards and a full diving tower with 1, 3, 5, 7.5, and 10 meter platforms. I-10-1

I have read through the Draft Environmental Impact Report and find it very extensive and inclusive but which has raised some questions and concerns. I-10-2 First, I specifically would like to address Alternative 3, the moving of the diving well to be outdoors. I-10-3

It is a fact that with an outdoor diving facility there will be a significant increase in the cost of maintaining the water level, an increase in chlorine usage, and an increase in the heating requirement to keep the water at the optimum level required for diving training and competition. The FINA Handbook states that "The water temperature shall be not less that 26 degrees Celsius" (FR 5.3.9). That is about 80 degrees Fahrenheit. Additionally, there will be an increase in the cost of providing lighting for training and competition at night, especially during the long winter nights; a need for seating, whether it be permanent or temporary, since it will not be able to utilize the indoor seating; and the increased cost of keeping an outdoor pool clean because of the outdoor environment. I-10-3

Second, I see absolutely no reason why it is suggested that the 115 square foot whirlpool for divers be eliminated. Because you can save 115 sf of deck space is ludicrous? These whirlpools (hot tubs) are generally located on the deck behind the diving platform or at the sides of the deck at the diving end of the pool. In fact, it is more important that the whirlpool be present in an outdoor facility because of the various temperature changes that exist in the outdoor environment in Long Beach. It is well known that the NCAA collegiate diving championships in the West are held every year in Seattle, Washington, even though the swimming portion of the conference championships are held at different pools within the conference. This meet will never move to the LA area if the diving well is moved outdoors. All of the conference schools would prefer to move to your area. These include USC, UCLA, Arizona State, U of Arizona, UC Berkeley, and Stanford, among others, the areas where most divers in these schools grow up, start their diving careers, and would like to be seen by their local friends. I-10-4

Another concern I have if the diving well is moved outdoors is to what direction will the springboards and platforms be facing? I have had extensive experience with this problem in a number of facilities. In Atlanta, at the Olympic Games, the architect felt that there would not be a problem with facing the diving equipment west because he was providing for a roof overhead that was 100 feet above the deck with the ends and sides open. I don't know if you have ever tried to look east on a clear day between the hours of 8 in the morning till about 11:30, but you are blinded by the sun and the divers were not able to do their dives properly on backward takeoffs. Additionally, when looking west from about 3 in the afternoon to 7:30 in the evening you are again blinded by the sun on forward facing dives. Once this was discovered and demonstrated to the Organizing Committee I required them to hang a large curtain (100 feet high and 100 feet wide) at both ends of the facility to block the sun. When I am asked by USA Diving to approve a site for an international diving event I will reject any outdoor diving well that has the diving equipment facing any way but north. I-10-5

If you want a first class facility that the City of Long Beach can again be proud of it should be 25 meters wide. That is only 7 feet wider than a 25 yard pool. This will allow for three 3 meter springboards, two 1 meter springboards, and a platform with 1m, 3m, 5m, 7.5m, and 10m in height. This is the standard required for World Championships and the Olympic Games and I understand that there is talk of LA again bidding for the Games. I-10-6

Another concern I have is with the proposed number of seats, whether indoors or outdoors. Do you realize that I had 11,000 seats in Atlanta for the Olympics and we took in one million dollars ($1,000,000) each time we had a swimming or diving event. That is an average of less than $100 a ticket. I know that you will not be able to provide 11,000 seats but I really believe you are being foolish in suggesting only 1250 seats. At least 1,500 or 2,000 seats will bring in a significant amount of money over the years and will pay for themselves very quickly and will attract more events if more spectators can be accommodated. I-10-7

If the diving well is moved outdoors as proposed in Alternative 3, it will necessitate that the building structure for the indoor pool will have to be reduced in length, thus automatically reducing the number of seats indoors, unless of course you would raise the roof so as to bring all of the 1250 seats adjacent to the swimming pool. I-10-8

I-10

However, it is stated in Alternative 3 that the roof could be lowered if the diving well is moved outdoors. Now I see a conflict in the rationale for moving the diving well outdoors. You will either have fewer seats or you will raise the roof indoord. Which is it? I-10-8

I see that the building height is planned to be 71' in height. My question is whether this is 71 feet above the current ground level or 71 feet above the deck? I understand that the environmental people are requiring the facility to be elevated approximately 7 feet above the current street or ground level. With respect to a 10 meter platform we only need 50 feet. Actually, a minimum of 44 feet (14 meters) and a preferred distance 49 and a quarter feet (15 meters) above the deck to the ceiling is shown in the FINA, USA Diving, and NCAA regulations. Can this 71 feet in height be explained more precisely? I-10-9

I do not believe that enough of these disadvantages were included or evaluated properly during the presentation made in the Alternative 3 discussion.

I hope that this analysis of the aspect of moving the diving facility outdoors is helpful in disqualifying the continued discussion of this Alternative 3. It may be penny wise but it is definitely dollar foolish. I-10-10

Respectfully yours,

Donald Leas
2632 Forest Dr.
Mayport, PA 16240
928-978-2168

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DONALD LEAS

LETTER CODE: I-10

DATE: June 9, 2016

RESPONSE I-10-1

This comment is introductory in nature and notes the commenter's experience in the field of aquatics.

This comment does not contain any substantive comments or questions about the Draft Environmental Impact Report (EIR) or analysis therein. No further response is necessary.

RESPONSE I-10-2

This comment notes that the commenter read through the Draft EIR and questions and comments on the environmental document. Refer to the Responses to Comments I-10-3 through I-10-10.

RESPONSE I-10-3

This comment addresses constraints to Alternative 3, which would locate the diving well outside of the proposed Bubble structure. The commenter notes constraints related to maintaining an outdoor diving pool as compared to an indoor pool.

Refer to Common Response 2 in Section 2.1, Frequent Comments and Common Responses, of this Final EIR for further discussion related to Alternative 3 included in the Draft EIR, which includes an outdoor diving well component.

RESPONSE I-10-4

This comment questions the elimination of the 115 square foot (sf) whirlpool for divers. The commenter notes that the whirlpools are generally located behind the dining platform and are especially important if the diving well is located outdoors. The comment concludes by noting the relevance of an indoor diving well for attracting National Collegiate Athletic Association (NCAA) events.

As described in Chapter 3.0, Project Description, the proposed Project includes a 4,205 sf indoor dive pool, which would range from 16 to 17 ft deep. Additionally, an indoor dive spa pool/whirlpool would be located adjacent to the Dive Pool and would be approximately 115 sf and 3 ft deep.

For a discussion of the evaluation of Alternatives under the California Environmental Quality Act (CEQA), refer to Chapter 5.0, Alternatives, of the Draft EIR. The 115 sf whirlpool for divers would not be included under Alternative 3. It is important to note that the elimination of the whirlpool and other outdoor Project components under this Alternative was considered as part of the City's efforts to identify a feasible alternative that would meet the Project Objectives while also reducing Project impacts. Alternative 3 was ultimately determined to only incrementally reduce impacts, but would not meet several of the Project Objectives. For this reason, Alternative 3 was not identified as the Preferred Alternative or the Environmentally Superior Alternative.

RESPONSE I-10-5

This comment expresses concern for the orientation of the diving well if it is located outdoors.

For a discussion of the evaluation of Alternatives under CEQA, refer to Common Response 2 in Section 2.1, Frequent Comments and Common Responses, of this Final EIR.

RESPONSE I-10-6

The commenter states that a "first class" aquatic facility should be 25 meters wide.

The outdoor 50-meter pool is 25 meters wide. This outdoor pool is where large meets, such as NCAAs and World Championships would take place. The 50-meter indoor pool is 25 meters wide. As such, a little more than 7 inches would need to be added to this pool width to make it 25 meters wide, which would cut down on deck space.

RESPONSE I-10-7

This comment describes the economic benefits of a large seating capacity. The commenter notes that increasing the seating capacity to 1,500 or 2,000 seats would increase the economic revenue of the proposed Project.

Refer to Common Response 1 in Section 2.1, Frequent Comments and Common Responses, of this Final EIR for further discussion related to the permanent seating capacity provided by the proposed Project.

RESPONSE I-10-8

This comment questions the proposed improvements under Alternative 3. The commenter makes specific reference to the rationale for moving the diving well outdoors under Alternative 3.

As described in Chapter 5.0, Alternatives, relocating the diving well outdoors would allow for a reduction in the height of the proposed Bubble structure. All other components, including the proposed indoor seating capacity, would be included in Alternative 3. It should be noted CEQA requires the consideration of alternatives to the proposed Project or its location that are capable of avoiding or substantially lessening any significant effects of the proposed Project.

Refer to Common Response 2 in Section 2.1, Frequent Comments and Common Responses, of this Final EIR for further discussion related to Alternative 3 included in the Draft EIR, which includes an outdoor diving well component.

RESPONSE I-10-9

This comment requests further clarification about the height of the proposed Bubble structure and the reasoning for this height.

The building height is described as being 71 feet (ft) throughout the Draft EIR. While the building height will be 71 ft, this height is in reference to the plinth, which itself is located 7 ft above existing grade. As such, the total height of the building above the existing grade would be 78 ft at its apex (refer to Figure 4.7.1, North Elevation Comparison, in Section 4.1, Aesthetics, of the Draft EIR), a total of 19 ft higher than the previous facility.

Although the building height is described as 71 ft throughout the Draft EIR, this change will be and does not change the analysis or conclusions contained in the Draft EIR as impacts with respect to aesthetics were based on the view simulations created for the Project (refer to Section 4.1, Aesthetics, of the Draft EIR), which correctly assumed a building height of 78 ft. This change will be incorporated in the Errata to the Final EIR. Therefore, no further response is necessary.

RESPONSE I-10-10

The commenter states that the evaluation of Alternative 3 did not properly disclose the disadvantages of moving the diving well outdoors. The comment concludes by asserting that Alternative 3 should be disqualified from further consideration.

Refer to Common Response 2 in Section 2.1, Frequent Comments and Common Responses, of this Final EIR for further discussion related to Alternative 3 included in the Draft EIR, which includes an outdoor diving well component.

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Alyssa Helper

From: Craig Chalfant <Craig.Chalfant@longbeach.gov>
Sent: Monday, June 13, 2016 9:24 AM
To: Ashley Davis; Alyssa Helper
Cc: Dino D'Emilia
Subject: FW: Belmont Pool Draft EIR Comment

From: Edric Guise [mailto:efguise@gmail.com]
Sent: Friday, June 10, 2016 4:44 PM
To: Craig Chalfant
Cc: Suzie Price; Jack Cunningham
Subject: Belmont Pool Draft EIR Comment

Hello Mr. Chalfant-

Thanks for the opportunity for comment on this subject. Here are my points and questions.

1. I support the high level of energy efficiency designed into the current plan. The Global Climate Change section of the DEIR mentions a number of California and Long Beach laws, regulations and programs that support such efficiency in addition to increasing use of clean, alternative/renewable energy. I-11-1
2. Clean renewable energy should be added to the project wherever practical. It appears the roof doesn't lend itself to solar panels but there are other areas throughout the project where solar panel shade should be practical. A few small wind turbines may also be practical and can be a good architectural feature. I-11-2
3. Clean onsite energy like a cogeneration fuel cell system should be added to the project similar to the fuel cell system now being added to the Aquarium of the Pacific in Downtown Long Beach. Microturbines or IC engines fueled by natural gas may also work, but fuel cells are the cleaner alternative. Such cogeneration systems are in place at large pools all over the world, can significantly reduce the project's energy consumption and pollution, and will save money while increasing other project values to the community. I-11-3
4. A cogeneration system will increase the community project value by making the project a safe harbor community space in the event of natural disaster. The project will be one of the few East Long Beach structures designed to withstand a major earthquake and a cogeneration system can provide energy for medical and other critical emergency services that may otherwise be unavailable due to an electric grid failure. The City and State of New York learned this lesson during the aftermath of Hurricane Sandy when they didn't have enough public safety areas or hospitals with an onsite energy supply. As a result that City and State are now promoting onsite cogeneration systems to support critical public facilities, and we have such an opportunity here with this project.
5. The cost, risk and operations/maintenance of energy equipment like solar panels, small wind turbines and cogeneration systems are commonly borne by experienced third party developers and investors who recuperate their investment by selling the energy to the facility at a discount compared to utility prices. The fuel cell cogeneration system now being added to the Aquarium of the Pacific is one such example, where the Aquarium does not pay for the system but instead purchases the energy with a Power Purchase Agreement contract. This means there is no need to increase the cost of the project in order to benefit from these onsite energy systems/options. I-11-4
6. Major public/private projects often overlook this issue of clean/renewable onsite energy except where designing in the minimal use of such equipment is used to help qualify for LEED (i.e., green building) I-11-5

certifications. Another reason this is overlooked is because project proponents and designers focus more on the initial cost of a project and less on the ongoing operations/maintenance costs. In this case Long Beach and this project have the ability to aim higher, support our State and City's laws/regulations/goals for more clean/renewable energy, create an important public safety resource, and save money from reduced energy costs. I-11-5

7. Finally, the former Belmont Pool included a mid-size restaurant licensed for alcohol and music entertainment. Such entertainment licenses are increasingly rare for public establishments in Long Beach and elsewhere and are an important means of support for local musicians/artists. In addition, like the nearby Belmont Brewing Company a restaurant is another way for residents from all over Long Beach and tourists to enjoy the new project, Belmont Pier and adjacent beach resources. The music was and can again be part of the attraction that can help this project and the immediate area achieve Long Beach's broader vision of creating a thriving public space that nonetheless respects the local residents. If a larger restaurant isn't possible the project should include a moderately sized outdoor stage and seating area for concerts and other public events. We need to support artists, attract tourists and connect with the rest of our great City. I-11-6

Thank you for your consideration.

Regards,

Edric
Guise
126 Belmont Avenue
Long Beach, CA 90803

EDRIC GUISE

LETTER CODE: I-11

DATE: June 10, 2016

RESPONSE I-11-1

This comment supports the energy efficiency included in the design of the proposed Project and notes that the Global Climate Change section of the Draft includes a number of applicable laws, regulations, and programs supporting efficiency and clean, alternative/renewable energy.

This comment does not contain any substantive comments or questions about the Draft EIR or analysis therein. No further response is necessary.

RESPONSE I-11-2

This comment recommends that renewable energy options should be added to the proposed Project where practical. The commenter makes specific reference to solar panels and wind turbines.

Due to the curved nature of the Bubble structure and its ancillary facilities and the layout of the proposed facilities on the Project site, it would be infeasible to include solar panels on the Project facilities and/or wind turbines on the Project site.

RESPONSE I-11-3

This comment recommends the addition of clean on-site energy such as a cogeneration fuel cell system to address energy consumption and pollution. The commenter also asserts that a cogeneration fuel cell system would enable the proposed Project to be a public safety area for use during natural disasters because it would be able to operate during emergency situations.

This comment does not contain any substantive comments or questions about the Draft EIR or analysis therein. This comment will be forwarded to the decision-makers for their review and consideration. No further response is necessary.

RESPONSE I-11-4

This comment states that the cost, risk, and operation/maintenance of energy equipment like solar panels, wind turbines, and cogeneration systems are borne by third-party developers and investors. The comment also references the fuel cell cogeneration system at the Aquarium of the Pacific as an example of an instance where the Aquarium did not purchase the fuel cell system, but instead purchased the energy with a Power Purchase Agreement. The comment concludes by arguing that the use of such systems would negate the need to increase the cost of the proposed Project in order for the Project to benefit from these on-site energy systems/options.

This comment does not contain any substantive comments or questions about the Draft EIR or analysis therein. This comment will be forwarded to the decision-makers for their review and consideration. No further response is necessary.

RESPONSE I-11-5

This comment opines that major public and private project overlook clean/renewable energy (unless the use of such equipment is required to qualify for a Leadership in Energy and Environmental Design [LEED] certification) because project proponents focus on the initial cost of a project and less on operation/maintenance costs. The commenter urges the City to further applicable State and local laws, regulations, and goals aimed at promoting renewable energy by including such features in the proposed Project.

For the reasons described above in Responses I-11-1 through I-5-4, it would be infeasible to include solar panels on the Project facilities and/or wind turbines on the Project site. While these features were determined to be infeasible, the proposed Project does include several Conservation and Sustainability Features aimed at reducing energy consumption. For example as described in Chapter 3.0, Project Description, the Project includes aquatic specific pumps that would be in constant communication with the filtration system and chemical controller to provide the optimum electrical frequency to the pump to ensure that the aquatic pumps would be kept at premium levels of efficiency, thereby reducing energy consumption by at least 30 percent. The proposed Project would also utilize light-emitting diode underwater pool lighting and pool blankets to further reduce energy usage. The use of these features would serve to reduce energy consumption, thereby reducing operation/maintenance costs and furthering the City's ability to meet applicable laws, regulations, and goals aimed at increasing energy efficiency.

RESPONSE I-11-6

The commenter opines that the former Belmont Pool facility included a mid-size restaurant licensed for alcohol and music entertainment. The commenter notes that such entertainment uses can serve to bring the community and visitors to the community together. As such, the commenter notes that the proposed snack bar included as part of the Project should be larger and if that is not possible, should include an outdoor stage and seating area for concerts and other public events to support artists, attract tourists, and connect with the rest of the City.

This comment does not contain any substantive comments or questions about the Draft EIR or analysis therein. This comment will be forwarded to the decision-makers for their review and consideration. No further response is necessary.

Alyssa Helper

From: Craig Chalfant <Craig.Chalfant@longbeach.gov>
Sent: Monday, June 13, 2016 9:29 AM
To: Ashley Davis; Alyssa Helper
Cc: Dino D'Emilia
Subject: FW: Support for Belmont Aquatic Center

From: Merritt Morris [mailto:merrittjmorris@gmail.com]
Sent: Friday, June 10, 2016 1:54 PM
To: Craig Chalfant
Subject: Support for Belmont Aquatic Center

Mr. Craig Chalfant,

As a Long Beach resident, homeowner and aquatic community member I am in support of rebuilding the Belmont Aquatic Center Complex. I am eager to see a world class center that will attract high level aquatic competition. However, there are some issues with the current proposal. I-12-1

The proposed center indoor seating is a bit shy of the expected 1500 seat permanent capacity for holding top level aquatic competitions. If the planned capacity is increased Long Beach can potentially attract more aquatic events and thus generate more revenue to cover the cost of facility operations. I-12-2

The prosed alternative plans also do not meet the center objectives as had been outlined and approved unanimously by the City Council on October 21, 2014. Alternative 3 should include an indoor diving component as necessary for high level competition and training. There is no such existing facility in the State of California that currently meets this requirement. I-12-3

Thank you,
Merritt Morris

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MERRITT MORRIS

LETTER CODE: I-12

DATE: June 10, 2016

RESPONSE I-12-1

This comment is introductory in nature and notes the commenter's support for rebuilding the Belmont Aquatic Center Complex. The commenter does express concern related to proposed Project. These concerns are outlined in Comments I-12-2 and I-12-3.

This comment does not contain any substantive comments or questions about the Draft Environmental Impact Report (EIR) or analysis therein. This comment will be forwarded to the decision-makers for their review and consideration. No further response is necessary.

RESPONSE I-12-2

This comment raises concern with the proposed seating capacity of the proposed Project. The commenter suggests that increasing capacity can attract more events and result in revenue for the City, which could be used to cover facility costs.

Refer to Common Response 1 in Section 2.1, Frequent Comments and Common Responses, of this Final EIR for further discussion related to the permanent seating capacity provided by the proposed Project.

RESPONSE I-12-3

The commenter asserts that the Project Alternatives do not meet the objectives outlined and approved by the Long Beach City Council on October 21, 2014. The commenter further recommends that Alternative 3 should include an indoor diving component.

Refer to Common Response 2 in Section 2.1, Frequent Comments and Common Responses, of this Final EIR for further discussion related to Alternative 3 included in the Draft EIR, which includes an outdoor diving well component.

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Alyssa Helper

From: Craig Chalfant <Craig.Chalfant@longbeach.gov>
Sent: Monday, June 13, 2016 9:32 AM
To: Ashley Davis; Alyssa Helper
Cc: Dino D'Emilia
Subject: FW: Belmont

From: johnmclareninsinc@gmail.com [mailto:johnmclareninsinc@gmail.com]
Sent: Friday, June 10, 2016 12:35 PM
To: Craig Chalfant
Subject: Belmont

I support the new pool | I-13-1

Sent from my Verizon 4G LTE Smartphone

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JOHN MCLARENINSINC

LETTER CODE: I-13

DATE: June 10, 2016

RESPONSE I-13-1

This comment expresses support for the proposed Project.

This comment does not contain any substantive comments or questions about the Draft Environmental Impact Report (EIR) or analysis therein. This comment will be forwarded to the decision-makers for their review and consideration. No further response is necessary.

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Alyssa Helper

From: Craig Chalfant <Craig.Chalfant@longbeach.gov>
Sent: Monday, June 13, 2016 9:48 AM
To: Ashley Davis; Alyssa Helper
Cc: Dino D'Emilia
Subject: FW: Long Beach Aquatic Center

From: Steve Foley [mailto:steve.foley@usadiving.org]
Sent: Friday, June 10, 2016 7:06 AM
To: Craig Chalfant
Cc: Linda Paul; 'Donald Leas (donleas@hotmail.com)'; lucyjohnson1@gmail.com
Subject: RE: Long Beach Aquatic Center

Dear Mr. Chalfant,

I would like to endorse our facilities expert, Mr. Don Leas comments with regards Long Beach Aquatic Center and Alternative 3. I-14-1

The previous indoor aquatic center at Long Beach conducted numerous world class events and the main reason for this was that at the time, it was the only indoor pool in California and for that matter, on the entire West Coast. If Long Beach was to build a new facility and place the diving pool outdoors, then it would simply become one of many outdoor diving facilities to choose from for National and International competitions and therefore from a USA Diving perspective to conduct major event, Seattle would be our first choice. If we were looking for an outdoor venue to host an event, then Long Beach would be in the running with the soon to be developed and improved Mission Viejo, Stanford, USC, UCLA and even Tucson. I-14-2

USA Diving is constantly looking for a world class venue to conduct major competitions, training camps and international events and in recent years, the West Coast has missed out due to not having a suitable indoor diving pool. I believe it would be a huge benefit for the community and the City of Long Beach to build the diving pool indoor with a seating capacity of 1,500-2,000 as Don mentioned. I-14-3 The economic benefits from hosting major events is substantial (USA Grand Prix previously in Ft. Lauderdale over 6 days benefited the City $1,000,000) and the opportunity to have the ONLY indoor diving facility in California and being one of only two on the West Coast automatically gives the City of Long Beach a massive advantage over all other facilities. I-14-4

As previously unanimously approved by the City Council in 2014 to construct a world class indoor diving facility, I would endorse this original proposal and trust that none of the 5 alternatives under consideration are accepted. I-14-5

Yours sincerely,

Steve Foley
High Performance Director
USA Diving

From: Donald Leas [mailto:donleas@hotmail.com]
Sent: Thursday, June 9, 2016 8:06 PM

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STEVE FOLEY

LETTER CODE: I-14

DATE: June 10, 2016

RESPONSE I-14-1

This comment expresses agreement with Don Leas's comments regarding the City of Long Beach (City) Aquatic Center and Alternative 3. The referenced comments by Don Leas are responded to in Responses to Comments I-10-1 through I-10-10.

RESPONSE I-14-2

This comment provides a brief history on the relevance of the previous Long Beach Aquatic Center in the aquatic community, and further notes existing outdoor aquatic venues that would be similar to the proposed Project.

This comment does not contain any substantive comments or questions about the Draft Environmental Impact Report (EIR) or analysis therein. This comment will be forwarded to the decision-makers for their review and consideration. No further response is necessary.

RESPONSE I-14-3

This comment suggests that the proposed Project should include a seating capacity of 1,500–2,000 spectators at the indoor diving pool in order to attract major competitions, training camps, and international events.

Refer to Common Response 1 in Section 2.1, Frequent Comments and Common Responses, of this Final EIR for further discussion related to the permanent seating capacity provided by the proposed Project.

RESPONSE I-14-4

This comment notes that hosting major aquatic events would result in economic benefits for the City. The commenter further notes the advantage of an indoor diving facility in attracting large aquatic events.

This comment does not contain any substantive comments or questions about the Draft EIR or analysis therein. This comment will be forwarded to the decision-makers for their review and consideration. No further response is necessary.

RESPONSE I-14-5

This comment expresses support for an original proposal for the indoor diving facility previously approved by City Council in 2014. The comment further recommends that none of the five Project Alternatives under consideration are accepted.

Refer to Common Response 2 in Section 2.1, Frequent Comments and Common Responses, of this Final EIR for further discussion related to Alternative 3 included in the Draft EIR, which includes an outdoor diving well component.

I-15

Alyssa Helper

From: Craig Chalfant <Craig.Chalfant@longbeach.gov>
Sent: Monday, June 13, 2016 9:12 AM
To: Ashley Davis; Alyssa Helper
Cc: Dino D'Emilia
Subject: FW: EIR for Belmont Pool

From: Debby McCormick [mailto:diventenis@aol.com]
Sent: Saturday, June 11, 2016 3:55 PM
To: Craig Chalfant
Subject: EIR for Belmont Pool

June 11, 2011

Dear Mr Chalfant,

I would like to address a few iems covered in the draft EIR for the new Belmont Pool project.

Incidentally, my family moved to Long Beach in 1969 so I would have a world class diving facility to train in, and due to access to that facility I became a National Platform Champion and a medallist at the Pan American Games. I-15-1

The new plans call for 1250 seats, which is not enough for major competitions. I encourage you to consider minimally 1500 seats for spectators and athletes. The old pool had the capacity to seat 2000. I-15-2

Please do not even consider moving the diving pool outdoors for so many reasons. The City Council voted unanimously, twice to have a separate diving well with platforms INDOORS. An outdoor option is unacceptable. Not only would it be more costly to clean and maintain proper pool temperatures, it would require adequate lighting at night, and have a lack of seating. There are no other indoor platform diving facilities in California. A site like this will attract not only the local population of the greater LA area to learn one of the most popular Olympic sports, it will give an opportunity for Long Beach to develop our future Olympic hopefuls and maintain the great tradition of ALL of our aquatic sports in Long Beach. I-15-3

As far as the parking, there are over 1000 parking spaces on either side of the structure. I-15-4

I am writing this letter as a former US National Champion, Pan Am Games Medallist, a Board member of the Aquatic Capital of America and a member of the Long Beach Century Club that wholly supports these items. I-15-5

Sincerely,

Debby McCormick

www.mccormickdivers.com
"Making a Splash Since 1968"

DEBBY McCORMICK

LETTER CODE: I-15

DATE: June 11, 2016

RESPONSE I-15-1

This comment is introductory in nature and notes the commenter's residency in the City of Long Beach and history in aquatics.

This comment does not contain any substantive comments or questions about the Draft Environmental Impact Report (EIR) or analysis therein. No further response is necessary.

RESPONSE I-15-2

This comment suggests the proposed facility include 1,500 seats for spectators, rather than the 1,250 seats included in the proposed Project. The commenter further notes that the previous facility had a 2,000-seat capacity.

Refer to Common Response 1 in Section 2.1, Frequent Comments and Common Responses, of this Final EIR for further discussion related to the permanent seating capacity provided by the proposed Project.

RESPONSE I-15-3

This comment objects to the consideration of moving the diving component outdoors, as proposed under Alternative 3. The comment notes that the City Council previously voted on two separate occasions to have an indoor diving well. The commenter further describes constraints related to an outdoor diving well and the local and regional attraction of an indoor diving facility.

Refer to Common Response 2 in Section 2.1, Frequent Comments and Common Responses, of this Final EIR for further discussion related to Alternative 3 included in the Draft EIR, which includes an outdoor diving well component.

RESPONSE I-15-4

This comment state that there over 1,000 parking spaces on either side of the proposed Project.

Refer to Common Response 3 in Section 2.1, Frequent Comments and Common Responses, of this Final EIR for further discussion related to parking and the proposed mitigation measure requiring an Event Traffic Management Plan.

RESPONSE I-15-5

This comment notes the commenter's history in aquatics and the organizations that endorse the comments included in this letter.

This comment does not contain any substantive comments or questions about the Draft EIR or analysis therein. This comment will be forwarded to the decision-makers for their review and consideration. No further response is necessary.

June 11, 2016

Craig Chalfant
Senior Planner
City of Long Beach
Developmental Services/Planning Bureau

Re: Belmont Pool Project and EIR

Dear Mr. Chalfant:

I wish to address 3 critical items covered in the EIR Plaza Pool Project, however I would like to give you my "background" credentials:

A native of Long Beach, California for 82 years
Water Polo and Swim Coach for L.B. Poly H.S. and Millikan H.S. 10 years
Long Beach Unified School District (20 yrs.)
Chief of Long Beach Life Guards (10 yrs.) Manager of the Tidelands Marine Bureau (responsible for beaches, Marinas and the Plaza Pool).
President of the Long Beach Lifeguard Association Alumni
Past President of the L.B. Aquatic Capital of America (2015-2016)
Original "stakeholder" on the Plaza Pool Project

I-16-1

With that said, I would like to address these specific items in the ERI, they are:

Seating …. 2,000 not 1,250
Diving well and towers…. Inside not outside or eliminated!
Parking …. ample metered parking on the East side and the West side of pool

I-16-2

SEATING becomes a major issue to the sponsors of many national and international events, including the NCAA College, Jr. College, CIF high school swimming and water polo events, as-well-as national age group swimming and water polo, local and national competition. It would seem that these events would certainly be supported by the L.B. Business and Convention Bureau, as to, increased "room nights" as well as our local eating and entertainment located on E. 2nd street in Belmont Shore. To bring these aquatic events, and their support groups to Long Beach, we need the 2,000 seating in our "New Facility".

I-16-3

THE DIVING PLATFORM AND WELL cannot be eliminated because U.S. Diving Federation and U.S. Swimming combines the swim meet with the diving events. An "outside" diving tower and well would be subject to weather conditions. Our Westerly winds would not be appropriate for our divers to perform in such weather elements and ocean breezes!

I-16-4

PARKING, our parking lots on the East and West side of the project can handle the crowds that would be expected at these events, as-well-as providing revenue for the City of Long Beach. (Meter parking).

I-16-5

Please consider these three issues as the project goes forward!

I-16-6

Sincerely, Yours in LifeSaving,

Richard (Dick) Miller

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RICHARD MILLER

LETTER CODE: I-16

DATE: June 11, 2016

RESPONSE I-16-1

This comment is introductory in nature and provides background information on the commenter and the commenter's involvement in the aquatic community. This comment does not contain any substantive comments or questions about the Draft Environmental Impact Report (EIR) or analysis therein. No further response is necessary.

RESPONSE I-16-2

This comment indicates that the commenter has three specific concerns related to the EIR, which are as follows: (1) the need for more permanent seats, (2) an indoor diving well as opposed to an outdoor diving well (as proposed under Alternative 3), and (3) the over-abundance of parking at the pool. These comments are described in further detail and are responded to below in Responses I-16-3 through I-16-5.

RESPONSE I-16-3

This comment expresses concern related to the number of permanent seats provided by the proposed Project and opines that the Project should include at least 2,000 permanent seats to attract major national and international events.

Refer to Common Response 1 in Section 2.1, Frequent Comments and Common Responses, of this Final EIR for further discussion related to the permanent seating capacity provided by the proposed Project.

RESPONSE I-16-4

This comment expresses concern related to the placement of the diving platform and well outdoors, as proposed under Alternative 3. The commenter opines that changing weather conditions and strong winds would render an outdoor diving platform and well an inappropriate option for divers utilizing the proposed Project.

Refer to Common Response 2 in Section 2.1, Frequent Comments and Common Responses, of this Final EIR for further discussion related to Alternative 3 included in the Draft EIR, which includes an outdoor diving well component.

RESPONSE I-16-5

This comment expresses personal familiarity with operations at the former Belmont Pool facility when asserting that the existing parking lots on the east and west sides of the site can accommodate vehicles traveling to the site during special events occurring during operation of the proposed Project.

Refer to Common Response 3 in Section 2.1, Frequent Comments and Common Responses, of this Final EIR for further discussion related to parking and the proposed mitigation measure requiring an Event Traffic Management Plan.

RESPONSE I-16-6

This comment asks the City of Long Beach to consider the aforementioned comments as the Project moves forward.

This comment does not contain any substantive comments or questions about the Draft EIR or analysis therein. This comment will be forwarded to the decision-makers for their review and consideration. No further response is necessary.

Alyssa Helper

From:	Craig Chalfant <Craig.Chalfant@longbeach.gov>
Sent:	Monday, June 13, 2016 9:07 AM
To:	Ashley Davis; Alyssa Helper
Cc:	Dino D'Emilia
Subject:	FW: Belmont Plaza

From: Jack Simon [mailto:jsimon7946@gmail.com]
Sent: Sunday, June 12, 2016 9:48 AM
To: Craig Chalfant
Subject: Belmont Plaza

Dear Sir, I am writing to you concerning the proposed plans for a completely renovated Belmont Plaza Pool.

First, a little about me. I am an American Swimming Coach's Association Hall of Fame coach, coached numerous Olympic swimmers and national champions, was an American Swimming Coaches Association President and also served three terms as a Board member of United States Swimming. Also, for a short time was the head coach of Shore Aquatics, placing an Olympian on the 96 team. I-17-1

I am somewhat flabbergasted that there is even a debate about putting a FIRST CLASS facility in Long Beach. Long Beach has served as a mecca for all aquatic sports for many decades now. The area has produced Olympians in all aquatic sports.

That said, perhaps the most important part is the amount of money that all aquatic sports have brought to the Long Beach area. I am certain, that over the years this exceeds hundreds of millions of dollars. Between the old AAU, the U.S. Olympic Committee, now United States Swimming, Diving, Water Polo and Synchronized there have been hundreds of national, international competitions held at Belmont. Then look at the local competitions in all sports where participants come from all over southern California. I-17-2

The above, at least to me, is obvious! A first class facility, serving all aquatic sports, is an income producer for the City of Long Beach, but most important is to the hotels, restaurants and other related businesses. While fully realizing that this is an expensive venture, over a period of years it more than makes up for that expense.

I most certainly hope you will consider the advice of the aquatic experts.

Sincerely

Jack Simon
International Swimming Coach

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JACK SIMON

LETTER CODE: I-17

DATE: June 12, 2016

RESPONSE I-17-1

This comment is introductory in nature and notes the commenter's background in the aquatics community.

This comment does not contain any substantive comments or questions about the Draft Environmental Impact Report (EIR) or analysis therein. No further response is necessary.

RESPONSE I-17-2

This comment notes the history of aquatic events held at the former Belmont Pool and the economic benefits that would be afforded to the City of Long Beach if the proposed Project is constructed.

This comment does not contain any substantive comments or questions about the Draft EIR or analysis therein. This comment will be forwarded to the decision-makers for their review and consideration. No further response is necessary.

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Alyssa Helper

From: Craig Chalfant <Craig.Chalfant@longbeach.gov>
Sent: Monday, June 13, 2016 9:02 AM
To: Ashley Davis; Alyssa Helper
Cc: Dino D'Emilia
Subject: FW: Belmont Pool

-----Original Message-----
From: Jake Jeffery [mailto:jake@groundflesh.com]
Sent: Sunday, June 12, 2016 10:18 AM
To: Craig Chalfant
Subject: Belmont Pool

Dear Mr. Chalfant,

Not long ago, our beloved Belmont Pool was shut down and has left an absence in our community. I have so many memories of the dive platforms from growing up nearby and using them every summer. It was the pinnacle of Jr. Lifeguards for me! Nowadays, I would like my children to have the same wonderful experiences that I had as a child. Please remember what made those platforms unique was that they were the only indoor platforms around. My seven year old daughter has begun diving competitively and we I-18-1

currently have to travel outside of our neighborhood to practice and out of town to compete. By rebuilding the dive facility indoors, competitions could resume right here in our community and would be huge draw for Long Beach. That being said, I encourage you to increase the number of seats for spectators in the current plan. Water polo tournaments, swim events, and dive tournaments could each easily fill 1500 seats as this community breeds champions of all these sports and have remained quite popular in our city for decades. I thank you for your time and consideration of my concerns. I-18-2

Sincerely,
Jake Jeffery
Long Beach Resident (40 years)

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JAKE JEFFERY

LETTER CODE: I-18

DATE: June 12, 2016

RESPONSE I-18-1

This comment is introductory in nature and notes the importance of the indoor diving facilities of the former Belmont Pool.

This comment does not contain any substantive comments or questions about the Draft Environmental Impact Report (EIR) or analysis therein. This comment will be forwarded to the decision-makers for their review and consideration. No further response is necessary.

RESPONSE I-18-2

The commenter expresses support for increasing the permanent seating capacity of the proposed Project to 1,500 seats for large aquatic events.

Refer to Common Response 1 in Section 2.1, Frequent Comments and Common Responses, of this Final EIR for further discussion related to the permanent seating capacity provided by the proposed Project.

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Alyssa Helper

From: Craig Chalfant <Craig.Chalfant@longbeach.gov>
Sent: Monday, June 13, 2016 8:50 AM
To: Ashley Davis; Alyssa Helper
Cc: Dino D'Emilia
Subject: FW: Belmont Aquatic Center

From: Jeff Hoffman [mailto:jhoffman@jeffhoffmanassociates.com]
Sent: Sunday, June 12, 2016 3:22 PM
To: Craig Chalfant
Subject: Belmont Aquatic Center

Hello Craig,

I have reviewed the EIR and I am in favor of the proposed plan for the building and site. Let's fund the money and build it! I-19-1

Thanks,

Jeff Hoffman
238 Campo Drive
Long Beach, CA 90803

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JEFF HOFFMAN

LETTER CODE: I-19

DATE: June 12, 2016

RESPONSE I-19-1

This comment expresses support for the proposed Project.

This comment does not contain any substantive comments or questions about the Draft Environmental Impact Report (EIR) or analysis therein. This comment will be forwarded to the decision-makers for their review and consideration. No further response is necessary.

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Alyssa Helper

From: Craig Chalfant <Craig.Chalfant@longbeach.gov>
Sent: Monday, June 13, 2016 1:32 PM
To: Ashley Davis; Alyssa Helper
Cc: Dino D'Emilia
Subject: FW: Olympic Aquatic Center-Long Beach

From: albecarrie@aol.com [mailto:albecarrie@aol.com]
Sent: Monday, June 13, 2016 1:15 PM
To: Craig Chalfant; albecarrie@aol.com
Subject: Olympic Aquatic Center-Long Beach

Dear Mr Chalfant,

As a Long Beach resident and supporter of McCormick Divers I am extremely supportive of a world-class aquatic center at the site of the Belmont Plaza Pool. Some thoughts on the plan include: I-20-1

The new plans call for 1250 seats, which is not enough for major competitions. I encourage you to consider minimally 1500 seats for spectators and athletes. The old pool had the capacity to seat 2000. I-20-2

Please do not even consider moving the diving pool outdoors for so many reasons. The City Council voted unanimously, twice to have a separate diving well with platforms INDOORS. An outdoor option is unacceptable. Not only would it be more costly to clean and maintain proper pool temperatures, it would require adequate lighting at night, and have a lack of seating. There are no other indoor platform diving facilities in California. A site like this will attract not only the local population of the greater LA area to learn one of the most popular Olympic sports, it will give an opportunity for Long Beach to develop our future Olympic hopefuls and maintain the great tradition of ALL of our aquatic sports in Long Beach. I-20-3

As far as the parking, there are over 1000 parking spaces on either side of the structure. I-20-4

A truly world-class facility will prove an invaluable benefit to Long Beach. I am positive you have considered the economic effects aquatic events will bring to Long Beach businesses and hotels. In addition, it will provide a source of civic pride--not to mention a much-appreciated source of tax revenue!

Let's move forward with the FULL plan! I-20-5

Thank you,
Carol Ostberg

676 Loma Avenue
Long Beach, CA 90814
(562) 305-2873

CAROL OSTBERG

LETTER CODE: I-20

DATE: June 13, 2016

RESPONSE I-20-1

This comment is introductory in nature and expresses support for the proposed Project.

This comment does not contain any substantive comments or questions about the Draft Environmental Impact Report (EIR) or analysis therein. No further response is necessary.

RESPONSE I-20-2

This comment expresses concern that the 1,250 permanent seats included as part of the proposed Project are insufficient for hosting major competition, and as such, urges the City of Long Beach to consider at least 1,500 permanent seats as part of the Project.

Refer to Common Response 1 in Section 2.1, Frequent Comments and Common Responses, of this Final EIR for further discussion related to the permanent seating capacity provided by the proposed Project.

RESPONSE I-20-3

This comment urges the City not to consider moving the outdoor diving well, as proposed under Alternative 3. The commenter notes that the City Council previously voted to have a separate diving well with platforms indoors. The commenter asserts that an outdoor diving well would be unacceptable because it would require increased maintenance costs, additional lighting at night, and would have a lack of seating. The commenter goes on to argue in favor of an indoor diving well because it would allow the Project to serve as a landmark within the City and State for all aquatic events, including diving.

Refer to Common Response 2 in Section 2.1, Frequent Comments and Common Responses, of this Final EIR for further discussion related to Alternative 3 included in the Draft EIR, which includes an outdoor diving well component.

RESPONSE I-20-4

This comment asserts that there are over 1,000 parking spaces on either side of the Project site.

Refer to Common Response 3 in Section 2.1, Frequent Comments and Common Responses, of this Final EIR for further discussion related to parking and the proposed mitigation measure requiring an Event Traffic Management Plan.

RESPONSE I-20-5

This comment expresses support for the proposed Project and notes that while implementation of the Project would have invaluable impacts on the City, it would also provide positive economic impacts to the City.

This comment does not contain any substantive comments or questions about the Draft EIR or analysis therein. This comment will be forwarded to the decision-makers for their review and consideration. No further response is necessary.

Alyssa Helper

From: Craig Chalfant <Craig.Chalfant@longbeach.gov>
Sent: Monday, June 13, 2016 2:18 PM
To: Ashley Davis; Alyssa Helper
Cc: Dino D'Emilia
Subject: FW: The proposal for the new swim complex in the Belmont area

From: Lyle Nalli [mailto:lnalli66@gmail.com]
Sent: Monday, June 13, 2016 1:54 PM
To: Craig Chalfant
Subject: The proposal for the new swim complex in the Belmont area

Dear Craig and other important members
Looking over the proposals for the new swim complex is very encouraging;. I urge you and other decision making members not to underscore nor underestimate the full greatness of building this great facility. I-21-1

I notice under considerations is alternatives; Guys and gals please, make the pools as planned. INdoor 50m, dive tank etc and Outdoor 50m etc. Don't cut corners here. What little savings you think you'll make will be greatly outweighed by the annual potential loss you / we will have by not being able to host just about any swim competitions. Think BIG and think LONG TERM. I-21-2

Keep enough seating to host the NCAA div.I championships. If you can do that, then you can host just about any meet you want. I-21-3
I do like that you put the lane widths acceptable by FINA. thank you. I-21-4

Is there enough deck space around the pools? I-21-5

I lend my support to other's in the swimming and diving community that have maintained if not been or participated in, the tradition of Long Beach swimming history. This includes diving. I-21-6

Swimmingly yours,

Lyle Nalli

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LYLE NALLI

LETTER CODE: I-21

DATE: June 13, 2016

RESPONSE I-21-1

This comment expresses support for the proposed Project.

This comment does not contain any substantive comments or questions about the Draft Environmental Impact Report (EIR) or analysis therein. No further response is necessary.

RESPONSE I-21-2

This comment urges the City of Long Beach (City) to not consider the outdoor diving well as a feasible alternative (Alternative 3) to the proposed Project.

Refer to Common Response 2 in Section 2.1, Frequent Comments and Common Responses, of this Final EIR for further discussion related to Alternative 3 included in the Draft EIR, which includes an outdoor diving well component.

RESPONSE I-21-3

This comment requests that the proposed Project provide enough seating to host championship aquatic events.

Refer to Common Response 1 in Section 2.1, Frequent Comments and Common Responses, of this Final EIR for further discussion related to the permanent seating capacity provided by the proposed Project.

RESPONSE I-21-4

This comment expresses favor with the lane widths proposed as part of the Project, as the commenter opines that these lane widths are consistent with FINA (Federation Internationale de Natation) requirements.

This comment does not contain any substantive comments or questions about the Draft EIR or analysis therein. No further response is necessary.

RESPONSE I-21-5

This comment asks if there is enough deck space around the pools.

It is recommended that pool decks be 18 to 20 feet (ft) in size for major facilities, such as those proposed at the Project. The pool decks provided near the indoor and outdoor pools are anticipated to meet these recommendations and would provide sufficient space for visitor spectating and for temporary seating (i.e., bleachers) during special events at the site. As such, the deck space around the indoor and outdoor pools is anticipated to be adequate to serve visitors to the Project.

RESPONSE I-21-6

This comment expresses support for the proposed Project as it would serve the swimming and diving community in Long Beach.

This comment does not contain any substantive comments or questions about the Draft EIR or analysis therein. No further response is necessary.

Alyssa Helper

From: Craig Chalfant <Craig.Chalfant@longbeach.gov>
Sent: Monday, June 13, 2016 2:22 PM
To: Ashley Davis; Alyssa Helper
Cc: Dino D'Emilia
Subject: FW: Comments on the Draft EIR for the proposed Belmont pool project

From: Lucy Johnson [mailto:lucyjohnson1@gmail.com]
Sent: Monday, June 13, 2016 12:49 PM
To: Craig Chalfant
Cc: Amy Bodek; Ashley Davis
Subject: Re: Comments on the Draft EIR for the proposed Belmont pool project

Thank you for confirming receipt of my detailed comments.

As an addendum/summary of my earlier comments, here are my three greatest concerns... I-22-1

1) The planned 1,250 permanent seats for the indoor structure are not enough for a world-class facility. There should be a minimum of 1,500 permanent seats, preferably more, so Long Beach can compete with other facilities for the larger events (other than Olympics, World Championships and Olympic Swim Trials). I-22-2

2) Numbers 2-5 of the Alternatives Under Consideration should be eliminated from Section 5.3, as they do not meet the project objectives, nor are they in line with the unanimous City Council votes for the project on both February 12, 2013 and October 21, 2014. Those four alternations should be moved to Section 5.2, Alternatives Initially Considered but Rejected from Further Consideration. I-22-3

3) The proposed mitigation measure (Table 7.A, 4.12.1) for traffic and parking, specifically parking, is ludicrous. Requiring an Event Traffic Management Plan when expected attendance at larger events exceeds 450 spectators is insane. There are over 1,000 parking spaces in the two lots flanking the project, with at least 1,250 permanent seats planned. The former Belmont Plaza (with about 2,000 seats or more) routinely had over 450 spectators with NO requirement for a traffic management plan. I have attended and participated in numerous events at Belmont Plaza since it opened in 1968 (including being the person who reset the automatic timing equipment before each event at the 1968 Men's Olympic Trials), and have been the meet director for a number of large swim meets. In my experience those events never filled the parking lots, nor were there traffic issues. The cynical me says that such a requirement is simply a means for the City to charge additional fees to event organizers. I-22-4

Thank your consideration of my concerns.

Lucy

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LUCY JOHNSON

LETTER CODE: I-22

DATE: June 13, 2016

RESPONSE I-22-1

This comment thanks the City of Long Beach (City) for confirming receipt of the commenter's previous comments on the Draft Environmental Impact Report (EIR) and indicates that this comment letter is intended to summarize the commenter's previous comments on the Draft EIR.

This comment does not contain any substantive comments or questions about the Draft EIR or analysis therein. No further response is necessary.

RESPONSE I-22-2

This comment requests that the proposed Project include 1,500 permanent seats rather than the 1,250 seats currently included as part of the Project. The commenter opines that 1,500 permanent seats are necessary to serve large events to be held at the Project site.

Refer to Common Response 1 in Section 2.1, Frequent Comments and Common Responses, of this Final EIR for further discussion related to the permanent seating capacity provided by the proposed Project.

RESPONSE I-22-3

This comment recommends that the City remove Alternatives 2 through 5 from further consideration as they do not meet the Project Objectives nor are they consistent with the City Council's previous votes on the Project. The commenter suggests that for these reasons, Alternatives 2 through 5 be moved to Subsection 5.2, Alternatives Initially Considered but Rejected from Further Consideration, in Chapter 5.0, Alternatives, of the Draft EIR.

The *State California Environmental Quality Act* (*CEQA*) *Guidelines* require that an EIR analyze potential project alternatives that could accomplish most of the basic project objectives and could avoid or substantially reduce significant environmental effects of the project. Alternatives 2 through 5 were considered by the City in its evaluation of reasonable project alternatives. These Alternatives were not included in the "Alternatives Initially Considered but Rejected from Further Consideration" because a more extensive analysis of these alternatives was necessary to ensure the City's due diligence in evaluating whether or not these alternatives would reduce environmental impacts associated with the Project. As discussed throughout Chapter 5.0, Alternatives 2 through 5 were ultimately determined to meet the Project Objectives to a lesser degree than the proposed Project and were determined to only incrementally reduce significant environmental impacts compared to the Project. Therefore, while Chapter 5.0, Alternatives, includes an extensive analysis of these alternatives, these alternatives are not preferred over the proposed Project.

RESPONSE I-22-4

This comment expresses concern related to Mitigation Measure 4.12.1, which requires the preparation of an Event Traffic Management Plan for special events on the site that would exceed 450 spectators. The comment goes on to describe the fact that there are over 1,000 parking spaces at the two surface parking lots adjacent to the site, and opines that based on personal familiarity with past operations at the site, the Project site and its associated parking areas would be sufficient to accommodate special events at the site that would attract more than 450 spectators. The commenter also notes that special events attracting more than 450 spectators at the former facility were not required to prepare an Event Traffic Management Plan. The comment concludes by asserting that the requirement to prepare such a plan may be a means for the City to charge additional fees to event organizers.

Refer to Common Response 3 in Section 2.1, Frequent Comments and Common Responses, of this Final EIR for further discussion related to parking and the proposed mitigation measure requiring an Event Traffic Management Plan.

Alyssa Helper

From: Craig Chalfant <Craig.Chalfant@longbeach.gov>
Sent: Tuesday, June 14, 2016 9:31 AM
To: Ashley Davis; Alyssa Helper
Cc: Dino D'Emilia
Subject: FW: Belmont Pool

From: Curt Russell [mailto:curvette@socal.rr.com]
Sent: Tuesday, June 14, 2016 8:35 AM
To: Craig Chalfant
Subject: Belmont Pool

Dear Mr. Chalfant,

As a long time resident of Long Beach, California, I would like to address the current Belmont Pool project and EIR issues currently on your desk relating to the location of the DIVE WELL and SEATING. I grew up swimming and diving, and this pool has been a beacon for may of us throughout our lives. The legacy of

Importantly, the rebuild of the pool should allow for the appropriate DIVE WELL within the INDOOR facility (not outdoors) AND allow for the appropriate number of SEATS for major national and international aquatic events in DIVING, WATER POLO, and SWIMMING! I-23-1

As you may know, the facility once held Olympic trials, NCAA championships, and was a place where many youth were inspired to pursue their athletic dreams. It was a place people of all ages enjoyed safe and health recreational activity. Our community is now looking forward to rebuild and continue an important legacy.
To do this the DIVE WELL must be built in the INDOOR facility AND allow for the appropriate number for SEATS for major national and international aquatic events.

It is my understanding that the LB CITY COUNCIL already voted UNANIMOUSLY twice to have an <u>INDOOR</u> DIVE WELL. I-23-2

An outdoor dive well is unacceptable because of some of the following reasons:

1- SAFETY AND COST - moving it outdoor may cause many problems such as safety of divers due to potential ocean and sun glare and additional significant building costs related to lighting, seating, cleaning, and maintenance.

2-LIMIT ABILITY TO HOST MAJOR EVENTS/LIMITED USE - outdoor placement would potentially limit the seating and limit the new facility's ability to host major events for diving. This undermines the overall best use of the facility.

3-RARE COMMODITY for DIVING COMMUNITY - a diving well, proper boards, and the platform is very important to the diving community. Unlike other aquatic sports which require the pool, diving requires the tower, boards, and the pool so as to practice, train and compete. This is a RARE commodity for Long Beach to have. There are very few facilities in all of Southern California that have the equipment to train all year round and seating for holding competitions. This is essential part of the project to be able to have this type of indoor facility here in Long Beach. I-23-3

As for SEATING and PARKING - All the aquatic sports need a minimum of 1500 seats to make the use of the facility acceptable. The parking area which already has over 1000 spots must be considered. This new facility has the opportunity to be a phenomenal addition to the United States presence in aquatic athletics. It has a CHANCE to be a FINA (International governing body of diving, water polo, and swimming) regulation aquatic faculty in CALIFORNIA and having the seating to accommodate this is very valuable. I-23-4

This project can once again be a place for recreational activities, training, and once again host competitive events for all aquatic sports from beginner level, to high school, college, national, international, and Olympic levels. I-23-5

This project is important locally for our town, but also important for Los Angeles County, the State of California, nationally, and internationally.

Thank you for your time and consideration.

Regards,

Curt Russell

CURT RUSSELL

LETTER CODE: I-23

DATE: June 14, 2016

RESPONSE I-23-1

This comment is introductory in nature and notes concerns for the proposed Project related to the location of the dive well and the appropriate seating capacity.

This comment does not contain any substantive comments or questions about the Draft Environmental Impact Report (EIR) or analysis therein. Refer to Responses I-23-2 regarding the commenter's concerns about the location of the dive well and appropriate seating capacity. No further response is necessary.

RESPONSE I-23-2

This comment urges that the dive pool be built indoors and that the Project include an appropriate number of permanent seats for major national and international aquatic events. The comment goes on to express that the Long Beach City Council previously voted for indoor diving facilities on two separate occasions.

Refer to Common Response 1 in Section 2.1, Frequent Comments and Common Responses, of this Final EIR for further discussion related to the permanent seating capacity provided by the proposed Project.

Refer to Common Response 2 in Section 2.1, Frequent Comments and Common Responses, of this Final EIR for further discussion related to Alternative 3 included in the Draft EIR, which includes an outdoor diving well component.

RESPONSE I-23-3

This comment provides three reasons that an outdoor dive well is unacceptable with specific reference to safety and cost, limited use and seating, and the rarity of an indoor diving facility.

Refer to Common Response 2 in Section 2.1, Frequent Comments and Common Responses, of this Final EIR for further discussion related to Alternative 3 included in the Draft EIR, which includes an outdoor diving well component.

RESPONSE I-23-4

This comment asserts that a minimum of 1,500 seats are required for the proposed Project. The commenter further notes that the parking area already has over 1,000 parking spaces.

Refer to Common Response 1 in Section 2.1, Frequent Comments and Common Responses, of this Final EIR for further discussion related to the permanent seating capacity provided by the proposed Project.

Refer to Common Response 3 in Section 2.1, Frequent Comments and Common Responses, of this Final EIR for further discussion related to parking and the proposed mitigation measure requiring an Event Traffic Management Plan.

RESPONSE I-23-5

This comment expresses the importance of the proposed Project for the local community as well as the aquatic community.

This comment does not contain any substantive comments or questions about the Draft EIR or analysis therein. This comment will be forwarded to the decision-makers for their review and consideration. No further response is necessary.

I-24

Alyssa Helper

From: Craig Chalfant <Craig.Chalfant@longbeach.gov>
Sent: Tuesday, June 14, 2016 9:25 AM
To: Ashley Davis; Alyssa Helper
Cc: Dino D'Emilia
Subject: FW: the proposed Belmont Pool project

From: David Koch [mailto:dkoch@HalbertHargrove.com]
Sent: Tuesday, June 14, 2016 8:47 AM
To: Craig Chalfant
Subject: the proposed Belmont Pool project

Hi Craig,

I currently swim at the temporary facility and can't wait to have the new pool for myself and my kids to swim in. I also think it is imperative to revitalizing the pier and waterfront area there. A lot hinges on this being a gathering place for athletes and water-lovers. I-24-1

I have reviewed the proposed Belmont Pool project report and have some concerns that I would like to address. I think there needs to be at least 1,800 seats for Long Beach to attract events such as the NCAA Div 1 Swimming and Water Polo Championships. The original pool barely fit enough spectators to watch Div 1 CIF water polo championships. Having won 2 CIF titles with Wilson there, I know the home-turf advantage well. NCAA needs a great facility, and this could rival any of the big schools in the area, UCLA, USC, or Pepperdine. I-24-2

I also want to state that I don't like any of the proposed alternatives. I don't see much in the way of benefits for their additional costs, and I just don't understand the benefits to most of them. Many compromise either the beauty of the structure, the capabilities of the facility, or both. I-24-3

David A. Koch, CFP®, CFA, AIF®
Wealth Advisor

HALBERT HARGROVE

111 W. Ocean Blvd., 23rd Floor
Long Beach, CA 90802
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Toll 800.435.3505
Fax 562.435.0774
www.HalbertHargrove.com

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DAVID KOCH
LETTER CODE: I-24

DATE: June 14, 2016

RESPONSE I-24-1

This comment expresses support for the proposed Project. The commenter further notes the proposed Project's relevance to the revitalization of the pier and waterfront area.

This comment does not contain any substantive comments or questions about the Draft Environmental Impact Report (EIR) or analysis therein. This comment will be forwarded to the decision-makers for their review and consideration. No further response is necessary.

RESPONSE I-24-2

This comment recommends that the proposed Project should have a minimum seating capacity of 1,800 seats to attract National Collegiate Athletic Association (NCAA) Division 1 Swimming and Water Polo Championships.

Refer to Common Response 1 in Section 2.1, Frequent Comments and Common Responses, of this Final EIR for further discussion related to the permanent seating capacity provided by the proposed Project.

RESPONSE I-24-3

This comment expresses opposition to the proposed alternatives identified in the Draft EIR.

Refer to Common Response 2 in Section 2.1, Frequent Comments and Common Responses, of this Final EIR for further discussion related to Alternative 3 included in the Draft EIR, which includes an outdoor diving well component.

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Alyssa Helper

From: Craig Chalfant <Craig.Chalfant@longbeach.gov>
Sent: Tuesday, June 14, 2016 9:35 AM
To: Ashley Davis; Alyssa Helper
Cc: Dino D'Emilia
Subject: FW: Some issues concerning the rebuilding of the Belmont Plaza Olympic Pool

From: bdman1@aol.com [mailto:bdman1@aol.com]
Sent: Tuesday, June 14, 2016 9:27 AM
To: Craig Chalfant
Subject: Fwd: Some issues concerning the rebuilding of the Belmont Plaza Olympic Pool

-----Original Message-----
From: bdman1 <bdman1@aol.com>
To: Craig.chalfont <Craig.chalfont@longbeach.gov>
Sent: Tue, Jun 14, 2016 10:20 am
Subject: Some issues concerning the rebuilding of the Belmont Plaza Olympic Pool

Dear Mr. Chalfant,

I wish to offer the following for consideration regarding the new Belmont Plaza Pool project.

I am a former diver and long-time diving coach who's been involved with the sport of diving for more than 50 years. During the late 60s I trained and competed at the first Belmont Plaza Pool, representing the USAF and Phillips 66 Long Beach Swim Club. I competed in the 1968 National AAU Diving Championships that were held at the Belmont Plaza Pool. The facility was a fabulous training and competition venue, one of the best in the world at that time. I-25-1

1. The first Belmont Plaza Pool had a seating capacity for 2000 spectators. Seating for 1500 in the new facility would be a minimum requirement for a world class venue. I-25-2

2. While outdoor swim and dive facilities can be wonderful during warm summer months, provided the weather elements remain tolerable, once the days get shorter, issues of light, temperature, wind and other adverse events can seriously reduce utilization of the facility and impact revenue. An indoor facility can provide standard training conditions for most of any day with minimum cost variations and maximum usage. Furthermore, scheduled competition events can be organized far in advance and counted upon. I-25-3

It is my personal recommendation that if affordability is a major concern, an indoor facility is the ideal choice.

Thank you for your kind attention.

Bill Kanter, Head Diving Coach for Estes Park Schools
Estes Park, CO 80517
Ph. 970-577-0239
E-mail Bdman1@aol.com

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BILL KANTER
LETTER CODE: I-25

DATE: June 14, 2016

RESPONSE I-25-1

This comment is introductory in nature and provides background about the commenters' history in aquatics at the former Belmont Pool.

This comment does not contain any substantive comments or questions about the Draft Environmental Impact Report (EIR) or analysis therein. No further response is necessary.

RESPONSE I-25-2

This comment states the former Belmont Pool had a seating capacity for 2,000 spectators and encourages that a minimum of 1,500 seats are included in the proposed Project.

Refer to Common Response 1 in Section 2.1, Frequent Comments and Common Responses, of this Final EIR for further discussion related to the permanent seating capacity provided by the proposed Project.

RESPONSE I-25-3

This comment expresses concern related to outdoor swim and dive facilities due to safety concerns associated with changes in seasonal changes in light and temperature. Consequently, the commenter recommends that the City of Long Beach adopt an indoor dive well over an outdoor facility.

Refer to Common Response 2 in Section 2.1, Frequent Comments and Common Responses, of this Final EIR for further discussion related to Alternative 3 included in the Draft EIR, which includes an outdoor diving well component.

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Alyssa Helper

From: Craig Chalfant <Craig.Chalfant@longbeach.gov>
Sent: Tuesday, June 14, 2016 10:32 AM
To: Ashley Davis; Alyssa Helper
Cc: Dino D'Emilia
Subject: FW: Belmont Pool EIR issues

From: Erica Robinett [mailto:therobinett6@gmail.com]
Sent: Monday, June 13, 2016 5:32 PM
To: Craig Chalfant
Subject: Belmont Pool EIR issues

Craig Chalfant
Senior Planner
City of Long Beach
Development Services/Planning Bureau
333 West Ocean Boulevard, 5th Floor
Long Beach, California 90802
Phone: (562) 570-6368
Email: craig.chalfant@longbeach.gov

Dear Mr. Chalfant,

As a long time resident of Long Beach, California, I would like to address the current Belmont Pool project and EIR issues currently on your desk relating to the location of the DIVE WELL and SEATING.

Importantly, the rebuild of the pool should allow for the appropriate DIVE WELL within the INDOOR facility (not outdoors) AND allow for the appropriate number of SEATS for major national and international aquatic events in DIVING, WATER POLO, and SWIMMING! I-26-1

As you may know, the facility once held Olympic trials, NCAA championships, and was a place where many youth were inspired to pursue their athletic dreams. It was a place people of all ages enjoyed safe and health recreational activity. Our community is now looking forward to rebuild and continue an important legacy.

To do this the DIVE WELL must be built in the INDOOR facility AND allow for the appropriate number for SEATS for major national and international aquatic events. I-26-2

It is my understanding that the LB CITY COUNCIL already voted UNANIMOUSLY twice to have an INDOOR DIVE WELL.

An outdoor dive well is unacceptable because of some of the following reasons:

1- SAFETY AND COST - moving it outdoor may cause many problems such as safety of divers due to potential ocean and sun glare and additional significant building costs related to lighting, seating, cleaning, and maintenance. I-26-3

2-LIMIT ABILITY TO HOST MAJOR EVENTS/LIMITED USE - outdoor placement would potentially limit the seating and limit the new facility's ability to host major events for diving. This undermines the overall best use of the facility.

3-RARE COMMODITY for DIVING COMMUNITY - a diving well, proper boards, and the platform is very important to the diving community. Unlike other aquatic sports which require the pool, diving requires the tower, boards, and the pool so as to practice, train and compete. This is a RARE commodity for Long Beach to have. There are very few facilities in all of Southern California that have the equipment to train all year round and seating for holding competitions. This is essential part of the project to be able to have this type of indoor facility here in Long Beach. I-26-3

As for SEATING and PARKING - All the aquatic sports need a minimum of 1500 seats to make the use of the facility acceptable. The parking area which already has over 1000 spots must be considered. This new facility has the opportunity to be a phenomenal addition to the United States presence in aquatic athletics. It has a CHANCE to be a FINA (International governing body of diving, water polo, and swimming) regulation aquatic faculty in CALIFORNIA and having the seating to accommodate this is very valuable. I-26-4

This project can once again be a place for recreational activities, training, and once again host competitive events for all aquatic sports from beginner level, to high school, college, national, international, and Olympic levels.

I-26-5

This project is important locally for our town, but also important for Los Angeles County, the State of California, nationally, and internationally.

Thank you for your time and consideration.

Yours,
Erica Robinett
Long Beach, California

ERICA ROBINETT
LETTER CODE: I-26

DATE: June 13, 2016

RESPONSE I-26-1

This comment is similar to the comments included in Comment I-23. Please see the Response to Comment I-23-1 for a response to this comment.

RESPONSE I-26-2

This comment is identical to the comments included in Comment I-23. Please see Response to Comment I-23-2 for a response to this comment.

RESPONSE I-26-3

This comment is identical to the comments included in Comment I-23. Please see Response to Comment I-23-3 for a response to this comment.

RESPONSE I-26-4

This comment is identical to the comments included in Comment I-23. Please see Response to Comment I-23-4 for a response to this comment.

RESPONSE I-26-5

This comment is identical to the comments included in Comment I-23. Please see Response to Comment I-23-5 for a response to this comment.

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Alyssa Helper

From: Craig Chalfant <Craig.Chalfant@longbeach.gov>
Sent: Tuesday, June 14, 2016 10:19 AM
To: Ashley Davis; Alyssa Helper
Cc: Dino D'Emilia
Subject: FW: Response to Draft EIR

From: Charly Collins [mailto:drno5150@gmail.com]
Sent: Tuesday, June 14, 2016 10:16 AM
To: Craig Chalfant
Subject: Response to Draft EIR

Dear Mr. Chalfant,

My name is Charles Collins and I am a resident of Long Beach, CA for the past 8 years. However, I've been working with Debby McCormick and McCormick Divers of Long Beach for the last 13 years. I address you in the manner pertaining to the new Belmont Plaza pool and the amenities planned for this historic project.

Before my family moved to California, I knew of Belmont Plaza Olympic Pool. Being the ONLY INDOOR facility in California with the capabilities of hosting Diving, Swimming and Water Polo rivaled the other facilities I've competed at as an athlete and a coach, especially the International Swimming Hall of Fame pool in Ft. Lauderdale, FL. Being able to compete in the pool and then step out onto the sand said a lot for Belmont Plaza and Long Beach itself. I-27-1

As an athlete and coach for McCormick Divers, I know that Belmont Plaza was in need of much repair to be able to keep up with changing standards for all aquatic sports. We had to pass on many events that wanted to use Belmont diving well and our team to host said events. So it was a double edged sword when Belmont was condemned and demolished for fear of seismic activity with the old building. City Council reassured the aquatic community (and us divers) that a new facility would be constructed to meet all international standards and able to host a slew of events ranging from the local to the international in 2013 by a unanimous declaration.

Making this declaration a reality brings challenges. And as stated in the EIR, these challenges must be met head on:

Diving well outdoors: While this will reduce initial cost overall, this will be more costly in the long run. For the athletes, wind and sand will be a major contributing factor in just regular training. Wind brings cooler temperatures, even in warm months. And while wet standing on a 10m high edifice, divers will not be in the best frame of mind to perform difficult dives from that height. Add in the fact that the sport of Diving is a year-round sport and winter training take on a new meaning. Imagine being on Veteran's Pier anytime in November-March in a bathing suit and you get the idea. With moving to the outdoors, diving board and tower placement becomes more problematic. Glare from the ocean and sun WILL need to be considered. Such as putting the direction of the diving boards and tower on a North/South axis to avoid divers looking directly into the sun. Sand gets into EVERYTHING and will eat concrete while salt from the ocean will dine on the metal of the diving boards and tower. I-27-2

Hooliganism will always be about and is much harder to combat with an outdoor facility. You WILL HAVE people break in and play/break things in the area and use the equipment without a lifeguard. While you can take measures to prevent this (lockable stairs for the tower for instance) it's going to happen. I don't know if the City is willing to take this responsibility.

Seating and Parking: All aquatic sports need a minimum of 1500 seats to make the use of the facility acceptable for athletes, their entourage and spectators. Obviously, the more the better. Limiting to only 1250 automatically excludes the new facility to the events it wants to host. Parking to my knowledge has the capacity to have 1000 spots. Along with the "Passport" free service to the new Belmont Pool, parking and traffic can be made acceptable to the neighborhood. I see no problem in increasing to the 1500 recommended seating arrangement in order to bid on all events just under the Olympic Games. I-27-3

As with any story, a point has to be made. For this story, the new Belmont Plaza can once again be a place for recreational activities, training, and host competitive events for all aquatics sports from the beginner to international. It is important locally for our town, but also important for Los Angeles County, the State of California, and internationally. Thank you for your time and consideration. I hope as a coach of Diving with McCormick Divers, we can bring the world to Long Beach once again with these recommendations. I-27-4

-Charles Collins
McCormick Divers
www.mccormickdivers.com
Long Beach Resident (90805)
M: 310-809-6290

McCormick Divers – Makin' a Splash Since 1968

Sent from Mail for Windows 10

CHARLES COLLINS
LETTER CODE: I-27

DATE: June 14, 2016

RESPONSE I-27-1

This comment is introductory in nature and provides background about the commenters' history in aquatics and interest in the proposed Project.

This comment does not contain any substantive comments or questions about the Draft Environmental Impact Report (EIR) or analysis therein. This comment will be forwarded to the decision-makers for their review and consideration. No further response is necessary.

RESPONSE I-27-2

This comment notes challenges associated with an outdoor diving well related to cost, wind and weather conditions, and security and safety.

Refer to Common Response 2 in Section 2.1, Frequent Comments and Common Responses, of this Final EIR for further discussion related to the Outdoor Diving Well Alternative.

RESPONSE I-27-3

This comment suggests that the proposed Project include a minimum of 1,500 seats to make best use of the facility. The commenter further notes that the 1,250 seating capacity of the proposed Project would limit the types of events that can be held at the new facility. The commenter goes on to suggest that the Project-related increase in traffic would be accommodated by the Project site due to the availability of 1,000 parking spaces and the "Passport" transit service serving the Project site. For this reason, the commenter urges that the Project increase the number of permanent seats from 1,250 to 1,500 seats.

Refer to Common Response 1 in Section 2.1, Frequent Comments and Common Responses, of this Final EIR for further discussion related to the permanent seating capacity provided by the proposed Project.

RESPONSE I-27-4

This comment expresses the importance of the proposed Project for the local community as well as the aquatic community.

This comment does not contain any substantive comments or questions about the Draft EIR or analysis therein. This comment will be forwarded to the decision-makers for their review and consideration. No further response is necessary.

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Alyssa Helper

From: Craig Chalfant <Craig.Chalfant@longbeach.gov>
Sent: Tuesday, June 14, 2016 10:12 AM
To: Ashley Davis; Alyssa Helper
Cc: Dino D'Emilia
Subject: FW: Belmont Pool

From: jerry & Cheryl Jeffery [mailto:jeryl562@gmail.com]
Sent: Tuesday, June 14, 2016 10:04 AM
To: Craig Chalfant
Subject: Belmont Pool

6/14/16
Dear Mr. Chalfant,

I am writing to you about some concerns I have on the new Belmont Pool.

First some background, I have lived in Long Beach 74 of my 75 years, moved to Seal Beach one year while at LBSU. My wife and I have lived in Belmont Heights the last 49 years and have raised our 3 children here with the benefit of having the Belmont Pool. I-28-1

We think the youth of today deserve a pool with all the benefits of the previous pool if not more. I-28-2 At important swim meets and water polo matches seating was at a premium, so don't cut back on the seating, if anything add more seats. The indoor platform and diving well was the only one of its kind in the immediate area. Please, keep it. The city council has voted twice to have it indoors, don't change it. I-28-3

We love Long Beach, let's keep it strong. Don't put in a substandard pool, the people deserve the BEST.

Sincerely,

Jerry and Cheryl Jeffery

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JERRY AND CHERYL JEFFERY
LETTER CODE: I-28

DATE: June 14, 2016

RESPONSE I-28-1

This comment is introductory in nature and provides background about the commenters' residence and interest in the Project.

This comment does not contain any substantive comments or questions about the Draft Environmental Impact Report (EIR) or analysis therein. No further response is necessary.

RESPONSE I-28-2

This comment notes the importance of the proposed Project for local youth who will utilize the Project for swim meets and water polo matches. As such, the commenter suggests that the proposed Project include more permanent seating for spectators attending these meets and matches.

Refer to Common Response 1 in Section 2.1, Frequent Comments and Common Responses, of this Final EIR for further discussion related to the permanent seating capacity provided by the proposed Project.

RESPONSE I-28-3

This comment recommends that the proposed Project locate the diving well indoors, as the City Council as unanimously voted to keep this facility indoors on two separate occasions.

Refer to Common Response 2 in Section 2.1, Frequent Comments and Common Responses, of this Final EIR for further discussion related to Alternative 3 included in the Draft EIR, which includes an outdoor diving well component.

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Alyssa Helper

From: Craig Chalfant <Craig.Chalfant@longbeach.gov>
Sent: Tuesday, June 14, 2016 9:57 AM
To: Ashley Davis; Alyssa Helper
Cc: Dino D'Emilia
Subject: FW: Pool Planning

From: jerry nulty [mailto:jnultyvideo@verizon.net]
Sent: Tuesday, June 14, 2016 9:50 AM
To: Craig Chalfant
Subject: Pool Planning

Craig Chalfant
Senior Planner
City of Long Beach
Development Services/Planning Bureau
333 West Ocean Boulevard, 5th Floor
Long Beach, California 90802
Phone: (562) 570-6368
Email: craig.chalfant@longbeach.gov

Dear Mr. Chalfant,

As a long time resident of Long Beach, California, I would like to address the current Belmont Pool project and EIR issues currently on your desk relating to the location of the DIVE WELL and SEATING.

Importantly, the rebuild of the pool should allow for the appropriate DIVE WELL within the INDOOR facility (not outdoors) AND allow for the appropriate number of SEATS for major national and international aquatic events in DIVING, WATER POLO, and SWIMMING! I-29-1

As you may know, the facility once held Olympic trials, NCAA championships, and was a place where many youth were inspired to pursue their athletic dreams. It was a place people of all ages enjoyed safe and health recreational activity. Our community is now looking forward to rebuild and continue an important legacy.

To do this the DIVE WELL must be built in the INDOOR facility AND allow for the appropriate number for SEATS for major national and international aquatic events. I-29-2

It is my understanding that the LB CITY COUNCIL already voted UNANIMOUSLY twice to have an INDOOR DIVE WELL.

An outdoor dive well is unacceptable because of some of the following reasons:

1- SAFETY AND COST - moving it outdoor may cause many problems such as safety of divers due to potential ocean and sun glare and additional significant building costs related to lighting, seating, cleaning, and maintenance.

2-LIMIT ABILITY TO HOST MAJOR EVENTS/LIMITED USE - outdoor placement would potentially limit the seating and limit the new facility's ability to host major events for diving. This undermines the overall best use of the facility. I-29-3
3-RARE COMMODITY for DIVING COMMUNITY - a diving well, proper boards, and the platform is very important to the diving community. Unlike other aquatic sports which require the pool, diving requires the tower, boards, and the pool so as to practice, train and compete. This is a RARE commodity for Long Beach to have. There are very few facilities in all of Southern California that have the equipment to train all year round and seating for holding competitions. This is essential part of the project to be able to have this type of indoor facility here in Long Beach.

As for SEATING and PARKING - All the aquatic sports need a minimum of 1500 seats to make the use of the facility acceptable. The parking area which already has over 1000 spots must be considered. This new facility has the opportunity to be a phenomenal addition to the United States presence in aquatic athletics. It has a CHANCE to be a FINA (International governing body of diving, water polo, and swimming) regulation aquatic faculty in CALIFORNIA and having the seating to accommodate this is very valuable. I-29-4

This project can once again be a place for recreational activities, training, and once again host competitive events for all aquatic sports from beginner level, to high school, college, national, international, and Olympic levels. I-29-5

This project is important locally for our town, but also important for Los Angeles County, the State of California, nationally, and internationally.

Thank you for your time and consideration.

Yours,

Jerry Nulty

JERRY NULTY
LETTER CODE: I-29

DATE: June 14, 2016

RESPONSE I-29-1

This comment is similar to the comments included in Comment I-23. Please see the Response to Comment I-23-1 for a response to this comment.

RESPONSE I-29-2

This comment is identical to the comments included in Comment I-23. Please see Response to Comment I-23-2 for a response to this comment.

RESPONSE I-29-3

This comment is identical to the comments included in Comment I-23. Please see Response to Comment I-23-3 for a response to this comment.

RESPONSE I-29-4

This comment is identical to the comments included in Comment I-23. Please see Response to Comment I-23-4 for a response to this comment.

RESPONSE I-29-5

This comment is identical to the comments included in Comment I-23. Please see Response to Comment I-23-5 for a response to this comment.

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June 9, 2016

Bruce Bradley
262 St. Joseph Ave.
Long Beach, CA 90803

Craig Chalfant, Senior Planner City of Long Beach
Development Services/Planning Bureau
333 West Ocean Blvd., 5th Floor
Long Beach, CA 90802

Dear Mr. Chalfant:

I would like to address a few items covered in the draft EIR for the new Belmont Plaza pool. On the whole your group is doing a fine job with the design and functionality of the project. Incidentally, I was at the opening ceremonies back in the 1960's and qualified for the 1968 Olympic water polo team after competing in the trials at Belmont Plaza pool. The new plans call for 1250 indoor seats, which is I-30-1

not really enough for major competitions and I'm not talking about those the size of Olympic trials, world competitions or Olympic events. National championships, international competitions and major college or CIF competitions should hold at least 1500 seats for spectators and athletes. The old Belmont had over 2000 seats. Indoor diving towers are essential to the project and must not be eliminated. There are too few facilities in southern California any more, and we have such a great tradition of aquatics greatness to uphold. I-30-2

I could not understand why the report includes traffic and parking mitigation in the permitting process for events when there is already ample parking in place on both sides of the proposed structure. It sounds like more bureaucracy to me. We need to remember that function must come before aesthetics on this project, and a truly functional complex will greatly benefit the whole city, if it is built to accommodate more diversified large competitions. I-30-3

I am writing this letter as a past president of the Long Beach Century Club and a current member of the board of directors of the Aquatics Capital of America organization. Thank you also for listening to the opinions of the greater Long Beach community. I-30-4

Sincerely,

Bruce Bradley

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BRUCE BRADLEY
LETTER CODE: I-30

DATE: June 9, 2016

RESPONSE I-30-1

This comment provides introductory information about the commenter and notes that the proposed Project should have more than the proposed 1,250 seating capacity in order to accommodate major competitions. The commenter recommends that there should be at least 1,500 seats in the proposed facility.

Refer to Common Response 1 in Section 2.1, Frequent Comments and Common Responses, of this Final Environmental Impact Report (EIR) for further discussion related to the permanent seating capacity provided by the proposed Project.

RESPONSE I-30-2

This comment recommends that the indoor diving towers are essential to the proposed Project and should not be eliminated.

Refer to Common Response 2 in Section 2.1, Frequent Comments and Common Responses, of this Final EIR for further discussion related to Alternative 3 included in the Draft EIR, which includes an outdoor diving well component.

RESPONSE I-30-3

This comment questions the need for traffic and parking mitigation and asserts that there is ample parking on both sides of the Project site.

Refer to Common Response 3 in Section 2.1, Frequent Comments and Common Responses, of this Final EIR for further discussion related to parking and the proposed mitigation measure requiring an Event Traffic Management Plan.

RESPONSE I-30-4

This comment introduces the commenter’s role in community and aquatic organizations, and expresses gratitude for consideration of the community’s opinions.

This comment does not contain any substantive comments or questions about the Draft EIR or analysis therein. No further response is necessary.

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Alyssa Helper

From: Craig Chalfant <Craig.Chalfant@longbeach.gov>
Sent: Tuesday, June 14, 2016 1:38 PM
To: Ashley Davis; Alyssa Helper
Cc: Dino D'Emilia
Subject: FW: DEIR for Belmont Plaza Pool

From: Veronica A. Gates [mailto:rgates6810@aol.com]
Sent: Tuesday, June 14, 2016 12:39 PM
To: Craig Chalfant
Subject: DEIR for Belmont Plaza Pool

Mr. Craig Chalfant, Senior Planner
City of Long Beach
Development Services/Planning Bureau
333 W. Ocean Boulevard, 5th Floor
Long Beach, CA 90802

Re: Belmont Plaza Pool

Dear Mr. Chalfant,

As a resident of the City of Long Beach, as well as a Board Member of Aquatic Capital Foundation, I am writing to summarize some of the valuable concerns I have regarding the design of our city's pool project. I acknowledge the beautiful job of design your group has done for the project, but have some specific concerns for some of the functions of the project. I-31-1 I most definately would like to see the dive platform incorporated into the inside pool and hope that the outside pool will not be considered due to the many arguments against having it there, which I will not repeat as I know you are aware of them. I would like Long Beach to have an indoor diving complex and be among the three in the western US to claim title to offering this. I-31-2

Another concern to me is the seating capacity being only 1,250 permanent seats for our swim and dive events. Long Beach cannot attract events such as the NCAA Division 1 swimming and diving championships unless we have a minimum of 1,500 seats. Can we not stretch it to that figure so that our city will not be overlooked for these attractive competitive events? I-31-3

One of the mitigation measures calls for a "Event Traffic Management Plan" wherein any special event of large proportion would have expensive requirements re the parking lots. In the past, the lots surrounding the old pool complex were never fully utilized and I see this requirement, at the seating capacity our pool events would be operating, to be totally unnecessary. I-31-3

Hopefully, you and the rest of our city staff will listen to the opinions of our community with regards to our citizens having a world-class facility for the training and competition of our youth. May Long Beach forever be known as the Aquatic Capital once this state-of-the-art facility is built! I-31-4

Thanking you in advance for your support,

Veronica Gates
308 Claremont Avenue
Long Beach 90803

VERONICA A. GATES
LETTER CODE: I-31

DATE: June 14, 2016

RESPONSE I-31-1

This comment provides introductory information about the commenter and concerns about the proposed Project.

This comment does not contain any substantive comments or questions about the Draft Environmental Impact Report (EIR) or analysis therein. No further response is necessary.

RESPONSE I-31-2

The commenter expresses preference for an indoor diving well.

Refer to Common Response 2 in Section 2.1, Frequent Comments and Common Responses, of this Final EIR for further discussion related to Alternative 3 included in the Draft EIR, which includes an outdoor diving well component.

RESPONSE I-31-3

This comment expresses concern for the mitigation measure requiring an Event Traffic Management Plan for large events. The commenter expresses the opinion that this mitigation measure would be unnecessary due to the proposed capacity and parking areas that were underutilized during events at the former Belmont Pool.

Refer to Common Response 3 in Section 2.1, Frequent Comments and Common Responses, of this Final EIR for further discussion related to parking and the proposed mitigation measure requiring an Event Traffic Management Plan.

RESPONSE I-31-4

This comment is conclusory in nature and requests that City of Long Beach staff listens to the opinions of the community about the proposed Project.

This comment does not contain any substantive comments or questions about the Draft EIR or analysis therein. This comment will be forwarded to the decision-makers for their review and consideration. No further response is necessary.

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Alyssa Helper

From: Craig Chalfant <Craig.Chalfant@longbeach.gov>
Sent: Tuesday, June 14, 2016 1:45 PM
To: Ashley Davis; Alyssa Helper
Cc: Dino D'Emilia
Subject: FW: Belmont Pool EIR issues

From: Amy Opheim [mailto:amysnowopheim@gmail.com]
Sent: Tuesday, June 14, 2016 12:21 PM
To: Craig Chalfant
Subject: Re: Belmont Pool EIR issues

Hello,

As a resident of Long Beach and the parents of a competitive diver, I am writing to you in regards to the location of the dive well and stadium seating in the Belmont Pool plans. I-32-1 If appropriately constructed, this dive well could bring untold traffic to Long Beach year-round, as it did in the previous Olympic year, assuming the dive well and seating are indoors. I-32-2 If properly situated, this new arena has the chance to be a FINA (International governing body of diving, water polo, and swimming) regulation aquatic faculty in CALIFORNIA which will draw incredible amounts of traffic. An outdoor dive well is not an acceptable option for major diving events and is also an every day safety hazard for the divers because of the glare from the sand and ocean. Please note that the diving community in Long Beach is requesting an indoor facility with plenty of seating. I-32-3

Thanks for your time,

Amy Opheim

Long Beach, California

Amy Opheim
C3 Marketing and Copywriting

amysnowopheim@gmail.com
www.c3copywriting.com
562.972.1855

AMY OPHIUM
LETTER CODE: I-32

DATE: June 14, 2016

RESPONSE I-32-1

This commenter is introductory in nature and expresses concern related to the location of the dive well and permanent seating provided by the proposed Project. These comments are further emphasized in Comments I-32-2 and I-32-3 and are responded to in Responses I-32-2 and I-32-3, below.

Refer to Common Responses 1 and 2 in Section 2.1, Frequent Comments and Common Responses, of this Final Environmental Impact Report (EIR) for further discussion related to the permanent seating capacity provided by the proposed Project and the Outdoor Dive Well Alternative.

RESPONSE I-32-2

This comment expresses concern related to traffic that would be generated as a result of Project implementation, namely implementation of the proposed dive well.

Project-related traffic impacts are addressed further in Section 4.12, Transportation and Traffic, of the Draft EIR. Section 4.12, Transportation and Traffic, in the Draft EIR addresses traffic impacts resulting from the proposed Project. As described throughout this section, as compared to the former facility, the proposed Project could serve twice as many users as the former facility. As such, to analyze traffic impacts resulting from Project implementation, operational traffic was doubled. The results of this analysis indicated that all study area intersections would operate at Level-of-Service (LOS) C or better in the future with new traffic generated by the Project.

An additional analysis of Project traffic generated by special events was conducted as part of the traffic analysis in Section 4.12, Transportation and Traffic, of the Draft EIR. The results of this analysis concluded that with events with more than 400 spectators could result in potential traffic impacts. As such, Mitigation Measure 4.12.1 was identified to reduce potential traffic impacts resulting from special events. Mitigation Measure 4.12.1 would require the preparation of an Event Traffic Management Plan for events with more than 450 spectators. Implementation of this measure was determined to reduce potential impacts associated with special events at the Project site to a less than significant level.

Please also refer Common Response 3 in Section 2.1, Frequent Comments and Common Responses, of this Final EIR for further discussion related to Project-related traffic impacts and Mitigation Measure 4.12.1.

For the reasons described above, although the Project would result in an increase in traffic as compared to the former pool facility, this increase would be less than significant with mitigation incorporated.

RESPONSE I-32-3

This comment expresses concern about the location of the dive well due to safety concerns related to glare from the sand and ocean. The comment concludes by asserting that the diving community is requesting an indoor diving well.

Refer to Common Response 2 in Section 2.1, Frequent Comments and Common Responses, of this Final EIR for further discussion related to Alternative 3 included in the Draft EIR, which includes an outdoor diving well component.

Alyssa Helper

From: Craig Chalfant <Craig.Chalfant@longbeach.gov>
Sent: Tuesday, June 14, 2016 1:42 PM
To: Ashley Davis; Alyssa Helper
Cc: Dino D'Emilia
Subject: FW: Comments/EIR Draft for the Belmont Pool

From: Lisa Conner [mailto:LisaC@fdw-law.com]
Sent: Tuesday, June 14, 2016 12:25 PM
To: Craig Chalfant
Cc: josephponeill@yahoo.com
Subject: Comments/EIR Draft for the Belmont Pool

Dear Mr Chalfant,

I would like to address a few items covered in the draft EIR for the new Belmont Pool project, to include the diving pool. I am a Belmont Shore resident, Long Beach business owner and the proud mother of a young diver who trains and competes with McCormick Divers. I-33-1

The new plans call for 1250 seats, which is not enough for major competitions. I encourage you to consider minimally 1500 seats for spectators and athletes. The old pool had the capacity to seat 2000. I-33-2

Please do not consider moving the diving pool outdoors. It is my understanding that the City Council voted unanimously on two separate occasions to have a separate diving well with platforms INDOORS. An outdoor option is unacceptable. Not only would it be more costly to clean and maintain proper pool temperatures, it would require adequate lighting at night, and have a lack of seating. The divers will benefit from an indoor facility, as they will not have to deal with the elements, to include the bright, burning sun, sand from windy days or the occasional rainfall. There are no other indoor platform diving facilities in California. The indoor site being proposed will attract not only the local population of the greater LA area to learn one of the most popular Olympic sports, it will give an opportunity for Long Beach to develop our future Olympic hopefuls and maintain the great tradition of ALL of our aquatic sports in Long Beach. The unique indoor facility was attractive to the Olympics in the past, and will surely play an exciting role in future Olympics, National and International Competitions, not only for diving, but for swimming and water polo as well. I-33-3

As far as the parking, there are over 1000 parking spaces on either side of the structure. During events, parking moves in waves as the morning competitors finish and the afternoon competitors arrive. There is also ample parking along Ocean Boulevard, near Bay Shore and several parking lots along 2d Street, all within a very short walk of the Belmont Pool project. I-33-4

Thank you for your consideration.

Kind regards,

Lisa M. Conner
FLYNN, DELICH & WISE, LLP
One World Trade Center, Suite 1800
Long Beach, CA 90831-1800
Tel: (562) 435-2626
Direct: (562) 733-2385
Fax: (562) 437-7555
Web: www.fdw-law.com

LISA CONNER
LETTER CODE: I-33

DATE: June 14, 2016

RESPONSE I-33-1

This comment is introductory in nature and encourages the inclusion of the diving pool in the proposed Project.

This comment does not contain any substantive comments or questions about the Draft Environmental Impact Report (EIR) or analysis therein. No further response is necessary.

RESPONSE I-33-2

This comment states the 1,250 seating capacity of the proposed Project would not be sufficient for major competitions. The commenter states that the former Belmont Pool had a seating capacity for 2,000 spectators, and as such, encourages that a minimum of 1,500 seats are included in the proposed Project.

Refer to Common Response 1 in Section 2.1, Frequent Comments and Common Responses, of this Final EIR for further discussion related to the permanent seating capacity provided by the proposed Project.

RESPONSE I-33-3

This comment objects to the consideration of moving the diving component outdoors. The comment notes that the City Council previously voted on two separate occasions to have an indoor diving well. The commenter describes concerns related to an outdoor diving well related to maintenance, safety, and temperature that would render the outdoor dive well unacceptable and further opines that an indoor dive pool would serve to attract regional and national aquatic events.

Refer to Common Response 2 in Section 2.1, Frequent Comments and Common Responses, of this Final EIR for further discussion related to Alternative 3 included in the Draft EIR, which includes an outdoor diving well component.

RESPONSE I-33-4

This comment states that there over 1,000 parking spaces on either side of the proposed Project and ample parking on nearby streets. The commenter speaks from personal familiarity with the former Belmont Pool facility when asserting that the current parking lots serving the site are sufficient to serve Project-related traffic.

Refer to Common Response 3 in Section 2.1, Frequent Comments and Common Responses, of this Final EIR for further discussion related to parking and the proposed mitigation measure requiring an Event Traffic Management Plan.

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Alyssa Helper

From: Craig Chalfant <Craig.Chalfant@longbeach.gov>
Sent: Wednesday, June 15, 2016 8:24 AM
To: Ashley Davis; Alyssa Helper
Cc: Dino D'Emilia
Subject: FW: Belmont shore pool

From: eyephysiciansoflb@gmail.com [mailto:eyephysiciansoflb@gmail.com]
Sent: Tuesday, June 14, 2016 9:14 PM
To: Craig Chalfant
Subject: Belmont shore pool

Dear Mr. Chalfant,

As a long time resident of Seal Beach, California, I would like to address the current Belmont Pool project and EIR issues currently on your desk relating to the location of the DIVE WELL and SEATING.

Importantly, the rebuild of the pool should allow for the appropriate DIVE WELL within the INDOOR facility (not outdoors) AND allow for the appropriate number of SEATS for major national and international aquatic events in DIVING, WATER POLO, and SWIMMING!

I-34-1

As you may know, the facility once held Olympic trials, NCAA championships, and was a place where many youth were inspired to pursue their athletic dreams. It was a place people of all ages enjoyed safe and health recreational activity. Our community is now looking forward to rebuild and continue an important legacy.

To do this the DIVE WELL must be built in the INDOOR facility AND allow for the appropriate number for SEATS for major national and international aquatic events.

I-34-2

It is my understanding that the LB CITY COUNCIL already voted UNANIMOUSLY twice to have an INDOOR DIVE WELL.

An outdoor dive well is unacceptable because of some of the following reasons:

I-34-3

1- SAFETY AND COST - moving it outdoor may cause many problems such as safety of divers due to potential ocean and sun glare and additional significant building costs related to lighting, seating, cleaning, and maintenance.

2-LIMIT ABILITY TO HOST MAJOR EVENTS/LIMITED USE - outdoor placement would potentially limit the seating and limit the new facility's ability to host major events for diving. This undermines the overall best use of the facility.
3-RARE COMMODITY for DIVING COMMUNITY - a diving well, proper boards, and the platform is very important to the diving community. Unlike other aquatic sports which require the pool, diving requires the tower, boards, and the pool so as to practice, train and compete. This is a RARE commodity for Long Beach to have. There are very few facilities in all of Southern California that have the equipment to train all year round and seating for holding competitions. This is essential part of the project to be able to have this type of indoor facility here in Long Beach. I-34-3

As for SEATING and PARKING - All the aquatic sports need a minimum of 1500 seats to make the use of the facility acceptable. The parking area which already has over 1000 spots must be considered. This new facility has the opportunity to be a phenomenal addition to the United States presence in aquatic athletics. It has a CHANCE to be a FINA (International governing body of diving, water polo, and swimming) regulation aquatic faculty in CALIFORNIA and having the seating to accommodate this is very valuable. I-34-4

This project can once again be a place for recreational activities, training, and once again host competitive events for all aquatic sports from beginner level, to high school, college, national, international, and Olympic levels. I-34-5

This project is important locally, but also important for Los Angeles County, the State of California, nationally, and internationally.

Thank you

Best,
Gina Craig
Meuandjrcraig@verizon.net

Sent from my iPhone

GINA CRAIG
LETTER CODE: I-34

DATE: June 14, 2016

RESPONSE I-34-1

This comment is similar to the comments included in Comment I-23. Please see Response to Comment I-23-1 for a response to this comment.

RESPONSE I-34-2

This comment is identical to the comments included in Comment I-23. Please see Response to Comment I-23-2 for a response to this comment.

RESPONSE I-34-3

This comment is identical to the comments included in Comment I-23. Please see Response to Comment I-23-3 for a response to this comment.

RESPONSE I-34-4

This comment is identical to the comments included in Comment I-23. Please see Response to Comment I-23-4 for a response to this comment.

RESPONSE I-34-5

This comment is identical to the comments included in Comment I-23. Please see Response to Comment I-23-5 for a response to this comment.

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Alyssa Helper

From: Craig Chalfant <Craig.Chalfant@longbeach.gov>
Sent: Wednesday, June 15, 2016 8:43 AM
To: Ashley Davis; Alyssa Helper
Cc: Dino D'Emilia
Subject: FW: Belmont pool

From: Joanne Nelson [mailto:shoejo@gmail.com]
Sent: Tuesday, June 14, 2016 6:41 PM
To: Craig Chalfant
Subject: Belmont pool

Dear Mr. Chalfant,

As a former long time resident of Long Beach, California, and a current patron, I would like to address the current Belmont Pool project and EIR issues currently on your desk relating to the location of the DIVE WELL and SEATING.

Importantly, the rebuild of the pool should allow for the appropriate DIVE WELL within the INDOOR facility (not outdoors) AND allow for the appropriate number of SEATS for major national and international aquatic events in DIVING, WATER POLO, and SWIMMING! I-35-1

As you may know, the facility once held Olympic trials, NCAA championships, and was a place where many youth were inspired to pursue their athletic dreams. It was a place people of all ages enjoyed safe and health recreational activity. Our community is now looking forward to rebuild and continue an important legacy.

To do this the DIVE WELL must be built in the INDOOR facility AND allow for the appropriate number for SEATS for major national and international aquatic events. I-35-2

It is my understanding that the LB CITY COUNCIL already voted UNANIMOUSLY twice to have an INDOOR DIVE WELL.

An outdoor dive well is unacceptable because of some of the following reasons:

1- SAFETY AND COST - moving it outdoor may cause many problems such as safety of divers due to potential ocean and sun glare and additional significant building costs related to lighting, seating, cleaning, and maintenance.

2-LIMIT ABILITY TO HOST MAJOR EVENTS/LIMITED USE - outdoor placement would potentially limit the seating and limit the new facility's ability to host major events for diving. This undermines the overall best use of the facility. I-35-3
3-RARE COMMODITY for DIVING COMMUNITY - a diving well, proper boards, and the platform is very important to the diving community. Unlike other aquatic sports which require the pool, diving requires the tower, boards, and the pool so as to practice, train and compete. This is a RARE commodity for Long Beach to have. There are very few facilities in all of Southern California that have the equipment to train all year round and seating for holding competitions. This is essential part of the project to be able to have this type of indoor facility here in Long Beach.

As for SEATING and PARKING - All the aquatic sports need a minimum of 1500 seats to make the use of the facility acceptable. The parking area which already has over 1000 spots must be considered. This new facility has the opportunity to be a phenomenal addition to the United States presence in aquatic athletics. It has a CHANCE to be a FINA (International governing body of diving, water polo, and swimming) regulation aquatic faculty in CALIFORNIA and having the seating to accommodate this is very valuable. I-35-4

This project can once again be a place for recreational activities, training, and once again host competitive events for all aquatic sports from beginner level, to high school, college, national, international, and Olympic levels. I-35-5

This project is important locally for our town, but also important for Los Angeles County, the State of California, nationally, and internationally.

Thank you for your time and consideration.

Yours,
Joanne Nelson

Joanne Nelson
Capelli New York |Lux Division
V.P. Sales West Coast |Handbags
Badgley Mischka, Jewel Badgley Mischka
5252 Bolsa Ave, Huntington Beach Ca 92649
N.Y. Showroom 320 5th ave, suite 611
C:714-313-3456
O:714-934-8808
E:Joanne.Nelson@Capellinewyork.com

JOANNE NELSON
LETTER CODE: I-35

DATE: June 14, 2016

RESPONSE I-35-1

This comment is similar to the comments included in Comment I-23. Please see Response to Comment I-23-1 for a response to this comment.

RESPONSE I-35-2

This comment is identical to the comments included in Comment I-23. Please see Response to Comment I-23-2 for a response to this comment.

RESPONSE I-35-3

This comment is identical to the comments included in Comment I-23. Please see Response to Comment I-23-3 for a response to this comment.

RESPONSE I-35-4

This comment is identical to the comments included in Comment I-23. Please see Response to Comment I-23-4 for a response to this comment.

RESPONSE I-35-5

This comment is identical to the comments included in Comment I-23. Please see Response to Comment I-23-5 for a response to this comment.

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Alyssa Helper

From: Craig Chalfant <Craig.Chalfant@longbeach.gov>
Sent: Wednesday, June 15, 2016 8:47 AM
To: Ashley Davis; Alyssa Helper
Cc: Dino D'Emilia
Subject: FW: Belmont Pool Rebuild

From: kathy magana-gomez [mailto:kmgspeechpath@gmail.com]
Sent: Tuesday, June 14, 2016 5:56 PM
To: Craig Chalfant
Subject: Belmont Pool Rebuild

Dear Mr. Chalfant,

As a 15 year resident of Long Beach, California, I would like to address the current Belmont Pool project and EIR issues currently on your desk relating to the location of the DIVE WELL and SEATING.

Importantly, the rebuild of the pool should allow for the appropriate DIVE WELL within the INDOOR facility (not outdoors) AND allow for the appropriate number of SEATS for major national and international aquatic events in DIVING, WATER POLO, and SWIMMING! I-36-1

As you may know, the facility once held Olympic trials, NCAA championships, and was a place where many youth were inspired to pursue their athletic dreams. It was a place people of all ages enjoyed safe and healthy recreational activity. Our community is now looking forward to rebuild and continue an important legacy.

To do this the DIVE WELL must be built in the INDOOR facility AND allow for the appropriate number for SEATS for major national and international aquatic events.

I-36-2

It is my understanding that the LB CITY COUNCIL already voted UNANIMOUSLY twice to have an INDOOR DIVE WELL.

An outdoor dive well is unacceptable because of some of the following reasons: I-36-3

1- SAFETY AND COST - moving it outdoor may cause many problems such as safety of divers due to potential ocean and sun glare and additional significant building costs related to lighting, seating, cleaning, and maintenance.

2-LIMIT ABILITY TO HOST MAJOR EVENTS/LIMITED USE - outdoor placement would potentially limit the seating and limit the new facility's ability to host major events for diving. This undermines the overall best use of the facility.

I-36-3

3-RARE COMMODITY for DIVING COMMUNITY - a diving well, proper boards, and the platform is very important to the diving community. Unlike other aquatic sports which require the pool, diving requires the tower, boards, and the pool so as to practice, train and compete. This is a RARE commodity for Long Beach to have. There are very few facilities in all of Southern California that have the equipment to train all year round and seating for holding competitions. This is an essential part of the project to be able to have this type of indoor facility here in Long Beach.

As for SEATING and PARKING - All the aquatic sports need a minimum of 1500 seats to make the use of the facility acceptable. The parking area which already has over 1000 spots must be considered. This new facility has the opportunity to be a phenomenal addition to the United States presence in aquatic athletics. It has a CHANCE to be a FINA (International governing body of diving, water polo, and swimming) regulation aquatic faculty in CALIFORNIA and having the seating to accommodate this is very valuable.

I-36-4

This project can once again be a place for recreational activities, training, and once again host competitive events for all aquatic sports from beginner level, to high school, college, national, international, and Olympic levels.

I-36-5

This project is important locally for our town, but also important for Los Angeles County, the State of California, nationally, and internationally.

Thank you for your time and consideration.

Respectfully,

Kathy Magana-Gomez

Long Beach, California

University Park Estates

KATHY MAGANA-GOMEZ
LETTER CODE: I-36

DATE: June 14, 2016

RESPONSE I-36-1

This comment is similar to the comments included in Comment I-23. Please see Response to Comment I-23-1 for a response to this comment.

RESPONSE I-36-2

This comment is identical to the comments included in Comment I-23. Please see Response to Comment I-23-2 for a response to this comment.

RESPONSE I-36-3

This comment is identical to the comments included in Comment I-23. Please see Response to Comment I-23-3 for a response to this comment.

RESPONSE I-36-4

This comment is identical to the comments included in Comment I-23. Please see Response to Comment I-23-4 for a response to this comment.

RESPONSE I-36-5

This comment is identical to the comments included in Comment I-23. Please see Response to Comment I-23-5 for a response to this comment.

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Alyssa Helper

From: Craig Chalfant <Craig.Chalfant@longbeach.gov>
Sent: Wednesday, June 15, 2016 8:29 AM
To: Ashley Davis; Alyssa Helper
Cc: Dino D'Emilia
Subject: FW: letter

From: Ricki Milne [mailto:mrsricki914@gmail.com]
Sent: Wednesday, June 15, 2016 8:21 AM
To: Craig Chalfant
Subject: Fwd: letter

Dear Mr Chalfant,

Please do not consider moving the diving pool outdoors. The City Council voted unanimously, TWICE to have a separate diving well with platforms INDOORS. An outdoor option is unacceptable. Not only would it be more costly to clean and maintain proper pool temperatures, it would require adequate lighting at night, and have a lack of seating. There are no other indoor platform diving facilities in California. A site like this will attract not only the local population of the greater LA area to learn one of the most popular Olympic sports, it will give an opportunity for Long Beach to develop our future Olympic hopefuls and maintain the great tradition of ALL of our aquatic sports in Long Beach. I-37-1

As far as the parking, there are over 1000 parking spaces on either side of the structure. I-37-2

This pool is an opportunity for the City of Long Beach to host many international events, including Olympic Trials and National Diving Championships. Obviously, this will bring attention and tourism to Long Beach. I-37-3

Sincerely,

Patrick and Ricki Milne

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PATRICK AND RICKI MILNE
LETTER CODE: I-37

DATE: June 15, 2016

RESPONSE I-37-1

This comment requests that the City of Long Beach (City) keep the diving well indoors, as the City Council unanimously approved an indoor diving well with platforms on two separate occasions. The commenter objects to an outdoor diving well due to a lack of adequate lighting at night and a lack of seating. The commenter opines that an indoor diving well will attract large diving events to the City.

Refer to Common Response 2 in Section 2.1, Frequent Comments and Common Responses, of this Final Environmental Impact Report (EIR) for further discussion related to Alternative 3 included in the Draft EIR, which includes an outdoor diving well component.

RESPONSE I-37-2

This comment states that there are over 1,000 parking spaces on either side of the Belmont Pool structure.

Refer to Common Response 3 in Section 2.1, Frequent Comments and Common Responses, of this Final EIR for further discussion related to parking and the proposed mitigation measure requiring an Event Traffic Management Plan.

RESPONSE I-37-3

This comment asserts that the proposed Project serves as an opportunity for the City to host international aquatic events, which would bring attention and tourism to the City.

This comment does not contain any substantive comments or questions about the Draft EIR or analysis therein. This comment will be forwarded to the decision-makers for their review and consideration. No further response is necessary.

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Alyssa Helper

From: Craig Chalfant <Craig.Chalfant@longbeach.gov>
Sent: Wednesday, June 15, 2016 12:30 PM
To: Ashley Davis; Alyssa Helper
Cc: Dino D'Emilia
Subject: FW: include in Belmont Pool DEIR comments due by June 16, 2016/Bennett Ave entry closure was planned for Belmont Pool project/April 2013 LSA Assoc. Initial Study
Attachments: Belmont Pool Bennett Ave closure April 2013 LSA Associates.pdf

---

From: SUSAN MILLER [mailto:mpshogrl@msn.com]
Sent: Wednesday, June 15, 2016 10:47 AM
To: Craig Chalfant
Subject: include in Belmont Pool DEIR comments due by June 16, 2016/Bennett Ave entry closure was planned for Belmont Pool project/April 2013 LSA Assoc. Initial Study

To: Craig Chalfant

Please include the following concerns/comments about the access to Belmont Pool. I-38-1

Regards,
Susan Miller

From: SUSAN MILLER <mpshogrl@msn.com>
Sent: Tuesday, April 12, 2016 3:39 PM
To: Tom Modica
Cc: Dino D'Emilia; Michael Rotondi
Subject: proof Bennett Ave entry closure was planned for Belmont Pool project/April 2013 LSA Assoc. Initial Study

Hi Tom,

When I spoke with you after the Belmont Pool Design presentation on Saturday, April 9, 2016 at Golden Sails Hotel - I asked why the plans did not show the Bennett Ave entry closed and Granada Ave as the main entrance to the Pool? You said you didn't think that was ever in the plans. It was per the Initial Study April 2013 by LSA Associates , see above PDF. and drawing below. Closure of Bennett Ave was also publicized via a number of news agencies i.e. http://lbpost.com/news/2000001819-council-scraps-recreational-belmont-pool-plans-in-favor-of-world-class-aquatic-facility

I-38-2

The Initial Study was done in April 2013 by LSA Associates and was on the City webpage. I forget who on City Staff I had talked to about Bennett Ave entry closure. The explanation given to me - For the old Belmont Pool, East Olympic Plaza was the staging/bottleneck/drop off/pick up area for all the swim meet buses plus East Olympic Plaza has street parking. With East Olympic Plaza being completely removed in the new Pool plans, those buses that had previously used East Olympic Plaza for pick up and drop off would shift bus traffic

& cars picking kids up every day for practice out onto East Ocean Blvd. East Olympic Plaza not only was a service and staging street for the old Pool, East Olympic Plaza also has about 60 parking spaces that will be lost with the new plan. I-38-2

Making Granada Ave the main entrance, forces buses to move off of East Ocean Blvd. for drop off, loading, staging and bottleneck. Buses would enter Granada and loop around inside of the parking lot to drop off and move down the parking lot to a bus holding/staging area. **East Ocean Blvd absolutely can not be bogged down by buses or the evening passenger car rush to pick kids up from practice once East Olympic Plaza is removed for the new Pool. It is imperative that Granada Ave becomes the new main entrance instead of Bennett Ave to negate traffic back up on East Ocean Blvd.** I-38-3

LSA

FIGURE 2

NOT TO SCALE

Belmont Pool Revitalization Project

Conceptual Site Plan

I:\CLB1302\G\Cncpt Site Plan.cdr (4/16/13)

Attachment 1

INITIAL STUDY

BELMONT POOL REVITALIZATION PROJECT

LONG BEACH, CALIFORNIA

Attachment 1

Submitted to:

City of Long Beach
Development Services/Planning Bureau
333 West Ocean Blvd., 5th Floor
Long Beach, California 90802

Prepared by:

LSA Associates, Inc.
20 Executive Park, Suite 200
Irvine, California 92614
(949) 553-0666

Project No. CLB1302

LSA

April 2013

SUSAN MILLER
LETTER CODE: I-38

DATE: June 15, 2016

RESPONSE I-38-1

This comment requests that Comments I-38-2 and I-38-3 be considered by the City of Long Beach (City).

This comment does not contain any substantive comments or questions about the Draft Environmental Impact Report (EIR) or analysis therein. This comment will be forwarded to the decision-makers for their review and consideration. No further response is necessary.

RESPONSE I-38-2

This comment asks why the site plan does not show Granada Avenue as the main entrance to the pool, as the Initial Study for the proposed Project (April 2013) indicates that Granada Avenue would be the main entrance to the Project site, as do several news agencies (refer to Attachment 1 to this comment letter for an illustration of the site plan for the Project, as included in the Initial Study). The comment goes on to note that the City staff previously informed the commenter that the new Belmont Pool facility would remove the East Olympic Plaza pick up area for buses and as such, and would shift bus traffic and car pick up and drop offs to East Ocean Boulevard. The comment concluded by noting that East Olympic Plaza was not only a service and staging street for the old Belmont Pool facility, but also provided 60 street parking spaces that would be lost under the new plan.

Granada Avenue is located approximately 1,000 feet southeast of the project site. Due to its distance from the site, access to the site was not proposed from this roadway. Bennett Avenue provides access directly to the Project site, and as such, has been proposed as the primary roadway providing vehicular access to the site.

RESPONSE I-38-3

This comment asserts that making Granada Avenue the main entrance to the Project site would remove traffic from East Ocean Boulevard, which the commenter opines cannot be bogged down by additional project-related traffic. As such, the commenter asserts that it is imperative that Granada Avenue becomes the new main entrance to the site instead of Bennett Avenue.

Refer to Response I-38-2. Due to the distance of Granada Avenue to the Project site, this roadway was not considered as a main entrance point to the Project site.

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Alyssa Helper

From: Craig Chalfant <Craig.Chalfant@longbeach.gov>
Sent: Wednesday, June 15, 2016 12:34 PM
To: Ashley Davis; Alyssa Helper
Cc: Amy Bodek; Linda Tatum; Tom Modica; Dino D'Emilia
Subject: FW: Belmont Pool DEIR comments due by June 16, 2016/Sea Level Rise graphic

From: SUSAN MILLER [mailto:mpshogrl@msn.com]
Sent: Wednesday, June 15, 2016 11:10 AM
To: Craig Chalfant
Subject: Belmont Pool DEIR comments due by June 16, 2016/Sea Level Rise graphic

TO: Craig Chalfant
Subject: Include following comments for the DEIR on the Belmont Pool

Per SLR graph on http://www2.pacinst.org/reports/sea_level_rise/hazmaps/Long_Beach.pdf
I'm concerned the proposed Belmont Aquatic Pool structure building if located in Belmont Shore will cause flooding and be detrimental to the surrounding residents and property owners. Each one of the following changes will compound flooding to happen in the neighborhood:

1. Massive concrete coverage eliminating porous ground.
2. Increased water run off from the high grade of the structure to meet Sea Level Rise requirements.
3. Removal of East Olympic Plaza
4. Removal of the park with mature trees that is a natural water absorption will cause flooding to nearby properties.
5. Additional concrete sidewalks/concrete ADA ramps directing more water flow into the neighborhood.

The 100 year flood line tends to get higher and higher as more and more development occurs causing more run-off and less natural water absorption. The proposed Belmont Aquatic facility will change the grade, water absorption and floodplain of the neighborhood.

I-39-1

Regards,
Susan Miller

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SUSAN MILLER
LETTER CODE: I-39

DATE: June 15, 2016

RESPONSE I-39-1

This comment expresses concern that the proposed Project would cause flooding and be detrimental to the surrounding residents and property. The comment also indicates that the following changes would compound flooding in the neighborhood: concrete coverage eliminating porous ground, increased water runoff from the high grade area of the site, removal of East Olympic Plaza, removal of the park with mature trees which would cause flooding on nearby properties, and the flooding of adjacent sidewalks and ramps thereby directing water flow into the neighborhood. The comment concludes by asserting that the 100-year flood line gets higher as more development occurs causing more runoff and less water absorption, which would be further exacerbated by the proposed Project.

Impacts associated with the potential for on-site flooding are addressed in Section 4.8, Hydrology and Water Quality, of the Draft Environmental Impact Report (EIR). According to the Federal Emergency Management Act (FEMA) Federal Insurance Rate Map No. 06037C1970F, the eastern portion of the Project site is located within Zone A, Special Flood Hazard Area subject to inundation by the 1-percent annual chance flood (see Figure 4.8.3 in this section of the Draft EIR). The western half of the Project site is located within Zone X, areas determined to be outside the 0.2-percent chance (500-year) floodplain.

The proposed Project would not cause or contribute to flooding as a result of rising levels. The potential for sea level rise to result in on-site flooding is addressed in Section 4.6, Global Climate Change, of the Draft EIR. As described further on Pages 4.6-24 and 4.6-25 of Section 4.6, rising sea levels may result in potential on-site flooding in future horizon years (2060 and 2100). However, the main pool deck would be situated 8.8 feet (ft) and 6.6 ft above the projected high water levels in 2060 and 2100, respectively. The lower level of the building (pool equipment and storage) and associated parking areas would be below the projected water line under both scenarios; however, these areas would not be open for public use, and therefore, would not subject visitors to the Project site to significant cumulative impacts related to sea level rise. These projected water elevations also do not account for any shoreline protective devices that may further reduce potential on-site flooding in future horizon years. Furthermore, additional greenhouse gas (GHG) reduction strategies implemented at the State, national, and international levels could reduce sea-level rise between now and the year 2100. Therefore, the proposed Project would not be adversely impacted by flooding associated with sea level rise due to climate change.

As described on Page 4.8-34 of the Draft EIR, FEMA requires that all projects within Zone A not increase the base flood elevation of a 100-year floodplain more than 1 ft. During the subsequent engineering and design phase of the proposed Project, detailed analysis would be conducted to ensure that the design specifically addresses floodplain issues. In addition, implementation of Mitigation Measure 4.8.5 would require a floodplain report to be prepared in order to reduce impacts to the floodplain. Compliance with the City of Long Beach (City) and FEMA regulations and implementation of Mitigation Measure 4.8.5 would ensure that the proposed Project would not expose people or structures to the risk of flooding, create floodplains, or result in an increase in the base flood elevation. Therefore, impacts associated with flood hazard areas would be less than significant (page 4.8-34).

The proposed Project would decrease the overall impervious area by 0.5 acre and increase the pervious area by 0.5 acre, resulting in an increase in filtration. The proposed Project would also include a comprehensive drainage system to convey on-site flows, including on-site detention and infiltration Best Management Practices (BMPs). While the proposed Project would change on-site drainage patterns by adding impervious surface areas and structures, the proposed Project would be required to prepare a detailed hydrology report to ensure that on-site drainage facilities to be included as part of the Project are appropriately sized to prevent on- or off-site flooding (refer to Mitigation Measure 4.8.4) (page 4.8-32). Therefore, the proposed Project would not contribute to an increase in flooding.

Alyssa Helper

From: Craig Chalfant <Craig.Chalfant@longbeach.gov>
Sent: Wednesday, June 15, 2016 12:36 PM
To: Ashley Davis; Alyssa Helper
Cc: Amy Bodek; Tom Modica; Linda Tatum; Christopher Koontz; Dino D'Emilia
Subject: FW: Belmont Pool DEIR comments/current views lines obstruction/Pool design/concession stand location

From: SUSAN MILLER [mailto:mpshogrl@msn.com]
Sent: Wednesday, June 15, 2016 11:22 AM
To: Craig Chalfant
Subject: Belmont Pool DEIR comments/current views lines obstruction/Pool design/concession stand location

The Pool plans height of 71' plus 7' plinth makes an overall height of 78' in an area that has a height restriction not to exceed 3 stories or 30'- 36'. Making a height exemption for 78' is not acceptable for a residential neighborhood. That height is out of character for the neighborhood as deemed by the City Land Use Plan. That height obstructs the flight patterns of the protected birds in the habitat trees. Plus the extended curve roof line of the concession stand obstructs current sight lines - that is not an option. I-40-1

Remove/Lower restaurant curved roof line. Make roof line design something that could be added onto at a later date to make an enclosed dining/seating space on the ocean. Relocate restaurant entry door to side facing Ocean Blvd. so it won't catch the wind. Don't have entry door facing the ocean/sand or to the west. I-40-2

Regards,
Susan Miller

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SUSAN MILLER
LETTER CODE: I-40

DATE: June 15, 2016

RESPONSE I-40-1

This comment asserts that the proposed Project would have an overall height of 78 feet (ft) in an area that has a height restriction of 3 stories, or 30 to 36 ft. The commenter asserts that a height variance for the Project is not acceptable for a residential neighborhood because the proposed height of the structure would be inconsistent with the character of the surrounding neighborhood. The commenter also asserts that the height would obstruct flight patterns of the projected birds in the on-site trees and that the roof line of the proposed concession stand would obstruct current views.

In total, the proposed Project would be 19 ft greater in height than the former Belmont Pool complex, which was developed to be 59 ft in height. However, due to rectangular shape and alignment lengthwise from east to west on the southern boundary of the site, the former Belmont Pool facility obstructed coastal views to a greater extent than the proposed Project. Figure 4.1.4, Pre- and Post-Project Building Orientation, illustrates the extent to which the proposed Project would increase coastal views as compared to the former facility. Figures 4.1.5 and 4.1.6, Post-Project Key Views, also demonstrate how the curved elliptical shape of the Bubble would reduce view obstructions of the coast despite the proposed facility being 19 ft greater in height than the former Belmont Pool facility. For these reasons, the proposed Project would not be inconsistent with the visual character of the surrounding neighborhood.

Impacts to biological resources, including on-site birds, were analyzed in Section 4.3, Biological Resources, of the Draft Environmental Impact Report (EIR). Bird species present on the Project site and within the Project area were accustomed to the former Belmont Pool facility and are anticipated to be able to adjust their flight patterns to the new facilities to be constructed as part of the proposed Project, including those that would be increased in height as compared to the former facility.

RESPONSE I-40-2

This comment argues in favor of removing the curved roof line associated with the concession stand and suggests making the roof design into something that could be added on at a later date to allow for an enclosed dining/seating space near the ocean. The comment also suggests relocating the entry to the concession stand to the side facing Ocean Boulevard so it would not be subject to prevailing winds.

This comment does not contain any substantive comments or questions about the Draft EIR or analysis therein. This comment will be forwarded to the decision-makers for their review and consideration. No further response is necessary.

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Alyssa Helper

From: Craig Chalfant <Craig.Chalfant@longbeach.gov>
Sent: Wednesday, June 15, 2016 12:37 PM
To: Ashley Davis; Alyssa Helper
Cc: Amy Bodek; Tom Modica; Linda Tatum; Christopher Koontz; Dino D'Emilia
Subject: FW: Comments on Belmont Pool DER/due June 16, 2016

From: SUSAN MILLER [mailto:mpshogrl@msn.com]
Sent: Wednesday, June 15, 2016 11:39 AM
To: Craig Chalfant
Subject: Comments on Belmont Pool DER/due June 16, 2016

Comments on the Belmont Pool DEIR/Alternatives:

NO PROJECT should be the option. Monies to fully fund the project are not available. With California in a severe drought, any project requiring such massive amounts of water to fill and maintain multiple pools is unfathomable/not environmental conscious. I-41-1

If funds are accumulated to fully fund a Pool project and California is out of a drought - Harry Bridges Park or convention center parking lot are viable location options: those locations have less Sea Level Rise issues http://www2.pacinst.org/reports/sea_level_rise/hazmaps/Long_Beach.pdf , less liquefaction issues, have more infrastructure potential, do not have the same building height restrictions, do not negatively impact a protected bird habitat. Those two locations were not fully vetted. I-41-2

Measures calling for an "Event Traffic Management Plan" anytime a special event expects more than 450 spectators absolutely must be required for any location especially in Belmont Shore. I-41-3

Regards,
Susan Miller

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SUSAN MILLER
LETTER CODE: I-41

DATE: June 15, 2016

RESPONSE I-41-1

This comment expresses support for the No Project Alternative because there are insufficient funds to construct the proposed Project and because the proposed Project would demand "mass amounts of water" to maintain the proposed pool facilities.

Project-related increases in demand for water are addressed in Section 4.13, Utilities, of the Draft Environmental Impact Report (EIR). The proposed Project is anticipated to result in a water demand of 38.23 acre feet/year (af/yr), which represents an increase of 18.62 af/yr over existing conditions. This increase in water demand associated with the proposed Project would fall within the available and projected water supplies outlined in the City of Long Beach's (City) adopted Urban Water Management Plan (UWMP). In addition, the proposed Project would comply with California State law regarding water conservation, including pertinent provisions of Title 24 of the California Government Code (Title 24) regarding the use of water-efficient appliances The proposed Project would also include the following additional water conservation features:

- Low-flow irrigation system with drip irrigation for shrub areas (90 percent efficiency)
- Rain sensors in conjunction with the automatic irrigation system
- Installation of mulch and/or soil amendments to help retain moisture
- Pool blankets
- Water-efficient plumbing fixtures
- Drought-tolerant landscaping

Therefore, operation of the proposed Project would result in less than significant impacts with respect to water demand, and no mitigation is required.

RESPONSE I-41-2

This comment supports moving the proposed Project to an alternative project site at Harry Bridges Memorial Park or the "Elephant Lot" at the Long Beach Convention Center, as these locations have less issues related to sea level rise (SLR), infrastructure improvements, height restricts, and biological species (e.g., bird habitat). As such, the commenter opines that these alternative project sites were not fully vetted as viable alternative sites on which to locate the proposed Project.

As discussed in Chapter 5.0, Alternatives, of the Draft EIR, the Harry Bridges Memorial Park and the Elephant Lot site were considered as alternative project sites, but were ultimately rejected from further consideration.

The Harry Bridges Memorial Park was ultimately rejected from further consideration because this site cannot legally be converted to uses other than public outdoor recreation uses under Section 6(f)(3) of the Land and Water Conservation Fund Act and because locating the Project on this site would fail to meet the majority of the Project Objectives.

The Elephant Lot was also rejected from further consideration for the following reasons: the site is under a current lease to the Jehovah's Witnesses organization to accommodate parking demands during the annual convention at the Long Beach Convention Center and the loss of parking spaces on this site would result in additional parking mitigation, development of the Project on this site would not represent the highest and best land use for the area adjacent to the Convention Center, and because development of the Project on this site would fail to meet the majority of the Project Objectives.

For the reasons outlined above, the Harry Bridges Memorial Park and the Elephant Lot would not be reasonable or feasible sites on which to locate the proposed Project**.**

RESPONSE I-41-3

This comment expresses concern related to the requirement that an Event Traffic Management Plan be prepared for special events with more than 450 spectators.

Refer to Common Response 3 in Section 2.1, Frequent Comments and Common Responses, of this Final EIR for further discussion related to parking and the proposed mitigation measure requiring an Event Traffic Management Plan.

Alyssa Helper

From:	Craig Chalfant <Craig.Chalfant@longbeach.gov>
Sent:	Wednesday, June 15, 2016 1:05 PM
To:	Ashley Davis; Alyssa Helper
Cc:	Dino D'Emilia
Subject:	FW: belmont pool EIR comments

-----Original Message-----
From: Jeff Miller [mailto:Jeff.Miller@csulb.edu]
Sent: Wednesday, June 15, 2016 12:23 PM
To: Craig Chalfant
Subject: belmont pool EIR comments

Please accept this document as my response and comments to the Draft Environmental Impact Report for the City's proposed Belmont Pool Revitalization Project.

Please reply to this message to acknowledge receipt and acceptance of these comments. I-42-1

The Executive Summary contains a number of inaccurate statements, which I object to. These inaccuracies render the EIR inadequate and must be corrected.
Specifically, I note these inaccuracies with the following six comments: I-42-2

Comment 1. The Executive Summary, section 1.3 contains this inaccurate statement:

"...implementation of the proposed Project would not result in any significant and unavoidable adverse impacts. All potentially significant impacts have been effectively mitigated to a less than significant level."

There are in fact significant and adverse impacts, which cannot be mitigated, such as: I-42-3

1. Excessive noise disturbance to residents within at least a ten block radius of the site.
2. Significant increased automobile traffic and congestion in the immediate area which will also impact Second Street, Livingston Drive, Ocean Boulevard, and neighboring residential streets.
3. Significant increased automobile parking congestion in the immediate area which will also impact Ocean Boulevard and neighboring residential streets.
4. Significant loss of ocean views which will negatively impact residents and visitors using the surrounding beach area.

Comment 2. The Executive Summary, section 1.4, states in part:

"...the primary objective of the City, which is to replace the former Belmont Pool facility with a more modern facility that better meets the needs of the local community..." I-42-4

This is an erroneous statement, because the proposed facility DOES NOT meet the needs of the local community, for the reasons stated above in Paragraph 1.

Comment 3. Table 1.B, Threshold 4.1.1 states:

"The proposed placement and alignment of the Bubble would allow for increased views of the coastline that were previously blocked by the former Belmont Pool structure. Additionally, the curved elliptical shape of I-42-5 the Bubble reduces the structural scale and mass, when compared to a traditional rectangular building, by eliminating the corners of the building, allowing for an increase in viewable area. Therefore, the change in the building alignment on the site, in combination with the reduced structural mass from the Bubble's elliptical design, would not result in a substantial adverse effect on scenic vistas and a less than significant impact would occur." I-42-5

This statement is false because the proposed building is eighteen feet higher from the surface and more than double the area of the previous building, which is a significant increase in the OBSTRUCTION of the view, NOT an increase in views.

Comment 4. The statements regarding Threshold 4.1.2 and Threshold 4.1.3 are false because the proposed building is eighteen feet higher from the surface and more than double the area of the previous building, which is a significant increase in the OBSTRUCTION of the view. I-42-6

Comment 5. Table 1.B, Threshold 4.9.2 states in part:

"Land use compatibility is a combination of other impacts, including potential aesthetic, air quality, noise, and traffic impacts. Potential cumulative impacts associated with traffic generation and related air quality and noise impacts are addressed in those topical sections of this Draft EIR. None of these related environmental topics were found to have significant cumulative effects. Therefore, implementation of the proposed Project would not result in, or contribute to, a cumulatively significant land use impact, and no mitigation is required." I-42-7

This statement is false, because there ARE significant aesthetic, air quality, noise, and traffic impacts from this proposed project, as stated in the comments above.

Comment 6. Table 1.B, Threshold 4.11.4 states in part:

"Operations associated with the proposed Project are not anticipated to lead to a substantial increase in the number of visitors and vehicles to the Project site." I-42-8

This statement is false. The City has made numerous claims in its presentations to the public that this project would attract significantly MORE users and visitors than the previous pool accommodated. In fact, this increase is one of the primary reasons that has been given for the design of this project.

Jeff Miller
PO Box 3310
Long Beach, CA 90803

JEFF MILLER
LETTER CODE: I-42

DATE: June 15, 2016

RESPONSE I-42-1

This comment is introductory in nature and requests that the City of Long Beach (City) acknowledge receipt of the commenter's remarks on the Draft Environmental Impact Report (EIR).

This comment does not contain any substantive comments or questions about the Draft EIR or analysis therein. This comment will be forwarded to the decision-makers for their review and consideration. No further response is necessary.

RESPONSE I-42-2

This comment opines that the Executive Summary chapter of the Draft EIR contains several inaccuracies that render the Draft EIR inadequate. These inaccuracies are described and responded to further below in Responses to Comments I-42-3 through I-42-8.

RESPONSE I-42-3

This comment is in reference to Subsection 1.3 of Chapter 1.0, Executive Summary, of the Draft EIR. The commenter takes issue with the conclusion in this subsection which indicates that the proposed Project would not result in significant and unavoidable impacts and that all potentially impacts associated with the proposed Project would be mitigated to a less than significant level. The commenter goes on to suggest that the following Project-related impacts are significant and adverse: (1) excessive noise disturbance to residents adjacent to the site, (2) significant traffic generation within the Project area, (3) significant parking congestion in the area along Ocean Boulevard and neighborhood, and (4) significant loss of ocean views for residents and visitors in the surrounding area.

As defined by the *State California Environmental Quality Act* (*CEQA*) *Guidelines*, a "significant adverse impact" is an impact for which there are no feasible mitigation measures or feasible mitigation measures available would not substantially lessen the adverse effect that the activity may have on the environment. Impacts related to noise, traffic, and aesthetics are addressed in Sections 4.10, Noise; 4.12, Transportation and Traffic; and 4.1, Aesthetics, of the Draft EIR. As described further in these sections, the proposed Project would result in *potentially significant* impacts with respect to noise and traffic (including parking impacts); however, there are feasible mitigation measures to reduce impacts with respect to these topical areas that would reduce such impacts to a *less than significant* level. While there are no potentially significant impacts identified related to aesthetics, view simulations prepared as part of the aesthetics analysis in Section 4.1 of the Draft EIR indicate that the proposed Project would be designed in such as way so as to increase coastal views as compared to the former facility, and would not adversely or significantly impacts the views from public viewpoints. For these reasons, the conclusion in the Draft EIR that impacts with respect to noise, traffic, and aesthetics would be less than significant with mitigation incorporated or less than significant remains adequate for purposes of accurately disclosing Project-related impacts to these topic areas.

RESPONSE I-42-4

This comment expresses disagreement with the statement in Subsection 1.4 of Chapter 1.0, Executive Summary, of the Draft Environmental Impact Report (EIR) which indicates that the primary Project Objective is to replace the former Belmont Pool facility with a more modern facility that would better meet the needs of the local community. The commenter asserts that the proposed Project does not meet the needs of the community for the reasons outlined and responded to in Response to Comment I-42-3.

Please refer to Response to Comment I-24-3. The City asserts that replicating a recreational facility that has been present on the site for 46 years and heavily utilized does meet the needs of the local community.

This comment does not contain any substantive comments or questions about the Draft EIR or analysis therein. This comment will be forwarded to the decision-makers for their review and consideration. No further response is necessary.

RESPONSE I-42-5

This comment expresses disagreement with the conclusion that the proposed Project would increase coastal views due to the curved elliptical shape of the Bubble, which would reduce the structural scale and mass of the building.

Project impacts related to the obstruction of coastal views are addressed in Section 4.1, Aesthetics, of the Draft EIR. As discussed in this section, the assessment of aesthetic impacts is subjective by nature. The City of Long Beach has not adopted defined standards or methodologies for the assessment of aesthetic impacts. As such, view simulations were prepared for the proposed Project to analyze the pre-and post-Project views of the Project site. As illustrated by these figures (Figures 4.1.1 through 4.1.6), although the structure would be taller, the proposed Project would not result in the significant obstruction of coastal views at the edges of the building, and would, in fact, increase coastal views due to the curvilinear design of the proposed facility compared to the former Belmont Pool structure.

RESPONSE I-42-6

This comment takes issue with the conclusion that the proposed Project would not result in significant and unavoidable impacts related to aesthetics, air quality, noise, and traffic. Please refer to Response I-42-3 for further discussion regarding the significance conclusions made with respect to aesthetics, noise, and traffic topics.

While air quality impacts are not addressed in Response to Comment I-42-3, potential impacts with respect to air quality were analyzed in Section 4.2, Air Quality, of the Draft EIR. This section of the Draft EIR concludes that project-related air quality emissions would be below applicable thresholds and impacts would be less than significant with adherence to standard conditions.

RESPONSE I-42-7

This comment disagrees with the conclusion that the proposed Project would not result in cumulatively significant land use impacts and that no mitigation would be required. The commenter asserts that a cumulatively significant impact would occur because there are significant aesthetic, air quality, noise, and traffic impacts.

As described in Responses to Comments I-42-3 and I-42-6, above, while the proposed Project would have potentially significant aesthetic, noise, and traffic impacts, these impacts would be less than significant with implementation of mitigation measures. Impacts related to air quality were determined to be less than significant with adherence to standard conditions. Therefore, these impacts are not considered "significant and adverse" nor are they considered "cumulatively significant."

RESPONSE I-42-8

This comment disagrees with the conclusion that the proposed Project would not substantially increase the number of visitors and vehicles to the Project site. The commenter indicates that the need to increase the capacity of the Project is an indication that the Project would substantially increase visitors to the site.

While the proposed Project would increase visitors and vehicles traveling to the site, the Project has been designed to program more events. As such, visitors traveling to the site and events held at the site would be staggered throughout the day, thereby reducing noise generated by the Project. As discussed in Section 4.11, Noise, of the Draft EIR, potentially significant noise would be reduced to a less than significant level with implementation of mitigation. Therefore, because potentially significant noise impacts associated with the Project can be mitigated to a less than significant level, these impacts are not considered "significant and adverse" nor are they considered "cumulatively significant."

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Alyssa Helper

From: Craig Chalfant <Craig.Chalfant@longbeach.gov>
Sent: Wednesday, June 15, 2016 1:09 PM
To: Ashley Davis; Alyssa Helper
Cc: Dino D'Emilia
Subject: FW: Good Morning & My Best to You Belmont Pool

From: Gene Simpson [mailto:simpson_gene@yahoo.com]
Sent: Wednesday, June 15, 2016 10:34 AM
To: Craig Chalfant
Subject: Good Morning & My Best to You Belmont Pool

Debby McCormick & Belmont Pool

Long Beach is the 36th-largest city in the United States and the seventh-largest in California with a population of 485,323.

The Belmont was closed due to concerns about an earthquake, it's being replaced by an aquatics complex that city officials and project planners promise will be "iconic."

Belmont Plaza Pool was dedicated on Aug. 15, 1968 for the U.S. Olympic Trials. "The trials were exciting. All of the heroes were there. (Nine-time U.S. Olympic swimming gold medalist) Mark Spitz was there, it wasn't until the 1972 Olympics that Mark had his breakout Olympiad. I-43-1

"I've seen a lot of pools and the ones for this one look amazing and I think it'll be one of the top aquatic facilities in the United States if not the best," said Wilson High School water polo coach Jeff Nesmith, who won three championships at the pool. "There is a new crop of swimmers and water polo players in Long Beach."

The City Council voted unanimously to authorize the city manager to secure the necessary regulatory approvals for a $103.1 million preliminary plan for the new pool, which includes indoor seating for 1,250 spectators but that's not enough capacity. The Old Pool had 2,000 seats for their great fans to cheers. ***Please we need more seating for our Aquatic Capital***. I-43-2

There's a fantastic sign westbound on Westminster. It says "***Long Beach, The Aquatic Capital of the World***".

I've had the pleasure to know Debby McCormick (Lipman) & her husband Glenn the past 40 years

Glenn McCormick started coaching in 1953. Sadly, he passed away in 1995, leaving behind a trail of National, International and Olympic Champions. His legacy is the McCormick Divers, which he formed in 1968 when the Belmont Plaza Olympic Pool was built for the 1968 Olympic Trials. I-43-3

Glenn was an Olympic and World Games coach and judge. He coached Pat McCormick and Gary Tobian to Olympic gold. Other Olympic medalists and national champions include, Willie Farrell, Ann Cooper culver, Gail Benton, Irenen McDonald of Canada, Patsy Plowman of Australia, Jeanne Stuno, Barb Gilders, Juno Stover Irwin, Paula Jean Meyers, Luis Nino de Rivera and Joaquin Capilla of

Mexico, Larry Andreason, Kelly McCormick, Kit Salness, Debby Lipman McCormick, Todd Smith, and Kim Stanfield Berbari.

He was US Diving's Ambassador to the world and a rare and caring human being. Glenn was inducted into the Swimming Hall of Fame in 1995. In 1996, US Diving established the Glenn McCormick Award.

I-43-3

Thank You

Gene Simpson 562- 673-3694
Enrolled Agent IRS 0011166-EA
simpson_gene@yahoo.com

GENE SIMPSON
LETTER CODE: I-43

DATE: June 15, 2016

RESPONSE I-43-1

This comment provides background information about the former Belmont Pool. It is interpreted that the quotes provided by the commenter from the Wilson High School water polo coach are about the proposed facility and offer support for the proposed Project.

This comment does not contain any substantive comments or questions about the Draft Environmental Impact Report (EIR) or analysis therein. This comment will be forwarded to the decision-makers for their review and consideration. No further response is necessary.

RESPONSE I-43-2

This comment notes the financial approvals from the proposed Project, which would have an indoor seating capacity for 1,250 spectators. The commenter further states that the former Belmont Pool had a seating capacity for 2,000 spectators and encourages that more seating is included in the proposed Project.

Refer to Common Response 1 in Section 2.1, Frequent Comments and Common Responses, of this Final EIR for further discussion related to the permanent seating capacity provided by the proposed Project.

RESPONSE I-43-3

This comment notes the relevance of aquatics in the City of Long Beach and the former aquatic athletes that coached and trained at the former Belmont Pool.

This comment does not contain any substantive comments or questions about the Draft EIR or analysis therein. This comment will be forwarded to the decision-makers for their review and consideration. No further response is necessary.

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Alyssa Helper

From: Craig Chalfant <Craig.Chalfant@longbeach.gov>
Sent: Wednesday, June 15, 2016 1:20 PM
To: Ashley Davis; Alyssa Helper
Cc: Dino D'Emilia
Subject: FW: Comments/EIR Draft for the Belmont Pool

From: Joe O'Neill [mailto:josephponeill@yahoo.com]
Sent: Wednesday, June 15, 2016 9:47 AM
To: Craig Chalfant
Cc: Lisa Conner
Subject: Comments/EIR Draft for the Belmont Pool

Dear Mr Chalfant,

My name is Aidan O'Neill. I am 11-years-old and I dive with McCormick Divers. I would be really happy to have an indoor diving facility in Belmont Shore. I think It would be better indoors because it would attract more divers to come, we wouldn't have to worry about weather, and there wouldn't be as much outdoor noise. The pool is really close to my house so it would take a short amount of time to get there. Also, the other divers and I would really be exited to have higher diving boards and finally have platforms. Thank you for taking your time to read my thoughts about the new pool. I-44-1

Sincerely,

Aidan O'Neill

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AIDAN O'NEILL
LETTER CODE: I-44

DATE: June 15, 2016

RESPONSE I-44-1

This comment expresses support for the proposed Project with specific reference to the indoor diving well component.

This comment does not contain any substantive comments or questions about the Draft Environmental Impact Report (EIR) or analysis therein. This comment will be forwarded to the decision-makers for their review and consideration. No further response is necessary.

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Alyssa Helper

From: Craig Chalfant <Craig.Chalfant@longbeach.gov>
Sent: Wednesday, June 15, 2016 1:21 PM
To: Ashley Davis; Alyssa Helper
Cc: Dino D'Emilia
Subject: FW: Comments/EIR Draft for the Belmont Pool

From: Joe O'Neill [mailto:josephponeill@yahoo.com]
Sent: Wednesday, June 15, 2016 9:48 AM
To: Craig Chalfant
Cc: Lisa Conner
Subject: Comments/EIR Draft for the Belmont Pool

Dear Mr Chalfant,

I would like to address a few items covered in the draft EIR for the new Belmont Pool Project, specifically the diving well/pool. I am a Belmont Shore resident, aquatics enthusiast, and the proud father of a young diver who trains and competes with McCormick Divers. I-45-1

The new plans call for 1250 seats, which is not enough for major competitions. I encourage you to consider minimally 1500 seats for spectators and athletes. The old pool had the capacity to seat 2000. I-45-2

Please do not consider moving the diving pool outdoors. It is my understanding that the City Council voted unanimously on two separate occasions to have a separate diving well with platforms INDOORS. An outdoor option is unacceptable. Not only would it be more costly to clean and maintain proper pool temperatures, it wouldn't provide adequate lighting at night (a real safety concern), nor would it have requisite seating for spectators and athletes. The divers will benefit from an indoor facility, as they will not have to deal with the elements, to include the bright, burning sun, sand from windy days or the occasional rainfall. There are no other indoor platform diving facilities in California. The indoor site being proposed will attract not only the local population of the greater LA area to learn one of the most popular Olympic sports, but it will also give an opportunity for Long Beach to develop our future Olympic hopefuls and maintain the great tradition of ALL of our aquatic sports in Long Beach. The unique indoor facility was attractive to the Olympics in the past, and will surely play an exciting role in future Olympics, National and International competitions, not only for diving, but for swimming and water polo as well. I-45-3

As far as the parking, there are over 1000 parking spaces on either side of the structure. During events, parking moves in waves as the morning competitors finish and the afternoon competitors arrive. There is also ample parking along Ocean Boulevard, near Bay Shore and several parking lots along 2nd Street, all within a very short walk of the Belmont Pool project. I-45-4

Thank you for your consideration.

Sincerely,

JOSEPH P. O'NEILL
LETTER CODE: I-45

DATE: June 15, 2016

RESPONSE I-45-1

This comment is introductory in nature and provides background information about the commenter's interest and association to the proposed Project.

This comment does not contain any substantive comments or questions about the Draft Environmental Impact Report (EIR) or analysis therein. No further response is necessary.

RESPONSE I-45-2

This comment is identical to the comments included in Comment I-33. As such, please see Response to Comment I-33-2 for a response to this comment.

RESPONSE I-45-3

This comment is identical to the comments included in Comment I-33. As such, please see Response to Comment I-33-3 for a response to this comment.

RESPONSE I-45-4

This comment is identical to the comments included in Comment I-33. As such, please see Response to Comment I-33-4 for a response to this comment.

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I-46

From: mbcotton@hotmail.com
To: craig.chalfant@longbeach.gov
Subject: Belmont Pool EIR Response - Melinda Cotton
Date: Thu, 16 Jun 2016 14:04:14 -0700

Response to
"**BELMONT POOL REVITALIZATION PROJECT**"
Environmental Impact Report

Submitted by: Melinda Cotton
PO Box 3310
Long Beach, CA 90803
33 year resident of Belmont Shore
Submitted on June 16, 2016

The EIR erroneously titles the EIR a "Revitalization Project" - which is inaccurate. Revitalize means to: "renovate", "repair", "restore", "renew" according to common definitions. [See: (http://www.thesaurus.com/browse/revitalize?s=t)].

However, there is no structure existing to which the word "revitalize" applies. The old Belmont Pool was condemned in 2013 and demolished in December of 2014. The site of the pool itself was graded and is now part of the sandy beach, adjacent to the beautiful passive park covered with grass, established trees (full of birds and nests), walking paths, bike path, and for the last year-and-a-half used by large numbers of the public for picnics, playing with their children, walking dogs, biking and walking through a grassy beachside parkland. (See attached pictures). I-46-1

It is not a "Revitalization Project" but a totally new construction project.

The City of Long Beach accurately calls the new project the "Belmont Beach & Aquatics Center". It is a totally new design, requiring totally new construction and should be so treated by the EIR.

The location selected by the City is largely based on nostalgia and history and the desires of the aquatics community. However for coastal protection and coastal access, for environmental, land use, aesthetics, noise, traffic, parking, and community considerations and Citywide benefit the new "Belmont Beach & Aquatics Center" could and should be placed elsewhere in the Tidelands, closer to Long Beach neighborhoods that are currently Park Poor and Pool Poor.

The EIR states that there was a "community" desire to build the proposed "..Aquatics center" at the same site. This is not accurate. Other locations were never fully considered or vetted. A 'Stakeholders Committee" of mainly individuals from the Aquatics community focused solely on the former Belmont Pool site, consistently opposing consideration of other sites. While the "Aquatics Center" is to be paid for with City of Long Beach money (Tidelands Funds and other) there was incredibly limited Citywide input, and limited solicitation of input from other than the 3rd Council District (i.e. Southeast Long Beach). It has been pointed out by critics that the proposed "Aquatics Center" on the sand near the Belmont Pier will again be adjacent to the most wealthy segment of the City of Long Beach. I-46-2

And there are serious questions and no guarantee as to how much of the time the "Aquatics Center" will be open for true public recreation, swimming lessons, etc. as opposed to Aquatics Special Events usage of the I-46-3

Pool. There is no stated guarantee as to how many days of the year the pools will be available for public recreational use. The City had Cal State Prof. Emeritus Joe Magaddino prepare a report on the Potential Economic Impact of the Pool which was presented to the City Council in October of 2014 (See Staff Report attachment " BBAC 10-21-14 Staff Report-1") The Economic Impact Report discussed up to 135 days a year of Aquatics Special Events- and the public likely would not be able to use the pool during those times. I-46-3

Considering that the Pool is being paid for with public money - the public should know exactly how much of the time the Pools will be accessible to the public. With a seating capacity of over 4-thousand spectators - the pools are definitely designed for large public events.

Traffic & Parking

Vehicle access to the project area is very limited currently and will be constricted further by the project's design. I-46-4

While the EIR claims that with the project completed adjacent roads and intersections would nearly always be at an "A" or "B" traffic level, the City's own "Mobility Element of the General Plan" (adopted by the City Council on October 15, 2013, Page 33 "Current Conditions" "Congested Corridors") shows Ocean Blvd. & 2nd Street listed as "Congested Corridors". In the same document "Map 2", page 35 of the "Mobility Element" shows the intersections of Ocean & Redondo and Livingston & 2nd Street with "E" and "F" grades in the AM & PM. The congestion on these streets has gotten worse in recent years with additional Orange County and other commuter traffic, thousands of new residents in downtown Long Beach, etc. The major entry intersection from the East, Pacific Coast Highway & 2nd Street is listed as a "F" level in the PM Peak hours. I-46-5

And the "Aquatics Center" plans call for the removal of Olympic Plaza Drive, which will eliminate 60 or more parking spaces and eliminate vehicle access from the West, as well as access to businesses on Olympic Plaza Drive. Ocean Blvd. and specifically Bennett Ave. will be the only direct street access to the "Aquatics Center" for drop off, deliveries, disabled access etc. There is no indication the EIR has figured this roadway elimination into its calculations. I-46-6

And City Traffic Engineering is currently planning to narrow down Ocean Blvd. in this area to one lane in each direction apparently as far as Bay Shore Avenue. The goal is to discourage through traffic on Ocean east of Livingston and to provide more parking for businesses and residents. But this Traffic Engineering goal conflicts with access for more than 4,000 spectators, aquatic participants and staff, and there is no indication the EIR has figured this roadway narrowing into its calculations. Traffic on Ocean Blvd/ Livingston Drive and 2nd Street can be extremely heavy, especially during morning and evening commute hours, and during summer months. Adding 4,000 spectators to this mix is hard to imagine. I-46-7

Parking

The entire area near the proposed "Aquatics Center" is an official City of Long Beach "Parking Impacted" area (see attached map or ([PDF]Parking Impacted Area - Development Services www.lbds.info/civica/filebank/blobdload.asp?BlobID=2434)

This is "parking impacted" area because many businesses and apartment buildings have no parking, and so nearby apartments, condos, restaurants and businesses already rely on the beach parking lots for overflow. In addition the new Olympix Health Club will soon open just across from the "Aquatics Center" site. The under-renovation building will be nearly 25,000 sq. ft. with a nearly 4,000 sq. ft. deck. This former 'Yankee Doodles' I-46-8 location has no parking of its own and will utilize street and beach parking lots for its hundreds of patrons. ("Grandfathered" lack of parking is regularly granted to businesses in this area to expand and change use, so future increased traffic and parking impacts are expected.) Again, there is no indication the EIR has figured this into its traffic and parking calculations.

Also, the EIR does not factor in a current Belmont Shore Parking Study under the auspices of the City (see attached document Study Map). Street parking is so limited and impacted in Belmont Shore, that the Parking Study consultants have been asked to include in their study the very beach lots noted for the "Aquatics Center". Utilizing the beach lots as a location for 2nd Street business employees and customers to park - with the use of shuttles to get them back and forth - has long been discussed by City officials and others. I-46-8

The EIR speaks of mitigation for the lack of parking and traffic problems at the Aquatics Center by having the City's Special Events Department workout a plan using shuttles, for example. But as noted above the 'shuttle' approach has never been successfully implemented and there appears to be no acceptable place to park vehicles and shuttle people from.

While the Aquatics Center is supposed to serve all of Long Beach -- it will take two bus rides or a considerable drive plus parking costs for youngsters and adults in North, West or Central Long Beach neighborhoods to get to the East side Long Beach location. It's hard to know how many kids and adults will make that trip. I-46-9

And with no hotels for miles in any direction, participants and attendees at "Aquatics Center" competitions, etc. will doubtless drive, rather than take buses to events.

Loss of Park Space

The loss of the beautiful existing Park Space south of Olympic Plaza Drive between Bennett Drive and the Belmont Pier Parking lot (see photos) is an unacceptable loss. This existing Park Space is natural grass land, with established, beautiful trees. Pedestrian and bike paths cross the park. It is accessible to the public at all hours for walking to the beach, picnics, walks, dog walks, families playing with children, relaxing, even playing musical instruments. The views from this park are beautiful -- views of the ocean, sandy beach, Belmont Pier, sky, etc. I-46-10

The Aquatics Center EIR claims there will be even more "green space" - stating in effect: "The current passive park ''occupies approximately 118,790 square feet (sf)... but would increase to approximately 127,085 sf" however the plans show a significant portion of that added square footage will be occupied by unusable "sloped lawn" - as the new Aquatics Center has to be raised 7 feet (due to expected Sea Level Rise) and the green space has to slope from grade to that 7 foot platform.

The designers state that there will be a 12 foot high, clear plastic/glass fence "surrounding" the Aquatics Center as a security precaution - and that this area (unclear what it consists of) will be closed and locked when not in use by the facility management. How much of the "green space" and "open space" is fenced in and closed much of the time is unclear. I-46-11

Aesthetics/Environment

The EIR appears to address Aesthetic, environmental and other issues NOT in relation to the existing situation (a level grassy passive park space with many trees and a sandy beach, etc.) - but rather the EIR speaks as though the old Pool was still present and being added onto or renovated in some fashion -- it's I-46-12

unclear how the EIR was allowed to be written in this fashion, since the old Pool no longer exists, it was demolished a year and a half ago, there is no structure on the site.. I-46-12

The proposed Aquatics Center will totally block views that now exist from the Park Space (as noted above), the street behind it and nearby businesses and residences. The new 125,500 sq. ft. structure will be 79,905 sq. ft. larger than the former pool and "18 feet taller at the apex", according to Assistant City Manager Tom Modica who has guided the Aquatics Center project for the City. (Please note the EIR on Page 1.2 of the Executive Summary states the new structure will be 11 feet higher than the former pool - the EIR document seems to have ignored the 7 foot tall platform required under the structure due to sea level rise.) Mr. Modica told the City Council on June 14th at a Study Session it would be 18 feet taller. I-46-13

A final design for the Aquatics Center has not been submitted by the Architect Michael Rotondi, as Rotondi testified at the City Council Study Session June 14th. The Diving Community stated at the Aquatics Center public meeting April 9th that the see through "Bubble" design will allow changing light into the eyes of divers and that will be unsafe and disrupt their performance. Rotondi said June 14th that the estimated $12 million "diving well" is still being designed (and because the "Aquatics Center" corrected height of 78 feet is due to the "diving well" design, the EIR may not be accurate in this regard). I-46-14

Chuck's Coffee Shop will lose its current beach view, the under construction Olympix Fitness facility across from the Aquatics Center will lose the "ocean view" it is currently advertising:

Ocean View in the Making - YouTube

▶ 0:59
https://www.**youtube**.com/watch?v=KTDmxGVXzhg
Jan 24, 2016 - Uploaded by Olympix Fitness

Passersby on Ocean Blvd., apartments and condos across ocean will all lose their views, all blocked by the 7 foot tall platform and the large "Bubble' structure and facility resting on the platform. I-46-15

The plastic 'Bubble' structure will also glow with light at least as late as 10 pm each evening, we're told. The Aesthetics of this from the sea and from the land are hard to comprehend, but will likely be distracting from the night sky and likely a disturbance to birds and people nearby. I-46-16

Keeping the plastic ETFE polymer plastic Bubble clean is an Aesthetic and Environmental concern. We're told that this product has 'non-stick properties' making it "self cleaning" - and that bird droppings, etc. will not be a problem. However dust and dirt definitely will be, as it takes water to remove them, as noted in the technical article "Designing Buildings" dated Oct. 15, 2015 (http://www.designingbuildings.co.uk/wiki/ETFE):
"As a fluorocarbon polymer, **ETFE** has similar non-stick properties to PTFE, making it 'self-cleaning'. With a low co-efficient of friction typically of 0.23 (Ref 7), dust or dirt that lands on **ETFE** is washed away by rainwater."

So water (if you don't have rainwater) will be needed to clean the "Bubble" and Long Beach rarely gets rain. This means that the "Bubble" is going to need to be washed frequently -- using lots of water in our drought stricken area and a maintenance problem of large proportions. I-46-17

The 12 foot tall clear plastic-type fencing surrounding the Aquatics Center will also be difficult to keep clean and free of etching/graffiti/dirt etc. and likely costly to maintain. I-46-18

Water and Electricity and Natural Gas usage increase - no mention of use of Solar Power

The EIR acknowledges that due to the increased size of the pools themselves and the project area that water, electricity and gas usage will increase (the surface area of the pools increases from a previous surface area of 18,410 sq. ft. total to the proposed 36,450 sq.ft and an additional 79,905 sq.ft of building area,

I-46-19

This will definitely impact the City's water supply both by keeping the pools full and water needed for maintenance (noted above)

We see no use of Solar Energy in the project design, a significant negative. The "Bubble" plastic design seemingly makes that impossible.

Noise

The EIR acknowledges that "Noise levels generated from the outdoor pool during special events would have the potential to impact nearby noise-sensitive uses because these events would involve a substantial number of spectators, whistles from officiating water polo games, starting horns, and the use of a public address sound system". With the provision for 3,000 outdoor seats for an unknown yearly number of Special Aquatics Events, it's unclear how neighboring residents and businesses will be affected by the noise.

I-46-20

My husband and I live about half a mile from the current "temporary" pool and are disturbed by whistles from officiating water polo games, starting horns, loud spectators and the use of a public address sound system. The City promised mitigation, but it has not occurred. These events sometimes go past 10 pm - so with the unknown number of Special Events and 3,000 person audience capacity - noise from this facility is quite likely going to be a significant factor. In addition, construction and traffic noise will also have neighborhood and community impacts .

Cost

While cost is not directly addressed by the EIR - the cost of the Aquatics Center will have a major impact on the City of Long Beach ability to maintain its coastal park and recreation environment and facilities - as well as its Citywide parks and recreation. Two years ago the estimated project cost was set at $103 million, and that figure has not been updated on the basis of the current design, so we don't have even a ball park figure on the final cost of the Aquatics Center. What we do know is that constructing on an unstable sandy beach is much more expensive than on dry land, and in addition the foundation is required to be 7 feet above the sand to allow for sea level rise. Another expense will be maintenance costs.

I-46-21

We must ask where will that money come from? If it's taken from Tidelands Funds, then where will the money come from to build the needed lifeguard stations, to renovate the aging and dilapidated Belmont Pier, to rebuild the sea walls in Naples and the Sorrento Trail and other coastal needs as well as to maintain existing Tidelands facilities?

I-46-22

If oil revenues do not improve and Tidelands Funds are not available, will money be needed and taken from Citywide Park and Recreation projects? or will grants or special funds be steered to the Aquatics Center, rather than to needed Parks and Recreation projects, especially in the North, West and Central areas?.

As noted, Maintenance Costs of the new complex are a serious concern.

I-46-23

Maintaining the Pool's Plastic 'Bubble' Polymer surface, maintaining the 12 feet of fencing surrounding the pool, are all costly and apparently will come out of the Parks and Recreation budget.
The design calls for a moveable pool floor, which we've been told previously is tricky, and requires expensive regular maintenance and adjustment. Moveable bulk heads need maintenance. The cost of water for the pool, heating, electricity, etc. are all costly and apparently will come out of the Parks and Recreation budget. I-46-23

Alternatives

The EIR in its study of "Alternatives" repeatedly refers to the "Project Objectives" (as stated in 5.1.1 of the EIR, see attached). As the "Project Objectives" specifically state in Objective 1: "1. **Redevelop the City-owned site of the former Belmont Pool with similar aquatic recreational purposes**, consistent with the original ballot measure." (bolding added by writer) it's obvious that the EIR consultants were required to find "Alternatives" at other locations unacceptable.
[In addition, for example, Objective 13 states: "Locate the pool in an area that serves the existing users." (Since the existing users have been predominantly Southeast Long Beach residents and nearby water polo, swimming and diving participants, again the EIR consultants found other options unacceptable.]

In fact the Belmont Shore site since December 2014 is a clean slate ... consisting of beach sand and an established park with established trees, grass, birds nests, walkways and bikeways. I-46-24

The new Belmont Beach and Aquatics Center can be located anywhere space allows, and there is such space in the Tidelands areas of downtown Long Beach owned by the City (specifically near the Queen Mary or Convention Center). These downtown Long Beach locations provide sites with almost no Environmental Impacts. The locations would be significantly less expensive to build on, provide a multitude of established public transit options (the Metro Blue Line, bus service from all over the LA County area, etc.) These sites are adjacent to the 710 Freeway and major thoroughfares and parking options. These sites have a multitude of hotel and motel options. They are much easier to reach by one bus trip or by bicycle, etc. by park and pool disadvantaged youth and adults from West, North and Central Long Beach. Construction on these locations would have little or no impact on Coastal resources. I-46-25

The EIR states that the Queen Mary site is unavailable because of a 40-year lease with the City. That 40-year lease was approved by the City on November 17, 2015, 11 months <u>after</u> the Demolition of the former Belmont Pool and during the time the City was planning a new Aquatics Center. City management could have included in the 40-year lease the possibility of using a portion of the property for an Aquatics Center. It apparently purposely closed the door on that Alternative, we don't know why. It still seems the City could find a way to utilize the Queen Mary site if it chose. I-46-26

The Convention Center location is also owned by the City and more than likely could be utilized for the Aquatics Center - if there is City will. The EIR speaks quickly achieving a 'permanent home' for a new Aquatics Center, but the City has a long way to go in raising the unknown sum of money needed to build the facility, and working through the regulatory framework will also take time. I-46-27

Recommended Alternative
I recommend that the City pursue one of the above (or other) Tidelands choices for the location of the new Belmont Beach and Aquatics Center and <u>Alternative 2</u> as the best choice presented by the EIR (see below). Alternative 2 preserves and protects Coastal Resources and Coastal Access, it protects and preserves the existing Park space (photos attached) and yet retains a sturdy and well-used and sufficient recreational I-46-28

pool for the former location of the Belmont Pool. With a permanent foundation, administrative and support facilities added it is an excellent solution for the location and needs of the community.

"Alternative 2: Maintain Temporary Pool with Ancillary Uses. This alternative would involve improvements to construct a permanent foundation and permanent administrative and support facilities (lockers, restrooms, snack bar) consistent with the temporary pool configuration. The existing backfilled sand area would be removed and the open space park area would be expanded." I-46-28

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MELINDA COTTON
LETTER CODE: I-46

DATE: June 16, 2016

RESPONSE I-46-1

This comment expresses concern for the use of the word "revitalization" in the title for the proposed Project. The commenter provides background about the demolition of the former Belmont Pool and the existing conditions of the Project site and vicinity. The commenter states that the title of the Environmental Impact Report (EIR) should be revised to the "Belmont Beach & Aquatics Center" to be consistent with the project title used by the City of Long Beach (City). At the outset of the EIR process, the Project was titled "Belmont Pool Revitalization Project" in the Notice of Preparation (NOP) and has retained that name throughout the California Environmental Quality Act (CEQA) process for consistency.

This comment does not contain any substantive comments or questions about the Draft EIR or analysis therein. This comment will be forwarded to the City decision-makers for their review and consideration. No further response is necessary.

RESPONSE I-46-2

This comment expresses concerns that other locations in the Tidelands were not fully considered as potential sites for the proposed Project. The commenter makes specific reference to considering proximity to Long Beach neighborhoods that are "Park Poor and Pool Poor". The commenter asserts that it was not a community-wide desire to build the proposed Project on the former Belmont Pool site.

The funding for the proposed Project would originate from Tidelands funds, which are legally mandated to fund development within the City's Tidelands area. Therefore, developing the proposed Project at alternative location in the City outside of the Tidelands area with Tidelands funds would be expressly prohibited. Due to the cost of the Project, developing the Project outside of the Tidelands area without the Tidelands funds would also be infeasible due to a lack of funding sources. Furthermore, the primary objective of the Project is to replace the former facility in its original location. It should also be noted that the proposed Project was initiated prior to the demolition and removal of the old facility, as it has long been the City's intention to replace the old facility on the same site.

RESPONSE I-46-3

This comment expresses concern about the number of days the proposed pool facility would be open to the general public. The commenter makes specific reference to an Economic Impact Report presented to the City Council indicating that large aquatic events would use the facility for a number of days throughout the year.

The current Temporary Pool is open to the public seven days a week, year-round. Similar to the Temporary Pool, the proposed Project will be open to the public seven days a week and will only be closed to observe all scheduled national holidays. Excluding the nine scheduled national holidays, the proposed Project will be open 356 of the 365 calendar days. Therefore, the public would continue to be served at the same level or greater as the previous pool facility.

RESPONSE I-46-4

This comment notes that vehicular access to the Project area is currently limited and will be further constricted by the Project design.

Project-related traffic impacts are addressed in Chapter 4.12, Transportation and Traffic, of the Draft EIR. As discussed in this section, the project-related increase in vehicles traveling to and from the Project site would result in less than significant impacts at all study area intersections, including the intersections of Termino Avenue/Ocean Boulevard and Bennett Avenue/Ocean Boulevard. Additionally, Mitigation Measure 4.12.1 would require a special event with more than 450 spectators to prepare an Event Traffic Management Plan addressing potential impacts to traffic circulation and the steps necessary to minimize potential impacts (e.g., active traffic management and/or off-site parking and shuttles). Therefore, the proposed Project would not significantly or adversely constrict or congest access to the Project site.

RESPONSE I-46-5

This comment questions the conclusions in the EIR which indicate that the streets and intersections adjacent to the Project site would operate at an “A” or “B” traffic level. The commenter further states that the EIR conclusions are in direct contrast to the City’s Mobility Element, which includes Ocean Boulevard and 2nd Street as designated Congested Corridors. The comment further notes that other intersections near the Project site would operate at “E” and “F” level-of-service (LOS) grades.

Traffic volumes at the study area intersections were collected in February 2016 by an independent data collection company. Observed traffic volumes were analyzed using the adopted methodology (Intersection Capacity Utilization for signalized intersections and Highway Capacity Manual delay for unsignalized intersections). The observed data, when analyzed using the adopted methodology, yielded the results reported in the Draft EIR.

RESPONSE I-46-6

This comment expresses concern for the removal of Olympic Plaza Drive and asserts that the Draft EIR has included the removal of this access drive into its analysis.

Olympic Plaza between Termino Avenue and 43rd Place currently allows on-street parallel parking with a 2-hour limit between the hours of 9:00 a.m. and 6:00 p.m. Parking spaces are not marked, but based on the length of curb available, the number of parking spaces is estimated at 33. Loss of parking or effects on parking are no longer considered impacts under CEQA. The provision of free parking facilitates only the automobile travel mode.

RESPONSE I-46-7

This comment notes that the City of Long Beach Traffic Engineering Department is currently planning to narrow Ocean Boulevard to one lane in each direction as far as Bay Shore Avenue. The commenter asserts that this narrowing of Ocean Boulevard is in conflict with the addition of 4,000 spectators that would be traveling to the Project site. The commenter questions if the traffic narrowing on Ocean Boulevard was included in the analysis in the Draft EIR.

Mitigation Measure 4.12.1 would require a special event with more than 450 spectators to prepare an Event Traffic Management Plan addressing potential impacts to traffic circulation and the steps necessary to minimize potential impacts (e.g., active traffic management and/or off-site parking and shuttles).

RESPONSE I-46-8

This comment states that the area near the Project site is "parking impacted" and asserts that the Draft EIR has considered this in the traffic and parking calculations. The commenter further states that the Draft EIR did not include or reference to the current Belmont Shore Parking Study. This comment concludes by questioning the effectiveness to the proposed event management mitigation measure if patrons cannot find remote parking.

Loss of parking or effects on parking are no longer considered impacts under CEQA and were not included in the EIR. Mitigation Measure 4.12.1 would require a special event with more than 450 spectators to prepare an Event Traffic Management Plan addressing potential impacts to traffic circulation and the steps necessary to minimize potential impacts (e.g., active traffic management and/or off-site parking and shuttles). Parking resources would need to be identified as part of the Event Traffic Management Plan for the application to be deemed complete.

RESPONSE I-46-9

This comment states that the proposed Project would not be readily accessible to residents in the North, West, or Central Long Beach neighborhoods. The commenter further states that the lack of hotels in the vicinity of the Project site would result in vehicle trips rather than travel by public transit to the proposed pool facility.

Section 4.12, Transportation and Traffic, of the Draft EIR, presented a traffic analysis that assumed all trips generated by the proposed Project under routine operation would be vehicle trips. This includes trips generated by competitions with 450 spectators or fewer.

RESPONSE I-46-10

This comment expresses concern for the loss of park space south of Olympic Plaza Drive between Bennett Drive and the Belmont Pier parking lot. The commenter questions how much of the added "green space" would be occupied by unusable "sloped lawn" areas.

As described in Section 4.11, Recreation, of the Draft EIR, the proposed Project would increase the current park and open space areas from 118, 790 square feet (sf) and 45,160 sf to 127,085 and 55,745 sf, respectively. While portions of these areas would contain slopes, these slopes would not be so significant that they would be rendered "unstable" or "unusable." Furthermore, the passive park and open space areas included as part of the Project are intended to be utilized for general park uses, similar to the existing passive park. Additionally, the first level steps and plinth surrounding the building are available as gathering areas for the public.

RESPONSE I-46-11

This comment makes specific reference to the clean fencing around the proposed pool facility that would be locked when not in use. This comment inquires how much of the "green space" and "open space" would be included in this fenced area and how much would be open to the public at all times.

The enclosure referenced in the comment is located around the outdoor pool at the top of the stairs on the first level (plinth) to secure the pool facility when closed. No open space or grass areas included as part of the Project would be restricted from use by the public.

RESPONSE I-46-12

This comment raises concern about the impact analysis related to aesthetics and its comparison to existing conditions versus the prior structure. The commenter states that the analysis should be compared to the conditions after demolition of the former pool complex, rather than be compared to the former pool complex.

As discussed in Section 4.1, Aesthetics, of the Draft EIR, "the inclusion of the former building in the assessment of aesthetic impacts is appropriate because the site has been dedicated as the Belmont Pool Plaza since 1962 when the use of Tidelands funds for the construction of the 'Belmont Plaza Beach Center' (now Belmont Plaza) project was approved by the voters after the Long Beach City Council placed the item in the municipal election. Furthermore, the former pool was in use for approximately 45 years and has long been a part of the visual character of the Project area as a recognizable local and regional aquatic facility. Substantial evidence supports the determination that the former Belmont Pool building as the baseline for aesthetics impacts is appropriate because it is based on recent historical use and its presence on the project site" (Page 4.1-17).

RESPONSE I-46-13

This comment expresses concern that the proposed Project would block views from park space, local businesses, and residences as they exist in current conditions, in consideration of the demolished and vacant former Belmont Pool site. The commenter further notes an inconsistency between the Executive Summary of the Draft EIR and statements made by the Assistant City Manager regarding the height comparison of the proposed Project to the former Belmont Pool.

Project-related impacts with respect to the obstruction or degradation of scenic views are analyzed in Section 4.1, Aesthetics, of the Draft EIR. As discussed in this section, visual impacts are analyzed from public vantage points, as required by CEQA. Views evaluated from private property are not considered to be protected views under the General Plan polices or Zoning Ordinance. Neither State nor local law protects private views from private lands and the rights of one landowner cannot prevail over the rights of another landowner, except in accordance with uniformly applied standards and policies as expressed in the City's General Plan and Zoning Ordinance. Therefore, views from nearby business or residences were not analyzed in the Draft EIR, unless associated with public viewpoint locations.

The commenter is correct in noting inconsistencies in the height described in the Draft EIR. The height of the proposed facility would be 71 feet (ft) above the plinth, which itself would be located 7 ft above the surrounding grade. As such, the total height of the proposed Project would be 78 ft. This correction has been noted in the Errata and does not change the conclusions or analysis in the Draft EIR as all view simulations correct the height of the proposed facility.

RESPONSE I-46-14

This comment states that the final design for the proposed Project has not been submitted to the City and expresses concern regarding the light from the proposed bubble structure distracting divers. The comment further notes that the corrected height of the proposed bubble structure may not be reflected in the Draft EIR.

The Ethylene tetrafluoroethylene (ETFE) material that will be used in the Bubble structure diffuses light, including sunlight, and does not allow direct light to shine through. This comment will be forwarded to the decision-makers for their review and consideration. No further response is necessary.

The commenter is correct in noting inconsistencies in the height described in the Draft EIR. The height of the proposed facility would be 71 ft above the plinth, which itself would be located 7 ft above the surrounding grade. As such, the total height of the proposed Project would be 78 ft. This correction has been noted in the Errata and does not change the conclusions or analysis in the Draft EIR as all view simulations correct the height of the proposed facility.

RESPONSE I-46-15

This comment expresses concerns that views from local businesses, residences, pedestrians, and vehicles on Ocean Boulevard would be obstructed by the proposed Bubble structure. This comment includes a link to a YouTube Video. The YouTube video depicts demolition activities associated with the former pool facility and shows ocean views created as a result of the demolition.

Refer to Response I-46-13 for a discussion related to visual impacts and the appropriate baseline conditions.

RESPONSE I-46-16

This comment states that it is difficult to understand the effects on people and birds from the nighttime glow from the proposed Bubble structure.

Refer to Response I-46-14. The proposed Project would not result in significant adverse impacts with respect to nighttime lighting. The Project architect has indicated that the flow is intended to be equivalent to a full moon. The Project would adhere to all applicable City codes and regulations related to the generation of nighttime lighting to ensure that impacts to people and the natural environment would be less than significant.

RESPONSE I-46-17

This comment expresses concern about the "self-cleaning" component of the Bubble structure. The commenter includes a link to an article about cleaning dust and dirt from the structure.

It is industry standard for annual inspections to be performed by experienced inspectors. The proposed Ethylene tetrafluoroethylene (ETFE) material is chemically related to "Teflon" and shares many of its properties, such has having a low coefficient of friction and a non-porous surface allowing the natural action of rain to clean its surface. Deposits of dirt, dust, and bird droppings remain unattached to the surface and are washed away by rain. The natural process of wind will remove dust and dirt. In climates where rain is too infrequent to be considered the main cleansing process, a simple cleaning regimen can be implemented that consist of low pressure running water. No use of chemicals or physical wiping of the surface would be required, as debris does not adhere to the surface and the foil does not streak when drying. Fritting of the ETFE will help hid accumulated dirt or dust.

RESPONSE I-46-18

This comment expresses concern about maintenance and potential vandalism of the 12 ft clear plastic-type fencing surrounding the proposed Project.

The clear fencing is proposed to enhance views to and from the proposed facility. The City does not anticipate that the material would be more difficult to maintain than other wall materials.

RESPONSE I-46-19

This comment states that the proposed operation and maintenance of the proposed pools would impact the City's water supply. The commenter opines that the lack of solar energy included in the proposed Project is a significant negative and states that the bubble structure appears to make solar panels impossible.

Project-related impacts related to the project's increase in water demand are addressed in Section 4.13, Utilities, of the Draft EIR. As discussed on Page 4.13-21 of this section, the projected water demand would be 18.62 acre feet/year, which would represent approximately 0.027 percent of the Long Beach Water Department (LBWD) water supply as projected in the City's current Urban Water Management Plan (UWMP). Therefore, because the anticipated increase in water demand attributable to the proposed Project would fall within the available and projected water supplies of the 2010 UWMP and because the proposed Project would incorporate additional water conservation features, impacts associated with the long-term operation of the proposed Project would be less than significant, and no mitigation is required

RESPONSE I-46-20

The commenter notes personal experience with noise from outdoor pool activities at the existing temporary pool and states that the City has not provided any mitigation. The commenter further questions about the noise generated by the 3,000 temporary outdoor seats included in the proposed Project and how nearby residences would be affected.

Project-related noise impacts are addressed in Section 4.10, Noise, of the Draft EIR. As discussed in this section, noise levels generated from the outdoor pool under normal operations would be less than 50 A-weighted decibels (dBA) equivalent continuous sound level (L_{eq}) (equivalent continuous sound level measured in A-weighted decibels) at the perimeter of the facility. The outdoor pools will be surrounded by a wall that will help mitigate noise off site. In contrast, the existing temporary pool does not have any structures that reduce noise. Noise levels generated from the indoor pool would not impact the closest residences at the Belmont Shore Condominiums, which is approximately 180 ft from the building edge of the proposed Project because the combination of building attenuation and distance attenuation would be 46 dBA. Therefore, noise generated under normal operations and from the indoor pool would not have the potential to impact nearby noise-sensitive uses.

The Noise Section of the Draft EIR also concluded that the proposed Project would result in less than significant impacts with respect to crowd, spectator, and public address system noise with implementation of Mitigation Measure 4.10.1, which requires measures to reduce noise levels from the speakers used at such events. Therefore, noise associated with special events utilizing the full seating capacity at the Project site would be less than significant.

RESPONSE I-46-21

This comment expresses concern for the cost of the proposed Project and potential additional costs associated with Project design. The commenter notes concern for other City of Long Beach park and recreation facilities that require Tidelands funds for operation and maintenance.

Although economic issues are not included in CEQA analysis, impacts resulting from economics can be considered. However, the cost of building and maintaining the pool facility is a policy decision made by the City. In addition, the replacement of the former facility is a recreational benefit to the citizens of Long Beach and meets the desired use for the site as approved by voters in 1962.

This comment does not contain any substantive comments or questions about the Draft EIR or analysis therein. This comment will be forwarded to the decision-makers for their review and consideration. No further response is necessary.

RESPONSE I-46-22

This comment expresses concern for the funding sources and the other projects competing for Tidelands funds.

The Belmont Pool must be funded through Tidelands revenue but will not deplete other budgeted recreational need**.**

This comment does not contain any substantive comments or questions about the Draft EIR or analysis therein. This comment will be forwarded to the decision-makers for their review and consideration. No further response is necessary.

RESPONSE I-46-23

This comment expresses more concerns for the maintenance costs of the proposed Project. Specific reference is made to the perimeter fence, the movable pool floor, movable bulkheads, and pool maintenance.

See Responses I-46-21 and I-46-22, above. This comment does not contain any substantive comments or questions about the Draft EIR or analysis therein. This comment will be forwarded to the decision-makers for their review and consideration. No further response is necessary.

RESPONSE I-46-24

This comment questions the inclusion of Project Objective 1 and its impact on the analysis of alternative sites for the proposed Project. The commenter further questions Project Objective 13, which would locate the pool in an area to serve the existing pool patrons. The commenter asserts that the former Belmont Pool site has been vacant since December 2014, presently consisting of beach sand and park areas.

Project Objective 1 aims to redevelop the former Belmont Pool facility with a similar aquatic use. The demolition of the former facility occurred because of seismic and safety issues that made it unsafe for public use. However, the intent of the City for the Project site is to redevelop the site with its historic use as the Belmont Pool aquatic facility, as evidenced by the placement of the temporary pool at the same location. This is a primary objective of the Project.

Project Objective 13 aims to redevelop the Belmont project on the same Project site. While Project Objective 13 aims to redevelop the Belmont project on the site of the former facility, an analysis of alternative project locations was included in Chapter 5.0, Alternatives, of the Draft EIR. As explained on Draft EIR Page 5-8, funding for the proposed Project is entirely sourced from the Tidelands Operating Fund, an umbrella fund that allocates expenditures for Tidelands operations and Capital Improvements projects within the Tidelands area of the City. Tidelands are defined as those lands and water areas along the coast of the Pacific Ocean seaward of the ordinary high tide line to a distance of 3 miles. The Tidelands Trust not only restricts the use of the Tidelands, but also restricts the use of income and revenue generated from businesses and activities conducted on the Tidelands to be used solely for projects within the Tidelands area. Because the proposed Project is dependent on funding from the Tidelands Operating Fund, any alternative location not in the Tidelands would have to be funded through alternative sources. Due to a lack of available finances from other City sources, a project that would not be funded by the Tidelands Operating Fund would not be economically infeasible. Therefore, all three alternative sites were located in the Tidelands. Additionally, according to the City, no other properties within the City's Tidelands would be large enough or are currently available to be considered as an alternative location. Furthermore, the primary objective of the Project is to replace the former facility in its original location. It should also be noted that the proposed Project was initiated prior to the demolition and removal of the old facility, as it has long been the City's intention to replace the old facility on the same site. Therefore, none of these alternatives were identified as the Environmentally Superior Alternative or the Preferred Alternative. Therefore, this is a primary objective of the Project.

It should be noted that the Project Objectives were developed with careful consideration by the City. The City has decided to retain both Objectives 1 and 13.

RESPONSE I-46-25

This comment states that the proposed Project could be located in other Tidelands areas of downtown Long Beach owned by the City. The commenter makes specific reference to areas near the Queen Mary and Convention Center. The commenter states that the aforementioned alternative Tidelands sites would have almost no environmental impacts. Furthermore, the commenter makes specific reference to the cost of construction, nearby transit options and freeway access, proximity to hotels, access for disadvantaged youth and adults in City neighborhoods as support for these alternative Tidelands locations. The commenter concludes by stating that construction on these alternative sites would have little to no impact on Coastal resources.

Refer to Response I-46-24 for a discussion as to why alternative locations for the proposed Project were rejected from further consideration or were not considered environmentally superior to the Project.

RESPONSE I-46-26

This comment states that the 40-year lease on the Queen Mary site was approved after demolition of the former Belmont Pool facility. The commenter states that the City could have included the proposed Project in the lease.

The lease referenced in this comment refers to the lease for the "Elephant Lot" at the Long Beach Convention Center (LBCC), which is a parking lot on the east side of the LBCC that is leased to the Jehovah's Witnesses organization to accommodate parking demands during the annual convention at the LBCC. The lease expires in 2030 and requires 3,000 parking spaces in two different lots, one of which is the Elephant Lot that provides 1,915 of these spaces.

Due to the existing lease, this alternative site is in conflict with Objective 3, which aims to minimize the time the public is without a permanent pool facility. Further, any loss of parking for Jehovah's Witnesses or the LBCC would require additional mitigation. Special events, such as the annual Grand Prix of Long Beach, also use the parking lot for events and staging. This alternative site would not represent the highest and best land use for the area adjacent to the convention center, which should be reserved for convention or hotel uses.

Although the proposed Project would be compatible with the scale and character of the Downtown area, the unique architecture of the proposed facility would compete with the LBCC and aquarium buildings, and, therefore, the proposed facility would no longer stand out as a signature design as it would at the proposed Project site (Objective 6).

In addition to not meeting Objectives 3 and 6, this site would not meet the other project objectives including: implementation of the land use goals of Planned Development PD-2 (regulations specific to the Belmont Pool and Pier) at the former site (Objective 9); provision of views to the ocean from inside the facility (Objective 12); and no direct accessibility for pedestrian and/or bicycle users, and therefore, not serving the existing users (Objective 13). In addition, implementation of the proposed Project on this alternative site would require a Local Coastal Program amendment, which would not be required at the Project site. For the reasons stated above, the "Elephant Lot" site was rejected as a potential alternative site and was not considered further.

RESPONSE I-46-27

This comment states that the Convention Center is owned by the City and could be utilized for the proposed Project if it is desired by the City. The commenter further notes that implementation for the proposed Project would take time with regard to raising money and working through the regulatory framework.

Refer to Response I-46-26, above.

RESPONSE I-46-28

This comment offers the commenter's recommended alternative for the proposed Project. The commenter's recommended alternative includes consideration of locations discussed in Comments I-46-25 through I-46-27 or other locations in the Tidelands, and the alternative facility configuration included in Alternative 2 (Maintain Temporary Pool with Ancillary Uses) presented in the Draft EIR.

As part of the alternatives analysis for the proposed Project (Chapter 5.0, Alternatives, of the Draft EIR), it was determined that the proposed alternative locations would meet the Project Objectives to a lesser degree than the Project. Therefore, none of these alternatives were identified as the Environmentally Superior Alternative or the Preferred Alternative. Therefore, the City intends to proceed with the design as included under the proposed Project.

Alternative 2 would eliminate the indoor pool facility and convert the temporary pool into a permanent facility. In total, Alternative 2 would reduce the total pool surface area by approximately 49 percent. Therefore, Alternative 2 would not maximize the potential of the site as an aquatic recreational complex. Although Alternative 2 would meet several of the Project Objectives, it would not meet them to the same degree as the proposed Project. In addition, this alternative would not meet any of the Project Objectives related to the provision of a new pool complex that would serve the recreation needs of the general public, as well as the needs of the established aquatic community served by the former Belmont Pool facility. For these reasons, Alternative 2 was not identified as the Preferred Alternative. Therefore, the City intends to proceed with the design as included under the proposed Project.

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Alyssa Helper

From: Ashley Davis
Sent: Wednesday, June 22, 2016 2:22 PM
To: Alyssa Helper; Maryanne Cronin
Subject: FW: Draft EIR Belmont Pool - Parking

From: Ellen Mathis [mailto:epmathis@verizon.net]
Sent: Wednesday, June 15, 2016 7:57 PM
To: Craig Chalfant
Subject: Draft EIR Belmont Pool - Parking

Craig,
I feel it is a very big mistake to take away the parking (2hr limit) that is currently on Midway St and not to replace it. I did not count them, but there are between 30 and 40 is my guess. These are also free parking you are taking away. There are several businesses on that street and Ocean Blvd does not provide sufficient parking. The new business going in will generate more need for parking than the previous business that had shorter business hours. There is no offsite parking planned as far as I can see. I have lived and walked in that area since July 1979 and so consider myself somewhat of an expert. I-47-1

I listen to the City Council meetings and it seems that all the development that is coming up is being given a waiver on the normal parking requirements. This seems to be just another example.
This area is well known as a "parking impacted area."

Please leave the street available for parking cars. Thank you.

Ellen P. Mathis
562-433-6509
EPMathis@verizon.net

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ELLEN P. MATHIS
LETTER CODE: I-47

DATE: April 26, 2016

RESPONSE I-47-1

This comment expresses concern regarding the removal of parking on Midway Street. The commenter further states that parking is impacted in the Project vicinity under existing conditions.

Midway Street between 39th Place and Termino Avenue is signed "No Parking Anytime." The proposed Project would not alter that parking restriction designation. Olympic Plaza between Termino Avenue and 43rd Place currently allows on-street parallel parking with a 2-hour limit between the hours of 9:00 a.m. and 6:00 p.m. Parking spaces are not marked, but based on the length of curb available, the number of parking spaces is estimated at 33. Loss of parking or effects on parking are no longer considered impacts under the California Environmental Quality Act (CEQA). The provision of free parking facilitates only the automobile travel mode.

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Alyssa Helper

From: Craig Chalfant <Craig.Chalfant@longbeach.gov>
Sent: Wednesday, June 22, 2016 2:11 PM
To: Ashley Davis; Alyssa Helper
Cc: Dino D'Emilia
Subject: FW: Belmont Pool Project

From: Denise Burrelli [mailto:dadburrelli@gmail.com]
Sent: Wednesday, June 15, 2016 10:48 PM
To: Craig Chalfant
Subject: Belmont Pool Project

Dear Mr. Chalfant:

I would like to express some support on a few items being reviewed for the Belmont Pool Project. I am a parent of a former diver, involved in this sport for 14 years. We always enjoyed going to the Dive Meets at Belmont, and one of the main reasons, was the fact that it was an indoor venue. Not having to fight the weather and just enjoying the meets, was always so pleasant. There is nothing like watching a dive meet indoors. Also an important issue for the elderly and disabled. Making it more enjoyable for all, Divers and spectators.. I-48-1

The next issue would be the seating,, when there is a major event, 1250 is very small. Even if you could increase it to at least 1500 or so, would greatly benefit spectator viewing. When people know that an event is being held at a pool with adequate seating, more people attend. I-48-2

Another benefit, that we always had, when attending is the parking is ideal. Always being able to find a parking place, because there are currently plenty. I-48-3

These are very important issues, when considering the Pool Project. I look forward to attending future Dive meets at your location, and knowing that the city of Long Beach cares about our future Divers, makes Long Beach a very special community.

Thank You for taking the time to read this. I-48-4

Denise Burrelli

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DENISE BURRELLI
LETTER CODE: I-48

DATE: June 15, 2016

RESPONSE I-48-1

This comment expresses support for the proposed project.

This comment does not contain any substantive comments or questions about the Draft EIR or analysis therein. This comment will be forwarded to the decision-makers for their review and consideration. No further response is necessary.

RESPONSE I-48-2

This comment requests the increase of the proposed seating capacity from 1,250 spectators to 1,500 spectators. The commenter further notes that the proposed Project should be accessible to all, including the elderly and disabled.

Refer to Common Response 1 in Section 2.1, Frequent Comments and Common Responses, of this Final EIR for further discussion related to the permanent seating capacity provided by the proposed Project.

RESPONSE I-48-3

This comment state that there is sufficient parking available near the project site.

Refer to Common Response 3 in Section 2.1, Frequent Comments and Common Responses, of this Final EIR for further discussion related to parking and the proposed mitigation measure requiring an Event Traffic Management Plan.

RESPONSE I-48-4

This comment is conclusory in nature and reiterates that the issues raised by the commenter are important when considering the proposed Project.

This comment does not contain any substantive comments or questions about the Draft EIR or analysis therein. This comment will be forwarded to the decision-makers for their review and consideration. No further response is necessary.

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I-49

Alyssa Helper

From: Craig Chalfant <Craig.Chalfant@longbeach.gov>
Sent: Wednesday, June 22, 2016 2:05 PM
To: Ashley Davis; Alyssa Helper
Cc: Dino D'Emilia
Subject: FW: Pool Project Belmont

From: denise [mailto:junkydcat@msn.com]
Sent: Wednesday, June 15, 2016 11:17 PM
To: Craig Chalfant
Subject: RE: Pool Project Belmont

Dear Mr. Chalfant:

After hearing about the Belmont Pool Project I would like to add a few thoughts about a few items being reviewed. My daughter was a local Diver and I always enjoyed going to the Dive Meets at Belmont. I-49-1

Please reconsider your seating. Increase it to at least 1500 or so, would greatly benefit spectator viewing. Turn out is always better when there is enough seating, knowing that an event is being held at a pool with adequate seating, promotes larger attendance, 1250 is very small, 1500-2000 is giving more people an opportunity to attend. I-49-2

Parking was never an issue, there is already adequate parking in that area.. I-49-3

Attending a indoor venue, was always a very pleasant experience. I enjoyed the atmosphere of being indoors, focusing on the events and not having the sun beating down on you, or sitting in the rain. Because of being indoors, we never missed a chance to go to Belmont for a meet. When spectators are disabled, and many times grandparents of diver's attended and made it a pleasant time for everyone. Everyone always had fun at Belmont. I-49-4

I hope that you will reconsider these issues, when considering the Pool Project. I-49-5

Long Beach is a wonderful community and investing in the future of our children is always a very important issue.
Thank You Long Beach and all involved in this Rebuilding.
Anthony Burrelli

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ANTHONY BURRELLI
LETTER CODE: I-49

DATE: June 15, 2016

RESPONSE I-49-1

This comment is introductory in nature and provides background information about the commenter's interest in the proposed Project.

This comment does not contain any substantive comments or questions about the Draft Environmental Impact Report (EIR) or analysis therein. This comment will be forwarded to the decision-makers for their review and consideration. No further response is necessary.

RESPONSE I-49-2

This comment requests the increase of the proposed seating capacity from 1,250 spectators to 1,500–2,000 spectators.

Refer to Common Response 1 in Section 2.1, Frequent Comments and Common Responses, of this Final EIR for further discussion related to the permanent seating capacity provided by the proposed Project.

RESPONSE I-49-3

This comment state that there is sufficient parking available near the Project site.

Refer to Common Response 3 in Section 2.1, Frequent Comments and Common Responses, of this Final EIR for further discussion related to parking and the proposed mitigation measure requiring an Event Traffic Management Plan.

RESPONSE I-49-4

This comment offers the commenter's experience in attending indoor aquatic events at the former Belmont Pool.

This comment does not contain any substantive comments or questions about the Draft EIR or analysis therein. This comment will be forwarded to the decision-makers for their review and consideration. No further response is necessary.

RESPONSE I-49-5

This comment is conclusory in nature and reiterates that the issues raised by the commenter are important when considering the proposed Project.

This comment does not contain any substantive comments or questions about the Draft EIR or analysis therein. This comment will be forwarded to the decision-makers for their review and consideration. No further response is necessary.

Alyssa Helper

From: Craig Chalfant <Craig.Chalfant@longbeach.gov>
Sent: Wednesday, June 22, 2016 2:03 PM
To: Ashley Davis; Alyssa Helper
Cc: Dino D'Emilia
Subject: FW: Belmont Pool Project

From: Nikki Burrelli [mailto:naburrelli@gmail.com]
Sent: Wednesday, June 15, 2016 11:59 PM
To: Craig Chalfant
Subject: Belmont Pool Project

Dear Mr. Chalfant:

I would like to express some support on a few items being reviewed for the Belmont Pool Project. I am a former diver and have been involved in this sport for 14 years. I always enjoyed going to the Dive Meets at Belmont, and one of the main reasons, was the fact that it was an indoor venue. Not having to fight the weather was always what made me want to dive at the pool. There is nothing like diving at a meet indoors. Also an important issue for the elderly and disabled. Making it more enjoyable for all spectators like my grandparents who always attended every meet. I-50-1

The next issue would be the seating, when there is a major event, 1250 is very small. Even if you could increase it to at least 1500 or so, would greatly benefit spectator viewing. When people know that an event is being held at a pool with adequate seating, more people attend. I-50-2

Another benefit, that we always had, when attending is the parking is ideal. Always being able to find a parking place, because there are currently plenty. I-50-3

Witt hopes that I will be working with divers in the future, these are very important issues when considering the Pool Project. I look forward to attending future Dive meets at your location, and knowing that the city of Long Beach cares about the future Divers, makes Long Beach a very special community. I-50-4

Thank You for taking the time to read this.

Nikki Burrelli

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NIKKI BURRELLI
LETTER CODE: I-50

DATE: June 15, 2016

RESPONSE I-50-1

This comment expresses support for the proposed Project and provides background information about the commenter's experience at the former Belmont Pool.

This comment does not contain any substantive comments or questions about the Draft Environmental Impact Report (EIR) or analysis therein. This comment will be forwarded to the decision-makers for their review and consideration. No further response is necessary.

RESPONSE I-50-2

This comment requests the increase of the proposed seating capacity from 1,250 spectators to a minimum of 1,500 spectators.

Refer to Common Response 1 in Section 2.1, Frequent Comments and Common Responses, of this Final EIR for further discussion related to the permanent seating capacity provided by the proposed Project.

RESPONSE I-50-3

This comment states that there is sufficient parking available near the Project site.

Refer to Common Response 3 in Section 2.1, Frequent Comments and Common Responses, of this Final EIR for further discussion related to parking and the proposed mitigation measure requiring an Event Traffic Management Plan.

RESPONSE I-50-4

This comment is conclusory in nature and reiterates that the issues raised by the commenter are important when considering the proposed Project.

This comment does not contain any substantive comments or questions about the Draft EIR or analysis therein. This comment will be forwarded to the decision-makers for their review and consideration. No further response is necessary.

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Alyssa Helper

From: Craig Chalfant <Craig.Chalfant@longbeach.gov>
Sent: Wednesday, June 22, 2016 1:59 PM
To: Ashley Davis; Alyssa Helper
Cc: Dino D'Emilia
Subject: FW: EIR Belmont Pool

From: Jessica Pollack (Payne) [mailto:jessicaintl@gmail.com]
Sent: Thursday, June 16, 2016 9:53 AM
To: Craig Chalfant
Subject: EIR Belmont Pool

Dear Mr. Chalfont

Thank you for the opportunity to address the Environmental Impact Report for the proposed Belmont pool. While we appreciate the need to show alternatives to the committee, it doesn't appear that the alternatives removing the diving well will reduce and negative environmental impact, but it will make the facility less attractive to the aquatics community and will hurt the project in the long run.

I contend that spending so much money on a structure that doesn't serve the competitive needs of all of the major sports is just a waste. We need the diving tower, deep water for all competitive sports AND enough seating to hold the prestigious events that will bring competitors, their families and their money to spend in Long Beach while they are here to watch these competitions. From everything I have seen about the project over the years, these will not increase the footprint (which might have an environmental impact) but WILL enhance the project as a whole making it a true destination venue for both recreation and serious aquatics competition.

By keeping the dive tower indoors, making the swimming pool deep enough, wide enough and with at least 1500 seats, we can once again hold PAC12, NCAA, CIF competitions along with major swimming, diving, waterpolo and synchronized swimming competitions. These bring with them prestige and tourism money. Without the ability to attract these competitions, it is just a VERY expensive project. Yes, locals will use it, but it will be far too expensive for the lack of long term benefits if we ignore the needs of the competitive aquatics community. I-51-1

Even if we have Nationals for Swimming Diving and Waterpolo every year along with the collegiate and high school championships, this will still be a local recreational facility the major of the year, with major economic benefits during the competitions.

I urge the committee to carefully consider how much benefit will come from listening to the aquatics community to make Long Beach's Belmont Pool an attraction for many many years.

Thank you,

Jessica Payne

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JESSICA PAYNE
LETTER CODE: I-51

DATE: June 16, 2016

RESPONSE I-51-1

This comment opines that the proposed Outdoor Dive Well Alternative would not reduce environmental impacts, but would decrease the attractiveness of the proposed Project to aquatic events. The commenter argues in favor of the indoor diving well and asserts that with the correct depth and width of the proposed indoor pool and adequate seating capacity, the proposed Project would serve the community's need for a competitive aquatic facility.

The outdoor 50-meter pool is 25 meters wide. This outdoor pool is where large meets, such as National Collegiate Athletic Associations (NCAAs) and World Championships would take place. Therefore, the outdoor pool would serve to meet recommended pool widths for competitive events.

Refer to Common Response 2 in Section 2.1, Frequent Comments and Common Responses, of this Final Environmental Impact Report (EIR) for further discussion related to Alternative 3 included in the Draft EIR, which includes an outdoor diving well component.

Refer to Common Response 1 in Section 2.1, Frequent Comments and Common Responses, of this Final EIR for further discussion related to the permanent seating capacity provided by the proposed Project.

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Alyssa Helper

From: Craig Chalfant <Craig.Chalfant@longbeach.gov>
Sent: Wednesday, June 22, 2016 1:03 PM
To: Ashley Davis; Alyssa Helper
Cc: Dino D'Emilia
Subject: FW: revised comment on Draft EIR for Belmont Pool Revitalization Project
Attachments: kidsin pool .jpg; response to draft eir pool.pdf

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From: Christensen George [mailto:achris259@yahoo.com]
Sent: Thursday, June 16, 2016 5:43 PM
To: Craig Chalfant
Subject: revised comment on Draft EIR for Belmont Pool Revitalization Project

Mr. Chalfant, I found a typo on my original submission. Instead of "The subtext of 'community' is skewed to mean only 2nd district residents", it should be only 3rd District residents. Since it may be difficult for you to correct this error, I am resubmitting my comments with the correction. Thanks, Anna Christensen I-52-1

Anna Christensen Comments on the Draft EIR for the Belmont Pool Revitalization Project

The expanding needs of the “community” re access to public swimming facilities are cited as a major factor in the decision to build two Olympic pools with amenities on the former site of the Belmont Plaza Olympic Pool which was razed due to safety concerns. Long Beach has only two other public swimming pools, neither of which is Olympic size. Not included in the Draft EIR for the Belmont Pool Revitalization Project is any consideration of the city’s demographics re population density, racial disparities re drowning, nor equal access to public pools (race/income/transportation). Having failed to construct any public pools in six of its nine city council districts, including District 9 with both high poverty and the city's largest African American population (black youths age 10-14 are10 times more likely to drown than their caucasian peers); Long Beach now chooses to build a new complex that will more than double the capacity of the demolished facility, located in its whitest, wealthiest, least populated district. The decision to fund the project exclusively with income from oil revenues that must be used in tidelands areas, precludes construction in seven council districts and severely limits available public lands in Districts 2 and 3. In District 2 (more people, less white, less rich), "alternative" sites are being rejected for questionable reasons (can't have two "iconic" buildings next to each other, Jehovah's Witnesses use the public land under consideration for parking once a year). Nor has consideration been given to revising (splitting) the project footprint by building on two sites instead of one. One of the two Olympic pools (the outdoor one) could be built in Harry Bridges Memorial Park, which must be used for outdoor recreation; thereby providing the 2nd District with a much needed facility while also reducing the travel time to a public pool for residents in other underserved districts. A downtown site would be more suitable for large competitions and more profitable as well. Falling oil revenues have reduced available tidelands funds to half of the estimated total cost of the pool expansion, and monies held in reserve for the project include those previously designated for much needed improvements to other public facilities. That the Draft EIR was written and submitted for public review without addressing any of the above concerns is alarming and means that the document is in violation of both CEQA and the California Coastal Act. The planning department, city council, and the general public must consider the inequity and illegality of the project as it now stands with respect to local, state and federal guidelines and in the context of our legacy of discrimination re access to swimming instruction and competition, beaches, and occupancy of oceanside property. In addition, since the chosen site is on the beach, the California Coastal Commission will review it. The current commissioners have expressed great concern for racial and social justice re equal access to the beach. Certainly this includes equal access to public pools in coastal communities where learning to swim is not just I-52-2

a fun recreational activity, but a life saving skill - one that insures that an increasingly diverse public will survive their dip in the Pacific.
As it stands, this project will favor the most entitled at the expense of the most vulnerable, thus privilege becomes prophecy. The project objective to “better meet the needs of the local community, region and state’s recreational and competitive swimmers.... due to the tremendous demand for these services in the local community, region, and state” is in conflict with the project objective of redeveloping “the City-owned site of the former Belmont Pool” and the project objective seeking to “locate the pool in an area that serves existing users.” From its conception, and continuing through the review process, the project values certain constituencies over others. The subtext of “community” is skewed to mean only 3rd District residents and members of the “aquatics community.” Both the site choice and the focus on competitive swimming now appear to have been foregone conclusions, with validation provided by a Stakeholders Advisory Committee dominated by local aquatics professionals and a single community meeting held in the 3rd district (citizen comments from that meeting include numerous objections to the project noting bias and lack of public input). If city council members now choose to behave as horse traders (I let Suzie Price, 3rd District, have her pool, she gives me what I want), they will fail to represent their constituents’ best interests. While Long Beach may want to become an “aquatics capital,” we must first be a healthy city where every resident can acquire life saving habits and skills. Instead of merely serving “existing users,” we must identify and reverse inequities, building swimming pools, parks, and playgrounds where they are most needed. I-52-2

In addition to reviewing Long Beach demographics re race and income, and researching drowning statistics re equal access to public facilities; the following CEQA mandates and selected passages from a report by The City Project are particularly relevant in revising the Draft EIR for the Belmont Pool Revitalization Project

1) CEQA mandates

- Enhance public participation in the environmental review process I-52-3
- Identification of significant effects, alternatives and mitigation measures, as well as comments from the public and public agencies, and relevant information about significant effects should be made as early as possible in the process through scoping meetings, public notice, public review, hearings, and the judicial process. I-52-4
- Failure to comply with CEQA to provide full disclosure of information during the CEQA process, which would result in relevant information not being presented to the public agency, would constitute a prejudicial abuse of discretion leaving the project proponent open to possible lawsuits. I-52-5

2) Healthy Parks, Schools and Communities for All: Policy Report March 2009 by The City Project, Robert Garcia, Zoe Rawson, Meagan Yellot, and Christina Zaldana

Legal and Policy Justifications for Equal Access to Parks and Recreation
Federal and state laws prohibit intentional discrimination and unjustified discriminatory impacts for which there are less discriminatory alternatives in the provision of public resources, including access to parks and other public lands. An important purpose of the statutory civil rights framework is to ensure that recipients of public funds do not maintain policies or practices that result in discrimination based on race or ethnicity. The legislative, planning and administrative processes are available proactively to achieve compliance with civil rights laws as well as environmental, educational, and other laws. Title VI of the Civil Rights Act of 1964 and its implementing regulations guard against intentional discrimination based on race, color or national origin, and (2) unjustified discriminatory acts for which there are less discriminatory alternatives, by applicants for or recipients of federal funds. California laws also guard against intentional discrimination and unjustified discriminatory impacts by recipients of state funds under Government Code section 11135. In addition, California law defines environmental justice as “the fair treatment of people of all races, cultures, and incomes with respect to the development, adoption, implementation, and enforcement of environmental laws, regulations, and policies. Elected officials should be increasingly sensitive to, and held accountable for, the impact of their actions on communities of color, especially now that people of color are in the majority in California. I-52-6
Principle 3. Infrastructure areas should be planned together in complementary rather than conflicting ways to serve health, education, human service, and environmental needs, to fulfill critical governmental and societal responsibilities; and to produce equitable results.
Principle 6. Revenues to support infrastructure improvements should be collected and allocated to distribute benefits and burdens fairly. Resources for parks and recreation should be targeted to the most underserved communities to overcome park, school, and health disparities, while generating state-wide benefits by diversifying access to and support for parks and green space.
Principle 7. Infrastructure decision-making should be transparent and include mechanisms for everyone to contribute to the planning and policymaking process......Full environmental impact reports and statements, including assessment of health impacts, for parks and schools should be required to provide full and fair information and enable effective public participation. Audits and reports on park bond funds and park agencies can illuminate inequities and provide blueprints for reform. Community benefits agreements can help. Community oversight bodies can review infrastructure investments. Access to justice through the courts can be a profoundly democratic means of ensuring the fair distribution of public resources, particularly for traditionally disempowered communities. Public officials should recognize that litigation can provide them the hammer to get things done.

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MENU

New Figures Reveal Racial Divide in Swimming Pool Deaths

11- and 12-year-old blacks drown at a rate 10 times higher than whites

LaShana McGee

S (https://twitter.com/share?original_referer=/&text=New+Figures+Reveal+Racial+Divide+in+Swimming+Pool+Deaths&url=http://hcfgkc.org/news/new-figures-reveal-racial-divide-in-swimming-pool-deaths-3/&utm_source%3Dtwitter%26utm_medium%3Dsocial%26utm_campaign%3DSocialWarfare) (http://www.facebook.com/share.php?u=http%3A%2F%2Fhcfgkc.org%2Fnews%2Fnew-figures-reveal-racial-divide-in-swimming-pool-deaths-3%2F%3Futm_source%3Dfacebook%26utm_medium%3Dsocial%26utm_campaign%3DSocialWarfare)

By **Mike Sherry for the Hale Center of Journalism**

August 8, 2014

LaShana McGee marvels at the exploits of her 4-year-old daughter around their neighborhood pool in Piper, Kan.

"She goes straight to the deep end. It's crazy," McGee says. "I don't know why she does that, but she does. She just jumps right in, and she will swim her way back to the stairs where you get in."

Attachment 1

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Having grown up in an African American household in the urban core of Kansas City, Mo., McGee made sure her two girls started swimming lessons early so they didn't grow up like their mom — with such a fear of the water that she needs the reassurance of her 9-year-old to brave the water slide at Oceans of Fun.

McGee's mother couldn't swim, so she didn't make it a priority for her kids.

But a new national analysis (http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6319a2.htm?s_cid=mm6319a2_w) of a dozen years' worth of death statistics illustrates the perils that such an indifference to the water poses.

Capture.PNG

Data from the U.S. Centers for Disease Control and Prevention (CDC), released in the spring by Dr. Julie Gilchrist, found that African Americans under the age of 30 are far more likely to drown in swimming pools than people of other races and ethnicities in the same age range.

A spate of deaths earlier this summer reminded Kansas Citians just how dangerous the water can be, but Gilchrist says pool statistics are especially telling when it comes to racial disparities.

"Swimming pools take a lot of the other variables away," she says. "There aren't currents, there aren't underwater obstacles, you know where the sides are, you know where the bottom is, so theoretically, with just basic swim skills, it should be very difficult to drown in a swimming pool."

Attachment 1

Water-safety advocates say true aquatic proficiency extends to knowing life-saving techniques. And, of course, knowing how to swim confers exercise benefits.

Data

According to the CDC:

- Nearly 4,000 persons die from drowning each year in the United States.
- Nearly 80 percent of the people who die from drowning are male.
- Drowning is one of the top three causes of unintentional death for people under the age of 30.
- Among 11- and 12-year-olds, blacks drowned in pools at 10 times the rate of whites between 1999 and 2010.

Locally, according to medical authorities, about two dozen people drowned in Kansas City, Mo., between 2008 and 2013. Wyandotte County logged nearly 30 drowning deaths going back nearly 15 years.

While Wyandotte County has not had a drowning this year, Jackson County had three in the span of eight days in June. All three were males under the age of 19, including a 7-year-old biracial boy who died in an apartment complex swimming pool at 3927 Willow Ave. The other deaths occurred in a park pond and a lake.

Minorities accounted for a majority of the drowning deaths in each jurisdiction, but they did not mirror the national data. Gilchrist says that's not surprising, given that national trends would not be reflected in a sample that includes little more than 50 cases.

It's not clear what role, if any, socioeconomic status plays in the national drowning statistics. Gilchrist could not say whether the disparity in drowning between blacks and whites persists across income brackets.

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African Americans tend to predominate among the urban poor. According to the latest census figures, from 2012, the percentage of blacks living below the poverty level was more than double that of whites (28 percent vs. 13 percent).

But in trying to explain the disparity, Gilchrist and others say financial barriers are likely to blame for poor swimming proficiency among blacks. The problem is exacerbated by the dearth of municipal pools and by households struggling to cobble together jobs and so lacking the time to learn.

That rings true for McGee, the mother from Piper, who grew up at 63rd Street and Walrond Avenue.

Some kids in her neighborhood played in fountains, she says, but her mother did not think that was safe. The Swope Park pool was within walking distance, "but I think finances kept us from going because it wasn't free — you had to pay — and so, I didn't really care" about swimming.

KCK experience

In Kansas City, Kan., Mayor Mark Holland says urban youth in his community suffer from a lack of access to aquatic facilities. The city has one public pool — and Holland says it's little more than a cement pond in the Quindaro neighborhood.

"One pool for 155,000 people," Holland says. "I mean, that's crazy."

Urban communities often struggle with the costs of operating and maintaining a public pool, he says.

Holland is hoping to address the imbalance through his plan for a "healthy campus (http://www.kcpt.org/health/wyandotte-county-officials-face-trust-issue-healthy-campus/)" near downtown, which would include a community center with an Olympic-sized pool.

His initial vision was to provide a setting for swim meets hosted by the Kansas City, Kan., school district. Holland credits school Superintendent Cynthia Lane with expanding that idea and working the pool into the physical education curriculum for second- and third-grade students.

"It makes a lot more sense to broaden the vision to teach every child how to swim," he says.

He adds that you're not likely to have much of a high school swim team if a lot of your students can't swim.

To the rescue

Nonprofit organizations in the metropolitan area also are working to improve swimming skills among African Americans and other urban youth.

The Boys & Girls Clubs of Greater Kansas City last month hosted a four-day water safety program for 5- to 9-year-olds at its facility at 2405 Elmwood Ave. The club offered the program in partnership with The ZAC Foundation (http://www.thezacfoundation.com/), a Connecticut-based foundation started in 2008 by a couple that lost their 6-year-old son when his arm became stuck in a pool drain.

And the YMCA of Greater Kansas City recently wrapped up its second year of providing water-safety instruction to kids participating in a summer camp put on by City Union Mission in Kansas City, which operates a homeless shelter and other programs.

Attachment 1

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One of the swimmers at last week's session in Platte City was 7-year-old Brea Powell.

While doing the front paddle, she says, she realized the importance of learning how to save someone in trouble "because you don't want other people to drown and be in heaven by themselves."

With basic steps, such as wearing a life jacket and ensuring adult supervision, drowning is 100 percent preventable, says Amanda Mitchell, senior aquatics director for the Kansas City YMCA.

The YMCA provides scholarships to ensure that money is not a barrier for families that want to provide swimming lessons to their kids.

Swimming, Mitchell says, is really a life skill that also provides an "avenue of constant health."

Gilchrist, the CDC researcher, agrees.

She says it's understandable that African American parents, unable to swim themselves, would stay away from the water to protect their kids. But the data illustrate the danger of doing that as those kids grow up and find themselves near a pool.

"So that fear and avoidance is not protective as the children age," Gilchrist says. "At some point, everyone is going to encounter water."

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RESEARCH

International Journal of Aquatic Research and Education, 2010, 4, 9-18

Factors Affecting Minority Drowning

Nathan T. Martin and Dean Witman

Research has revealed that racial or ethnic minorities historically drown at higher rates than the general population. Current research still has not identified or exposed fully the risk factors experienced by these groups that account for this disparity. By employing a review of the literature approach typical of the methods used in the humanities, the present article identifies many of the factors that explain this difference (e.g., age, sex, location, access, supervision, swimming lessons, and communication) and suggests future research that would help to illuminate the detailed circumstances that account for this ethnic gap in drowning rates (e.g., drowning -related research that takes race and ethnicity into account more consistently).

Research has revealed that racial and ethnic minorities historically drown at higher rates than the general population (Centers for Disease Control, 2008). Recent authors (Hastings, Zahran, & Cable, 2006; Irwin, Drayer, Irwin, Ryan, & Southall, 2008; Wiltse, 2007) have focused primarily on issues related to overt or unintentional discrimination and, more specifically, the limited opportunities minority groups have had to swim in places generally considered safe. Although overt discrimination may have been a factor, it did not fully explain why some minority groups, mainly African-Americans, have had less access to the most desirable swimming areas or have poorer prospects for receiving instruction in swimming or water safety.

Attachment 2

Therefore, the authors designed the current study to more fully identify and expose the risk factors experienced by these groups that account for a greater proportion of the disparity in drowning rates. For example, one study found that drowning rates among White children younger than five years of age were greater than among Black children. In contrast, from ages five through 19 years old, the racial disparity in drowning rates was inverted (Branche-Dorsey, Russell, Greenspan, & Chorba, 1994). These researchers concluded that younger White children most likely had more access to aquatic settings at younger ages, accounting for the gap before five years old, but they failed to account for or investigate the inverse gap among Black children who were older than five years.

The present article identifies many of the factors that explain these differences and suggests future research that might help to make clear the detailed circumstances that account for this gap. More thoroughly examining the risk factors associated with minority drowning hopefully will stimulate conversation about whether more accessible swimming infrastructure should be a greater public priority and specifically whether more infrastructure investment should occur in minority neighborhoods.

Nathan Martin is with the Health and Sport Sciences Department at the University of Memphis in Memphis, TN. G. Dean Witman is with Fox Valley Technical College in Oshkosh, WI.

Method

The primary research purpose of this investigation was to identify the factors that explain why racial or ethnic minorities drown at higher rates than the general population. A review of the literature approach, typical of the methods used in the humanities, was used to conduct this investigation. After a cursory examination of the drowning literature, an initial set of over 40 potential variables that might constitute factors relating to the disproportionately high minority drowning rates were entered as keywords into ResearchPro, a federated-search application that scans multiple databases (including ABI/INFORM Global, Academic One File, Cumulative Index to Nursing and Allied Health Literature, Cambridge Scientific Abstracts, Journal Storage [JSTOR], Nursing and Allied Health Coalition, Science.gov, Science Direct, and YourJournals@OVID). A federated database system is a type of meta-database management system (DBMS) that transparently integrates multiple autonomous database systems into a single "federated" database.

Because of limitations of the search application, access to all potential articles that exist on the identified variables was incomplete. To alleviate this limitation, the reference lists of foundational articles on drowning were reviewed, and the Google Scholar search engine was employed to exhaust further potential resources of interest. Combined with primary keywords like *drowning* and *minority*, a partial list of factors that were used in the initial search included the following:

- Location (including supervision, access to definitive medical care, warning signs, safety equipment, residential/public/neighborhood/open water)
- Access (infrastructure for swimming, swimming lessons)
- Education (swimming lessons, formal education, swimming experience)
- Fear (as a deterrent to swimming altogether or as an enabler to avoid swimming lessons that might prevent drowning)
- Risk-taking behavior (swimming alone, at night, in unguarded settings)
- Alcohol (as an aggravating factor or as a subject of legislation)
- Immediate prior activity (activity in which victim was engaged before drowning, such as boating or hiking)
- Immediate prior conditions (maintenance, weather, water clarity, distractions from supervision, crowding, time of year)
- Engineering controls (absence or presence of government mandates)
- Other aquatic or drowning studies that specifically controlled for race or ethnicity

Once identified and collected, the authors reviewed each article for evidence that either supported or rejected a relationship between the disproportionate minority drowning rate and the proposed factor. Specifically, the authors used a null hypothesis model proposing that no relationship between the disproportionate minority drowning rate and the factor of interest. More specifically, the authors conducted an initial cursory examination to determine whether race or ethnicity was minimally addressed as part of the study. If race or ethnicity was not minimally taken into account as a variable in the study, then the study was excluded. If race or ethnicity was minimally taken into account, the authors examined whether the study under

Attachment 2

consideration provided evidence that either supported or rejected a relationship about the role of race or ethnicity on drowning. If a study provided evidence that a relationship existed, its contribution was included within the Results section and the authors elaborated upon its relevance in the Discussion and Recommendations sections.

A total of 26 articles met the criteria where race or ethnicity was minimally addressed as part of the study. The authors chose to exclude a bibliography as part of this article because it included a cursory review of hundreds of drowning-related articles that either did not minimally address race or ethnicity or only helped to identify other resources to further exhaust the search process. Since the present article has not specifically used these other resources as direct contributors, citations do not appear. Interested readers should contact one of the article authors for more information about the list of other resources.

Results

Based on the final review of 26 articles where either race or ethnicity was minimally addressed as part of the study, the authors identified factors that provided the clearest evidence related to the primary research question. These factors included age, sex, and location (Brenner, Trumble, Smith, Kessler, & Overpeck, 2001), access (Hastings et al., 2006), supervision (Landen, Bauer, & Kohn, 2003), swimming lessons (multiple studies, including Brenner et al., 2001; Dawson, 2006; Saluja, Brenner, Trumble, Smith, Schroeder, & Cox, 2006; Sanford, Givens, Radisch, & Smith, 2001) and communication (Agócs, Trent, & Russell, 1994).

Attachment 2

Age

Regarding these factors, particularly key findings by Brenner et al. (2001), included that among one to four year old males, Blacks drown at lower rates than do Whites. Then, after ten years of age, Black males drown at greater than ten times the rate of White males of the same ages. Branche-Dorsey et al. (1994) and subsequently Saluja et al. (2006) both attributed the higher drowning rate among younger White children to these children's greater exposure to residential swimming pools.

Sex

Articles about drowning frequently point out the disproportionate male drowning rate and several attempted to explain why this discrepancy exists irrespective of other factors. For example, by posing the question, "Why Are Most Drowning Victims Men?" Howland, Hingson, Mangione, Bell, and Bak (1996) sought to explain sex differences in aquatic skills and behaviors and their corresponding influence on drowning rates. While the researchers had respondents identify themselves as White (non-Hispanic), African American, Hispanic, or Asian, the study provided no direct explanation for sex differences in drowning rates across race or ethnicity.

Factors that showed a relationship between risk-taking behavior and higher male drowning rates included findings that men generally considered themselves better swimmers even though women were more likely to have received swimming instruction and to have received more hours of swimming instruction. They also found that males were more likely than females to consume alcohol during aquatic activities and in greater amounts and engage in other risk-taking behaviors such as swimming alone, at night, and in unguarded settings, and boating without a life jacket (Howland et al., 1996).

As mentioned previously, Brenner et al. (2001) also pointed out that Black males, older than the age of five years, drown at higher rates than White males of the same age. While this difference confounds the variables of sex and race, the researchers attributed the difference to the characteristics of the settings in which aquatic activity occurred rather than to behavioral differences. For example, they felt the differences could be explained by more crowded conditions for minorities who experienced higher drowning rates.

Location

In addition to the sex-based factor Brenner et al. (2001) mentioned, they also provided the important finding that drowning rates in *swimming pools* among Black males are much higher than children older than five years of age and that, even though drowning rates were low for both races among female children of this age, Black females were at greater risk of drowning in swimming pools compared with White females of the same age. This study suggested that the swimming pools in which Black adolescent males swim are inherently less safe because they may be more crowded, have poorer supervision, and their staffs may not be as skilled in rescue and resuscitation. Saluja et al. (2006) provided the additional insight that differences in the location where people of different races drown persist even when researchers have adjusted for income levels.

Attachment
2

Access

Hastings et al. (2006) showed that a relationship exists between the disproportionate minority drowning rate and the extent to which at-risk groups are subject to "the principle of social exclusivity that limits access" to swimming as an activity and swimming infrastructure. This study examined minority participation rates in swimming, which has implications for social exclusivity, as well as race-specific drowning rates. The study found that access to instructional and competitive programs, as well as the infrastructure that supports these programs, affects age, sex, and particularly race differences in swimming participation.

Supervision

Many studies concluded with recommendations that parents and the public as a whole watch over people participating in aquatic activity and thereby ensure that they are safe and acceptably behaved. Landen et al. (2003), who examined the role of supervision and drowning among children six years old and younger in Alaska and Louisiana, found that minority groups, specifically Alaska Natives and Louisiana Blacks, had higher drowning fatality rates due to less adequate or absent supervision compared with other groups. While numerous additional studies also addressed supervision and drowning rates, none explicitly included race/ethnicity as a factor and thus were excluded because they had no bearing on the primary research question.

Swimming Lessons

Evidence supported an inverse relationship between fewer opportunities to take swimming lessons and higher minority drowning rates. Brenner et al. (2001), Saluja et al. (2006), Sanford et al. (2001), and Dawson (2006) have all provided evidence demonstrating a relationship between the disparity in drowning rates and the reduced tendency of members of minority groups to receive swimming instruction.

Communication

In a study that was based exclusively in Imperial County, California, a border region between the United States and Mexico, Agócs et al. (1994) found the most frequent activity before drowning was illegal entry into the United States. In addition, all of the illegal entrants with known ethnicity were Hispanic, providing evidence of a possible English-Spanish language barrier with respect to communication. This study concluded with a recommendation that to reduce drowning fatalities, authorities should consider installing warning signs with universal symbols and broadcasting public service announcements in Spanish in border towns.

Other Factors

In preparing for the scrutinized review, authors identified numerous factors that might help to explain the differential in drowning rates. In several instances, we found articles that took into account a risk factor of interest, but the studies did not truly consider race or ethnicity, or another factor considered a reasonable proxy, in addition to these other variables. These factors included immediate prior condition of cold weather (Hedberg, Gunderson, Vargas, Osterholm, & Macdonald, 1990) and family members' education (Quan, Bennett, Cummings, Henderson, & Del Beccaro, 2001). As a result, the authors could neither support nor reject the presence of a relationship based on a review of these studies.

For other factors, such as activity immediately before drowning, that is, swimming, wading, or attempting a rescue (Browne, Lewis, & Stark, 2003; Smith & Brenner, 1995), the authors found that previous research was unable to explain the differences in drowning rates by race or offered only speculation about what the reasons might be. In addition, the authors examined other factors, such as a greater tendency to engage in high-risk activities such as swimming alone or using alcohol (Howland et al., 1996), or a relative absence of engineering controls like residential fencing (Smith & Brenner, 1995). The authors were unable to establish any significant evidence of a relationship between these factors and higher minority drowning rates.

One factor that was not identified initially was self-reported swimming ability. This factor was identified through the literature review and peer review process and included in the current study. Specifically, Gilchrist, Sacks, and Branche (2000) reported that 37% of the general adult U.S. population self reported possessing limited swimming ability. When examining race/ethnicity separately, 62% of African Americans self-reported not knowing how to swim, compared with 32% for Whites, 47% for Asians, and 44% for Hispanics. In addition, Moran (2008) found significant differences among ethnicities in self-reported abilities, specifically swimming and performing CPR, as well as appropriate water safety behaviors like drinking alcohol

Attachment 2

and wearing dangerous clothing/footwear. Moran also found that his respondents' perceptions of risk posed by rock fishing, their self-efficacy, and their preventive behaviors were also significantly different when compared across ethnic groups.

Discussion

The factors that provided the most direct support for detecting a relationship between the drowning rate and a given factor were the factors of age, sex, and location (Brenner et al., 2001), access, and, specifically, social exclusivity (Hastings et al., 2006), supervision (Landen et al., 2003), swimming lessons (multiple studies including Brenner et al., 2001; Dawson, 2006; Saluja et al., 2006; Sanford et al., 2001), and to some extent communication (Agócs et al., 1994).

Age

While several studies have shown that comparative drowning rates differ across children's ages, the reasons for the differences are not clear. For example, although multiple studies have suggested that White children's increased exposure to residential swimming pools might balance the racial disparity in drowning rates among infants and toddlers, there was little empirical basis supporting this idea. The other factors that account for the higher minority drowning rate as children age, particularly the dramatically increased drowning rate among Black males over ten years old, have not been explained fully.

Attachment 2

Sex

Based on the examination of Howland et al. (1996), one might settle on the idea that the higher male drowning rate for Black adolescents is due to a greater inclination toward risk-taking behavior, such as consuming alcohol during aquatic activities or swimming alone or in unguarded settings. Not having access to the researchers' raw data, however, does not allow for this claim to be substantiated. Nonetheless, it is recommended that more research studies be conducted to determine why higher drowning rates are so much higher for minority males, particularly among African American teenagers.

Location

A common observation encountered among the studies was that minorities drown more frequently in swimming pools. In contrast, Smith and Brenner (1995) suggested that the higher drowning rate for Blacks and Native Americans they observed might be due to increased aquatic activity in remote, unsupervised locations. These researchers appear to have based their statement on the results of Davis, Ledman, and Kilgore's (1985) study in the sparsely populated, mostly desert state of New Mexico. A small proportion of the cases in Davis et al.'s study (1985), just four out of 191, were Black. While the assertion about remote, unsupervised locations might be valid for some minority groups, such as among Native Americans, the present review found no other support for this assertion among minorities generally. Nonetheless, as Saluja et al. (2006) suggested, examining cultural factors and their definitions may be important for addressing drowning prevention efforts in different geographical locations and cultures.

Access

In addition to the apparent challenge to the more common observation that minorities drown more frequently in swimming pools, Smith and Brenner (1995) also introduced the possibility that groups that are denied access to relatively safe swimming areas (e.g., guarded pools and beaches) might tend to perform aquatic activities in remote, unguarded settings where they are even more likely to drown. Brenner et al. (2001) and others have characterized the access situation as one in which the swimming pools available to minorities are more likely to be public and have poorer levels of supervision. In the case of many hotel/motel pools, the operators often do not provide any supervision at all and simply post "swim at your own risk" signage. Based on the historical perspective of Dawson (2006), limited pool access might not be the sole or primary cause of the Black community's rejection of learning to swim but instead a "coherent choice no longer to swim in natural waterways" (p. 1355). As stated previously, cultural factors might be at work here that deserve further investigation.

Attachment 2

Supervision

Research has generally found that adequate adult supervision tends to mitigate the risk of drowning. Absent, poorer, less, or inconsistent supervision largely explain higher minority drowning rates. Howland, Birckmayer, Hemenway, and Cote (1998) conducted a study that focused on the effect of minimum legal drinking age laws, revealing that lower drowning rates have generally corresponded to increases in "urbanicity," a factor often associated with racial and ethnic minorities, and according to those researchers, better supervision. Although it was undeterminable whether Howland et al. (1998) defined urbanicity as the site of the drowning incident or the victim's residence, urbanicity generally refers to the degree to which a location is considered urban based on a high population density as the defining element. Based on this research, one might predict that minority groups, which are often concentrated in urban areas where better supervision is available, would drown at lower rates than the general population. Despite the age of this study and that it did not explicitly take race or ethnicity into account, it does raise challenging questions that further research might help to explain. For example, to the extent that it failed to show a relationship between drowning and minimum legal drinking age laws, the study pointed out that passing legislation where no scientific support exists might have different consequences than the ones intended. The study also called attention to the possibility that governmental action designed to address one issue might have the inadvertent effect of making another problem dramatically worse.

Swimming Lessons

The pediatric community has held for several years that children older than four years need to learn to swim to lessen their risk of drowning (American Academy of Pediatrics Committee on Injury, Violence, and Poison Prevention, 2003). A more recent study (Brenner et al., 2009) found that formal swimming lesson participation could explain 88% of the reduction in drowning risk, even among one to four year old children who many would have considered too young to benefit from this instruction. It is not surprising that, when race or ethnicity are taken into account, groups whose participation rates in swim lessons are lower than the general population are more likely to drown.

Communication

The recommendations of Agócs, Trent, and Russell (1994), while not applicable across the board, remind us that although it might appear to be common sense, language difficulties might explain a portion of the differences in the drowning rates between minorities and the general population. Because this study focused on drowning rates along the United States-Mexico border, it pointed out that interventions based on communication must be neutral with respect to language. Communication neutrality may include using universal symbols or accounting for the diverse language capabilities of the audience such as through the use of well trained translators.

Other Factors

For several factors, such as family members' education levels and immediate prior conditions, the current study found no evidence in support of a relationship within the studies examined. This determination came about most frequently from the studies' failure to consider race or ethnicity, or a reasonable proxy, along with the other potential risk factors. One possible explanation for this failure is that current data systems do not record pertinent details surrounding a drowning incident, including the characteristics of the injured person, so that researchers can understand better the relationships between fatal and nonfatal drownings and the proximate conditions present at the time death or injury occurs. The government might alleviate this situation if it required hospitals as a condition of reimbursement under government health insurance programs to capture the detailed external causes of an injury in their hospital discharge or emergency department data systems.

Attachment 2

Where the current study was unable to find evidence of a relationship between higher minority drowning rates and any one particular variable, we recommend that future researchers should attempt to duplicate or disprove earlier findings rather than disregarding the potential impact of such variables. If anything, this review of the literature related to minority drowning reveals how scant knowledge is about this phenomenon and showed how much more work is needed. For example, Hastings, Zahran, and Cable (2006) alluded to the puzzle they encountered regarding the increased rate of drowning that Blacks experience as their opportunities for exposure to the water increase. One would think that increased opportunities to swim would result in more experience, better swimming ability, more knowledge of water safety, and consequently lower drowning rates. As this group of researchers suggested, Blacks who live in areas where swimming infrastructure exists might still swim fewer times a year than Whites do, and therefore having access to greater opportunities might not correspond to a lower drowning risk. Because gaps in our understanding like this one continue to exist, many questions exist for future researchers to replicate or refute the findings of previous studies.

As for self-reported swimming ability, previous articles such as Gilchrist et al. (2000) and Moran (2008) have shown that members of minority groups typically report lower levels of water safety-related skill than the population as a whole. This research noted this finding among highly disparate groups from African Americans to indigenous ethnic populations in New Zealand. Because the differences were reported by the respondents themselves, rather than measured by an objective test of their abilities, these findings again call into question to the objectivity of communication and cultural factors previously mentioned. While swimming ability may not translate directly into a higher degree of safety, being able to swim certainly increases one's chances of surviving inadvertent water entry such as falling out of a boat or sliding down a riverbank. Even though people who cannot swim well usually limit their exposure to water, the life-saving benefit of being able to swim should not be discounted.

Conclusion

Much evidence supports the contention that, despite the overall trend toward decreased drowning rates, minority groups continue to drown at higher rates than the population as a whole. The present study reviewed much of the current literature and noted that numerous studies have omitted race or ethnicity as a main or mediating factor. The reasons for this omission are puzzling and unexplainable simply because it should be an easy factor to isolate in an investigation. As such, future drowning-related research should take race or ethnicity into account more consistently. Hospitals, providers of prehospital care, and other emergency response agencies should upgrade their injury surveillance systems to capture these variables and other important information uniformly. Only by identifying the detailed circumstances associated with drowning incidents will it be possible to eliminate the race-specific gap in our understanding about drowning rates that currently exists and has existed historically. Current efforts to bring about more complete and reliable collection of drowning-related data will provide researchers and practitioners new insights into existing and proposed interventions that might favorably reduce drowning rates for both minority groups and the general population. This review also provides support for efforts to address more of the relevant risk-related factors in future research.

Attachment 2

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Attachment 2

SWIMMING WORLD THE MOST TRUSTED SOURCE FOR NEWS, TRAINING, TECHNIQUE, AND LIFESTYLE (/)

I-52

03 February 2016, 09:00am

Exploring the Racial Disparities in Competitive Swimming

Attachment 3

I-52

Photo Courtesy: Peter H. Bick

Attachment 3

By Molly Lloyd, Swimming World College Intern*

Depending on where you are, if you look around you, at the teams that you're on, at the teams against whom you race, and even at the Olympic swimmers, you'll realize that swimming tends to be a sport dominated by white people. On the 2012 Olympic team (http://usaswimming.org/ViewNewsArticle.aspx?TabId=0&itemid=4537&mid=8712), only three out of the 24

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swimmers on the men's team, and two out of 25 swimmers on the women's team, were people of color.

While it might be hard to realize – or just easier for some of us to ignore – we need to address the fact that competitive swimming, while near and dear to our hearts, seems to have race problem.

What does the research say?

Photo Courtesy: Peter H. Bick

Attachment
3

In 2014, USA Swimming released its official report (http://www.usaswimming.org/_Rainbow/Documents/a31bc239-b31f-4834-87bf-accb09e8a834/Statistics-2014.pdf)on the demographics of their 2014 year-round members. Under the 'ethnicity' category, 31.2 percent of members identified as white, while only 5.3 percent identified as Asian, 2.9 percent identified as Hispanic or Latino, and 1 percent identified as black. While it is important to note that around 55 percent of participants did not note their ethnicity, there is still a stark difference in rate of participation based on race.

Along with this racial disparity in participation, there is also a huge disparity when it comes to likelihood of drowning. A 2012 study (https://www.swimmingworldmagazine.com/news/wp-content/uploads/2016/02/MYERS-AND-CUESTA-PAPER-APPAM-2012.pdf) published by the University of Minnesota notes that "the fatal drowning rate of African-American children ages 5 to 14 is 3.1 times that of white children in the same age range." In their conclusion, they noted that there is a distinct, unambiguous link between swimming ability/participation in competitive swimming and rates of drowning.

Attachment 3

If there is a direct link between rates of participation in competitive swimming and rates of drowning, the question becomes, why are people of color – specifically Black Americans – so underrepresented in the sport of swimming? What are the possible causes of these racial disparities?

Explaining the racial disparities.

I-52

Photo Courtesy: Sports Illustrated

A 2008 survey (http://www.usaswimming.org/_Rainbow/Documents/8ff56da3-ef9c-47ab-a83e-57b72efea474/2008_minority_swimming_research.pdf) conducted by the USA Swimming Foundation found that there are a number of variables that have a significant impact on whether or not a child can swim, including "the child's as well as parent's fear of child drowning/being injured while swimming, family environment (such as parent swim ability, parent encouragement, family swim participation, family exercising regularly, household income, and parent/guardian education), access to a pool, and awareness or admiration of a highly competitive swimmer."

Attachment 3

Children whose parents swam and encouraged them to swim had a much lower chance of drowning and a much higher chance of participating in swimming competitively. The study reported that Black American children were much less likely to have a parent who knew how to swim, have friends who knew how or enjoyed swimming, or have a parent who encouraged them to learn to swim. Knowing this, it would make sense to say that one cause of the underrepresentation of Black Americans in competitive swimming is that they just aren't encouraged to participate.

Photo Courtesy: Brenton Tse

Attachment 3

Another cause is the issue of access. Historically, during the first half of the 20th century and up until the Civil Rights Act was passed in 1964, segregation was common throughout the United States, and this lead to Black Americans during this time to not have access to pools. Even after segregation was made illegal, there was still a disparity in where pools were located: pools tended to be located in traditionally white neighborhoods, making it difficult for Black Americans to learn to swim.

Even now, there are issues with access. Most swim teams that aren't school teams cost a lot of money to join; you have to pay for the membership as well as the suits and caps and goggles to get you through the season. Transportation can also become an issue, as it requires a fair amount of time and money. While the money issue affects all lower class people, it seems to disproportionately affect lower class Black Americans. The issue of expense is supported by the USA Swimming survey, which found that kids who came from households with a lower annual income were less likely to know how to swim.

How are things changing?

Attachment 3

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Photo Courtesy: USA Swimming Foundation

Attachment 3

With all of this evidence that competitive swimming in America has a race problem we have to ask, what can we do?

One institutional program that could work would be high schools having a swimming proficiency requirement in order for their students to graduate. High schools that have pools would be able to make sure that all of their students, regardless of race, would be at a lower risk of drowning.

Representation is also something very simple that can go a long way. Elite swimmers like **Cullen Jones**, **Lia Neal**, and **Simone Manuel** are setting an incredible example and paving the way for black swimmers, both young and old, to get involved in competitive swimming. Even **Reece Whitley**, a 16-year-old, incredibly fast swimmer who swims for Penn Charter is making a difference. For kids, seeing someone who looks like them represented in the media and in sports will increase their interest in the sport and allow them to believe that they really can participate.

Another question we can be asking is, what is already being done?

Attachment 3

Two-time Olympian **Cullen Jones (http://www.blackenterprise.com/lifestyle/cullen-jones-olympics-and-black-swimmers/)** has taken it upon himself to change the perception that black people can't swim. Jones started swimming as a hobby and then competitively after he almost drowned at a local water park, Dorney Park. After swimming throughout his childhood and through college, he began his Olympic career. Soon after the 2008 Olympics, Jones signed on to be USA Swimming Foundation Ambassador for the Make a Splash (http://makeasplash.org) initiative.

Jones and Make a Splash have made it their mission to spread enthusiasm about learning to swim and to encourage kids of all ages and races to learn to swim, because it is a vital and life saving skill. The Make a Splash initiative even goes on annual tours around the country, making stops in Freeport, TX; Alliance, LA; San Antonio, TX; and Chicago, IL. In these cities, multiple Olympic swimmers got in the pool with local kids to work with them on their swimming skills. It's programs like Make a Splash that are really going to make a difference when it comes to eliminating the racial disparities in swimming.

Attachment 3

According to the USA Swimming Foundation, between 2004 and 2015, club swimming's black membership increased by 55 percent and its Hispanic/Latino membership increased by 77 percent. Things are changing for the better (http://sports.yahoo.com/news/how-the-color-of-american-swimming-is-finally-changing-074627951.html?soc_src=mediacontentsharebuttons&soc_trk=tw) and the world of competitive swimming is becoming less and less whitewashed, but even so, we have a lot of progress to make.

*Please note: I am a middle class, white woman, which affects my perception of the world around me, so please feel free to let me know if I have said something wrong or need correcting.

4 COMMENTS

I-52

Mastersswimmer

February 3, 2016

"…the world of competitive swimming is becoming less and less whitewashed…" Does that mean professional basketball is 'blackwashed"? After all, in a nation that is 13% black, some 80% of NBA players are African-American. Can't swimmers just be swimmers without being labeled by color? This IS the 21st Century.

Crazycat

February 3, 2016

Stop- stop- stop making racial issues when there are none.

Attachment 3

Coach Jim

February 4, 2016

Completely disagree with the people suggesting this issue should not be looked at. If nothing else, the access issue is real and needs to be addressed. Outreach is vital to our sport and if you do not want to engage in creating opportunities and access, the least you can do is not disparage the people who are. The knee jerk comments may be at the fact that it puts people like Jones, Neal, and Manuel in a position where they are carrying more weight than they deserve and more than white athletes. They didn't get to where they are by buckling under pressure but I'm sure they appreciate your efforts to ignore race. Thank you for a thoughtful article and thank you to teams, coaches, pool operators, and communities working to provide opportunity and encourage diversity.

I-52

Elizabeth Gibbens

February 4, 2016

The race disparity in competitive swimming, and public pools, are real. This isn't a discrimination issue that requires affirmative action, but the fact that there is a 3:1 drowning rate (as you stated) is cause to take notice. The first step is to educate children to the basics of water safety. The Earth is 75% water! Corpus Christi public school system has a mandatory program to teach basic water safety and swimming to ALL elementary school kids, for FREE. Start with eliminating the fear and the barriers that swim lessons are for the "privileged" then add swim clubs to the mix and you get higher participation across the board. Competing with football in Texas is a big enough tackle, but competing with a multi-generational un-encouraging family structure, then you can hang up your fins. There is opportunity for improvement, but it's not through highlighting past segregation and missed opportunities. Personally, I think using the public pools for positive "safe zones" seems like a better use of our tax money and time.

Attachment 3

MORNING SWIM SHOW (HTTP://TV.SWIMMINGWORLDMAGAZINE.COM/SHOWS/THE-MORNING-SWIM-SHOW)

FEATURED VIDEO (HTTP://TV.SWIMMINGWORLDMAGAZINE.COM/SHOWS/TECH-TALK)

(HTTP://TV.S

I-52

(http://www.youtube.com/embed/LpUXIOY1Wfo?rel=0&hd=1&autoplay=1) 2m 30s

(http://www.youtube.com/embed/xGBjYyq42y8?rel=0&hd=1&autoplay=1)

(http:

Attachment 3

ANNA CHRISTENSEN
LETTER CODE: I-52

DATE: June 16, 2016

RESPONSE I-52-1

This comment states that the commenter is resubmitting this comment letter with noted corrections. The revised version of this submission is included in the content of Comment Letter I-52.

This comment does not contain any substantive comments or questions about the Draft Environmental Impact Report (EIR) or analysis therein. This comment will be forwarded to the decision-makers for their review and consideration. No further response is necessary.

RESPONSE I-52-2

This comment raises concern that the proposed Project would not provide equal access to pool facilities for all Long Beach residents. The comment makes recommendations related to locating the proposed Project on alternative sites, such as Harry Bridges Memorial Park, or splitting the project for placement within multiple City of Long Beach (City) Districts. The commenter notes that special consideration should be focused on the funds required for the proposed Project and how it benefits citizens of all City Districts.

A large majority of the funding for the proposed Project would originate from Tidelands funds, which are legally mandated to fund development within the City's Tidelands area. Therefore, developing the proposed Project at alternative location in the City outside of the Tidelands area with Tidelands funds would be expressly prohibited. Due to the cost of the Project, developing the Project outside of the Tidelands area without the Tidelands funds would also be infeasible due to a lack of funding sources. Furthermore, the primary objective of the Project is to replace the former facility in its original location. It should also be noted that the proposed Project was initiated prior to the demolition and removal of the old facility, as it has long been the City's intention to replace the old facility on the same site.

An analysis of alternative project locations was included in Chapter 5.0, Alternatives, of the Draft EIR. As part of this analysis, it was determined that the proposed alternative locations would meet the Project Objectives to a lesser degree than the Project. Therefore, none of these alternatives were identified as the Environmentally Superior Alternative or the Preferred Alternative. Therefore, the City intends to proceed with the design as included under the proposed Project.

RESPONSE I-52-3

This comment states that the California Environmental Quality Act (CEQA) mandates enhanced public participation in the environmental review process.

The City has conducted 9 public meetings, four public study sessions (Planning Commission, Marine Advisory, and City Council [two City Council meetings-one in 2014 and one in 2016]) and several other outreach meetings to engage citizen participation in developing the proposed Project. Furthermore, the Initial Study and the Draft EIR prepared for the Project both allowed for a public review period during which the public could provide commentary on the Project. The public review period for the Initial Study was 30 days, consistent with the *State CEQA Guidelines*. However, it should be noted that in an effort to foster further public input on the Project, the City extended the required 45-day public review period for the Draft EIR to 65 days. Therefore, the City has complied with all CEQA requirements aimed at enhancing public participation.

RESPONSE I-52-4

This comment states that CEQA mandates the identification of significant effects, alternatives, and mitigation measures. The commenter further provides requirements under CEQA related to public review and comment on environmental documents.

Throughout Chapter 4.0 of the Draft EIR, potentially significant impacts of the Project are analyzed and identified and mitigation measures are prescribed, where determined necessary to reduce potentially significant impacts to a less than significant level. In addition, several Project alternatives are analyzed in Chapter 5.0, Alternatives, of the Draft EIR in an effort to identify the Environmentally Superior Alternative and the Preferred Alternative. As discussed in Response to Comment I-52-3, the City has also conducted several public meetings and has allowed for an extended review period for the public to comment on the Draft EIR for the Project. For these reasons, the City has evaluated the environmental impacts of the proposed Project consistent with the *State CEQA Guidelines*.

RESPONSE I-52-5

This comment indicates that failure to comply with CEQA and provide full disclosure of information would leave the project proponent open to possible lawsuits.
Please refer to Response to Comment I-52.

RESPONSE I-52-6

This comment raises concern that the proposed Project would not provide equal access to pool facilities for all City residents. The commenter makes specific reference to the provisions of Title VI of the Civil Rights Act of 1964.

A large majority of the funding for the proposed Project would originate from Tidelands funds, which are legally mandated to fund development within the City's Tidelands area. Therefore, developing the proposed Project at an alternative location in the City outside of the Tidelands area with Tidelands funds would be expressly prohibited. Due to the cost of the Project, developing the Project outside of the Tidelands area without the Tidelands funds would also be infeasible due to a lack of funding sources. Furthermore, the primary objective of the Project is to replace the former facility in its original location. It should also be noted that the proposed

Project was initiated prior to the demolition and removal of the old facility, as it has long been the City's intention to replace the old facility on the same site. However, the City has been engaged in group discussions conducted by the Tidelands Capital Improvements Project group, separate from the proposed Project, about potentially providing bus service to the beach and surrounding locales in an effort to provided increased access to the coastal zone.

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Alyssa Helper

From: Craig Chalfant <Craig.Chalfant@longbeach.gov>
Sent: Wednesday, June 22, 2016 1:35 PM
To: Ashley Davis; Alyssa Helper
Cc: Dino D'Emilia
Subject: FW: New Belmont Plaza Pool

From: Lynne Cox [mailto:lynnecox@aol.com]
Sent: Thursday, June 16, 2016 4:14 PM
To: Craig Chalfant
Subject: New Belmont Plaza Pool

June 16, 2016

Dear Mr. Chalfant:

I am writing to express strong support of full development of the Belmont Plaza Pool. Recreating a world-class aquatic facility is more than just a benefit to the community, it is a requirement if we consider ourselves the "Aquatic Capital of the World" and we seek the distinction of attracting high-profile athletic events to our community. At the core of the project, of course, is the recreational and fitness benefits offered to community residents of all ages. I-53-1

There are several vital points to consider. While current plans call for a total of 1,250 seats in the indoor component, a minimum of 1,500 seats is required to host NCAA events and world-class competitions. I urge you to support construction of the higher seating capacity. I-53-2

Including an indoor diving component is essential for hosting national and international competitions. We must also consider the realities of capital and operational costs – and including the indoor diving structure optimizes these critical items. Let's make this right and build what is truly needed and can be operated efficiently. I-53-3

The old Belmont Plaza Pool was my first home in the water. I first swam there as a teenager with some of the best swimmers in the world. I feel that the pool was where I truly recognized my potential as a world-class athlete, and I went on to break world records swimming across the English Channel, the Catalina Channel, the Bering Strait between the United States and the Soviet Union, in Antarctic waters, and many other exciting and challenging locations. My roots have always remained here in Long Beach and I believe that the new Belmont Plaza Pool is an essential asset for our community. I urge you to strongly support building the new pool with these necessary considerations in mind. I-53-4

I would be very happy to be a spokesperson for this project on behalf of the athletes, families, and youth of our community. More information regarding my background can be found at www.lynnecox.com.

Thank you very much.

Lynne Cox
Author - Speaker - Athlete
65 61st Place
Long Beach, CA 90803
562-505-4112
www.lynnecox.com

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LYNNE COX
LETTER CODE: I-53

DATE: June 16, 2016

RESPONSE I-53-1

This comment expresses support for the proposed Project.

This comment does not contain any substantive comments or questions about the Draft Environmental Impact Report (EIR) or analysis therein. This comment will be forwarded to the decision-makers for their review and consideration. No further response is necessary.

RESPONSE I-53-2

This comment suggests an increase in the proposed seating capacity from 1,250 spectators to 1,500 spectators.

Refer to Common Response 1 in Section 2.1, Frequent Comments and Common Responses, of this Final EIR for further discussion related to the permanent seating capacity provided by the proposed Project.

RESPONSE I-53-3

This comment notes the essential nature of an indoor diving component for large aquatic events.

Refer to Common Response 2 in Section 2.1, Frequent Comments and Common Responses, of this Final EIR for further discussion related to Alternative 3 included in the Draft EIR, which includes an outdoor diving well component.

RESPONSE I-53-4

This comment is conclusory in nature and provides background information about the commenter's experiences at the former Belmont Pool.

This comment does not contain any substantive comments or questions about the Draft EIR or analysis therein. This comment will be forwarded to the decision-makers for their review and consideration. No further response is necessary.

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Alyssa Helper

From: Craig Chalfant <Craig.Chalfant@longbeach.gov>
Sent: Wednesday, June 22, 2016 12:54 PM
To: Ashley Davis; Alyssa Helper
Cc: Dino D'Emilia
Subject: FW: EIR Belmont Pool

-----Original Message-----
From: John McMullen [mailto:mcmullenjohnw@gmail.com]
Sent: Friday, June 17, 2016 10:22 AM
To: Craig Chalfant
Subject: EIR Belmont Pool

Dear Mr. Chalfant,

As a member of the citizen's stakeholder group which helped to provide community input for the Belmont Pool project I would like to commend you and our City government for providing oversight and support for this important facility. I-54-1

I have reviewed the EIR and have three significant areas of concern:

1. 1250 indoor spectator seats is not a sufficient number to attract top level US national swimming and diving events to Long Beach. 1500 seats should be a minimum. Even local high school/collegiate and regional events need at least 1500 seats. Long Beach has long been recognized for its history of aquatic events and the Belmont Pool was a centerpiece. The new facility can renew that focus and bring economic and lifestyle positives to our community. I-54-2

2. In keeping with the above theme, an indoor diving well is mandatory. I-54-3

3. I question an expanded parking requirement for events when there already exists plenty of parking in the lots adjacent to Ocean on the beach side. These lots are typically under-utilized most of the time. I-54-4

Thank you for considering my comments,

Best regards,
John

John W McMullen
562.400.6736
mcmullenjohnw@gmail.com | via iPad

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JOHN W. MCMULLEN
LETTER CODE: I-54

DATE: June 17, 2016

RESPONSE I-54-1

This comment is introductory in nature and does not contain any substantive comments or questions about the Draft Environmental Impact Report (EIR) or analysis therein. This comment will be forwarded to the decision-makers for their review and consideration. No further response is necessary.

RESPONSE I-54-2

This comment expresses concern that the proposed seating capacity of the proposed Project is not sufficient, and suggests an increase in the seating capacity to 1,500 spectators.

Refer to Common Response 1 in Section 2.1, Frequent Comments and Common Responses, of this Final EIR for further discussion related to the permanent seating capacity provided by the proposed Project.

RESPONSE I-54-3

This comment states that the indoor diving well is mandatory.

Refer to Common Response 2 in Section 2.1, Frequent Comments and Common Responses, of this Final EIR for further discussion related to Alternative 3 included in the Draft EIR, which includes an outdoor diving well component.

RESPONSE I-54-4

This comment questions the proposed parking mitigation for large events and states that sufficient parking exists in the parking lots in the vicinity of the Project site.

Refer to Common Response 3 in Section 2.1, Frequent Comments and Common Responses, of this Final EIR for further discussion related to parking and the proposed mitigation measure requiring an Event Traffic Management Plan.

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Alyssa Helper

From: Craig Chalfant <Craig.Chalfant@longbeach.gov>
Sent: Monday, June 06, 2016 11:17 AM
To: Ashley Davis; Alyssa Helper
Cc: Dino D'Emilia
Subject: FW: Long Beach Aquatic Facilit

From: Robstees@comcast.net [mailto:Robstees@comcast.net]
Sent: Monday, June 06, 2016 11:14 AM
To: Craig Chalfant
Subject: Long Beach Aquatic Facilit

Mr. Chalfant,
I read the alternative plans for your new aquatic facility and was startled by the alternative 3 option to build the diving facility outside. If you do that, you will greatly reduce the possibility of your community to host major diving events and decrease the effectiveness of being able to attract and produce world class divers. Swimmers, water polo players and synchronized swimmers can train and compete effectively in cool and windy weather, divers cannot. I realize there are no other indoor diving facilities in California, that I am aware of, but that is the beauty of building your facility indoors. It puts you miles above the other facilities for usefulness and effectiveness in hosting events. I-55-1

I hope those responsible make the right decision for the city of Long Beach and build an indoor diving facility. If you have any questions please feel free to contact me at this email address or phone at (305) 393-0142.

Sincerely,
Dr. Ron O'Brien
USA Olympic Diving Coach
1968-72-76-80-84-88-92-96

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RON O'BRIEN
LETTER CODE: I-55

DATE: June 06, 2016

RESPONSE I-55-1

This comment expresses concern related to the placement of the diving platform and well outdoors, as proposed under Alternative 3. The commenter opines that changing weather conditions and strong winds would render an outdoor diving platform and well an inappropriate option for divers utilizing the proposed Project. This comment further opines that an indoor dive tower would be unique to the State and would attract more visitors and events to the Project. As such, the commenter recommends that the indoor diving towers are essential to the proposed Project and should not be eliminated.

Refer to Common Response 2 in Section 2.1, Frequent Comments and Common Responses, of this Final EIR for further discussion related to Alternative 3 included in the Draft EIR, which includes an outdoor diving well component.

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Craig Chalfant I-56

From:	Carol Hansen <chansen@ovsd.org>
Sent:	Tuesday, June 14, 2016 7:59 PM
To:	Craig Chalfant
Cc:	Keith Hansen; lucyjohnson1@gmail.com
Subject:	Comments on Draft EIR Belmont Pool

June 14, 2016

FROM: Carol Lind Hansen 7201 North Marina Pacifica Drive Long Beach, CA 90803

TO: Craig Chalfant, Senior Planner City of Long Beach Development Services/Planning Bureau 333 West Ocean Blvd., 5th Floor Long Beach, CA 90802

Dear Mr. Chalfant:

I was born and raised in Long Beach and learned to swim in the original Belmont Plaza Olympic Pool. My family has a long history of participating in and support aquatics in the City of Long Beach. In my youth I competed on swim teams with local clubs, Wilson High School and CSULB, and later served as a teacher and swim coach at Wilson High School. The rebuilding of our iconic Long Beach pool is important to Long Beach. I am pleased with the design and functionality of the project. The facility will be the jewel of the Long Beach coastline. I-56-1 The new plans call for 1250 indoor seats, which is not adequate for major competitions. We must have a facility for national championships, international competitions, major college and CIF competitions that hold at least 1500 seats for spectators and athletes. The original Belmont Plaza Olympic Pool had over 2000 seats. I-56-2

Equally important are the inclusion of diving towers. Diving towers are essential, allowing the full spectrum of aquatic competitions to be held in our city's world class aquatic center. Furthermore, very few venues in southern California accommodate both swimming and diving competitions. Long Beach has the opportunity to create a competition pool and diving arena, allowing our City to be the provider of a much needed diverse and functional aquatic facility in California. I-56-3

I am very concerned about the proposed mitigation measure (Table 7.A, 4.12.1) for traffic and parking, specifically parking. Requiring an Event Traffic Management Plan when expected attendance at larger events exceeds 450 spectators is unnecessary. There are over 1,000 parking spaces in the two parking lots adjacent to the project. The former Belmont Plaza Olympic Pool 2,000 seat capacity facility routinely had over 450 spectators with no requirement for a traffic management plan. I have attended and participated in numerous events at Belmont Plaza Olympic Pool since it opened in 1968 and in my experience those events never filled the parking lots, nor were there traffic issues. Is such a requirement a means for the City to charge additional fees to event organizers? I-56-4

My hope is for a facility that will support our diverse aquatic activities and uphold Long Beach's fine reputation as an aquatic destination for athletes from around the world. Thank you for considering my opinions. I-56-5

Sincerely,

Carol Hansen

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CAROL HANSEN
LETTER CODE: I-56

DATE: June 14, 2016

RESPONSE I-56-1

This comment is introductory in nature and expresses overall support for the proposed Project. This comment does not contain any substantive comments or questions about the Draft Environmental Impact Report (EIR) or analysis therein. This comment will be forwarded to the decision-makers for their review and consideration. No further response is necessary.

RESPONSE I-56-2

This comment expresses concern that the proposed seating capacity of the proposed Project is not sufficient, and suggests an increase in the seating capacity to 1,500 spectators.

Refer to Common Response 1 in Section 2.1, Frequent Comments and Common Responses, of this Final EIR for further discussion related to the permanent seating capacity provided by the proposed Project.

RESPONSE I-56-3

This comment states that the diving tower is essential to the Project.

This comment does not contain any substantive comments or questions about the Draft Environmental Impact Report (EIR) or analysis therein. This comment will be forwarded to the decision-makers for their review and consideration. No further response is necessary.

RESPONSE I-56-4

This comment questions the proposed parking mitigation for large events and states that sufficient parking exists in the parking lots in the vicinity of the Project site.

Refer to Common Response 3 in Section 2.1, Frequent Comments and Common Responses, of this Final EIR for further discussion related to parking and the proposed mitigation measure requiring an Event Traffic Management Plan.

RESPONSE I-56-45

This comment expresses support for the proposed Project and thanks the City for considering the commenter's opinions.

This comment does not contain any substantive comments or questions about the Draft Environmental Impact Report (EIR) or analysis therein. This comment will be forwarded to the decision-makers for their review and consideration. No further response is necessary.

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Alyssa Helper

From: Craig Chalfant <Craig.Chalfant@longbeach.gov>
Sent: Tuesday, June 14, 2016 1:46 PM
To: Ashley Davis; Alyssa Helper
Cc: Dino D'Emilia
Subject: FW: Belmont Pool EIR issues

From: Erica [mailto:therobinett6@gmail.com]
Sent: Tuesday, June 14, 2016 11:02 AM
To: Craig Chalfant
Subject: Re: Belmont Pool EIR issues

Thank you for your time and response. It is appreciated!
At the risk of belaboring the point - I think it important to emphasize health and safety issues surrounding a potential outdoor move of the dive well - the fact is sand blowing and ocean glare/reflection of the sun in the face of divers performing dangerous skills AND beginning divers in training, are real factors in having an outdoor dive well on the beach. This will cause a notable and significant risk to diving board and platform users. This human concern must be balanced with the environmental impact. Thank you again. I-57-1

Erica Robinett
Sent from my iPhone

On Jun 14, 2016, at 10:32 AM, Craig Chalfant <Craig.Chalfant@longbeach.gov> wrote:

> Thank you for your interest in the Belmont Pool project. Your comments will be included in the Final EIR along with all other comments received during the Draft EIR public comment period.
>
> Please contact me with any questions or concerns regarding this project.
>
> ---
>
> **From:** Erica Robinett [mailto:therobinett6@gmail.com]
> **Sent:** Monday, June 13, 2016 5:32 PM
> **To:** Craig Chalfant
> **Subject:** Belmont Pool EIR issues

Craig Chalfant
Senior Planner
City of Long Beach
Development Services/Planning Bureau
333 West Ocean Boulevard, 5th Floor
Long Beach, California 90802
Phone: (562) 570-6368
Email: craig.chalfant@longbeach.gov

Attachment 1

Dear Mr. Chalfant,

As a long time resident of Long Beach, California, I would like to address the current Belmont Pool project and EIR issues currently on your desk relating to the location of the DIVE WELL and SEATING.

Importantly, the rebuild of the pool should allow for the appropriate DIVE WELL within the INDOOR facility (not outdoors) AND allow for the appropriate number of SEATS for major national and international aquatic events in DIVING, WATER POLO, and SWIMMING!

As you may know, the facility once held Olympic trials, NCAA championships, and was a place where many youth were inspired to pursue their athletic dreams. It was a place people of all ages enjoyed safe and health recreational activity. Our community is now looking forward to rebuild and continue an important legacy.

To do this the DIVE WELL must be built in the INDOOR facility AND allow for the appropriate number for SEATS for major national and international aquatic events.

It is my understanding that the LB CITY COUNCIL already voted UNANIMOUSLY twice to have an <u>INDOOR</u> DIVE WELL.

An outdoor dive well is unacceptable because of some of the following reasons:

1- SAFETY AND COST - moving it outdoor may cause many problems such as safety of divers due to potential ocean and sun glare and additional significant building costs related to lighting, seating, cleaning, and maintenance.

2-LIMIT ABILITY TO HOST MAJOR EVENTS/LIMITED USE - outdoor placement would potentially limit the seating and limit the new facility's ability to host major events for diving. This undermines the overall best use of the facility.

3-RARE COMMODITY for DIVING COMMUNITY - a diving well, proper boards, and the platform is very important to the diving community. Unlike other aquatic sports which require the pool, diving requires the tower, boards, and the pool so as to practice, train and compete. This is a RARE commodity for Long Beach to have. There are very few facilities in all of Southern California that have the equipment to train all year round and seating for holding competitions. This is essential part of the project to be able to have this type of indoor facility here in Long Beach.

As for SEATING and PARKING - All the aquatic sports need a minimum of 1500 seats to make the use of the facility acceptable. The parking area which already has over 1000 spots must be considered. This new facility has the opportunity to be a phenomenal addition to the United States presence in aquatic athletics. It has a CHANCE to be a FINA (International governing body of diving, water polo, and swimming) regulation aquatic faculty in CALIFORNIA and having the seating to accommodate this is very valuable.

This project can once again be a place for recreational activities, training, and once again host competitive events for all aquatic sports from beginner level, to high school, college, national, international, and Olympic levels.

This project is important locally for our town, but also important for Los Angeles County, the State of California, nationally, and internationally.

Thank you for your time and consideration.

Yours,
Erica Robinett
Long Beach, California

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ERICA ROBINETT
LETTER CODE: I-57

DATE: June 14, 2016

RESPONSE I-57-1

This comment expresses concern related to the outdoor diving well, as proposed under Alternative 3. Specifically, the commenter cites health and safety concerns due to wind, sun, and other weather conditions.

Refer to Common Response 2 in Section 2.1, Frequent Comments and Common Responses, of this Final EIR for further discussion related to Alternative 3 included in the Draft EIR, which includes an outdoor diving well component.

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3.0 ERRATA

This section of the Final Environmental Impact Report (EIR) provides changes to the Draft EIR that have been made to clarify, correct, or add to the environmental impact analysis for the proposed Belmont Pool Revitalization project (proposed Project). Such changes are a result of further review of the Draft EIR. The changes described in this section are generally minor changes that do not constitute significant new information that alter the outcome of the environmental analysis or require recirculation of the document (*State California Environmental Quality Act [State CEQA] Guidelines* Section 15088.5).

Such changes to the Draft EIR are indicated in this section under the appropriate Draft EIR section. With the exception of changes to tables and figures, deletions are shown with ~~strikethrough~~ and additions are shown with <u>underline.</u>

1) Throughout the Draft EIR, the indoor and outdoor pools are referred to as “competitive pools.” The word “competitive” has been removed from the following pages to clarify that these pools are not exclusively for competitive use, but are also for recreational use by the general public: Page 1-1, Page 3-25, Pages 3-35 and 3-36, Page 3-39, Page 4.9-5, Page 4.9-24, Pages 4.11-5 through 4.11-7, and Page 5-24.

2) Throughout the Draft EIR, the building height is described as being 71 ft throughout the Draft EIR. While the building height will be 71 ft, this height is in reference to the plinth, which itself is located 7 ft above existing grade. As such, the total height of the building above the existing grade would be 78 ft at its apex (refer to Figure 4.7.1, North Elevation Comparison, in Section 4.1, Aesthetics, of the Draft EIR).

3) The following subsections have been renumbered, as subsection “3.4.5” has been skipped in Chapter 3.0, Project Descriptions, causing the subsections to move directly from “3.4.3” to “3.4.6”: Subsection 3.4.~~6~~<u>5</u>, Operational Characteristics; 3.4.~~7~~<u>6</u>, Passive Park/Landscaping; 3.4.~~8~~<u>7</u>, Proposed Pedestrian Access and Parking; 3.4.~~9~~<u>8</u>, Signage; 3.4.~~10~~<u>9</u>, Utilities and Public Services; and 3.4.~~11~~<u>10</u>, Conservation and Sustainability Features.

4) The last sentence on Page 4.1-4 of Section 4.1, Aesthetics, of the Draft EIR has been revised as follows:

   An approximately six ft concrete wall lines <u>the southern side</u> ~~the western side~~ of Ocean Boulevard, impairing much of the public view of the Pacific Ocean from this area.

5) Page 4.10-16 of Section 4.10, Noise, of the Draft EIR has been revised as follows:

   Crowd noise was measured to be 65 dBA L_{eq} at 75 ft. It is anticipated that reference noise level measurements obtained from RECON at the high school championship *football game would be similar to ~~typical daily events or~~ special events using the PA system at the proposed Project.*

6) Page 4.11-2 of Section 4.11, Recreation, of the Draft EIR has been revised as follows:

In addition to the aquatic operations at the Project, the City's Department of Parks, Recreation, and Marine own and operate three additional Public Pool facilities (with the exception of the pool formerly known as the Will Reid Scout Pool, which is owned by Integral Communities).

7) Page 4.13-7 has been revised to reflect the most current information provided by Los Angeles County Sanitation District (LACSD) in regard to wastewater facilities. These changes correct the average flow of the Joint Water Pollution Control Plant (JWPCP), the District in which the project site is located within LACSD's jurisdiction, and the most current year in which the design capacity and conveyed peak flow were measured at the Joint Outfall C Unit Trunk Sewer were measured. These revisions are as follows:

Wastewater. The LBWD operates and maintains nearly 765 mi of sanitary sewer lines and delivers over 40 million gallons per day (mgd) of wastewater to LACSD facilities located on the north and south sides of the City. Currently, a majority of the City's wastewater is delivered to the JWPCP of LACSD. The remaining portion of the City's wastewater is delivered to the Long Beach Water Reclamation Plant of LACSD. The JWPCP is located at 24501 S. Figueroa Street in the City of Carson and has a design capacity of 400 mgd, and currently processes an average flow of ~~280~~ 258.4 mgd.

The LACSD owns, operates, and maintains the large trunk sewers that form the backbone of the regional wastewater conveyance system. Local collector and/or lateral sewer lines are the responsibility of the jurisdiction in which they are located. The proposed Project is located within the jurisdictional boundaries of LACSD District ~~29~~3. LACSD owns, operates, and maintains approximately 1,400 mi of sewers, ranging from 8 to 144 inches in diameter that convey approximately 500 mgd of wastewater to 11 wastewater treatment plants. Included in LACSD's wastewater collection system are 48 active pumping plants located throughout the County of Los Angeles (County).

As noted in the comment letter (May 6, 2014) received by the LACSD, wastewater flow originating from the existing Project site discharges to a local sewer line, which is not maintained by the LACSD. Subsequently, wastewater in this sewer line is conveyed to either the LACSD's Anaheim Street Trunk Sewer located in 11th Street at Orange Avenue or the LACSD's Joint Outfall C Unit Trunk Sewer, located in 11th Street at Belmont Avenue. The 36-inch diameter Anaheim Street Trunk Sewer has a design capacity of 19.7 mgd and conveyed a peak flow of 5.7 mgd when last measured in 2012. The 51-inch diameter Joint Outfall C Unit Trunk Sewer has a design capacity of 29.2 mgd and conveyed a peak flow of 12.2 mgd, when last measured in 201~~2~~3.

8) Page 4.13-24 has been revised to reflect the most current information provided by LACSD in regard to wastewater facilities. This change corrects the most current year in which the design capacity and conveyed peak flow were measured at the Joint Outfall C Unit Trunk Sewer. This page has been revised as follows:

As described above, wastewater originating at the Project site is conveyed by City sewer lines to either the LACSD's Anaheim Street Trunk Sewer located in 11th Street at Orange Avenue or the LACSD's Joint Outfall C Unit Trunk Sewer, located in 11th Street at Belmont Avenue. The 36-inch diameter Anaheim Street Trunk Sewer has a design capacity of 19.7 mgd and conveyed a peak flow of 5.7 mgd when last measured in 2012. The 51-inch diameter Joint Outfall C Unit Trunk Sewer has a design capacity of 29.2 mgd and conveyed a peak flow of 12.2 mgd, when last measured in 201~~2~~3. The anticipated increase in daily wastewater flow from the proposed Project would require approximately 0.33 percent of the existing available design capacity of the Anaheim Street Trunk Sewer and 0.27 percent of the existing available design capacity Joint Outfall C Unit Trunk Sewer. Therefore, both trunk sewers would have sufficient capacity to accommodate anticipated wastewater flows from the proposed Project.

Wastewater Treatment. According to LACSD, it is anticipated that wastewater from the Project site would be treated at the JWPCP located in the City of Carson, which has a design capacity of 400 mgd and currently treats on average a wastewater flow of 2~~80~~58.4 mgd. The anticipated increase in daily wastewater flow that would result from Project implementation would represent 0.06 percent of the anticipated available daily capacity of the JWPCP. Therefore, the anticipated increase in daily wastewater flow from the proposed Project could be accommodated within the existing design capacity of the JWPCP. The proposed Project would not substantially or incrementally exceed the current or future scheduled capacity of the JWPCP by generating flows greater than those anticipated.

9) Page 4.13-33 has been revised to include the most current information provided by LACSD in regard to how the District calculates current and projected wastewater demands. This page has been revised as follows:

Wastewater. The geographic area for the cumulative analysis for wastewater treatment is defined as the City and the LACSD service territory. Within its service area, LACSD uses United States Census Bureau and California Department of Finance population information and actual flowrates to estimate the per capita generation of sewage. ~~with~~ P~~p~~opulation projections from SCAG and estimated per capita generation of sewage are then used ~~as well as current land use and build out or zoned land use~~ to project current and future wastewater flows. Because LACSD projects that its existing and planned wastewater treatment capacity would be sufficient to accommodate the growth forecasted by SCAG ~~the United States Census~~ within its service area, development that is generally consistent with this forecast can be adequately served by LACSD facilities. The proposed Project would replace and improve the previous Belmont Pool Facilities; no change in land use is proposed. LACSD existing facilities have the capacity to accommodate past, present, and reasonably foreseeable projects. Furthermore, LACSD routinely monitors the capacity of its existing facilities relative to project needs, and capacity projects are undertaken on an as-needed basis to meet wastewater demands associated with population projections. The proposed Project would not contribute wastewater that would exceed the service capacity of LACSD. Therefore, the proposed Project would not significantly contribute to or cause cumulative impacts to wastewater services, and no mitigation is required.

10) Page 4.5-9 of Section 4.5, Geology and Soils, of the Draft EIR, has been revised as follows:

Since the site is located approximately 1.5 miles southwest ~~northeast~~ of the Newport-Inglewood Structural Zone, significant ground shaking or secondary seismic ground deformation effects could occur at the site should a major seismic event occur along the Newport-Inglewood Structural Zone.

11) Page 4.5-5 of Section 4.6, Global Climate Change, of the Draft EIR, has been revised as follows:

"The City adopted the Long Beach Sustainable City Action Plan on February 2, 2010 ~~2019~~." (Page 4.6-19).

12) Page 5-23 of Chapter 5.0, Alternatives, has been revised as follows:

However, because Alternative 3 would relocate the diving well to the outdoor pool component, space constraints would require the ~~consolidation of pools and~~ removal of the divers' whirlpool and the loss of an indoor competitive diving facility.

13) Pages 5-35 and 5-36 of Chapter 5.0, Alternatives, have been revised as follows:

> "Although Alternative 5 would redevelop and replace the former Belmont Pool with a more modern facility that better meets the needs of recreational and competitive swimmers, divers, and aquatic sports participants~~,~~ (Objectives 1, and 2)~~, and increases programmable water space to minimize scheduling conflicts (Objective 5)~~, it does not meet these objectives to the same degree as the proposed Project. Alternative 5 provides only 200 sf more pool area than the former Belmont Pool facility, and is 49 percent less pool area than the proposed Project. The small increase in pool area would not alleviate the overcrowding and schedule conflicts of the former Belmont Pool as compared to the proposed Project (Objective 5)."

ATTACHMENT A

STUDY SESSION MEETING TRANSCRIPT
(MAY 5, 2016)

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MEETING OF THE PLANNING COMMISSION
FOR THE CITY OF LONG BEACH

TRANSCRIPT OF DISCUSSION
STUDY SESSION REGARDING THE
BELMONT BEACH and AQUATIC CENTER

MAY 5, 2016
5:00 P.M.

COUNCIL CHAMBERS
333 W. OCEAN BOULEVARD
LONG BEACH, CALIFORNIA

MARY E. PIERCE, CSR 6143
JOB NO.: 16-058

COMMISSION MEMBERS:
MARK CHRISTOFFELS, Chairman
DONITA VAN HORIK, Vice Chairwoman
RON CRUZ, Commissioner
ALAN FOX, Commissioner
ANDY PEREZ, Commissioner
JANE TEMPLIN, Commissioner
ERICK VERDUZCO-VEGA, Commissioner

CITY REPRESENTATIVES:
AMY BODEK, Director of Development Services
LINDA TATUM, Planning Manager
MICHAEL J. MAIS, Assistant City Attorney
TOM MODICA, Assistant City Manager
LORI JARMACZ, Parks, Recreation & Marine

CONSULTANTS:
ASHLEY DAVIS, LSA Associates, Inc.

MEMBERS OF THE PUBLIC WHO ADDRESSED THE COMMISSIONERS:
LAURA SILMER
ANN CHRISTENSEN
LUCY JOHNSON

THURSDAY, MAY 5, 2016; LONG BEACH, CALIFORNIA;
5:09 P.M.

CHAIRMAN CHRISTOFFELS: With that I guess we'll open up the study session. Staff report?

MS. TATUM: Our Deputy City Manager will start off the presentation for the Belmont Pool study session.

MS. BODEK: Or Assistant City Manager.

MS. TATUM: Sorry. Didn't mean to give you a promotion there.

MS. BODEK: Tom, thank you for being here.

Tom has been the lead person for this project over the last couple of years, and the format for this evening is this is a study session, so we're not asking you to take any action tonight.

We are in a formal release of the EIR right now. It is going to be circulating for an odd number of days, 63 days. We are doing several study sessions. This is the first study session within the EIR time frame.

We previously had a community meeting three plus weeks ago or so in the Third District where we reviewed the design but did not review the EIR with the community because the EIR had not yet been released.

After Mr. Modica provides his presentation

we'll turn it over to staff, and they will review the EIR for you and for members of the public.

So with that I'm going to turn it over to Mr. Modica.

CHAIRMAN CHRISTOFFELS: Before you do, I think if we can clarify that. So comments tonight, especially related to the EIR, are technically not on the record regarding that document; is that true?

MS. BODEK: We actually do have a court stenographer here, as well, so I'm going to refer to either Mike or our environmental consultant as to whether or not oral comments are considered comments for CEQA.

MR. MAIS: Part of the administrative record.

MS. BODEK: And do they get responses?

MR. MAIS: No.

MS. BODEK: So any comments tonight are part of the administrative record, but we are not required to provide responses to those comments. We are only required to provide responses to comments for written comments that we may be provided.

CHAIRMAN CHRISTOFFELS: Thank you for clarifying that.

MR. MODICA: Good evening, Mr. Chair, members of the City -- I almost said "City Council." It's a habit.

Members of the Planning Commission.

So it's an honor to be here today to really walk through the Belmont Pool, the Belmont Beach and Aquatic Center to really give you an update on the design and what we're proposing and then really go through the EIR document.

As Amy said, we started this and launched the design out into the community and started the official EIR process in early April. April 9th was the community meeting and released the EIR shortly thereafter.

So I'll walk you through a little bit of the history. You should have a PowerPoint in front of you that talks about where this project came from and then walks through the design before we turn it over to LSA.

And so January 10th, 2013, was really the beginning of the Belmont Pool process for us. We had seismic issues that very suddenly came to light, and we had to do an emergency closure of the pool. So within 24 hours' notice once we had the information that we had seismic issues at the pool, we needed to close that pool immediately.

Obviously, that left a dearth in our community. We are an aquatics community. We have a

tremendous history of aquatics, so we needed to very quickly both come up with a temporary solution and a long term solution.

And so within a month, the Council had green-lit a plan to both start on a design for a new pool, which is what we're here talking about today, but also a temporary pool.

Within ten months we were able to get a temporary pool through the coastal development process, through all the approval bodies that needed to see it and have it opened December 19th, 2013, which we're very proud of.

Shortly thereafter, March 4th, Council approved a contract and the design team that's been on the pool to get them started. In July through September 2014 was some pretty intense discussions with the community about what this new pool should look like, what are the major features, what are the different assets that we should have in the pool.

We convened a State-ordered advisory committee to really go through some draft recommendations and work with the community and also went out and had over 200 people show up at community meeting to be involved in this project, in this process.

On October 21st, the Council approved the

baseline programmatic requirements, really setting into stone what is the pool going to house in terms of the programmatic requirements.

This is essentially what the Council adopted in October 2014. So we essentially have I believe it's a total of six pools. On your left here we have -- let me see if this works.

It's hard to see, but on the left here, this is the natatorium. So we would have a 50 meter by 25 yard wide pool inside the natatorium. It has a movable floor so that we can accommodate different depths so that it can be -- in the aquatic world, a deep pool is considered a competition pool, a fast water pool, but in the recreational world we need the ability for people to stop and stand up and participate in swimming activities, as well.

This is designed to be a pool that is for everybody, for residents primarily, but also the ability to support competitive uses.

We have a diving tower which has all of the diving amenties up to a ten meter platform. We have the ability to have seating -- and we'll see that on the next page -- of up to 1,250 people on the indoors.

We have a teaching pool down here, so that would be a warm water therapy or teaching pool. We have

a whirlpool. We have an outdoor recreational pool. This would really be designed primarily for children, but also for other recreational uses.

And then we have an Olympic size 50 meter by 25 meter deep water pool on the outside. Also have a restaurant that was contemplated or a beach cafe and then, of course, locker rooms and all the support services inside.

On the second floor there would be 1,250 seats, and this really would have the ability to accommodate nearly every competitive level event. There are just a handful that require 1500 seats, and then there are the Olympic size that require 25,000 seats that aren't really built or housed in pool complexes anymore. You really bring a pool into an arena in order to do the Olympic Trials.

So continuing with the history, we received approval to demo the existing facility in August 2014 and then also started that process of really going out and talking to the community.

We held a number of community meetings where people asked for updates, we were talking to stakeholders, and also did a big community meeting May 2015 to really get the architects to talk about kind of design strategy.

We also did a design survey, which I'll talk about in a second, and spent the last year really taking all that information and the architect coming up with the concept design development and then Draft EIR that you're seeing today.

Our design survey, we had 506 people fill out a design survey. It's not a scientific survey, but it really was a good way to measure the general sentiment and issues of importance. We have all those results online for anyone who wants to see it.

Some of the main things that we really heard was on the features over here, it talked about natural colors and exposed structures, round edges, simple shapes and soaring trusses and a variety of shapes, and in materials, you know, what would really fit into this site and into the neighborhood, glass and exposed steel, concrete, polymer panels, wood and concrete block.

So we have a couple project goals that the Council has established. One is to create a facility unlike any other municipal aquatic facility on the West Coast. However, it should be a facility that is in harmony with the neighborhood.

The site is a very unique site. It's down on the beach. It's near residential uses, near

commercial uses. So it is a very iconic and interesting site.

We also want to make sure we're employing an iconic and sustainable design, something that is widely recognizable, something that really is unique. We need to meet the needs of our local residents. This needs to primarily be something not just for the neighborhood but for all of City of Long Beach and also of the region for residential and recreational use. But we also want to support competitive events as needed and as desired.

And then, of course, this is in the coastal zone. We have to be very cognizant that the Coastal Commission has a huge role here in approving this facility, so we need to support the Coastal Act.

So we gave the architect a very difficult challenge, one that he and the whole team readily embraced. We said you need to incorporate all those project goals, and you need to incorporate community input, and you need to meet our programmatic outline, and you need to use appropriate materials for the site, and you have to adhere to Coastal Commission requirements, and you have to mitigate environmental impacts, and, of course, minding all that, you also have to create a beautiful facility. So that's quite a

challenge.

The architect has done a presentation in the community about some of the things that inspired him. You know, he's looking at the types of populations and the number of youth and others that enjoy the area and facility, looking at things like spheres and how do you get a spherical shape that really could help, be the most efficient shape, looking at different materials, looking at sailing and honoring the aquatics community and trying to put all that into the beach site and something that the neighborhood would be able to embrace.

This is the proposed design. So this is what we've revealed to the community on May 9th -- I'm sorry -- April 9th. So what you see here is you see the facility over here on -- it's on the west of the site. We're looking at it looking south from above Olympic Plaza.

Here's the outdoor pool. You've got the recreational pool here. You've got what we call the Bubble, which is made out of material, a polymer material called ETFE. Over here on the left is the beach cafe, and it's got an arc here that kind of represents and completes the dome shape that comes across the site that way.

You then have the beach to the south. Olympic Way here on the north of the site is an open pedestrian area where it's currently a street.

Here's another look at the site plan from up above. You can see that there's a great lawn down here. We've got landscaping all around and a sloped lawn coming up this direction here. We've got our beach cafe over here. We're got restrooms, publicly available restrooms.

You are surrounded here, it is on a seven-foot plinth, but then there's also a glass wall, a glass-type wall that will go around that will be approximately 12 feet high in order to help mitigate sound issues. And then you've got the facility, the natatorium that is covered on the left-hand side.

We've got detailed copies of this that really show the interior schematics. These are the various pools. They're all in the same locations that we show in the programmatic design with your 50 meter by 25 yard pool here.

There's actually a space that the building design allows over here to allow -- it's a sloped deck that actually allows a little bit extra space around the pool. It's currently, I believe, 20 feet on either side, which is standard regulations for competition, and then you have the separated diving well here.

Getting into the first level mezzanine, so you'll see the next level up. And this is then the second level, and then further up is the second level mezzanine.

These are the elevations, so looking at it from the east, this right here is the cabana. It is a structure made out of polymer, as well, that provides a little bit of shade on the outside of the facility in the outside deck.

And then on the west elevation you can see here this is an outdoor viewing deck that is accessible from outside of the facility. You can imagine walking around this facility, wanting to be part of the experience without being in water. You could walk in, view from the inside and then exit back on out to the beach as you come out over here.

The material there is woodlike and is really designed to kind of complete the aquatics theme for the area that's really important.

South elevation, this is looking at it from the south and then again from the north, and this white here is the building entrance and representative of a sail kind of laid on its side. It helps define the entrance.

This is looking south from Olympic Plaza. This is standing just inside of the pool on the inside of the fence looking to the -- from the southeast.

This is a representation of what it could look like on the inside, as you see this material has the ability to be very clear. It can also be designed so that it's opaque. We know we're going to have some issues, especially over the diving area, where you don't want to have as much natural sunlight coming in. It can confuse divers. But you have a lot of flexibility to have different transparencies of this material.

This would be looking west from the indoor pool spectator seating. Here again is a view looking from the ten meter diving platform out onto the beautiful coastal views.

We're going to have a very active pedestrian beach path that goes right in front. The current path would be basically right next to the facility, so this is what you would see from the beach. Again, you can see that you can access the facility here, come up, walk around the facility and then come back down again.

This is the view from the Belmont parking lot. The first level mezzanine -- we have a lot of programming where we have kids and others, youth groups

and youth sports, that use this facility hundreds at a time. This is a programmable deck that you can have kids' classes and other things out there, resting area while they do their activities.

This is the view from the patio or the east side of the natatorium looking in and then the view from the ocean at night.

So talking about elevations, this is a schematic that we have in the EIR to show this is the old facility on the bottom here before, and then we also have it superimposed.

So you can see that there is a height difference. The new building, because of the diving well -- actually, it's a ten meter diving platform. In order to fit that into the dome, you do have to have some elevation, and it is slightly larger and higher than the current building.

But you can also see the way that the buildings's been oriented, it's more narrow. It actually doesn't have -- looks like the pointer went dead.

But you can see that it's not nearly as wide as the former building, plus it's also a transparent material where the other was concrete.

This gives you a sense of the pre and post

view sheds. The view is incredibly important in a coastal area. So standing right in front of the building, you can see what the view was before. And actually, we've been able to maximize views even though it is a larger facility just because of the way that the architect has oriented it to the site.

We get asked questions what does it look like from the neighborhood. So this is a simulated view from Prospect Avenue. Same thing from South Termino Avenue and Midway Street. And then this would be the front of the entrance as you come in on Bennett. This would be the area directly in front of the facility.

So in terms of the design features, we're very cognizant that this is in a neighborhood, that we do have neighbors around the facility. They are -- currently we do hear discussions about noise, so that's all covered in the EIR. But, obviously, when activities are here in the building, they're going to be -- the noise will be contained.

But we are looking at mitigation measures, such as creating a 12-foot-high transparent sound wall to the north and east sides of the pool. We do have the ability to bring in temporary bleachers, but we are not programming any bleachers as part of the normal programming.

And we could bring in 3,000 seats for bleachers that would be brought in for a special event and then taken out again. And if we were to do that, we would make sure that any outdoor speakers would be aimed down at the pool so that you're not impacting the residents.

One of the things that was incredibly important was the open space comparison is we wanted to make sure we had as much, if not more, open space under the new design as we do under the current design or under the old building -- excuse me -- and we were able to meet that challenge and actually exceed it.

So what this shows here is that we used to have existing open space of 118,000 square feet. We now have proposed open space at 127,000 square feet. And the green space under the old building was 45,000 square feet, and now it's 55,000 square feet.

We get often asked about funding, about where is this kind of in the funding pipeline. The City has approved $103.1 million project budget in October. Obviously, that was predicated on whether oil was staying at a hundred dollars a barrel. It is currently around 40.

And so our funding has been delayed due to

that drop in oil prices. We currently have enough budgeted to complete the entitlement process and finalize construction documents. We are developing a strategy to address that revenue shortfall, and we realize that the construction cost escalation will affect the total cost, but those costs really aren't going to be certain until this body takes action, the City Council takes action, the Coastal Commission takes action and we go out to bid and determine what those costs are.

And so I'll leave you with one last view of what the proposed facility is, and with that I'll turn it over to LSA to go through the EIR. And thank you very much for your time.

MS. DAVIS: Good evening. My name is Ashley Davis. I'm with LSA, and we prepared the Environmental Impact Report on behalf of the City consistent with the California Environmental Quality Act, or CEQA.

Tonight I am going to go through the CEQA process and the findings of the EIR.

This slide shows you the steps in the CEQA process, the first step being a preparation of an initial study and then a Notice of Preparation.

The purpose of the NOP is to advise trustee and responsibility to the City, as well as interested

parties, that an EIR is being prepared and to get their advice on what topics they would like addressed in the EIR.

As you can see, the first NOP was published from April 18th to May 17th, 2013. Subsequent to that there were enough design changes that we felt we needed to revise the NOP, and that was republished April 9th to May 8th, 2014.

During that time and after it, the technical studies and Draft EIR were prepared. As I mentioned earlier, we are now in the public review period. It is a 65-day review period. CEQA requires 45 days, but the City has extended this due to the interest in the project.

The review period runs April 13th through June 16th, 2016. When that period ends, we will respond to all comments in writing and compile a final EIR which will be sent forward for certification along with project approval.

This slide simply shows the process in a box diagram to show you where we are now. We're at that 65-day public review period. The boxes along the bottom, all four, indicate the points in time in which the public can be involved and comment on the project or the Draft EIR.

The Draft EIR analyzed the 13 topics listed here, and of importance I should make a note that all impacts can be mitigated to a less than significant level, and the City will not be required to adopt a statement of overriding considerations.

The four topics listed here did not exceed their thresholds of significance and did not require any mitigation. I'll go through those briefly.

Air quality. The construction emissions only requires standard conditions to prevent fugitive dust, things such as watering unpaved areas and making sure that mufflers were updated and maintained.

Operational emissions did not exceed the South Coast Air Quality Management District threshold, and no mitigation was required.

Greenhouse gas and global climate change. Construction emissions for greenhouse gas are actually amortized over 30 years to assess their impact on global climate change. In other words, construction emissions are added to operational emissions and evaluated at that level.

The project produces an estimated 1600 metric tons of carbon dioxide equivalent above the existing condition. Please note this does not include any credits for the Leadership in Energy and

Environmental Design, the LEED features that would reduce energy usage and would reduce emissions. Even added to the existing site emissions, the project would not exceed the carbon dioxide equivalent of 3,000 metric tons per year.

Land use. The former Belmont facility was opened after the 1968 Olympic Trials for public use. Since then it's been included in the land use and the planning documents that regulate the site. The project is consistent with the General Plan and the local coastal program and with the height variance will be consistent with the zoning.

Recreation. There were no adverse impacts. The design, as Tom was mentioning, is based on the programming needs of the community and, therefore, the construction of the project is considered a positive impact.

The nine topics in red are those in which mitigation was required. The numbers in parentheses are the numbers of mitigation measures for each topic. All potential impacts, again, can be mitigated to a less than significant level. I'm going to go through each of these separately.

Aesthetics. The project would alter the views on the project site, but the new design has

comparable mass scale and height to the former facility. The building design, as you saw earlier, is curved versus a square building and provides for increased coastal views. It was also aligned to increase these views.

Regarding light, the structure would be illuminated from inside and produces a glow rather than a direct light. We should also note that it will be closed at 10:00 p.m.

Construction fencing could serve as a potential target for graffiti and trash. Therefore, one mitigation measure requiring maintenance of the construction barriers was proposed.

Biological resources. No sensitive natural community or special status plant species were identified on the site. Implementation and construction will require removal of some trees and may interfere with bird species. Therefore, there are two mitigation measures proposed, one to avoid impacting nesting birds and a second to obtain a tree removal permit.

Cultural resources. There are no known resources on this site. However, activities below 23 feet deep do require an on-call paleontologist to be retained by the City to determine if resources could be likely in those soils.

Geology and soils. There are no geological hazards on the site, and the project is feasible. However, we propose one mitigation measure which is required to ensure conformance with the recommendations in the geotechnical study.

Hazardous materials. The site does not include any hazardous materials, list of hazardous materials. There is no unusual use of hazardous materials proposed. Any potentially hazardous materials, such as chlorine and pool cleaners, would be handled in compliance with all applicable regulations.

Two mitigation measures are proposed. The first is a contingency plan for unknown hazardous materials that could be encountered during construction, and a second requires pre-demolition surveys for asbestos containing materials and lead.

Hydrology and water quality. There is potential for soil erosion during construction and a need for dewatering. Therefore, two mitigation measures, the first, compliance with the general construction permit, and the second is to obtain a ground water discharge permit.

The project, as noted in Tom's presentation, decreases the impervious areas and there will be less runoff. However, we still proposed a

measure that requires preparation of a standard urban storm water mitigation plan to mitigate potential pollutants and runoff. The on-site drainage patterns would change. And the fourth mitigation measure regards a hydrology report to ensure the flows would not exceed the storm drain facilities.

It should be noted the eastern half of the project site is located within flood zone A, which is a special flood zone hazard area, and mitigation measure, the fifth one in the section, would require preparation of a flood plain report to reduce impacts of the flood plain and structures.

Noise. Heavy construction equipment could cause noise impacts. Therefore, two mitigation measures are proposed. The first requires standard conditions for construction equipment such as staging it away from sensitive receptors and maintaining properly two mufflers. The second measure is conducting a preconstruction community meeting where the community will be notified of the construction schedule and given contact information in case there are any problems during construction.

Project-related traffic noise levels would not impact off-site noise-sensitive land uses. Although noise generated under normal operations would not have the potential to impact noise-sensitive uses, noise during special events, which are defined as over 450 people or more at the outdoor pool, could impact nearby noise-sensitive uses.

Therefore, a mitigation measure was required that will require the noise from the speakers to be below the City standard levels. Some of the ways they can achieve this is to reduce the actual speaker levels, lower the speakers physically closer to the ground and adjust the direction of the speakers.

Traffic. There are no construction traffic impacts, but one mitigation measure was proposed to ensure adequate emergency access. This traffic management plan will ensure that emergency vehicles have access both to the site and the surrounding areas.

All study area intersections will operate in an acceptable LOS with the project. However, large special events, again, 450 or more spectators, will require mitigation in the form of an event traffic management plan for that event.

Utilities and service systems. All the mitigation measures required for this topic are actually from the hydrology section and are applicable to the thresholds here. All of the utilities will be sized to accommodate the project, and no new major facilities

were required.

Due to the potential to encounter ground water during construction, the mitigation requiring ground water dewatering permit is applicable. Due to the change in drainage, the mitigation addressing storm water facilities is also applicable to ensure runoff from the site does not exceed existing conditions.

New storm water BMP's require operations and maintenance plans. Therefore, the mitigation requiring the standard urban storm water mitigation plan is also applicable.

The increase in water demand associated with this project represents a 0.027 percent of the Long Beach Water Department's supply in 2015. Therefore, the water demand is within the available and projected water supplies of the Urban Water Management Plan. No mitigation is required.

Similarly, impacts to electricity and natural gas are less than significant, and no mitigation is required.

The EIR also addresses alternatives. In the first set of alternatives, I'm going to discuss the off-site alternatives that were considered but rejected. There were three of these, the first being Harry Bridges Memorial Park. However, this site is parkland

mitigation for the Aquarium of the Pacific and Rainbow Harbor. It was federally funded and must be used for public outdoor recreation, and so it was eliminated from further consideration.

The Queen Mary site. This site is subject to a 40-year lease. Therefore, it was not feasible and was eliminated.

The Elephant Lot at the Long Beach Convention Center is also privately leased. The lease expires in 2030. However, due to the time, it was also eliminated.

I should also mention that we did evaluate a fully enclose1d pool alternative to reduce the noise impacts on the surrounding neighborhood. However, in order to enclose all of the pool facilities in the bubble structure, there would have been a greater blockage of scenic views, it would have exceeded the height, mass and scale of the former facility, and therefore, this alternative was also eliminated.

The EIR analyzed these five alternatives. All alternatives are intended to reduce or eliminate adverse impacts, and I'll go over each of these next.

Alternative one is a no project, no new development alternative. This alternative is required under CEQA. It assumes no changes to the current

conditions, no new construction and no new development.

The backfilled sand area on the site would remain, and the temporary pool would also remain. However, the temporary pool would require maintenance, regular maintenance, and possible future replacement if no new pool facilities are constructed.

It was determined that although this alternative has fewer physical impacts, it does not meet the project objectives.

Alternative two, maintain the temporary pool within similar uses. This alternative would construct the permanent foundation and provide permanent administrative and support facilities for the temporary pool, such as lockers, restrooms and the snack bar. The backfilled sand area and the open space park area would be expanded.

However, this alternative would reduce the total pool surface area approximately 49 percent compared to the proposed project. This meets a few of the project alternatives but not to the same degree as the proposed project.

Alternative three, the outdoor diving well. This alternative would locate the diving well outside of the enclosed pool facilities. The building height under this alternative could be reduced, but it would still need a variance since the zoning restricts the height to 30 feet. It would allow similar programming events as the project, but competitive divers tend to prefer indoor competitive facilities versus outdoor facilities. This meets most of the project objectives, but again, not to the same degree as the project.

Alternative four. Reduce project, no outdoor components. This would eliminate the outdoor pool component and reduce the overall footprint of the pool structure. Open space and park areas would be increased. A height variance, again, would still be required. Overall impacts would be incrementally less with the exception of recreational impacts, which would be greater since the same amount of facilities would not be provided.

This alternative would meet some of the project objectives but not to the same degree as the proposed project.

Finally, alternative five. Reduce project, no diving well and no outdoor components. This would eliminate the indoor diving well component and the outdoor pool facilities. This alternative would reduce the overall footprint and height of the structure, but again, a height variance would be required.

This alternative would increase open space

in park areas, but it would not meet the project objectives to the same degree as the proposed project.

Finally, this slide shows you where you can review the Draft EIR both online and at Long Beach Main Library and the Bayshore neighborhood library and where to submit your written comments which must be received by June 16th, 2016. We have provided copies of this slide if you'd like to take them with you.

And that concludes my presentation.

MS. BODEK: That does conclude staff's presentation, and we are here to answer any questions. We also have a couple of the architects in the room, as well, if you have any specific questions on the architecture.

CHAIRMAN CHRISTOFFELS: Thank you.

Is there any questions of staff at this time?

Mr. Modica, I do have a question.

What's unclear in the drawings and diagrams that you presented, obviously, the pool has to be secured. Being a pool, you've got to fence it off during off hours.

Where does that fence line occur, and is that cafe on the outside of that fence line and, therefore, would be available even if the pool facility

itself wasn't open at that time?

MR. MODICA: Yes. We're actually seeing the cafe as being separate from the pool facility. So it would have a separate vendor that would actually operate that. It would not be done by City staff.

But then we have a 12-foot fence that goes all around the entire facility, and to enter the pool facility you would go through a controlled entrance right in the very beginning that you could then determine do I go into the natatorium or do I go into the outside facility.

So being very cognizant of being able to secure it at night, and then the walkway around the outside of the building can also be secured. The viewing platform can also be secured.

CHAIRMAN CHRISTOFFELS: So would you always enter through that main entrance that you were seeing there?

MR. MODICA: Correct. You can exit out of other areas, but you would always enter through that main area. Of course, if there were special events or if we needed to open up additional access points, we could do that, but that would all be controlled by staff at that time.

CHAIRMAN CHRISTOFFELS: Is the outdoor facility going to be lighted for nighttime activity, nighttime

swimming?

MR. MODICA: In terms of lit, I don't know the answer to that.

Lori, do you have a --

MS. BODEK: Lori, the question, will the pool, the outdoor pool, be lit at night?

MS. JARMACZ: Yes.

MS. BODEK: Until 10:00?

MS. JARMACZ: Yes.

MS. BODEK: Which is what you currently do in the temporary pool.

CHAIRMAN CHRISTOFFELS: So what we see today in the temporary pool is the kind of lighting that would be available for the outdoor areas in deployment with the --

MS. JARMACZ: Very specifically directed to.

CHAIRMAN CHRISTOFFELS: You may want to come down to the microphone, please.

MS. BODEK: Actually, I can answer that.

We do have -- in the EIR we did specifically show that the lighting that is geared towards the outdoor pool is specifically oriented downwards and away from any surrounding land uses so that we reduce any and all light spillage.

CHAIRMAN CHRISTOFFELS: Okay.

Commissioner Templin?
COMMISSIONER TEMPLIN: Thank you.
With the hope of all the new high end operations, we'll be attracting different kind of, I guess, outside people coming in and competition and things like that. How is that impacting the parking?
MR. MODICA: So we are currently seeing enough parking for it to be able to handle the normal uses. We do have the large parking lot on either side, and we have a parking count that we'll be able to give you in a second, but we do believe that for certain special events we're going to have to create a parking plan.
So we have a special events office that's going to have to determine based on the size if it's going to be larger than the amount of parking that we can handle on site, that we're going to have to create parking plans and either do shuttles or bring people in from other sites so we're not impacting the neighborhood.
COMMISSIONER TEMPLIN: Thank you.
CHAIRMAN CHRISTOFFELS: Commissioner Fox?
COMMISSIONER FOX: I have some very broad questions and different questions in a couple different areas, and your presentation has answered some of my questions, but you were relatively quick on the

financing side, and it sounded as if the City will be asking for Planning Commission, City Council and other approvals without really having a very clear current understanding of what costs are going to be.
Is that roughly the case?
MR. MODICA: So we do have a sense of cost. So we have a $103 million budget, of which we have $60 million already secured in cash. So we have fully funded the demolition, we have fully funded the design and construction drawings, and we do have about $40 million set aside for actual hard construction costs.
That being said, we do expect -- this is an evolving process -- that given the circulation, they may have different opinions on, you know, the size of the building or of different amenties that are there, and then we would need to also go out to bid on a project this large.
The cost is also very determined on cost escalation. We've seen cost escalation in the last year go up by several -- 4, 5, 6 percent in some categories, so we have to build in when do we think the actual midpoint will be that we would construct the facility in order to get the actual cost estimate.
So far the $103 million budget really assumed that we would essentially be moving forward on

construction -- I think the midpoint of construction was 2017 essentially. So we're a little bit off of that, and construction escalation is just something we're going to have to deal with.
COMMISSIONER FOX: So it's not exactly a blank check you're asking from the various approval bodies, but it is an estimate?
MR. MODICA: It is an estimate, yes, sir.
COMMISSIONER FOX: Commissioner Templin asked the same question, and I think you're going to provide more detail on the parking matters. I was going to ask, but I think we've touched on it already, whether historically we had looked at other alternatives.
And in the discussion of the other alternatives, the answer in terms of dismissing a number of those alternatives were that those alternatives didn't meet the project objectives.
And I'm not sure if you touched on this at the very beginning, but I would think in the EIR and in your various presentations, it would make sense to at least outline the project objectives, although I think we all generally understand them at the beginning, so that the elimination of the other alternatives could be more easily understood.
That's just a comment, not a question.

MS. BODEK: Commissioner Fox, those objectives are included in the EIR document.
COMMISSIONER FOX: Good.
MS. BODEK: So we do use those to determine how alternatives compare to meeting those objectives.
COMMISSIONER FOX: You can understand in seeing this presentation and the continued reference to the project objectives, the question comes up.
MS. BODEK: Certainly. And we can certainly look to incorporate those project objectives in a future PowerPoint so that it's more clear up front.
COMMISSIONER FOX: Great.
MS. BODEK: As for the parking question, I'm not sure what the question is, but the facility is designed to accommodate and use the existing parking that's out there now. So it will not be constructing any new parking. It relies on the existing parking that's there both at the Belmont Pier parking lot and then at the Granada Beach parking lot.
COMMISSIONER FOX: Will all that be sufficient for what is projected to be the uses and the people that will be at the pool?
MS. BODEK: On a normal operating basis, yes.
COMMISSIONER FOX: Okay.
MS. BODEK: Special events, as Mr. Modica said,

will take additional arrangements, and that's part of the special event permit process.

COMMISSIONER FOX: Thank you.

CHAIRMAN CHRISTOFFELS: Commissioner Cruz.

COMMISSIONER CRUZ: Thank you.

Question about the traffic management plan. What size of event would trigger the management plan?

MS. DAVIS: That would be an event that would have 450 spectators or more.

COMMISSIONER CRUZ: And that's the responsibility of the sponsor of the event?

MS. DAVIS: Yes. Whoever sponsored the event would be required to prepare that, and it would be reviewed and approved by the City's Traffic Engineer.

CHAIRMAN CHRISTOFFELS: All right. Thank you.

Commissioner Verduzco-Vega.

COMMISSIONER VERDUZCO-VEGA: Thank you, Mr. Chairman.

I'm not quite sure if it's premature to ask this question, but nevertheless, I would like to know if there has been discussion on what sort of impact a project of this magnitude will have or maybe has or has not considered any type of local employment or anything along those lines.

Would we require the incorporation of the

local resources, such as our local work force development programs or other local hire programs that we have in the City?

MR. MODICA: So, yes, we have looked at that. One, we would be negotiating a project labor agreement for this size of a facility. So the City currently has project labor agreements that really look at boosting local hires, and we have that on any facility above $500,000. On a project this size, we would want to negotiate a specific one.

We also have some challenges with -- on project labor agreements. Because it's a Tidelands project there are special State policy applies, that the City's general project labor agreement would not apply because that really is focused on Long Beach residents first and foremost, but we would be looking at Orange County and LA County for local jobs.

We've also done some studies about what this could do potentially to increase TOT and increase hotel room nights and the economic impacts from some of the competitions that would come in, and that study essentially concluded -- it's a long range of margins, obviously. It's hard to predict with certainty, but it could bring in up to 10 percent more hotel room nights than we currently see today, which would be significant.

COMMISSIONER VERDUZCO-VEGA: So in this respect, I think I -- I want to make sure that I understand. Because it is this type of project that requires an extra permitting and extra scrutiny at the state level, I'm assuming, is that why the definition of local becomes now more of a regional?

MR. MODICA: So we have a ruling that any projects that are in the Tidelands area, which is certainly where this project would be, we are not allowed to use a project labor agreement that is specifically to benefit only local Long Beach residents. Because the State Tidelands belong to all Californians, if we are to do a project labor agreement -- and we've had success in the past -- it needs to be a broader regional definition of local hires, which would be Orange County and LA County.

COMMISSIONER VERDUZCO-VEGA: Thank you.

CHAIRMAN CHRISTOFFELS: Commisioner Van Horik.

COMMISSIONER VAN HORIK: Thank you.

I think that the whole project is stunning, and I think it's going to be gorgeous, at least from the beach side. I have a question about the height requirement.

What is the height limit in that zoning area, and what is the height of the proposed structure?

MR. MODICA: Turn to LSA or staff to answer that.

MS. BODEK: I'm going to go off the top of my head. I believe the existing height limit is 36 feet, and this will be somewhere around 68 feet.

The existing -- I should not say the existing facility. The old Belmont Pool was 58 feet or so, so that already exceeded the height limits for the specific zoning area, and this will also exceed that.

So there is an expectation that this project would require a variance.

COMMISSIONER VAN HORIK: And again, repeat what's the height of the new?

MS. BODEK: I'm going to just clarify that and get back to you.

COMMISSIONER VAN HORIK: Okay. Thank you.

CHAIRMAN CHRISTOFFELS: Seeing no other commissioners requesting additional information, thank you, Mr. Modica.

And with that, we will open it to the public. If you are present tonight to speak on this matter, please come forward. Come to the podium. I need you to say your name and address for the record. You'll have three minutes to speak, and for your convenience, there will be a clock behind me.

MS. SILMER: Thank you. My name is Laura Silmer. My address is on file with the City.

I did not come to speak about this project, but I'm fascinated. I think it's a beautiful, just a stunning building, as the Commissioner said over here.

My question is cleaning the building. Has the architect addressed how to keep those beautiful transparent windows transparent? Because we are located near a port, and I know that some of our solar panels were unworkable that the City owned because so much soot had collected on the horizontal structures. Plus the maintenance, you know, the extra cost of maintaining that style of design to keep it looking the way it's shown.

Thank you.

CHAIRMAN CHRISTOFFELS: You're welcome. Thank you.

MS. CHRISTENSEN: I'd like to ask a quick question before my time starts, and that is while I understand that oral comments tonight will not get a response, are they entered into the EIR record?

CHAIRMAN CHRISTOFFELS: Yes. So your comment will go on the record, but if you're looking for a formal response to that, you'll need to provide it --

MS. CHRISTENSEN: Thank you.

My name is Ann Christensen. I live at 259 Termino, so I am local, very local resident. I am

also a member loosely of the aquatics community. However -- I don't know if I can do this in three minutes, but I'll just state right off the bat that I don't think we need a double wide. This is double wide, like a double wide trailer.

I think the main reason right now, the reason I think has maybe the most hope of before a planning committee that already approved a giant glass building in our wetlands sanctuary and had to be stopped with a $50,000 lawsuit from a nonprofit wetlands group a number of years ago, I don't think you will hesitate to follow the mitigation plan of avoiding impact from the bird -- shorebirds.

And these are not just any birds. These are protected wildlife shorebirds -- by the suggested mitigation chop down the trees they nest in. I mean, really? That's how you mitigate the fact that there are shorebirds? Insane.

So anyway, but what I'm concerned about as a member of the aquatics community is that kids in Long Beach learn how to swim. Now, there wasn't an Olympic pool when I was a kid. I had to wait 'til I was four feet high, which took a long time, and learn to swim at Wilson High School.

Now the Wilson High School pool apparently

isn't good enough for the Wilson High School water polo team, which has used this facility and now brings the band and plays water polo outside while the shorebirds are trying to nest.

So I don't know with this extended outdoor pool, it seems like it's just going to continue. But I'm really concerned -- and I hope this is heard -- when it talks about how all these other plans aren't workable. First of all, if the Harry Bridges Park is federally mandated to have outdoor recreation, then you can put an outdoor pool there, and then the inner city kids in the First District would have someplace to learn to swim.

Now, I understand, you know, 'cause I am very close with someone at Leeway Sailing -- which, by the way, needs a lot more promotion, could be run yearlong. It's an amazingly great program. And I know they have an arrangement. I'm not saying build no pool, but I'm saying can't we share the wealth? I know it may be Tidelands Oil money, but I'm sure there's other money, as well.

All I'm saying is that people in Long Beach are in the long run -- this is the Long Beach City project. This is going to be supported by the City Council, and while one district may say I'll stay out of

your backyard if you stay out of mine, we need to plan that our whole city, all the kids learn to swim, and it's crazy to put two gigantic pools right next to each other in the most affluent part of town. That just is not -- it's not -- it's not good. It's not smart.

CHAIRMAN CHRISTOFFELS: Thank you.

MS. CHRISTENSEN: And also, just one last thing. Don't we have eminent domain regarding these 30-year leases for the better public?

MS. JOHNSON: Good evening, Commissioners. My name is Lucy Johnson. I'm a resident of the Fifth District and a very passionate advocate for this new project. I first want to commend Mayor Garcia, Assistant City Manager Tom Modica, Director Amy Bodek, and all the staff, City staff, especially Councilmember Suzie Price and her staff for all their work in getting us this far in the process. I also want to commend the project and design teams for all their efforts. I think you've seen a very stunning presentation.

The Draft EIR is on the table now, and yes, there are opponents to the project; however, I sincerely hope that the Planning Commission accepts this draft as the final EIR without letting the naysayers control, or just as importantly, delay the process with specious arguments, while adding hundreds of thousands of dollars to the eventual cost due to their delaying tactics.

While it is nice that there are people in the community who care passionately about birds and trees, this project will have a tremendously beneficial -- will be tremendously beneficial to the 460,000 plus citizens of Long Beach and many more in the surrounding region.

This project is not some new monstrosity being placed on our coastline for the benefit of a few private interests. Instead, it is a replacement for the now defunct world-renowned Belmont Plaza Olympic Pool.

Please signify that you all understand the project serves many needs for our community and, at the appropriate time, approve the project as presented.

I do want to comment a little bit on Commissioner Templin's question on the parking. The existing pool that was there starting with the Olympic Trials in 1968 has had two Olympic Trials, two NCAA men's championships, myriads of regional meets during the years, and there has never been that parking lot filled on the west side, east side of the building.

So I think there's a lot -- if you keep that in mind that we've had all these projects and special events in the past, and parking hasn't been that much of a problem. You've got a lot of other uses down

there with the dog beach and volleyball, but it's still -- Touch-A-Truck on Sunday. That parking lot, I've never seen it filled before Sunday. And there's parking on the other side of the structure, as well.

So I do hope you will keep those things in mind and keep in mind that this is replacing an existing facility that had all of those special events, as well as the fact that we only currently have three public pools in this entire city for over 460,000 people.

The high school pools that open in the summer are open for only two months in the summer, and we do need to get all the kids trained in learning how to swim. And adults, too.

So again, I hope you take all of this into account and approve the EIR as it comes forward to you. Thank you.

CHAIRMAN CHRISTOFFELS: Thank you for your comments.

Is there anybody else that would like to speak on this matter? Please come forward.

Seeing none, Mr. Modica, could you answer a few questions? One was I would be interested in knowing, as well, how do you keep that glass clean.

MR. MODICA: So I will start with my understanding, and then we have Duane Fisher here, one

of our architects, who can talk a little bit more about it, as well.

The material is called ETFE. It is essentially a polymer material, and essentially it is a plastic type material that then is inflated, and then there's a second plastic type material that it has a membrane, and it is static, is my understanding, so that it actually does not have material stick to it.

We've had the same concerns from -- and so we started to research this material as what happens with bird droppings and other things and that essentially it comes off of the material down into a gutter system and away from it.

Obviously, the glass type of material that we would put around outside is going to have to be etch-proof. It's going to have to be cleaned, as well, by a maintenance staff. But for the main concern, the dome, we believe that it likely will not have a lot of maintenance. And then there is a maintenance contract built in by the manufacturer, is my understanding.

And if Duane has anything to add, if I didn't cover anything.

CHAIRMAN CHRISTOFFELS: I think that's pretty thorough.

On the trees that will have to be removed,

I assuming there's a replacement program that would be included as part of the covenant?

MS. BODEK: I can certainly answer that. Yes, there is a replacement program. We do have an informal policy within the City for tree replacement, and so that is actually detailed in the EIR.

We are also looking at the condition of the trees right now. We did a pre-demolition survey of all of the trees, and we are going to be going out there now and doing a new survey of the trees measuring the caliber and the general health of the trees to see if any of them are eligible to be boxed up and relocated.

If they are eligible for that, we would actually get estimates and probably start that process now. As you probably know, it's a very extensive process and can take up to a year or more to successfully box large specimen trees.

So we do need to ensure the health of the trees and whether or not they would be capable of withstanding that, but that would be something that we are looking into, as well.

CHAIRMAN CHRISTOFFELS: Thank you.

Okay. Seeing no other questions, thank you, Mr. Modica.

Would staff remind the Commissioners at

this point at the end of the study session when this would come back and the discretionary actions would be before the Commission.

MS. BODEK: Certainly. I do want to answer the height question. It is -- the former pool facility was 60 feet in height, and the proposed project is 71 feet in height. There's a height differential of 11 feet over the previous pool and the proposed facility. That also includes an approximately seven-foot-high plinth that is required in order for us to accommodate potential sea level rise.

So the actual height of the facility is roughly five feet higher than the former facility was if you discount the requirements for sea level rise.

As it relates to the next steps in this process, we will be having a study session at the Marine Advisory Commission meeting next Thursday, May 12th, at 2:30 in the afternoon. We will then be having a study session in front of the City Council on June 14th at 4:00 o'clock in these chambers, and then the EIR comment period closes June 16th.

And so for those of you interested in commenting, we do have a flyer as you walk out that tells you how you may comment in writing on the EIR and submit those comments by June 16th.

Our consultants will go through all of the comments that are received and provide responses to comments and then finalize the EIR. Assuming that they do not have to do any additional technical analysis, it's a roughly two-month process to do that.

That would then put us into a schedule where we would return to the Planning Commission sometime in August or September and then to the City Council sometime in the fall.

At that point, the City Council would possibly be asked to consider going to allow design development to occur and construction diagrams to occur or whether they would just fold at that point and just sort of drop the EIR and end the project.

CHAIRMAN CHRISTOFFELS: So just to reiterate, our role would be to approve the site plan and to recommend the approval of the environmental document; is that correct?

MS. BODEK: Correct. Also to approve a local coastal development permit for a portion of the project which is in the City's jurisdiction.

CHAIRMAN CHRISTOFFELS: Okay.

MS. BODEK: Also to consider approval for a variance for the height, and I believe that those are the discretionary approvals that we would ask of you.

This project also does have to go to the Coastal Commission because a portion of the project is within their jurisdiction. So after City Council approval, we would then have to go get a local -- a coastal development permit from the Coastal Commission itself.

CHAIRMAN CHRISTOFFELS: Okay. Thank you.

And with that, then we will close the study session.

(Adjourned at 6:08 p.m.)

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STATE OF CALIFORNIA)
) ss.
COUNTY OF ORANGE)

I, MARY E. PIERCE, Certified Shorthand Reporter No. 6143 in and for the State of California, do hereby certify:

That I attended the foregoing study session and that all comments made at the time of the proceedings were recorded stenographically by me and that the foregoing is a true record of the proceedings and all comments made at the time thereof.

I hereby certify that I am not interested in the event of the action.

IN WITNESS WHEREOF, I have subscribed my name this 13th day of May, 2016.

____

Certified Shorthand Reporter in and
for the State of California

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ATTACHMENT B

STUDY SESSION MARINE ADVISORY TRANSCRIPT (MAY 12, 2016)

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MEETING OF THE MARINE ADVISORY COMMISSION

FOR THE CITY OF LONG BEACH

TRANSCRIPT OF DISCUSSION

STUDY SESSION REGARDING THE

BELMONT BEACH and AQUATIC CENTER

MAY 12, 2016

2:30 P.M.

LONG BEACH YACHT CLUB

6201 APPIAN WAY

LONG BEACH, CALIFORNIA

MARY E. PIERCE, CSR 6143

JOB NO.: 16-062

COMMISSION MEMBERS:

RICK DuREE, Chairman
DAVID THORNBURG, Vice Chairman
JERRY AVILA, Commissioner
TED KUHN, Commissioner
TOM MAYES, Commissioner
ERIC PETERSON, Commissioner
MIKE SCHACHTER Commissioner
PETER SCHNACK, Commissioner
MARK TURPIN, Commissioner

ELVIRA HALLINAN, Manager, Marine Bureau
VIVIAN CROOK, Secretary, Marine Bureau

CITY REPRESENTATIVES:

AMY BODEK, Director of Development Services
TOM MODICA, Assistant City Manager
LORI JARMACZ, Recreation, Parks & Marine

CONSULTANTS:

MICHAEL ROTONDI, Roto Architects, Inc.
BRENT MILLER, HED Design
ASHLEY DAVIS, LSA

MEMBERS OF THE PUBLIC WHO ADDRESSED THE COMMISSIONERS:

BOB VATS
RICHARD GUTTMAN

THURSDAY, MAY 12, 2016; LONG BEACH, CALIFORNIA;
2:33 P.M.

CHAIRMAN DuREE: What we're going to do at this time then is we're going to suspend our regular agenda items and we're going to move right into the study session that's going to be provided regarding the Belmont Beach and Aquatic Center. We have Amy Bodek and Tom Modica here from the City of Long Beach to handle that presentation.

MS. BODEK: Thank you, Mr. Chairman, Members of the Commission. I have been before you before, so I want to thank you for your time and opportunity today.

The City of Long Beach is in the process of designing a new aquatics facility to replace the old Belmont Pool facility, and we have released an environmental impact report for comments from the community.

We wanted to use today as a study session to share with you the design for the pool and for members of the public, the design for the pool and then also some of the environmental issues that may arise through the construction of the pool.

Tom Modica is our Assistant City Manager. He is going to walk you through the majority of the project with Michael Rotondi. Michael Rotondi is from Roto Architects, and he is the -- one of the lead architects for this project.

And then we also have Ashley Davis from LSA Associates, and she's going to walk through the environmental review for the project.

This project was reviewed by the Planning Commission last week in a study session, and it will be going to the City Council in June for a study session also, and then we hope to bring it back to the Planning Commission in the fall for them to actually make a consideration on the project. So that's kind of our timeline.

With that, I'm going to turn it over to Tom Modica.

MR. MODICA: Thank you, Amy.

So as Amy mentioned, my name's Tom. I've been here before this group, as well, so it's good to see you again.

Before I get started, I just want to say thank you for your service. We realize we don't pay you to be commissioners. You do this on your own time, and you do it because you love the City. So we do give you free water sometimes and a shirt.

But again, just on behalf of City staff, it's important to have you here as our Commission members, and I thank you for that.

The screen is in the back, so we'll be going through a presentation and I'll be looking that way. I do also want to say this is an official EIR meeting. We are doing three of these where we have the actual court reporter here.

The stenographer is over to my left, and so anybody who does speak, please, for the record, say your name and speak slowly. I have a tendency to speak quickly, so she will not be shy and tell me if I'm going too quick so we make sure that everything is recorded.

The reason for the stenographer is because we're in this EIR process, the environmental review process, we need to make sure during this 60 days that we're taking everybody's comments and we're creating an accurate record and we're then also responding and reviewing those comments.

So I'm going to walk through a little bit of project history. This project really got started in January 2013. So we found out very quickly on very short notice that we had a major structural problem with the Belmont Pool.

Within 24 hours of receiving official notice that there was dire seismic issues, we had to close that pool. That was -- we've all lived in California, at least many of us have, for a long time. Most buildings have some type of seismic issue. This was at a level where a 5.0 earthquake had the potential to pancake and collapse the facility.

So within 24 hours, the City took emergency notice and shut down the pool, and then we immediately started on the process for how do we get water space back for our community and how do we do that temporarily and also long term.

And so December 2013 -- actually -- I'm sorry -- about a month after January, in February, the Council had already approved plans for a temporary pool and plans to move forward with a permanent pool.

We opened the temporary pool on December 19th, 2013, in about ten months' time, which is really record, record speed to create a pproject like that, have it built, have it opened through entitlement process.

In March 2014, the Council approved the contract for our architects, and they're here today. Primarily, Brent Miller and Michael Rotondi are the two representatives here and the leads on the project.

And then we went through a pretty intense community input session with our stakeholder advisory committee, a committee in addition to many other groups, but this was one committee the Council appointed that represented all the different areas from the different disciplines in aquatics to the business community to our residential community, bringing everyone together to really determine what the program should be for the building, what types of uses should this building be able to support, but also given a budget. We had about $100 million budget for them to take a look at.

I think this group is very familiar with Tidelands funds. So these are all Tidelands funds, so these are not funds that go for streets and sidewalks and roads and police officers and fire fighters, but rather need to be used for coastal uses in the coastal area.

So in October the City Council approved those baseline programmatic requirements after the stakeholder advisory committee gave their recommendations, and also we had a 200-person meeting, public input meeting where people came to give their input on the various programs.

So this is an idea of the project site, so I think you're very familiar with where the former pool was. This is the outline of the former pool that you can see here.

The former pool was about 55,000 square feet, and the new proposed facility would be 68,000 square feet. One of the things the architecture team did was to come out and really do a lot of study on this site, looking at the beach area, looking at the residents, looking at the businesses and trying to determine the optimal layout for any building.

One thing you'll notice is they essentially took this building that was on an east-west layout and turned it north-south. One of the things that you'll see in the design is by just doing that simple action, even though it's a larger facility, it minimizes the impact on the site, increases the view corridors. And actually, we're able to increase a lot of our open space and green space on the site.

This is essentially the baseline programmatic requirements, so this is what the stakeholder committee recommended and the Council approved, which is what types of water bodies would we have in the new Belmont Pool.

This right here is essentially the natatorium, the inside of the building. We would have a 50-meter by 25-yard pool. It has a movable floor down here.

One of the big discussions is this needs to be a facility that supports our residents. Needs to be for primarily for recreation, but we also want to be able to accommodate competitive uses, and the City is very strong that it has to be able to do both, and the Coastal Commission is going to require that it serve not only Long Beach but the entire region and the entire state for recreation.

And so the movable floor was a compromise in order to allow that indoor pool to both serve competitive uses, which needs deep water, about eight foot deep, and that movable floor can actually come up all the way out of the water up to ground level, actually, a little bit higher. So you can have a tremendous amount of variability in your pool depth.

We have an indoor diving platform, a ten meter diving platform and the springboards that are associated. We have a beach restaurant down here.

This right here is a warm water pool. It's what we call a teaching pool or a therapy pool. Could be used for therapeutics, for seniors, for children, for people learning to swim, as well, and also for the disabled community. We have a whirlpool.

This in the center is essentially your locker rooms and your office and support, and then over here on the right you've got your outdoor pool, 50-meter by 25-meter wide Olympic pool, deep water, can host every single water event.

And then down here is an outdoor recreation pool, so a pool really designed more for youth and for outdoor recreation.

This is the second floor. We would have 1,250 seats. That type of seating -- we did a lot of study about competition and what can we accommodate. That will accommodate nearly every competitive event that you can think of.

There are a couple that require 1500, very few, that we could either accommodate outside or if we get creative potentially inside. The one thing it will not accommodate is Olympics. Olympics require about 25,000.

So nobody builds a pool anymore to host the Olympics. What you do is you bring the Olympic pool into an arena. So essentially, if we were to ever do that, we would do something similar to what we did in 2004, bringing the pool down -- bringing a temporary pool down to the Convention Center and building that amount of seating.

So for project history, we got going with the existing facility demolition in August, and it came down very quickly. From December to January, essentially, that building came down.

We then did additional outreach in May of 2013 with a design survey, knowing that once we knew what the pool was going to host in terms of its program, what did people envision what the building might look like.

Obviously, that's the charge of professional architects is to build and design and really create that design, but they need to take input to make sure that they know what the community is thinking in terms of what this facility could be. So we did a design survey, and I'll talk about that in a minute.

From really spring 2015 to 2016, we were in that stage of design development and the draft environmental report, impact report.

So the design survey is online. It's a tremendous amount of detail, and we're only going to cover it in one page here, but essentially, 506 responses were received. So that's a tremendous amount of input on the survey or on the pool.

We had about 150 people show up at the meeting you see down here that we held back in May to really hear from the architects and go through the survey results, and one of the things that we really heard were features that are imagined and materials that are imagined.

So some of what we heard from the community was natural colors, exposed structures, the use of round edges, simple shapes and soaring trusses and also using a variety of shapes in the design. And when we asked what would you imagine as what the materials could be, we heard glass, exposed steel, concrete, polymer panels, wood and concrete block.

So before we get to the actual design and have Michael walk through it, I want to talk a little bit about the goals and the charges that we gave our architects.

So the goals really established for the project are to create a facility unlike any municipal aquatics facility on the West Coast. This should be something special. It should be something unique.

We would need a facility that is in harmony with the neighborhood. It's right there in a neighborhood, and it's got to be in harmony with that.

We wanted to employ an iconic and sustainable design, something that really is going to stand out and really is recognizable, and if you're going to spend that amount of money, it should be something that really is recognizable and an amazing building.

We want to meet the needs of our local residents. First and foremost, it does need to serve recreation, but we also want to support those competitive events as we desire. And we also need to support the Coastal Act.

So this body is very familiar with the Coastal Act, but many people aren't, that this is in a coastal area and it needs to get ultimately Coastal Commission approval, so we need to make sure that we're meeting their needs.

So we gave the architect a challenge. We said you need to incorporate all those project goals, and you need to incorporate community input, and you have to meet our programmatic outline, and you have to utilize appropriate materials for the site, and you have to adhere to all those Coastal Commission requirements, and you have to mitigate the environmental impact, and you have to create a beautiful facility.

So this is no easy charge. We have an amazing design team that we have employed. I'll let them talk a little bit about their design. We really have been very happy with this partnership, and they're going to show you something special. So I'm going to turn this over to Michael Rotondi.

MR. ROTONDI: Thank you.

This is a special project for many reasons. Architecturally, it's a very complex project, as you can see. Actually, the more complexity, the bigger the smile on our faces. There's a lot of variables when you're designing any building, but especially one like this, which has many, many variables.

Some of the variables are inherent to the problem itself, and many more come from listening to the community in all of the different forms that they come in, individually and committees.

It's an iconic site which is really, I think -- I can't imagine a better site anywhere on the planet for a program like this, but it's also, I think, a very exceptional project because of what water means both in terms of recreation and competitive sports to a community. Seems like everybody I meet is either a swimmer or a sailor.

So we wanted to honor aquatics, we want to honor the beach life, but I think also what's really important to Long Beach and -- well, we wanted to honor sailing, and we wanted to bring that into the architecture, as well, which we will show you. And it has many people using it, children, athletes. It can be used for therapeutics, recreation.

The beach, the communal life is really important, so we saw the building not just as a stand-alone facility, but we saw it as an urban design opportunity so that it begins to enliven that part of the site, not just by virtue of the number of people that are coming here, but by virtue of how the building opens visually and accessibility to and fro.

And then we're looking at -- we looked at a whole variety of building materials that allowed us to reach -- to design a building that was at once beautiful, but also very practical and economic, and then build up very large sort of library.

I've always loved -- I was looking at the models here of the hulls of these ships. Those shapes are -- they're just beautiful. Quite frankly, they're beautiful.

And then as an architect, we always like to see buildings under construction. We say, ah, stop there, and then they close them up.

So we were looking at also not just the complete shape of the ships. We were also looking at them framed prior to closing up because of looking at that had to inspire us for the building itself.

The main street is down below. You can see the beach up here. This is indoors, and this is outdoors. All of the functional facilities are in the middle. This is another hull of a ship, as you can see.

And then the outdoor is enclosed with a 12-foot high glass wall, so it's transparent to let people inside and outside see what's going on, but it blocks the wind for people that are in here, and it also sort of captures some of the noise.

The seven-foot plinth in comparison to the last building which was raised up on a plinth that was a lot of solid wall around it with ramps going up to it. We wanted to make it an urban view very much like, as we all know, the Spanish Steps, which is the city itself sort of steps down and terraces.

So it's very -- all the way around the building, this is the hard side, and we'll show you in a little while the soft side. The main entry is here. You can go up the steps, you can sit on the steps on the beach side watching volleyball and staring out at the horizon, or you can sit and wait for someone, or you can walk up onto the plinth here and actually sit and watch the sports happening. So it's a very active building at its base.

Okay. The roof plan. Olympic Way. That's Ocean Avenue. Entry into this parking lot and then coming across and then the main entry here. The outdoor space, which is -- this is a cafe right here, vegetation back on this side, and then park life area here, and then a great lawn right at the edge here. And this is the bikeway along here.

So even if you're not coming to the building to swim, you can spend the entire day hanging out in different locations doing different things.

Even in this area here, we're assuming that during the competition that this is where the tents would be for the competitive teams or the families, and you can also do chalk art here, and then the cafe. You can get off your bicycle here, and there's along this edge of the park about 200 bicycles here, and hang out here for a while before you continue on your way.

Inside, this is the main entry here, outdoor pool. This is the recreation pool. This is also -- all of it is technically recreation, but then these are -- metric on these are for competition, and the diving pool here.

And then there's a lot of space around the outside for swimmers, or if there's no competition going on, places for the public to hang out. And then there's an area here that's almost like a beach inside that's got a little bit of a slope, so you could lay in here and then look back into here.

Inside here are locker rooms and the like. All of the mechanical equipment is below all of this. It's below the plinth. And then this is access underneath. So all the pool equipment would be down below.

That's the great lawn I was talking about here. And then we'll show you a three-dimensional image here of an outdoor area which is like a porch where people can get up onto here, be outside but still look into the events and be somewhat sheltered. And it could be closed off, as well, when it needs to be.

And then moving up the first mezzanine, this is where all the seating will be, more mechanical equipment here. And then on the side of the outdoor pool is a very large deck overlooking the pool, and this could be used as an event space. It could be used for yoga, pilates, whatever. I guess not pilates because you need a machine, but definitely yoga. Again, the main entry on this side, the beach down here.

And then going up on the second level, which is where you get access. There's access to the seating from two different levels. This is the primary level of coming down, up on top and then you come down. On the level below this, you can actually walk through, like, coliseum seating to that lower level. And then these are some more facilities, bathrooms and food.

And then on top, the highest level, which is the second mezzanine, this is outside, this is inside, separated by a glass wall that is openable, completely openable so that people can pass through if you want to see what's going on on both sides, and it's like being on a ship's deck up here.

There's a staircase that you can go up and down, and then also an elevator right there and then there's a staircase right there.

And then the elevations. When we started looking at the various shapes, the two primary shapes are basically rectilinear and curvilinear. When you look at a box, that has maximum surface area and minimum volume. When you look at a bubble that's curvilinear, it has mimimum surface area and maximum volume.

So that's a way to, the practical side, reducing the height, reducing the amount of material, but also it -- with the structure that we can create for this, it has -- it's easier to deal with gravity, so it's more economical in the long run.

This is looking from the west. That's looking from the west. This is that porch. This is looking from the east towards it over the indoor area. That was the upper sort of ship's deck up here. That's the lower first mezzanine deck right here.

Looking at the main entry -- Dino was even showing me how to use the buttons, but Italians aren't good at buttons. We're good at knobs.

The main entry right here, and this is -- what eventually that will be, what we're showing here is a very large sail that is turned on its side. That's essentially the idea. And that would be the entry coming up the ramp.

And then on the backside, there's a perch up on top here. This is a staircase. Then you can come out and have a perch that looks out over the ocean.

This is what we expect to be the primary side that everybody would be coming to the building from. You can see better now the stairs, and sometimes they're double heights, so they're like coliseum seating or there's stairs. Then there's a wide walkway around that you can sit and look in at the events happening around the pool.

In the corner on the ocean side looking back at the building and what we're calling the recreation pool here, the main competition pool here. That's the upper deck, that's the lower deck, and then these are stairs that we're hoping are going to be used all of the time.

There are staircases that can take you from the pool deck to that intermediate deck and then back down. The stair over here also goes from the entry so that people can come and watch the events without coming onto the pool deck and coming up on top and look down.

If they go through a little passage there, you get access to another staircase that can take you up to here, or you can walk through and get an elevator that would also take you up.

So there's many different routes that you're going to be able to take once you're in the facility, and wherever you start, you can end up back there without stopping. Sort of like the freeway system in Southern California.

On the pool deck itself, the material is -- it's a polymer. It's called ETFE. It's a carbon-based material that is not petroleum based, so it's a different material. It's basically thick Teflon. It's transparent Teflon. So anything that falls on it slides off. It's actually shaped so pigeons and gulls can't stay on. And also, excuse me, but if they crap, it slides off. Well, I've never seen -- on little piece of Teflon you do it and it slides off. We're doing an experiment.

But the objective was from the very

beginning, everybody said they wanted to swim outdoors even though it's indoors. And so looking at all the materials, most of the facilities that we were looking at as examples were really indoor facilities with skylights.

And so we wanted to find a material -- you could do something like this out of glass, be very expensive, very heavy and much heavier structure, which would make it -- it would block the view little bit more. So with the lightweight material like this, high strength, light weight, you can actually design very lightweight steel.

From the upper areas, seating area looking down. This is from the beach looking back at what we call the glass box here. So you'll be able to see in when the light is correct.

This is our porch, the great lawn right next to it. This is Olympic Way looking at the building. Closer in looking at where all of the facilities are behind there, but then trying to create the illusion of a ship.

And then the porch, which is -- finally, we have to put in a beautiful skeleton of a big sailing ship that you would be sitting behind and feeling private, although you can see back out to the ocean and you can see into the pool.

And then at nighttime, the lighting on this, which was everybody's concern, our intention is to have it glow no brighter than a full moon. And for code reasons, around the pool deck area, the light has to be brighter, but when that's directed down, it's not lighting up the sky.

So this would be from either a boat -- back to Tom.

MR. MODICA: Great. Thank you, Michael.

So we get asked how does this compare to what used to be there, and so what this diagram shows is on the bottom, this is the old Belmont Pool, the one built in 1968, which was primarily out of concrete, and then it's superimposed here what the new facility would look like.

And so as you can see, there is a height difference. At its apex, the new building would be about 18 feet higher. But in terms of the actual impact on the view, you can see that the old facility, the way it was positioned and also the materials, it was not a transparent building.

It -- actually, you have not nearly as much impact on the site itself from the way the architects have positioned the building and in the way that they have chosen the curvilinear shape as opposed to what was there before.

We have this in the EIR, as well. If you were to stand right about where the new Olympic is going in, what would you have seen before with the old facility and what would you see with the new facility.

And so the blue is essentially what you would see with the new facility and the yellow with what had been there before. And we've actually increased that view shed from the way that it is now situated on the site despite being a slightly larger facility.

We get asked what does it look like in the neighborhood. It's gotta fit into that residential neighborhood. And actually, this is at Prospect and Ocean. The pool is right there.

So as you can see, it basically is -- you know, fits into the neighborhood. It doesn't -- it's not higher or anything than really what has been there before. Not -- 18 feet higher, but not significantly higher. And here's what it looks like at Termino from Midway Street, and then here again from Ocean at Bennett. So this is what you would see as you would show up, and right there is the facility.

So one of the important things that we looked at in the design was the impact on the neighborhood. You do have residents that live right across the street right there. You have Chuck's locally world famous is right there, and then you've got other businesses here.

And so we've looked at adding that 12-foot high transparent sound wall as a way to mitigate some of the sound that could come from the external pool, and then, of course, you would have operations that are inside the natatorium which would limit the sound there.

We do have the ability to support up to 3,000 temporary outdoor seats. If you were to have a very large event we could bring in bleachers, but there's nothing permanent there. And that was a compromise with the community that we would not have permanent seating outside for competitions, that it would be brought in on a temporary basis, and then you would have outdoor speaker systems that would be pointed down and not towards the neighborhood.

One thing Michael mentioned was Olympic Way. Under the design, we would actually be closing the street to traffic. It would be a part of a pedestrian area. So you would have Olympic Way that you could walk there. It would still have fire access, so it would still be ability to get a fire truck, fire engine in there if necessary, but we would not have a through road there as we do today.

One of the main goals was not to lose open space. Open space is very important to the community, so we didn't want to lose any open space or vegetative space, and we actually did better than that. We increased the amount of open space and the amount of vegetative space.

So we used to have 118,000, 119,000 square feet of existing open space, and we now have 127,000 square feet of open space. In terms of green space, there was 45,000 square feet. Under the new design it would be 55,000 square feet, the proposed design.

We get asked about funding often, how much does this cost. We essentially have an approved budget of 103 million, and that was approved in October 2014. This is funded by Tidelands, and the primary funding source is oil.

That funding estimate was put together when oil was trading at about $100 a barrel. As of today it's at about 39, and it's up from about 23 just a couple months ago. So oil has seen a precipitous decline.

We do have enough budgeted to complete the entitlement process and to fund the design, and we have a fair amount set aside for construction, about $43 million set aside for construction.

So all told of that 103 million, we have set aside $60 million, and that includes to fund the demolition, to fund the design and a portion of the construction costs, and we're developing a strategy to address that revenue shortfall.

We know that construction cost escalation is going to affect that number. The longer you wait, the more that construction cost estimate can go up, and that costs really aren't going to be certain until the design is approved by the Planning Commission and/or the City Council if it gets appealed, and the Coastal Commission is going to have input on the design, as well. And then, of course, you need to go out to bid and see what the construction costs will be when you're going out to bid.

So with that I'm going to turn it over to LSA. They are our environmental consultants. This is an official EIR scoping meeting, so in addition to seeing the design, this body does need to hear about the environmental impact and walk through the environmental documents, so she'll be doing that for us.

MS. DAVIS: Good afternoon. My name is Ashley Davis. I'm with LSA, and on behalf of the City, we prepared the Environmental Impact Report, or EIR, and today I'm going to briefly go over the CEQA process, the CEQA process and the findings of the EIR.

So these are the steps that we take when we start to prepare an EIR. We first prepare an initial study and notice of preparation. That was initially published and distributed April 18th to May 17th, 2013. And the purpose of an NOP is to get input from agencies and interested parties on what they want us to address in the EIR.

Subsequent to that, there were design changes, that we determined it was necessary to revise the NOP and redistribute, so that was sent out April 9th to May 8th, 2014.

During and after that period, the technical studies and Draft EIR were prepared and, as Tom said, we are now in the public review period for the EIR from April 13th through June 16th, 2016.

I want to make a note that the public review period for this project, the City extended it to 65 days. Under CEQA the required review period is 45 days, but due to the interest in the project the City is allowing an extra 20 days for review.

After that review period ends, we will respond to comments in writing and compile the final EIR, and then the project and EIR will move forward for both project approval and EIR certification.

So where are we now in the process? You can see by the highlighted yellow-green box at the bottom we're in that 65-day public review. All four boxes along the bottom are the opportunities that the public and agencies have to comment on the project and the EIR process.

These are the topics, the 13 topics that were addressed in the Draft EIR, and of note I want to make a point that all impacts were mitigated to a less than significant level. So there are no impacts that are unavoidable and adverse, and the City does not have to adopt a statement of overriding considerations.

Here you have the four topics in red that were less than significant, they did not require mitigation. Briefly, air quality, both construction and operation, were below the thresholds, so there was no mitigation required.

Global climate change, greenhouse gas emissions. We actually take -- for construction, we take the emissions during construction and you amortize them over 30 years and add them to operational emissions because in order to determine impacts on global climate change, it's done as a long term cumulative impact. There were no impacts that required mitigation for that subject either.

Then land use. Since 1968, since the Olympic Trials, the project site and the former building were used for public recreational purposes. And so since that time, the site has been designated as public recreation, and the project is consistent with both general plan and local coastal program. It does require a height variance.

And just one point of clarification. In the EIR, the building height is listed at 71 feet. That was from the plinth, the first level to the top of the building. If you took it from the ground level, it's a total of 78. The former building was 60, so it's approximately 18 feet higher, which you saw on the previous slide.

Recreation. There were no adverse recreational impacts. It's considered a positive project and will provide continued aquatic recreation for the city and region.

These are the topics in red that required mitigation, and the numbers in the parentheses are the number of measures that were required. I'll try to go through these quickly for you.

Aesthetics. The project will alter the views, but the building will be comparable in mass scale and height to the former structure, and it has been aligned to increase the coastal views as shown in the figure.

Lighting. The structure would be illuminated from the inside and produce a glow, not a direct light. The building will close at 10:00 p.m. and, therefore, the building itself will not be lit past that point. There will be some security lighting on site.

Construction fencing. It was determined that it could potentially serve as a target for graffiti and trash and, therefore, a need for mitigation measure which requires maintenance of those construction barriers throughout the whole construction to keep them clean and free of such items.

Biological resources. There were no sensitive natural communities or special status species identified on site. However, due to the removal or relocation of the trees on site, there's a possibility that it could interfere with nesting birds and, therefore, two mitigation measures, one to avoid impacts to nesting birds during that nesting season, and the second would be to obtain a tree removal permit.

Cultural resources. There are no known resources on the project site. However, should excavation or construction go below 23 feet below grade, the City would be required to retain a paleontologist on call to determine whether or not to ensure that there are no resources at that depth.

Geology and soils. There are no geological hazards, and the project was determined to be feasible. There is one mitigation required, and that is to require conformance with the recommendations in the geotechnical study.

Hazards and hazardous materials. The site is not on any list, government list of hazardous materials sites, and there is no unusual use of hazardous materials during construction or operation. Any use of chlorine or pool cleaning materials would be -- comply with applicable regulations and, therefore, is not significant.

However, there are two mitigation measures required for things that could potentially happen during construction. First is a contingency plan in case unknown hazardous materials are encountered. That's a pretty standard mitigation. And the second is a pre-demolition survey for potential asbestos and lead that might be left over.

Hydrology and water quality. There is a potential for soil erosion during construction and dewatering, and so you have a mitigation measure for compliance with the general construction permit and a second one to obtain a ground water discharge permit.

The project decreases the impervious area, but there is a potential for runoff to contain pollutants, and so the third mitigation is prepare a standard urban storm water mitigation plan.

The drainage patterns would change, and therefore, the fourth mitigation, the City must prepare a hydrology report.

In addition, a portion on the eastern half of this site is in the special flood zone area, and therefore, we are mitigating to require a flood plain report, and that will just ensure that there's no impact to the flood plain or the structures.

Noise. The heavy construction equipment could cause noise impacts. Two mitigation measures are proposed to address this. The first is standard conditions for the construction equipment, such as mufflers, and the second is a preconstruction community meeting where they will advise the community of the construction dates and times and provide contact information number in case there's any problems during construction.

The normal operations would not impact any sensitive uses, but special events at the outdoor pool could impact such uses with the noise. A special event has been defined as anything with more than four and a half thousand spectators.

MR. MODICA: You mean 450.

MS. DAVIS: 4500.

MR. MODICA: 4500? All right.

MS. DAVIS: Yeah, 4500.

The mitigation required is to reduce the noise levels from the outdoor speakers to a level below the City threshholds, and that can be achieved by either actually reducing the noise level at the speakers, lowering the speakers to the ground, removing a speaker or two or having highly directional speakers so that they would ensure that the noise does not disturb any sensitive uses.

The traffic. There's no construction traffic impacts, but we did require mitigation measure for a traffic management plan, and that will ensure that there's adequate emergency access to the site and surrounding neighborhoods during construction.

For operations, all the study intersections were operating at an acceptable level of service. However, large, again, events over 4500 people or spectators would require mitigation, and that mitigation would be an event traffic management plan, and that would be prepared specifically for that special event.

Utilities and service systems. All of the mitigation measures for the utilities and service systems are actually the same or repeat of measures in the hydrology and water quality. There's no new major facilities required. However, the ground water discharge permit, storm water plan, hydrology report will be required to reduce impacts.

The potential to encounter ground water during construction means that the mitigation measure for dewatering permits is applicable.

If there is a change in drainage pattern, a new storm water best management practices require an operations and maintenance program, and that would be adherence to the mitigation measure for the storm water plan, and hydrology report would address that.

As far as water demand, there's a slight increase in water demand that is a 0.027 percent of the Long Beach Water Department's water supply in 2015, and it is within available and projected water supplies of the Urban Water Management Plan.

There are less than significant impacts to electricity and natural gas, so no mitigation was required.

Finally, the EIR also addressed alternatives to the project, and the first set that I'd like to talk about are the off-site alternatives. There were three of them.

The Harry Bridges Memorial Park. However, this site is parkland mitigation for the Aquarium of the Pacific and Rainbow Harbor and was federally funded. There was a portion that was federally funded, and it must be used for outdoor recreation, so that was eliminated from further consideration.

The Queen Mary site is the second off-site that was considered. However, there's a current lease to a private operator for another 40 years, so that was eliminated.

Finally, the Elephant Lot at the Long Beach Convention Center was also considered, but again, there's a private lease on that, and it doesn't expire until 2030, so that was eliminated.

A fourth alternative originally considered was to enclose all of the pool facilities within the Bubble structure. However, the size and mass of a structure that large would have been an impact that would have been much greater than the project, so that was also eliminated.

Alternatives considered were these five:

The no project/no new development; alternative two, maintain the temporary pool with additional uses; alternative three, move the diving well to the outdoor pool area; alternative four, reduce the project with no outdoor components; and alternative five, reduce the project, no diving well and no outdoor components.

The purpose of evaluating alternatives under CEQA is to reduce or eliminate any of the impacts you have from the project. So I won't read these to you. These are the project objectives.

The one in red at the top is a primary objective, which was to replace the former pool facility with a state-of-the-art aquatics facility that would serve the recreational competitive venue for the community, city, region and state.

And then you can see the others, some of the bulleted highlighted points, similar aquatic recreational purposes, a more modern facility, minimize the time period the community's without a structure or a facility, available to serve competitive events, increase the programmable water space, a signature design, generate revenue, meet the land use goals of the planned development area, maximize sustainability and energy efficiency, minimize view disruptions, maximize views of the ocean from inside, serve the existing users and then drought tolerant and maintain or increase the amount of open space.

So those were the objectives we were shooting for with the project.

I'll go over briefly each of the five alternatives. The no project/no new development alternative is required under CEQA. It means that there would be no changes to the existing land uses and the conditions on-site would remain the same.

The temporary pool located in the parking area would continue to operate, but no pool facilities would be constructed. The existing backfilled sand area would remain unchanged, and eventually they would have to upgrade or maintain that temporary pool, possibly replacing it.

Alternative two, maintain the temporary pool with ancillary uses. This would involve improvements to construct a permanent foundation around the temporary pool, and then some uses such as administrative and support facilities, lockers, restrooms and snack bar would be added to the temporary pool. Again, the existing sand area would be removed, and open space park area could be expanded.

Alternative three, the outdoor diving well. This alternative would locate the diving well outside the proposed enclosed Bubble area and would allow the building height to be reduced. However, there would still need -- a height variance would still be required.

The other components included in this alternative would allow similar programming events as with the proposed project. However, this does not meet the project objectives to the same degree as the project.

Alternative four is a reduced project with no outdoor components, so it could just be the indoor, the facilities inside the Bubble. This eliminates the outdoor pool and reduces the footprint of the structure. Open space and park areas could be increased, and although many of the amenities would remain, you still would need a height variance, and you could not serve as many -- there would not be as many programming needs that could be met by this alternative. So again, it does not meet the objectives to the same degree as the project.

Alternative five is a reduced project, no diving well and no outdoor components. Similar to alternative four, but it would eliminate the indoor diving well along with the outdoor facilities. Again, this reduced the footprint and height of the structure, although there would still be a height variance required, and it would increase the open space and park areas. This, again, does not meet the objectives to the same degree as the project due to the lack of space, programmable space.

And finally, this site just tells you where the EIR is available to view, both online and at two libraries, and where to submit written comments at the City.

And with that I'm turning it back over to Amy.

MS. BODEK: Thank you, Ashley, Tom and Michael. We'll let the audience turn themselves around. Everybody stand up and stretch. Was a long PowerPoint, but I did want to make sure that you were all fully informed as the other groups that we're going to and certainly to open it up to any questions that the Chair would like.

CHAIRMAN DuREE: Peter Schnack.

COMMISSIONER SCHNACK: Peter Schnack.

And I just was curious from the architect's point of view, did you do anything about -- because it's really a cool project, by the way. Thought it was cool.

But acoustics on the inside, being the dome, does it -- did you guys look at any of the acoustical problems that could be associated with that?

MR. ROTONDI: Yeah, we're in the process of studying that, but intrinsic to a material that is somewhat flexible -- actually, what I didn't explain is that you can get very long span out of this material.

What they do is they make it into pillows, two layers, and then they put air in between. And one of the first uses was in Devon, England, to make a biodome, and the spans were up to 60 feet, actually. These are a lot less, of course.

But when the sound hits a soft material, it moves, so you don't get any vibration back, so -- and I think also just because of the volume.

COMMISSIONER SCHNACK: Yeah.

MR. ROTONDI: That doesn't take care of somebody screaming right next to you when you're sitting there.

COMMISSIONER SCHNACK: Thank you.

MR. ROTONDI: Yeah, you're welcome.

CHAIRMAN DuREE: Jerry Avila.

COMMISSIONER AVILA: Jerry Avila.

First of all, I want to just commend everybody for their hard work, and the design is just beautiful. It really is.

Just mine's a basic question. Occupancy. What's the difference between what we currently have in the old pool as far as -- it's probably for Tom, right?

-- to what we're going to have after the project is complete?

MR. MODICA: So Lori can probably give the numbers of actual people, but in terms of permanent seating, this will have 1,250. The old pool actually could be moved around and you could have up to 3,000, but it wasn't really the same type of level of seating where you'd be elevated and you can actually set up for competition.

I can tell you, though, we're going to have tremendously more opportunities for people to activate and use the facility.

One of the great things about this facility and this design is previously when we did a competition, we would essentially shut down the pool to the community. That would be the one thing the pool would do that day. You close it down, you do your competition, and nobody could get in.

Under this design, it's purposely been designed so that you could have a competition in the facility and still do recreation outdoors and segment off sections of the pool so we don't lose that capability.

Lori, anything to add in terms of numbers?

MS. JARMACZ: The occupancy of the former Belmont

Plaza Pool in the natatorium was 2,500, and that was a combination of the elevated bleachers and then the bleachers that went on the other three sides of the facility, of the pool itself.

COMMISSIONER AVILA: Follow-up question would be is there any facility elsewhere to this extent that we're building right now in Long Beach that you're aware of, a pool near the parameters of the beach, the setup, this setup? Is there any other facility of this type?

MR. ROTONDI: A pool with facilities to this extent?

COMMISSIONER AVILA: Just like the one we're doing now.

MR. ROTONDI: Employee would be best answering that one. I don't think so.

MS. DAVIS: I would say no. We do think this is going to be incredibly unique given its location, the beautiful design and then also the variability of the programs. So we think it's going to be very popular both with the residents and then with the region, as well.

COMMISSIONER AVILA: Great. That's something I want to hear. I was just talking to Courtney yesterday at the facilities, and we're talking about bringing Long Beach back to life, and I just wanted to make sure that this was, you knowm, something nowhere else. Thank you.

MR. ROTONDI: I think from the architect standpoint, Brent and myself, the one thing you try to do with projects of this scale is not just appropriate that size of land, which we know from shopping centers, but it's a place where I think primarily people will come to gather, and then while they're there they'll find many different things to do. And then the longer they stay, they start to find meaning in the relationships between each other.

And I think that's the one thing that really strikes me about this community, sailors and swimmers. And it seems, in my experience in meeting everybody, the one thing that everybody has in common is water, and it seems that there's a whole different set of ethos and a psyche in the people in Long Beach.

And so the building is really special in that way. And those are the sort of intangibles that we're always working on besides solving all the practical stuff, and we really, Brent and I, believe that this will be unique in the United States actually in that regard.

MR. MODICA: And that aspect is going to be important when we get to the Coastal Commission level. This needs to be a facility that welcomes people and also serves people that aren't going to pools, that are going to be down near the beach and enhance the beach experience. That really is their mission, to bring people to the coast and to have them enjoy themselves.

So this facility is going to be very much looking to enhance that experience.

MR. ROTONDI: I think what also might be unique about this is that one of the things that we've also been thinking about is when you look at swimmers' bodies and you look at either yachts or sailing boats, it's all about performance.

And the way you reach performance is through the efficiency and the elegance of form, which has to do with the mathematics of it, so that there's a weight to the material and the form that you use. That relationship gives you a higher performance. And then ultimately, one that actually works hopefully, it's beautiful.

COMMISSIONER AVILA: It's great. Thank you for answering my questions.

COMMISSIONER MAYES: Tom Mayes.

Is that dome material transparent?

MR. ROTONDI: It's pretty close to totally transparent, but it's sort of semi-transparent.

MR. MODICA: And onoe of the things that we'll be looking at as time progresses is at what points would you maybe not want as much transparency. Diving in particular. When they're diving, we've heard from the diving groups, immediately above them they're going to have some issues if there's too much sunlight or if they can't spot where the water is going to be.

So we'll need to look at those and see if we can maybe use different levels of opacity at different areas.

MR. ROTONDI: Yeah, the way the opacity is that you print on the material itself. They call it fritting. So we can actually now, with computer modeling, we're going to be able to track the sun and track the views out from the inside.

CHAIRMAN DuREE: Ted.

COMMISSIONER KUHN: Ted Kuhn.

The material you're using for the roof that's transparent, what kind of a life expectancy do you have on that?

MR. ROTONDI: They give it a basic long term. There's a maintenance program that comes with it. Like, every five years they come out to climb over the top of it to check not the material itself, but to see how all the fasteners are wearing and all of that.

So the material is polymer, so it has a

very, very long term.

COMMISSIONER PETERSON: Eric Peterson.

Just looking at the geology and the soils -- beautiful design, by the way -- you've taken into consideration the potential for liquefaction in the event of a major earthquake and the location is -- the structure's sound, as well as how it's anchored?

MS. DAVIS: Yes. There was a site-specific geotechnical report required, and as I mentioned, the mitigation, they have to adhere to all the recommendations in that. Basically, all structures will be built to the California Building Standards, so those all take into account seismic potential.

Can I correct one thing while I've got the floor? It was 450 spectators is a large event, not four and a half thousand. So I misspoke. It's 450. Just didn't seem like enough, but --

CHAIRMAN DuREE: You don't know our city.

COMMISSIONER SCHACHTER: Mike Schachter.

Do we have any figures from when the old pool was at its peak use how many events were held during a year and what that proposed number might be for the new facility?

MR. MODICA: I actually have that because we knew that we'd get asked. ESP.

So we believe that about 50 events per year are -- on average per year were held at the old facility. So that would be about ten large scale events like the PAC-12 and PAC-10 tournaments and championships, CIF, major high school championships and beach and shore aquatics.

In terms of what it could hold, that really is going to be looked at on a case-by-case basis. It will have the ability to do really any event, but we have to be very mindful that it's a neighborhood and not to constantly have the burden of events on the neighbors. So it will be a trade-off, and basically, our Parks and Rec department will be in charge of permitting those and finding that right balance.

COMMISSIONER SCHACHTER: Thank you.

COMMISSIONER TURPIN: Two questions. Is Olympic Way a --

MS. BODEK: Mark.

COMMISSIONER TURPIN: Mark Turpin.

Is Olympic Way an existing street or driveway or something like that?

MS. BODEK: Yes, it is an -- Olympic Way is an existing street now.

COMMISSIONER TURPIN: So since this is not going to be an Olympic venue, I just wanted to ask.

Second one is for Mr. Rotondi. The Teflon roof structure you mentioned is a pillow structure. It has an air space in between. It's basically going to be a huge greenhouse with a large volume of air that even though it's maybe a dual glaze essentially structure, there's going to be a lot of hot air in there, barring any City people in there and stuff like that.

But my question, it seems like that's -- obviously, that's way down the road. That's construction documents and things like that, but how are you -- have you guys thought about how you're going to condition that large air space economically?

MR. ROTONDI: Yes. Actually, one of the bigger problems -- that's definitely always an issue, how do you keep it cool, how do you keep it warm.

The air movement inside of that, what's actually critical is the chemistry is coming off of the water, and keeping that moving, basically moving horizontally and in, up and out, but also the air circulation following the line of the bubble, the shape of the bubble, up and out, as well.

So it will be like being in a performing arts facility. There will be slow movement of air.

COMMISSIONER TURPIN: So more like a passive system?

MR. ROTONDI: Yeah.

MS. BODEK: It's also my understanding that the preliminary mechanical engineering on the system tells us that we're actually going to need to heat it more than we will have to cool it.

Is that correct; Brent?

MR. MILLER: Brent Miller with Harvey Ellis Devereaux, so partner with Michael on the propject.

And you're exactly right. That was one of our concerns from, you know, how do we create an efficient mechanical system that doesn't have to cool this entire volume within it.

So the mechanical system approach is to provide warm and cool air at the appropriate places where people are. So the zone of ten feet above the floor of the seating is really the focus for those systems.

So we're doing a lot of at-floor distribution, so it really cools and heats only at the places where the human beings need it. The larger volume isn't really air conditioned mechanically. It's really more of an exhaust system up high that will naturally exhaust the heated air that rises on its own out of the facility, which is also tied into the chemical exhaust of the pool system itself.

MR. MODICA: And I think that will be something really unique about this facility. We've all been in pools where you walk in and the very first thing you notice is chlorine, and that is really something the team has looked at is how to eliminate that.

And what a great user experience that would be to walk in and to have that performing art center type of atmosphere rather than the chlorine that we're all used to.

COMMISSIONER TURPIN: You know, a lot of people are converting their home pools to salt water now. Is that something that's not feasible for this large of a venue?

MR. MODICA: Correct. Health and safety regulations, because we are going to have so many users and children and others, we're going to have to make sure that we're using chlorine, unfortunately. But we did ask that question. I asked that same question.

COMMISSIONER TURPIN: Then one last thing just to jack the hood up is has there been any consideration for solar?

MR. MILLER: Once again, Brent Miller.

So it was considered early on in the project because sustainability is, obviously, something the City was -- was very important to them. So it's a budgeted item, and if we can afford it, it would be great to have it on the project.

We're looking at other potential ways to provide sustainable measures that may be more cost effective for the City.

CHAIRMAN DuREE: Anyone else on this side of the room?

COMMISSIONER MAYES: Yeah. Tom Mayes again.

I'm curious about the resistance to ultraviolet ray damage for that dome material. We boaters know that that stuff pretty well destroys polymers of many kinds. So will that become opaque after a while?

MR. ROTONDI: The manufacturer says no. They've had it in place -- like, the dome in Devon is about 20 years old right now, and it's still the same as it was then.

UNIDENTIFIED MAN: We get more sun than Devon.

COMMISSIONER MAYES: Thank you.

CHAIRMAN DuREE: Any member of the public in attendance, please?

MR. VATS: Was the old pool --

MS. BODEK: Sir --

CHAIRMAN DuREE: State your name.

MR. VATS: Bob Vats.

Was the old pool revenue neutral, or did it cost the City money to operate it, and what's the approach with the new pool?

MR. MODICA: So every municipal pool who really is serving residents loses money. That really is not a Long Beach thing. That's not why cities make pools. They make pools to serve their residents.

So the old one operated at a loss. The one we have there today operates at a loss just from, you know, revenue perspective and, of course, is supported by Tidelands dollars, not General Fund dollars. The new one would continue, as well.

So that's something we're going to have to plan for and budget, and it would essentially come out of Tidelands funds and not out of General Fund in order to do that operation. But it's a good question.

MR. GUTTMAN: How much is --

THE REPORTER: Your name, please.

MR. GUTTMAN: Richard Guttman.

How much is added to the cost of this being that it's built on a liquefaction area? How much cheaper could it be built somewhere else is what I'm asking.

MS. BODEK: That's not really an issue in terms of its exact location. We have to deal with liquefaction in a lot of areas of the city, so it's not an issue for us to design that. I'd say it's less than, you know, probably 1 percent or 2 percent.

MR. MILLER: If it's close to the foundation they're further affected by it, the actual site location.

COMMISSIONER SCHACHTER: Mike Schachter again.

Tom, you mentioned maintenance costs and ongoing costs are essentially Tidelands. How do we ensure that, that it doesn't become an issue for the General Fund?

MR. MODICA: Well, General Fund can be spent on anything, so any future Council could decide to do that. Just from history, we used Tidelands because it's there, and we've never used Tidelands -- I'm sorry -- General Fund to support the specific pool operations for all the time that it's been there.

I can't speak for what future Councils might decide to do, but most of the other Council members have other things they want to spend General Fund on rather than a pool on the beach, so I think that's probably a very good way to keep it Tidelands for Tidelands.

COMMISSIONER SCHACHTER: Good point.

CHAIRMAN DuREE: Anyone else from the public we'd like to hear?

MS. BODEK: Again, we really do want to thank you for the courtesy of allowing us to come here and present to you. I know we took a lot of your time today, but we do feel it's important that you as the Marine Advisory Commission understand the ins and outs of this project, and we are certainly available to come back to any future meeting and talk more about it at your desire.

So again, thank you very much for your time.

CHAIRMAN DuREE: Thank you. We appreciate it.

(Whereupon the proceeding adjourned at 3:42 p.m.)

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STATE OF CALIFORNIA)
) ss.
COUNTY OF ORANGE)

I, MARY E. PIERCE, Certified Shorthand Reporter No. 6143 in and for the State of California, do hereby certify:

That I attended the foregoing study session and that all comments made at the time of the proceedings were recorded stenographically by me and that the foregoing is a true record of the proceedings and all comments made at the time thereof.

I hereby certify that I am not interested in the event of the action.

IN WITNESS WHEREOF, I have subscribed my name this 20th day of May, 2016.

____
Certified Shorthand Reporter in and
for the State of California

ATTACHMENT C

STUDY SESSION CITY COUNCIL TRANSCRIPT (JUNE 14, 2016)

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MEETING OF THE LONG BEACH CITY COUNCIL

TRANSCRIPT OF DISCUSSION
STUDY SESSION REGARDING THE
BELMONT BEACH and AQUATIC CENTER

JUNE 14, 2016
4:06 P.M.

COUNCIL CHAMBERS, LONG BEACH CITY HALL
333 W. OCEAN BOULEVARD
LONG BEACH, CALIFORNIA

MARY E. PIERCE, CSR 6143
JOB NO.: 16-082

CITY COUNCIL:

ROBERT GARCIA, Mayor
SUJA LOWENTHAL, Vice Mayor, 2nd District
LENA GONZALEZ, 1st District
SUZIE PRICE, 3rd District
DARYL SUPERNAW, 4th District
STACY MUNGO, 5th District
DEE ANDREWS, 6th District
ROBERTO URANGA, 7th District
AL AUSTIN, 8th District
REX RICHARDSON, 9th District

CITY REPRESENTATIVES:

PATRICK WEST, City Manager
TOM MODICA, Assistant City Manager
CHARLES PARKIN, City Attorney
AMY BODEK, Director of Development Services
LORI JARMACZ, Recreation, Parks & Marine

CONSULTANTS:

MICHAEL ROTONDI, Roto Architects, Inc.
BRENT MILLER, HED Design
ASHLEY DAVIS, LSA

MEMBERS OF THE PUBLIC WHO ADDRESSED CITY COUNCIL:

LUCY JOHNSON
BILL THOMAS
ANNA CHRISTENSEN

THURSDAY, JUNE 14, 2016; LONG BEACH, CALIFORNIA;
4:06 P.M.

COUNCILMEMBER ANDREWS: Thank you very much.

This study session, there will be no action taken by the Council, so we will just listen and watch what they're going to say about the EIR.

So let's go to the City Manager, Mr. Pat West. Would you please give us an update on what we're going to do.

CITY MANAGER WEST: Thank you, Acting Mayor Andrews.

COUNCILMEMBER ANDREWS: Am I acting?

CITY MANAGER WEST: Sorry. Sorry.

Councilmembers, this is all part of the Draft Environmental Impact Report process. Our Assistant City Manager, Tom Modica, is going to walk us through this. We have our Development Services Director, as well, Amy Bodek, working with us, too, and LSA planning firm is going to be here, as well, to walk us through some of the planning aspects of this.

I want to highlight before I hand it over to Tom, we've all been through this -- we've been going through this for the past couple years, two, three years, to do the Belmont Pool now, especially since we've had to tear down the old historic pool. But this truly is a labor of love for everyone.

Specifically, I can't say enough about Councilmember Price and the time and energy and sweat that she has put into this project to get it this far, and the community should certainly appreciate that.

But truly, at the end of the day this is a project that will be as large and as significant a project as any of us have ever worked on.

So with that I'm going to turn it over to Tom Modica.

MR. MODICA: Thank you, Mr. City Manager, Mr. Acting Mayor and members of the City Council. What we are going to do tonight is to go through and show you the actual pool and talk a little bit about the history, talk a little bit about where we came from and what the design is.

This is also a special meeting in that this is part of the EIR process, so we do have a court reporter here who is going to be taking this all down. And so you will also hear at the end of the presentation the environmental impact, and so that's important that we go through each one of those for you since this is a public body that needs to know that level of detail.

So talk a little bit about project history.

The Belmont Pool has been such an important part of our history in Long Beach. We are an aquatics capital, an aquatics community, but we lost a very important piece of that history on January 10th, 2013, when we closed the Belmont Plaza Pool.

Due to seismic issues, we had to close it immediately within 24 hours notice, and so that was a loss of an incredible space for our aquatics community.

Due to the Mayor and City Council's commitment, within about ten months we actually had a temporary pool open, ready to receive people in December 2013, which was a herculean feat.

Council took very swift action to go out to design a new pool, and on March 4th, 2014, the Council approved the contract with our architects and design team, who you're going to hear from tonight, on the permanent pool.

So as we did the programmatic requirements, as you start to develop what is a pool supposed to look like and what are the aspects a pool will have in it, it's really important to go out and do that public outreach.

So we did a tremendous amount of public outreach, meeting with our aquatics groups in April 2014, coming to the City Council and getting general input, but then also creating a stakeholder advisory committee.

This was a broad-based committee of aquatics people, but also residents and businesses and from a number of different areas that all came together to give specific input on what that programmatic requirement should be for the pool.

And so they also had a public meeting in September 2014, very well attended, over 200 people, and then recommended through staff a baseline programmatic requirement that this Council took action on on October 21, 2014.

So to give you a sense of the project site, it's down in a residential neighborhood. It is near the pier. It is near business. So it is a very unique site, and I think we've spent a lot of time focusing on that site and the Council is very familiar.

Just to remind you, on page five, this is the approved baseline programmatic requirements. It is essentially five different pools. We have our indoor in the natatorium 50 meter by 25 yard pool with a movable floor. There's a dive well. There's a teaching pool, a warm water teaching pool, a warm water whirlpool and an outdoor pool, 50 meters by 25 meters, that's an Olympic size pool, and then we also have an outdoor recreation pool. On the second floor, it was designed to have 1,250 seats. That would be for spectator seating.

And so the project has been moving on since 2014. We did get our Coastal Commission hearing and waiver to be able to demolish the old pool, and that has since been demolished.

And then since the Council has taken action in October, we really went through a process to get public outreach and public input on some of the design aspects and the design's elements that the committee would be interested in, that the architect should reaffirm the community is interested in so that the architect can take all that into account.

And so we did a public meeting, very well attended. We did a design survey with over 500 responses. And then we've been working on the EIR or the Draft Environmental Impact Report over the last year or so.

So in our design survey, we used a tool to help capture that broad community input, and that really was to inform the architect so that he's developing something that has -- that can achieve community consensus. It wasn't a scientific survey, but it really is a good way to measure that general sentiment and what are the issues of importance.

Had 506 surveys completed with lots of input, and the architect and the team have been listening over the past two years to every community meeting that we go to.

Some of the -- the entire survey's online for anyone interested, but some of the highlights that we heard for the features, that it include natural colors, that it have exposed structures, round edges, simple shapes, soaring trusses and a variety of shapes, and then on some of the materials, that we incorporate glass or exposed steel, concrete, polymer panels, wood and concrete block or brick.

And so I'm going to talk and wrap up on the goals that the Council established and the goals that we've given the architect, and the architect is going to get into the actual design.

But the project goals established by the City Council were to create a facility unlike any municipal aquatics facility on the West Coast. It should be a facility that's in harmony with the neighborhood, that employs an iconic and sustainable design, that meets the local needs of our local residents, but at the same time can support competitive events as desired.

And then, of course, this is in the coastal area, and Coastal Commission plays a very large role, so it has to be able to support the Coastal Act.

So we gave a challenge to our architect. We said you need to incorporate the project goals that we just outlined, and you need to incorporate the community input, and you have to meet that programmatic outline, and you have to utilize appropriate materials for the site, and you're going to have to adhere to Coastal Commission requirements, and you're going to have to mitigate any environmental impacts, and finally, you're going to have to create a beautiful facility.

That's no small challenge, and we have an incredible design team that has risen to that challenge, and they're going to talk to you about the design in the next segment. Thank you.

MR. ROTONDI: My name is Michael Rotondi. I'm part of the team of architects. I'm with Roto Architects, and I'm working with Brent Miller. We're collaborating. He's from HED. And then a very large team of specialty consultants on the project.

As Tom Modica was saying, this is definitely a very special site. This is the kind of site that you would invent for a project like this, and you guys actually have a site like this.

It's also an extraordinary project not only because of the program and the scope of the project, but also because of how important it is to a very special city, Long Beach, and so many people have weighed in on what their aspirations are, as well as what their needs are.

So I'll take you through a little bit of the back story.

When we start a project, we're looking at all of the variables, and the variables go from the most practical aspects to what we call the poetic aspects. When you're asked to produce magic, to produce a really wonderful piece of architecture, that's where you go from the practical to the poetic.

I think in a city like this where water, both for recreation and competition, with all of these different generations of people doing all variety of things push it I think beyond the poetic into what makes a project profound.

The children playing, the wonderful history that the place has, how to honor that, the public space, which I think is more than just the beach. How do we bring the public space to the building and bring all of Long Beach, even if you're not interested in swimming, I'll show you in a minute.

That was one of our initial ideas. And

then the events that are happening down here from the chalk painting to the sand constructions, et cetera. And then the site right there, which is -- that is it. It's a really extraordinary site.

When we're looking at a project, we're trying to figure out what we call, through economy of means, how do we get the most building with the least expenditure, how do we enclose the most space with the lease amount of building materials, which equates to time and material being the equation to less material, more efficient use of material and less time to build.

And what we're showing here is a spherical structure. There is the greatest amount of volume inside a spherical structure as opposed to a box.

The materials that we looked at were how do we find the material that can satisfy in exceptional ways all of the practical concerns which have to do with both code and expense, but also gives us a high performance in terms of durability, strength and transparency.

Usually the last part, the transparency, isn't really part of durability and strength. In this case we found a material that hits the mark on all of those.

Also, honoring both not only aquatic sports that we know of, which are the swimming, but also the boats and the sailing.

We'll show you that we've used it in a couple of ways. One has to do with the beauty of that shape and the beauty of the sails themselves.

Here you can see the hull of -- the RELIANCE was a very early phase of America's Cup. The boats have changed quite dramatically, but the performance criteria stays the same. It's a really beautiful hull. And then the hull of ships that are made from ribs we were looking at.

And then the overall building, the enclosed part of the facility and the open part of the facility. There's the pool here and a pool there.

The site was conceived of as solving an urban problem, not just the base of a building. We had to raise the building up off of the ground because of the flood plain from the ocean if it ever comes in with storms, and it's possible that it will.

But what we decided to do was to leverage that and turn that into an asset rather than a liability. Instead of having walls that go straight up and the building sitting on top of that, we're basically stepping the walls back.

And so you basically have very large

staircases where people can sit and hang out, large apron areas all the way around for people to hang out, tents on this side, perhaps even tents here, Olympic Way, and then a very large soft green area. We actually have more green area now than we did before the building started.

This is a cafe here, and then that's the boardwalk bicycle path. We also have a place here for about 200 bicycles to park.

The main entry is here. And you can -- we'll show you a plan, but you go in here and then you can go look at the pools here or the pools there.

That's the site plan. Olympic Way here. Outdoor pool, indoor pools. This is all sort of a mixture of hard and soft, cafe, driveway in, drop off, all green area over here.

And then here we'll show you an image at the end of what we call a viewing porch. It's an outdoor area that's protected that you can sit and look in to whatever's happening on the inside.

So there's a lot of places you can sit and watch volleyball, you can sit and watch other people, you can look at the horizon, or you can look back into the pool. So there's many reasons for people to want to come here we believe.

Outdoor on this side, indoor on this side. This is the diving well here. That's the pool for either competition or recreation. Same over here. And then that's purely recreation pool, and then this is a therapy pool here for exercising and such.

All of the facilities, lockers and offices and all the back house stuff is in the middle. And then this area here, we've provided for besides what's needed to move around the pool for events, that we have areas that you can actually hang out. Inside here and underneath here there's places to sit, and there's also little spot here.

We're moving up to the first mezzanine. This is the seating right here. First mezzanine has a big flat area, very, very large, where it overlooks the pool on this side, and then it looks to the east, but it's an area that can be used for many events. That can be used for everything from exercise to yoga to even weddings right there. And then from here you pass through to the seating on this side.

You move up. This is the second level that you come up either the stairs or the elevator, which is here, and then from up here you can drop down into the seats here, or you can come over to the edge here and here and look back over to that side and then restrooms and food.

And then when you get up to the second mezzanine, which in the three dimensional I'll show you, it's like a ship in a bottle. This is like a ship's deck up in here.

That's the glass wall that separates the inside from the outside, and then, weather permitting, that can be opened up and people can move back and forth. This can also be used for events.

Then back to the overall. That's the second mezzanine up there. So this would be at pool level first deck up right there, and then that's the second deck up. So you can see that you could have a lot of people up here, here and all around.

And then we'll just move around. This would be how most people would enter. This is if you're in the complex and you're looking to the northwest, pool deck, first mezzanine, second mezzanine right there.

And then there's access from this mezzanine here, from the entry you can be -- you can be behind the glass wall, go up the stairs to here. So parents who drop their kids off for events can go directly up here and watch, or if you want to come down to the pool deck, you can come down right here. And then these staircases, of course, are both for fire, as well as easy access up and down.

And then surrounding the outside pool is a 12-foot high glass wall that works as a sound barrier and a wind barrier. And this is inside looking back towards the diving platforms that we haven't designed yet, but that's where it will be located.

This is a place where you can sit here, and that's a place that you can sit or lay on the ground here. That's the second mezzanine on the upper deck, as we call it. You see the different background. That's a bulkhead that can move.

From the beach side, the pool, as it moves down to this end, we put a big glass box here so that there's both views in and views out. There's access from the front up a slight ramp to what we call the viewing patio right there.

This is Olympic Way. Then this is the viewing patio, which is semi-protected. You can still see in and out from this like a screen wall here. It allows us to actually put a segment of the big wooden ships, so to speak, on that backside there. So it gives it a bit of a nautical feeling.

And then from here you can look in through this glass wall into all of the activities that's on the inside. So if you're here for events, you don't only have to sit out here. You can actually sit -- there's lots of places you could sit, actually. So no one is going to be worried about that, I think.

Looking back more or less out near the end of the pier, the amount of light that we're working on is just below full moonlight. So that is when the thing is in full glow, it still lets you see the stars.

Is this back to you, Tom?

MR. MODICA: Yep.

MR. ROTONDI: Okay. Thank you all.

MR. MODICA: So thank you very much, Michael, for walking us through that and the facility.

So to talk a little bit more about some of the elements that you saw there, one of the important things is to look at what the height of the facility was. And one of the things the architects did is really look at what was there before and then how can we improve some of the view corridors.

Even though this is a larger facility than what was there before, the way that they situated it onto the site, you can see it transposed here. This is the old facility, and transposed right above it is the new facility.

So while the new facility is about 18 feet higher at its apex, you've actually got a lot of areas that was blocked by the previous building that is no longer blocked by the new facility just given the way that it's situated.

This is another way to look at it, looking at the pre- and post-view sheds. That's a very important aspect for coastal. We have actually been able to increase the view shed when you're near the facility even though it is that slightly larger size of a facility.

We wanted to get some context of what this would like like. This is a neighborhood that surrounds it, and it's important that it fit into that neighborhood context.

So you can see it here what it would look like from Ocean Boulevard at Prospect. This would be as you come up to the Belmont Veteran Memorial Pier parking lot at Midway Street, and you can see it over there on the left. And then as you approach it from the front of the facility, from Ocean Boulevard at Bennett.

One of the aspects to bear in mind -- and it was mentioned by Michael -- is that there are residents near it that are currently affected by noise from the outdoor pool, and it's one of the elements that we wanted to make sure was incorporated in the design.

So where elements are in the indoor

facility, those will, obviously, be taken care of from the roof structure, but also we're being very cognizant to create a 12-foot transparent sound wall on the north and east sides of the pool, and also we have the ability to bring in temporary bleachers.

So this facility can host events up to 3,000 people, but we would bring in bleachers. There is no permanent outdoor seating. Bring in bleachers for that special event, and also have speakers that would be aimed down toward the pool and not toward the neighborhood.

One of the really important aspects was the green space and the open space. This is currently an open space for the community that is very heavily utilized, and so we've looked at actually not only keeping the same amount of open space, but increasing it, and we were successful in doing that.

So 118,000 square feet of existing open space. Under the new design it would be 127,000 square feet. 45,000 of that was vegetated currently, and we're increasing that to 55,000.

And so we get asked questions about the funding and how much does the pool cost and when would that funding be available. So the City Council has approved a budget of 103.1 million, and that budget was set back in 2014. We do know that funding has been delayed due to the drop in oil price. That really was when oil was at about 90 to $100 a barrel, and it's about 40 to 45 today.

We are fully funded for the entitlement process and design all the way through construction documents, so that process is going. We have about 60 million total set aside in cash that has been funding the demolition, the design and a portion towards that $103 million for construction.

We are continuing to develop strategies to address revenue shortfalls and really trying to be creative. Something Councilwoman Price has tasked us with is find ways to look for additional revenue, and we are fully embracing that.

And again, the total cost is really going to be affected by the time that the dollars are in hand and also the ultimate design. And so construction cost escalation will affect the total cost. The sooner the funds are available, the less amount of cost escalation we will have.

And so we are in that EIR phase right now. We are taking public comment. Public comments were started in April 2013. We've held meetings at a community meeting, Planning Commission, Marine Advisory

Commission and now the City Council, and we're taking comments all the way through June 15th, 2016, and there is specific instructions on how to submit those comments.

So the remaining development process -- oh, 2013 I need to correct for the record. 2016. Excuse me. Thank you, Amy.

And for the remaining project development process, there are a number of steps still to go. After the EIR comment period is final, we will be coming to Planning Commission for review and approval.

If it is appealed, it would then come to the City Council. And we also need to get budget approval. We would then be going to City and Coastal Commission for their process to go through a coastal development permit, prepare construction documents, identify funding, bid and award, and then go to construction, which is estimated to take about 18 months.

This timeline is in your packet. Essentially, we do have an established timeline, but again, it's all predicated on the price of oil. And we're about there in the project timeline, so we still have a ways to go.

And so that is the presentation on the

design. We do need to turn it over to our environmental consultants, who will then talk about the -- exactly what's in the EIR that you will be asked to take a look at later, and then we'll get to project questions from the Council or from the community.

MS. BODEK: Thank you, Tom. I'm going to introduce Ashley Davis from LSA Associates. She's the principal in charge and has been overseeing the environmental review process on behalf of the City. She'll walk through a brief presentation of what the EIR reviewed and basically the conclusions of that EIR.

Thank you.

MS. DAVIS: Good evening. As Amy said, I'm Ashley Davis with LSA. I want to start first with the steps that are involved with the Environmental Impact Report or EIR.

We start with the initial study and Notice of Preparation. You can see there all the steps all the way through project approval. The Notice of Preparation, the purpose of that is to let agencies and the interested parties and the public give their input on what they would like to see included in the document.

Where are we now in the process? You can see the highlighted yellow box is where we are right now after the NOP and public scoping meeting. We prepared the draft EIR, and now we're receiving comments.

I would like to note that the required review period is 45 days under CEQA. However, the City, due to the significance of this project, has allowed a 65-day review period.

The boxes highlighted along the bottom are all of the opportunities the public has to give input on the project, the public scoping meeting, the review, Planning Commission and, if necessary, City Council.

There were 13 topics that we addressed in the EIR, and of note I want to make it very clear that all impacts would be able to be mitigated to a less than significant level. So there are no significant adverse impacts. There will be no need for adoption of a statement of overriding considerations.

So as you can see here, the topics in red were those that were less than significant and did not even require mitigation, those four topics. These topics now in red are the topics where we did require mitigation, but again, all the impacts can be reduced to a less than significant level. I'm going to go through these quickly.

Aesthetics. You can see it alters the view. It is aligned to increase coastal views by the shape of the building also, and there was one mitigation measure required for maintenance of the construction barriers.

Biological resources. There is no sensitive natural communities or species on site. There were two mitigation measures required for the trees and the nesting birds.

Cultural resources. No known resources were known to exist on the site. One mitigation measure is required in the event that resources are discovered.

Geology and soils. There's no geological hazards, and the project was deemed to be feasible. Mitigation is required to conform with recommendations in the geotechnical study.

Hazards and hazardous materials. There's no hazardous materials on site and no unusual use of hazardous materials during construction or operations. Mitigation is required for contingency plan if they come across unknown materials and then also for pre-demolition surveys.

Hydrology and water quality. Due to the potential for soil erosion and dewatering, there are a couple mitigation measures to deal with those issues. There is a decrease in impervious area, but to address potential pollutants through the mitigation for storm water mitigation plan. And because drainage patterns would change, hydrology report will be prepared, a final one, and a flood plain report is also mitigation for the eastern half of the site.

Noise. There were no significant impacts. We have two mitigation measures during construction, one for standard conditions and one for preconstruction meeting. A third mitigation for noise, to reduce noise levels from outdoor speakers to below City levels. And this particularly applies during special events to ensure that there are no noise impacts.

Traffic. There were no construction or long term traffic impacts, but we did have mitigation for a traffic management plan during construction and a special event traffic management plan for large special events.

Utilities and service systems. We have three mitigation measures required here. There are no new major facilities, service facilities, required for the project site, but these measures address ground water and hydrology, as well as discharge permits.

So the alternative, also is required to look at alternatives. The first set of alternatives were off-site alternatives that were considered but rejected for various reasons. The three alternatives first were the Harry Bridges Memorial Park, the Queen

Mary site and the Elephant Lot at the Long Beach Convention Center.

Each of these was looked into and rejected for various reasons. Some of them were federally funded. Some were mitigation, a mitigation site for another project.

The next set of alternatives that we did look into in more depth in the EIR, there were five of them. I'm going to go through each of those breifly.

These are the project objectives, and the project objectives are important when we're looking at alternatives because we're trying to reduce or eliminate impacts, but we're also trying to meet the objectives with the alternatives.

I won't read these all to you, but you can see that the primary alternative was or objective was to replace the former facility with a state-of-the-art aquatic facility.

So the first alternative is no project/no new development alternative. No project alternative is required by CEQA. So that assumes that there's no changes, no new development on the site, that the temporary pool would remain, but no additional facilities would be opened. And the existing backfilled sand area would also remain unchanged.

Although that had fewer impacts, it did not meet any of the project objectives.

Alternative two was to maintain the temporary pool with ancillary uses. So this would include improvements to construct a permanent foundation and some administrative and support facilities. The backfilled sand area would be removed and open space park would be expanded.

This met some of the objectives but not to the same degree as the project, so it was also rejected.

Alternative three was the outdoor diving well. This alternative is similar to the project, but would have the outdoor diving well outside the pool facility, allows the building height to be slightly reduced. All other components are included in this.

However, outdoor diving well is not considered desirable by the swimming and aquatic community for several reasons, including sun and wind and weather for divers in concern of their safety.

Alternative four is a reduced project with no outdoor components. This eliminates the outdoor pool, reduces the structure. Open space and park areas would be increased, and many of the facility venues would remain. However, again, this does not meet the community project objectives as the proposed project.

The fifth alternative was a reduced project with no diving well and no outdoor, so even a smaller project. It would eliminate the diving well, along with the outdoor facilities, reduces the footprint and height of the facility and increases open space and park areas.

However, again, it does not meet the objectives and the programming needs of the community, so it was rejected.

And finally, if you have a comment on the Draft EIR, I believe there's a handout upstairs with the process that you go through to where you can review the EIR and how to submit comments on it.

Thank you.

MR. MODICA: So, Mr. Mayor and members of the City Council, that concludes our presentation. We stand available to answer questions. And before we get to questions, I just wanted to again thank our team. We have a fabulous team of both City staff and our architects and our environmental firm, and it takes a monumental task to get a project like this to you to get to this level. So thanks to them. They did a great job.

Thank you.

COUNCILMEMBER ANDREWS: Excuse me. I see Vice Mayor Suja is back with us.

Councilwoman Price?

COUNCILWOMAN LOWENTHAL: I think you're doing an excellent job.

COUNCILMEMBER ANDREWS: Thank you.

COUNCILWOMAN PRICE: Okay. Thank you.

So first off, I want to thank City staff and our architect team for coming up with this design. I want to say that the part of this process that I am most pleased with is the process that we've taken to get to this point.

As our Assistant City Manager mentioned on several occasions, this pool was and will be rebuilt in a residential community, and therefore, it was very important to me to make sure that we had input from our residents and the community as we moved forward on the design so that our architect could make this truly a facility that embodied the spirit of Long Beach, and he did that.

So I want to thank him for that. He worked really hard to incorporate the elements that the public wanted included in terms of the design elements, but also our rich connection to the aquatics community, to the sailing community, all those things that enhance that particular area of the coastline.

So I want to thank staff for having a very inclusive and transparent process, and I'm very happy about where we've landed on that.

This is -- we are in the middle of the process now. We're in the thick of it now, and so I look forward to hearing comments from community members and finding out what the recommendations are in response to the comments that we receive from the public.

I think that the features that I'm most excited about in regards to this project are really the spirit of the project in making sure that we are in conformity with the objectives of the Coastal Act with enhancing recreation opportunities for the general public along the coastline.

Some of the things I want to note about this project that I think are really optimistic attributes of the project are the additional 8200 -- thousands of square feet of open space that's going to be created by the design, the seating and passive space along the water that's going to be enhanced through this design, which will allow a lot more general public access.

I'm not sure how many of you have gone out on the pedestrian path in the last, you know, six, seven months, but that path is always activated. There is so much going on on the beach, it's unbelievable.

Between volleyball and beach goers and the temporary pool and all the improvements that I know the Vice Mayor has been involved in, to the concession areas, to the bathrooms, that entire area is so activated.

So to have additional seating and passive space for the general public to use in this area is going to really enhance the City of Long Beach's access to the general public to the coastline.

When we think about this location, I think we're always thinking about ways to bring the public to the coastline and give them the access to this City asset that we have, and so we've increased opportunities for them to do that.

We've also over the last year or so taken some policy direction as a Council to make it more affordable for youth and seniors to use our aquatics facilities. So Long Beach youth now swim for free, and they will do that here at the pool, as well.

And our seniors are going to be partaking in swim exercise classes, water exercise classes at this facility once it's open, and that is a really great feature that we're able to hopefully pair up with the building of this structure, to make it a desired space for people throughout the city to come and use.

And I know that Parks, Rec & Marine is going to be enhancing its programmatic features at the pool, as well.

I can tell you the temporary pool right now is completely at capacity. It is unbelievable how active that temporary pool is. It is getting the maximum allowable use for that facility right now. So the new facility will give some breathing room to the space and to the area because we'll be able to host a lot more recreational courses and competitive activities there.

One of the things that's really great about the facility -- and I like what I've seen in the design -- is that it's currently programmed for the optimum recreational use, but it also has opportunities for competitive use, which is very, very important.

For those who have youth who are in high school, in college and understand the importance of aquatics as a sport for the future of these children, it should be noteworthy for them to know that this facility will be an iconic facility that will be able to accommodate large scale swim competitions and really prepare these young athletes for a competitive stage as they move on to college and perhaps even Olympic trials.

We have a very active aquatics community in the City of Long Beach, and when our students travel -- and I know because my kids swim, as well. They're not as competitive as a lot of the youth in the area, but when we have to travel to a competition in another city, the aquatics facilities that we go to are all far superior to anything that we have in Long Beach, and that is really disappointing for us to drive inland to a place like Riverside and have a better aquatics facility than we have here in Long Beach where aquatics is such a big part of our culture and our life.

We're really denying the youth in our community the opportunity of having a sense of pride when they go on to compete at the college level in the sport of swimming and diving and all things aquatic.

So I think this facility is going to able to bring in a lot more recreational users, but also youth from throughout the nation to participate in competitions.

And also we've created a lot of amenities. I was talking about the pedestrian path, but we've got the pier that we're currently doing some renovations to. We've got the Leeway Sailing Center that has so many offerings for our youth in terms of sailing, learning how to sail and volleyball. We've completely activated this entire space.

And Chief Medina was recently telling me that the junior guard registrations are higher than last year and that we have children enrolling in junior guards from all over the city, much more so than we've ever had in the past, which is unbelievable and fantastic.

So we'll be able to enhance this whole area for students who are in the junior guards or summer beach activities because the pool will be another facility that they can use as part of that summer programming.

I do have a couple questions for staff. You know, one of the comments we hear a lot from people is a hundred million dollar pool. Why would you spend so much money on a pool?

And based on the research that I've done and my intimate involvement with this project, it's my understanding that the cost per square foot for this facility is within line of the cost per square foot of other competitive swim facilities throughout the nation. So it's not something that's unique to Long Beach in terms of the cost. Is that right?

MR. MODICA: That's correct. So before the Council even did the programmatic design, that question came up, which is how much should we be spending on this pool and kind of justifying the cost.

And so we did an analysis where we looked at the building cost in California, which is very different than the building cost in Missouri, for example, and tried to compare a number of like facilities and got a list of about ten facilities.

We provided that to the Council, and if I recall correctly, we were about either number four or number five on that list in terms of not the highest, not the lowest, but in the middle.

COUNCILWOMAN PRICE: And one of the reasons the cost is so high is because we're actually providing numerous sources of water through this facility. There's going to be multiple pools that will be able to accommodate lots of different needs.

So whether it's activities designed for our seniors, our youth, our competitive use, we're actually designing a facility that's going to be able to accommodate all of that in one place.

MR. MODICA: That's correct. And it's also very important to note that this is not General Fund money, but these are funds that are dedicated only to the beach environment. They can't be spent on police and fire or public works or streets or roads in other areas of the city. It's really for coastal dependent-type uses like this pool on this site.

COUNCILWOMAN PRICE: Now even though we have a funding gap, we would not be able -- let's say we had the money in hand today. Would we be able to start constructing the facility today?

MR. MODICA: No. There's still a number of steps we would have to go through. After we certify the EIR and that comes to the Planning Commission, we still do need to go to the Coastal Commission. They require a permit, as well.

They're going to have the ability to approve the design and make any type of modifications that they see fit. And then we would put together construction documents and go out to bid.

Right now with full funding, if we were ready today with funding, we likely would not start construction until about fall 2018, and that would be, of course, changed depending on the funding availability.

COUNCILWOMAN PRICE: So basically, we have between now and the fall of 2018 to come up with $40 million to fund this project?

MR. MODICA: Roughly.

COUNCILWOMAN PRICE: Let's talk a little bit about cost escalation. How has the -- you know, I don't really think we've had a delay in the process because the process has continued to move forward despite the drop in oil prices, but what impact has that process had on our anticipated budget for this project?

MR. MODICA: So the budget is still set at 103 million. What is going to be a factor is how long it takes for that funding to come in.

And so we are seeing construction cost escalation. The economy has rebounded since this project was first envisioned, and so we are seeing in other projects large increases in construction.

We don't have an actual number, this is exactly what the facility will cost yet. We want to be respectful of the design process, to go through that, if there are any modifications to go to Coastal, but we do expect increases every year.

We'd originally estimated, you know, a couple million dollars a year in construction escalation every year that it doesn't get built. So there is some pressure to make sure that we get this funded before cost escalation becomes too high.

COUNCILWOMAN PRICE: Okay. I want to thank the City staff again for the presentation. I think it was an excellent presentation. And again, at this juncture we're just going through the process.

I look forward to hearing the comments that the public provide as part of this EIR process, to see what changes and recommendations will be made to the design and the environmental impacts as the process unfolds.

So I want to thank you for educating us. And again, the process in this particular design was perfect. So thank you.

COUNCILMEMBER ANDREWS: Thank you.

Councilman Uranga.

COUNCILMAN URANGA: Thank you, Acting Mayor. The Mayor is here.

MAYOR GARCIA: It's okay. He's got it.

COUNCILMAN URANGA: Thank you for the excellent presentation, and I think that Councilmember Price mentioned a lot of things that I was going to talk about in terms of the Coastal Act, access, making sure that we do have programs that are going to be included in there that would have access for inner-city kids to be able to use the facility, as well. You talk about seniors.

So I'm really happy that we're looking at the Coastal Act and its requirements to ensure that this project meets all those requirements because I'm sure that they will come up during the Coastal Commission hearing, whenever this project comes before it, because it is a very important aspect of projects that are on the coast.

The other aspect that I really was pleased to hear about was the view shed of the project because there are -- it is abutting some neighborhoods, and their views are going to be affected by this project in regards to their views of the ocean.

And I'm not so sure about the height of the project, so that might be something that you might want to revisit in regards to ensuring that those views from the developments across the street aren't, in fact, impacted by this -- by this project because it's going to be very important when it's reviewed.

And then finally, I just want to comment about the water itself. You know, I mean, when you have pools, you have to have the water in there. What kind of impact is that going to have in regards to the City's possible access to water and the impact it's going to have around the neighborhoods in regards to water pressure and those types of issues.

There was also a mention about the nesting that takes place, and that's also going to be very important. And it might affect the timeline for the project itself because there are some protected birds within that part of the district, and those are going to be very important to look at in terms of what the construction is going to have for them, as well as the noise impacts during construction, what that's going to have on the existing fauna, flora and all that that's nearby.

So just mentioning those to keep in mind because we will be addressing those, I'm sure, that they will be -- looking forward to the Coastal Commission and probably be addressed during the hearing. So I'm glad that they are thinking that part in advance to ensure that we cross every T and dot every I and put every period where it belongs.

Thank you very much.

COUNCILMEMBER ANDREWS: Councilman Richardson.

COUNCILMEMBER RICHARDSON: Thank you so much.

I just want to take a moment and say this is my first time looking at the design. I think it looks great. I think the community really has something to be excited about. So hats off to the architect. Hats off to Councilmember Suzie Price for making sure that, you know, the whole Council has been brought along every little decision here.

So that that's important because, you know, folks citywide are paying attention to this project, and I think it's great that we've been transparent.

So I want to jump in and say thank you folks, this is great, and I can't wait to see this completed product.

COUNCILMEMBER ANDREWS: Thank you.

Any more councilmembers would like to speak?

I, too, would like to thank Councilwoman Price for this because the fact that you involved everyone, and I think this is going to be -- we talk about a Taj Mahal in the City of Long Beach, and I think it's just wonderful.

I'd like to thank the architects also who got involved in this. This is going to be a great, great aquatics area we have in the City of Long Beach, and thank you again.

Any more Council people like to speak? If not, we'd like to send it now to the public. Any public that would like to comment on this?

Please state your name.

LUCY JOHNSON: Mayor Garcia, members of the Council, my name is Lucy Johnson. I'm a resident of the 5th District, and I have a few comments specific to the EIR.

Sorry. I'm going to read this because I get nervous.

First, I wish to commend the City staff and the project team for all of their efforts in producing this massive draft, and I'm mostly pleased with its contents.

I am a passionate advocate for the proposed Belmont Pool project with a strong desire to see Long Beach once again offering a world class, state-of-the-art aquatics facility, even better than the original Belmont Plaza Olympic pool was in its heyday.

Beginning with its opening in 1968, I participated in numerous events at Belmont Plaza as a competitive swimmer, coach, meet director and spectator.

However, my three greatest remaining concerns. The planned 1250 permanent seats for the indoor structure are not enough for a world class facility. There should be a minimum of 1500 permanent seats, preferably more, so Long Beach can compete with other facilities for the larger events other than Olympics, world championships and Olympic swim trials.

Numbers two through five -- second. Numbers two through five of the alternatives under consideration should be eliminated from Section 5.3, as they do not meet the project objectives, nor are they in line with the unanimous City Council votes for the project on both February 12th, 2013 and October 21st,

2014. Those four alternatives should be moved to Section 5.2 titled "Alternatives initially considered but rejected from further consideration."

Number three, the proposed mitigation measure, Table 7.A, measure 4.12.1, for traffic is ludicrous. Requiring an event traffic management plan when expected attendance at larger events exceeds 450 spectators is insane.

There are over 1,000 parking spaces in the two lots flanking the project with at least 1250 permanent seats planned. The former Belmont Plaza, with about 2,000 seats or more, routinely had over 450 spectators with no requirement for a traffic management plan.

I've attended and participated in numerous events since it opened in 1968, including being the person who reset the automatic timing equipment before each event at the 1968 Men's Olympic Trials.

In my experience, those events never filled parking lots, nor were there traffic issues. The cynic in me says that such a requirement is simply a means for the City to charge additional fees to the event organizers.

I hope you will seriously consider amending the Draft EIR to address my concerns. Thank you.

And one other question. Sorry. Tom Modica mentioned that the EIR comment session goes through June 15th, and Miss Davis talked about June 16th. So please clarify.

COUNCILMEMBER ANDREWS: Thank you. Any more comments?

Please state your name.

BILL THOMAS: Good evening, Mayor and City Council. My name is Bill Thomas. I live in Alamitos Heights near the Colorado Lagoon, and we appreciate what the City has done for us in that area.

I watched with sadness as the old pool came down so quickly and with trepidation as we wondered what was going to happen, and I was very elated to find out that you'd chosen the most qualified architect, Michael Rotondi, in this area of activity and have followed this for the last two years as you've moved along.

And I'm sure there's little details, as the person in front of me stated, that need to be ironed out, but I can't find anybody in my 500-home neighborhood that has anything to complain about. They think it's fantastic, and we can't wait for you to find the other loose change that you need to get to be able to get this thing started as scheduled.

Thank you very much.

COUNCILMEMBER ANDREWS: Thank you.

COUNCILWOMAN PRICE: If I might add a comment. Mr. Thomas, we might put you in charge of the fundraising effort since you're doing such a good job fundraising in other areas.

So if I were you, I would stop coming to these meetings unless you want to be nominated for something.

COUNCILMEMBER ANDREWS: Thank you again.

Next? Please state your name.

ANNA CHRISTENSEN: My name is Anna Christensen. I live up the street from the site of the pool. I just quickly want to point out some concerns about the EIR, which I consider to be somewhat inadequate.

First of all, this is either absolutely unclear or it shows a lack of understanding of the word "mitigate," but if under biological resources you're mitigating the negative impact of interfering with nesting birds by removing their trees, that's not how you mitigate it.

You don't -- do you understand? I mean, do you understand those two things don't belong together? If you want to -- you don't just destroy the trees in which they nest. That's not how you solve the problem that you're hurting nesting birds. So that's just a quick point there. All right?

But in general, my concern is the limited view of terms such as "our community." I understand this is a celebration by apparently every City Councilman in Long Beach about the fact that we're going to get a pool, and we need a pool, but we don't just need a double wide, two Olympic pools, in the wealthiest, whitest part of the city.

Now, you know, you really -- I'm sure we all looked in the "Grunion" last week and saw that a girl drowned -- practically drowned, a four-year-old. And it was a gal that I baby-sit that rescued her.

You know, four-year-olds should know how to swim. They're perfectly capable of learning how to swim. But are we really building pools that -- where low income people have access?

It's true. Mr. Uranga is right about the Coastal Commission. There seems to be a great sudden concern about, you know, diversity in terms of not only the staff, which cost the last commissioner his job, apparently, one of the reasons, but also what is the diversity here?

If we don't even have the money to build this right now but we're going to have to find the change to build pools, why put two together? I mean, why can't we have a pool in North Long Beach?

And even if you're using Tidelands oil money, the fact that these sites were just totally dismissed, these two sites or three sites, on really bogus grounds.

I mean, one of the objections to one of the sites was that it couldn't have an iconic building because there was already one there in terms of the aquarium. You couldn't have two iconic buildings next to each other? Why not?

It seems to me that -- I'm trying to figure out why even the aquatics community might not be concerned about spending so much -- all of our resources to put two facilities in one.

I mean, I kind of feel like the grinder. You know, I'm going to grind here for a minute. I'm going to say what if?

COUNCILMEMBER ANDREWS: Excuse me. Thank you. Your time is up.

ANNA CHRISTENSEN: So that's the what if. What if we could have easy access for low income people. What if we could put pools not two in one place but two in two places.

COUNCILMEMBER ANDREWS: Thank you.

Okay. That's it. Thank you.

MR. MODICA: And, Mr. Mayor, if I can correct for the record, the submission date is -- for the EIR is June 16th, and the year is 2016 on that.

COUNCILMEMBER ANDREWS: Thank you. No more? This meeting is adjourned.

COUNCILWOMAN LOWENTHAL: Mr. Chair, actually, may I just very briefly, if I can.

COUNCILMEMBER ANDREWS: Thank you.

COUNCILWOMAN LOWENTHAL: I appreciate the comments from the last speaker, and I think for anyone that has followed this process from the beginning, every one of these councilmembers, all of us has advocated for greater pool access, and it's not a bogus rule that Tidelands funding can only be used in the tidelands area.

I wish it were because I think there would have been a majority of councilmembers on this Council that would have voted to put the pool somewhere else if a hundred million dollars of Tidelands funding was available to do that.

And since it is not, the obligation rested on us to see how we can provide as easy an access as possible. And Mr. Modica, would you remind me what we did with the youth fair for access to pools?

Because if I recall, Councilmember Andrews and I worked pretty hard with Councilwoman Gonzalez, I believe, and others to try and make this as low cost as possible or free if possible.

MR. MODICA: Yes, certainly, Vice Mayor, the Council did take action to reduce those fees, and for the exact amount, I'm going to turn to Lori Jarmacz from Parks, Rec & Marine.

MS. JARMACZ: Good evening.

The fees were reduced by City Council for youth swimming to one dollar, and we will also be, thanks to support from the school district, will be able to offer admission to the swimming pools for youth this summer at no charge for the ten-week summer program, and then the fees will again go up to one dollar in the fall.

COUNCILWOMAN LOWENTHAL: I think that doesn't remove our obligation to continue to think of ways to make pools accessible, public pools accessible to our youth from throughout the city, and I'm happy that Councilman Andrews has pool facilities in the 6th District that actually provides some opportunities there.

So I don't think that you'll see that this Council rests on its laurels by reducing the fees to zero in the summer or to a very low cost the rest of year, but we have to be very clear that it is illegal to use these funds in any other way other than for projects along the Tidelands, and Council is aware of that.

COUNCILMEMBER ANDREWS: Thank you.

No more? This meetiong is adjourned.

(Whereupon the meeting adjourned at 5:08 p.m.)

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STATE OF CALIFORNIA)
) ss.
COUNTY OF ORANGE)

I, MARY E. PIERCE, Certified Shorthand Reporter No. 6143 in and for the State of California, do hereby certify:

That I attended the foregoing study session and that all comments made at the time of the proceedings were recorded stenographically by me and that the foregoing is a true record of the proceedings and all comments made at the time thereof.

I hereby certify that I am not interested in the event of the action.

IN WITNESS WHEREOF, I have subscribed my name this 17th day of June, 2016.

____

Certified Shorthand Reporter in and
for the State of California

ATTACHMENT D

MITIGATION MONITORING AND REPORTING PROGRAM

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7.0 MITIGATION, MONITORING, AND REPORTING PROGRAM

7.1 MITIGATION MONITORING REQUIREMENTS

Public Resources Code (PRC) Section 21081.6 (enacted by the passage of Assembly Bill 3180) mandates that the following requirements shall apply to all reporting or mitigation monitoring programs:

- The public agency shall adopt a reporting or monitoring program for the changes made to the project or conditions of project approval in order to mitigate or avoid significant effects on the environment. The reporting or monitoring program shall be designed to ensure compliance during project implementation. For those changes which have been required or incorporated into the project at the request of a responsible agency or a public agency having jurisdiction by law over natural resources affected by the project, that agency shall, if so requested by the lead agency or a responsible agency, prepare and submit a proposed reporting or monitoring program.
- The lead agency shall specify the location and custodian of the documents or other material which constitute the record of proceedings upon which its decision is based.
- A public agency shall provide the measures to mitigate or avoid significant effects on the environment that are fully enforceable through permit conditions, agreements, or other measures. Conditions of project approval may be set forth in referenced documents which address required mitigation measures or in the case of the adoption of a plan, policy, regulation, or other project, by incorporating the mitigation measures into the plan, policy, regulation, or project design.
- Prior to the close of the public review period for a draft environmental impact report (EIR) or mitigated negative declaration (MND), a responsible agency, or a public agency having jurisdiction over natural resources affected by the project, shall either submit to the lead agency complete and detailed performance objectives for mitigation measures which would address the significant effects on the environment identified by the responsible agency or agency having jurisdiction over natural resources affected by the project, or refer the lead agency to appropriate, readily available guidelines or reference documents. Any mitigation measures submitted to a lead agency by a responsible agency or an agency having jurisdiction over natural resources affected by the project shall be limited to measures which mitigate impacts to resources which are subject to the statutory authority of, and definitions applicable to, that agency. Compliance or noncompliance by a responsible agency or agency having jurisdiction over natural resources affected by a project with that requirement shall not limit that authority of the responsible agency or agency having jurisdiction over natural resources affected by a project, or the authority of the lead agency, to approve, condition, or deny projects as provided by this division or any other provision of law.

7.2 MITIGATION MONITORING PROCEDURES

The mitigation monitoring and reporting program has been prepared in compliance with PRC Section 21081.6. It describes the requirements and procedures to be followed by the City of Long Beach (City) to ensure that all mitigation measures adopted as part of the proposed Belmont Pool Revitalization Project (proposed Project) will be carried out as described in this EIR.

Table 7.A lists each of the mitigation measures specified in this EIR and identifies the party or parties responsible for implementation and monitoring of each measure.

Table 7.A: Mitigation and Monitoring Reporting Program

Mitigation Measures		Responsible Party	Timing for Mitigation Measure
4.1 Aesthetics			
Mitigation Measure 4.1.1:	**Maintenance of Construction Barriers.** Prior to issuance of any construction permits, the City of Long Beach Development Services Director, or designee, shall verify that construction plans include the following note: During construction, the Construction Contractor shall ensure, through appropriate postings and daily visual inspections, that no unauthorized materials are posted on any temporary construction barriers or temporary pedestrian walkways, and that any such temporary barriers and walkways are maintained in a visually attractive manner. In the event that unauthorized materials or markings are discovered on any temporary construction barrier or temporary pedestrian walkway, the Construction Contractor shall remove such items within 48 hours.	Construction Contractor/ City of Long Beach Development Services Director, or designee	Prior to issuance of any construction permits and ongoing during construction
4.2 Air Quality			
The proposed Project would not result in any potentially significant impacts to air quality. No mitigation is required.			
4.3 Biology			
Mitigation Measure 4.3.1:	**Migratory Bird Treaty Act.** Tree and vegetation removal shall be restricted to outside the likely active nesting season (January 15 through September 1) for those bird species present or potentially occurring within the proposed Project area. That time period is inclusive of most other birds' nesting periods, thus maximizing avoidance of impacts to any nesting birds. If construction is proposed between January 15 and September 1, a qualified biologist familiar with local avian species and the requirements of the Migratory Bird Treaty Act (MBTA) and the California Fish and Game Code shall conduct a preconstruction survey for nesting birds no more than 3 days prior to construction. The survey shall include the entire area that will be disturbed. The results of the survey shall be recorded in a memorandum and submitted to the City of Long Beach (City) Parks, Recreation, and Marine Director within 48 hours. If the survey is positive, and the nesting species are subject to the MBTA or the California Fish and Game Code, the	City of Long Beach Parks, Recreation, and Marine Director or designee	No more than 3 days prior to commencement of grading activities, if construction is proposed between January 15 and August 31.

Table 7.A: Mitigation and Monitoring Reporting Program

Mitigation Measures		Responsible Party	Timing for Mitigation Measure
	memorandum shall be submitted to the California Department of Fish and Wildlife (CDFW) to determine appropriate action. If nesting birds are present, a qualified biologist shall be retained to monitor the site during initial vegetation clearing and grading, as well as during other activities that would have the potential to disrupt nesting behavior. The monitor shall be empowered by the City to halt construction work in the vicinity of the nesting birds if the monitor believes the nest is at risk of failure or the birds are excessively disturbed.		
Mitigation Measure 4.3.2:	**Local Tree Removal Ordinances.** Prior to the start of any demolition or construction activities, the City of Long Beach (City) Parks, Recreation, and Marine Director, or designee, shall obtain a tree removal permit from the City's Director of Public Works. A City-approved Construction Plan shall be submitted with the permit to remove tree(s). The City approved Plan shall show that the existing City (parkway) tree has a direct impact on the design and function of the proposed Project. The City shall incur all removal costs, including site cleanup, make any necessary repair of hardscape damage, and replace the tree. The removed tree shall be replaced with an approved 15-gallon tree and payment of a fee that is equivalent to a City-approved 15-gallon tree.	City of Long Beach Parks, Recreation, and Marine Director, or designee	Prior to the start of any demolition or construction activities
4.4 Cultural Resources			
Mitigation Measure 4.4.1:	**Paleontological Resources Impact Mitigation Program**. Prior to commencement of any grading or excavation activity on site, the City of Long Beach (City) Development Services Director, or designee, shall verify that a paleontologist has been retained on an on-call basis for all excavation from the surface to depths of 23 feet (ft) below the surface. Once a depth of 23 ft is reached, the paleontologist shall visit the site and determine if there is a potential for the sediments at this depth to contain paleontological resources. A paleontologist shall not be required on site if excavation is only	City of Long Beach Development Services Director, or designee	Prior to commencement of any grading or excavation activity on site

Table 7.A: Mitigation and Monitoring Reporting Program

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
occurring in depths of less than 23 ft, unless there are discoveries at shallower depths that warrant the presence of a paleontological monitor. In the event that there are any unanticipated discoveries, the on-call paleontologist shall be called to the site to assess the find for significance, and if necessary, prepare a Paleontological Resources Impact Mitigation Program (PRIMP) as outlined below. If excavation will extend deeper than 23 ft, exclusive of pile-driving and vibro-replacement soil stabilization techniques, the paleontologist shall prepare a PRIMP for the proposed Project. The PRIMP should be consistent with the guidelines of the Society of Vertebrate Paleontologists (SVP, 1995 and 2010) and shall include but not be limited to the following: • Attendance at the pre-grade conference or weekly tailgate meeting if the PRIMP is initiated after the commencement of grading, in order to explain the mitigation measures associated with the Project. • During construction excavation, a qualified vertebrate paleontological monitor shall initially be present on a full-time basis whenever excavation shall occur within the sediments that have a high paleontological sensitivity rating. Based on the significance of any recovered specimens, the qualified paleontologist may set up conditions that shall allow for monitoring to be scaled back to part-time as the Project progresses. However, if significant fossils begin to be recovered after monitoring has been scaled back, conditions shall also be specified that would allow increased monitoring as necessary. The monitor shall be equipped to salvage fossils and/or matrix samples as they are unearthed in order to avoid construction delays. The monitor shall be empowered to temporarily halt or divert equipment in the area of the find in		

Table 7.A: Mitigation and Monitoring Reporting Program

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
order to allow removal of abundant or large specimens. • The underlying sediments may contain abundant fossil remains that can only be recovered by a screening and picking matrix; therefore, these sediments shall occasionally be spot-screened through 1/8 to 1/20-inch mesh screens to determine whether microfossils exist. If microfossils are encountered, additional sediment samples (up to 6,000 pounds) shall be collected and processed through 1/20-inch mesh screens to recover additional fossils. Processing of large bulk samples is best accomplished at a designated location within the Project that shall be accessible throughout the Project duration but shall also be away from any proposed cut or fill areas. Processing is usually completed concurrently with construction, with the intent to have all processing completed before, or just after, Project completion. A small corner of a staging or equipment parking area is an ideal location. If water is not available, the location should be accessible for a water truck to occasionally fill containers with water. • Preparation of recovered specimens to a point of identification and permanent preservation. This includes the washing and picking of mass samples to recover small invertebrate and vertebrate fossils and the removal of surplus sediment from around larger specimens to reduce the volume of storage for the repository and the storage cost. • Identification and curation of specimens into a museum repository with permanent retrievable storage, such as the Natural History Museum of Los Angeles County (LACM). • Preparation of a report of findings with an appended itemized inventory of specimens. When submitted to the City Development Services Director, or designee, the report and		

Table 7.A: Mitigation and Monitoring Reporting Program

Mitigation Measures		Responsible Party	Timing for Mitigation Measure
	inventory would signify completion of the program to mitigate impacts to paleontological resources.		
4.5 Geology and Soils			
Mitigation Measure 4.5.1:	**Conformance with the Project Geotechnical Studies.** All grading operations and construction shall be conducted in conformance with the recommendations included in the *Report of Preliminary Geotechnical Investigation for the Proposed Belmont Plaza Olympic Pool Revitalization Project,* prepared by MACTEC (April 14, 2009); the *Geotechnical Investigation for the Temporary Myrtha Pool and Associated Improvements, Belmont Plaza Revitalization,* prepared by GMU Geotechnical, Inc. (April 3, 2013); the *Preliminary Geotechnical Report for the Belmont Plaza Pool Rebuild-Revitalization* prepared by AESCO (April 24, 2014); and *Soil Corrosivity Evaluation for the Belmont Plaza Pool Facility Rebuild/Revitalization Project*, prepared by HDR Schiff (April 23, 2014), which together are referred to as the *Geotechnical Evaluations*. Design, grading, and construction shall be performed in accordance with the requirements of the City of Long Beach (City) Municipal Code (Title 18) and the California Building Code (CBC) applicable at the time of grading, appropriate local grading regulations, and the requirements of the Project geotechnical consultant as summarized in a final written report, subject to review and approval by the City's Development Services Director, or designee, prior to commencement of grading activities. Specific requirements in the Final Geotechnical Report shall address: 1. Seismic design considerations and requirements for structures and nonstructural components permanently attached to structures	City of Long Beach Development Services Director, or designee	Prior to commencement of grading activities

Table 7.A: Mitigation and Monitoring Reporting Program

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
2. Foundations including ground improvements (deep soil mixing and stone columns) and shallow foundation design 3. Earthwork, including site preparation for structural areas (building pad) and sidewalks, pavements, and other flatwork areas; fill material; temporary excavations; and trench backfill 4. Liquefaction 5. Site drainage 6. Slabs-on-grade and pavements 7. Retaining walls Additional site testing and final design evaluation shall be conducted by the Project geotechnical consultant to refine and enhance these requirements, if necessary. The City shall require the Project geotechnical consultant to assess whether the requirements in that report need to be modified or refined to address any changes in the Project features that occur prior to the start of grading. If the Project geotechnical consultant identifies modifications or refinements to the requirements, the City shall require appropriate changes to the final Project design and specifications. Grading plan review shall also be conducted by the City's Development Services Director, or designee, prior to the start of grading to verify that the requirements developed during the geotechnical design evaluation have been appropriately incorporated into the Project plans. Design, grading, and construction shall be conducted in accordance with the specifications of the Project geotechnical consultant as summarized in a final report based on the CBC applicable at the time of grading and building and the City Building Code. On-site inspection during		

Table 7.A: Mitigation and Monitoring Reporting Program

Mitigation Measures		Responsible Party	Timing for Mitigation Measure
	grading shall be conducted by the Project geotechnical consultant and the City Building Official to ensure compliance with geotechnical specifications as incorporated into Project plans.		
Mitigation Measure 4.5.2:	**Corrosive Soils.** Prior to issuance of any building permits, the City of Long Beach Development Services Director, or designee, shall verify that structural design conforms to the requirements of the geotechnical study with regard to the protection of ferrous metals and copper that will come into contact with on-site soil. In addition, on-site inspections shall be conducted during construction by the Project geotechnical consultant and/or City Building Official to ensure compliance with geotechnical specifications as incorporated into Project plans. The measures specified in the geotechnical study for steel pipes, iron pipes, copper tubing, plastic and vitrified clay pipe, other pipes, concrete, post tensioning slabs, concrete piles, and steel piles shall be incorporated into the structural design and Project plans where ferrous metals (e.g., iron or steel) and/or copper may come into contact with on-site soils.	City of Long Beach Development Services Director, or designee/Geotechnical Consultant or City Building Official	Prior to issuance of any building permits; inspections during project construction
4.6 Global Climate Change and Greenhouse Gas Emissions			
The proposed Project would not result in potentially significant impacts related to Greenhouse Gases. No mitigation is required.			
4.7 Hazards and Hazardous Resources			
Mitigation Measure 4.7.1:	**Contingency Plan.** Prior to issuance of any excavation or grading permits or activities, the City of Long Beach (City) Fire Department (LBFD), or designee, shall review and approve a contingency plan that addresses the potential to encounter on-site unknown hazards or hazardous substances during construction activities. The plan shall require that if construction workers encounter underground tanks, gases, odors, uncontained spills, or other unidentified substances, the contractor shall stop work, cordon off the affected area, and notify the LBFD. The LBFD responder shall determine the next steps regarding possible site evacuation, sampling, and disposal of	City of Long Beach Fire Department, or designee	Prior to issuance of any excavation or grading permits or activities

Table 7.A: Mitigation and Monitoring Reporting Program

Mitigation Measures		Responsible Party	Timing for Mitigation Measure
	the substance consistent with local, State, and federal regulations.		
Mitigation Measure 4.7.2:	**Predemolition Surveys.** Prior to commencement of demolition and/or construction activities, the City LBFD, or designee, shall verify that predemolition surveys for asbestos-containing materials (ACMs) and lead (including sampling and analysis of all suspected building materials) shall be performed. All inspections, surveys, and analyses shall be performed by appropriately licensed and qualified individuals in accordance with applicable regulations (i.e., American Society for Testing and Materials E 1527-05, and 40 Code of Federal Regulations [CFR], Subchapter R, Toxic Substances Control Act [TSCA], Part 716). If the predemolition surveys do not find ACMs or lead-based pipes (LBPs), the inspectors shall provide documentation of the inspection and its results to the City LBFD, or designee, to confirm that no further abatement actions are required. If the predemolition surveys find evidence of ACMs or lead, all such materials shall be removed, handled, and properly disposed of by appropriately licensed contractors according to all applicable regulations during demolition of structures (40 CFR, Subchapter R, TSCA, Parts 745, 761, and 763). Air monitoring shall be completed by appropriately licensed and qualified individuals in accordance with applicable regulations both to ensure adherence to applicable regulations (e.g., South Coast Air Quality Management District [SCAQMD]) and to provide safety to workers. The City shall provide documentation (e.g., all required waste manifests, sampling, and air monitoring analytical results) to the LBFD showing that abatement of any ACMs or lead identified in these structures has been completed in full compliance with all applicable regulations and approved by the appropriate regulatory agencies (40 CFR, Subchapter R, TSCA, Parts 716, 745, 761, 763, and 795 and California Code of Regulations Title 8, Article 2.6). An Operating	City of Long Beach Fire Department, or designee	Prior to commencement of demolition and/or construction activities

Table 7.A: Mitigation and Monitoring Reporting Program

Mitigation Measures		Responsible Party	Timing for Mitigation Measure
	and Maintenance Plan shall be prepared for any ACM or lead to remain in place and shall be reviewed and approved by the LBFD.		
4.8 Hydrology and Water Quality			
Mitigation Measure 4.8.1:	**Construction General Permit.** Prior to issuance of a grading permit, the City of Long Beach (City) shall obtain coverage for the proposed Project under the State Water Resources Control Board National Pollutant Discharge Elimination System *General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities* (Order No. 2009-0009-DWQ, Permit No. CAS000002), as amended by Order Nos. 2010-0004-DWQ and 2012-0006-DWQ (Construction General Permit), or subsequent issuance. For projects with a disturbed area of 5 or more acres, a Storm Water Pollution Prevention Plan (SWPPP) with construction Best Management Plans (BMPs) is required to be submitted to both the Los Angeles Regional Water Quality Control Board (RWQCB) and the City. The City shall provide the Waste Discharge Identification Numbers to the Development Services Director to demonstrate proof of coverage under the Construction General Permit. A SWPPP shall be prepared and implemented for the proposed Project in compliance with the requirements of the Construction General Permit. The SWPPP shall identify construction BMPs to be implemented to ensure that the potential for soil erosion and sedimentation is minimized and to control the discharge of pollutants in storm water runoff as a result of construction activities.	City of Long Beach Development Services Director, or designee	Prior to issuance of a grading permit
Mitigation Measure 4.8.2:	**Dewatering During Construction Activities.** During project construction, the City of Long Beach Development Services Director, or designee, shall ensure that any dewatering activities during construction shall comply with the requirements of the *Waste Discharge Requirements for Discharges of Groundwater from Construction and Project Dewatering to Surface Waters in*	City of Long Beach Development Services Director, or designee	Ongoing during any dewatering activities during project construction

Table 7.A: Mitigation and Monitoring Reporting Program

Mitigation Measures		Responsible Party	Timing for Mitigation Measure
	Coastal Watersheds of Los Angeles and Ventura Counties (Order No. R4-2013-0095, Permit No. CAG994004) (Groundwater Discharge Permit) or subsequent permit. This Groundwater Discharge Permit shall include submission of a Notice of Intent (NOI) for coverage under the permit to the Los Angeles RWQCB at least 45 days prior to the start of dewatering and compliance with all applicable provisions in the permit, including water sampling, analysis, and reporting of dewatering-related discharges. If dewatered groundwater cannot meet the discharge limitations specified in the Groundwater Discharge Permit, a permit shall be obtained from the Los Angeles County Sanitation District (LACSD) to discharge groundwater to the sewer per LACSD's Wastewater Ordinance.		
Mitigation Measure 4.8.3:	**Standard Urban Stormwater Mitigation Plan.** Prior to issuance of grading permits, the City shall submit a Final Standard Urban Stormwater Mitigation Plan (SUSMP) for the proposed Project to the Development Services Director for review and approval. Project-specific site Design, Source Control, and Treatment Control BMPs contained in the Final SUSMP shall be incorporated into final design. The BMPs shall be consistent with the requirements of the *Low Impact Development (LID) Best Management Practices (BMP) Design Manual*. Additionally, the BMPS shall be designed and maintained to target pollutants of concern and reduce runoff from the Project site. The SUSMP shall include an operations and maintenance plan for the prescribed Treatment Control BMPs to ensure their long-term performance.	City of Long Beach Development Services Director, or designee	Prior to issuance of grading permits
Mitigation Measure 4.8.4:	**Hydrology Reports.** Prior to issuance of grading permits, the City shall submit a final hydrology report for the proposed Project to the Development Services Director, or designee, for review and approval. The hydrology report shall demonstrate, based on hydrologic calculations, that the proposed Project's on-site storm conveyance and detention and infiltration facilities are designed in	City of Long Beach Development Services Director, or designee	Prior to issuance of grading permits

Table 7.A: Mitigation and Monitoring Reporting Program

Mitigation Measures		Responsible Party	Timing for Mitigation Measure
	accordance with the requirement of the Los Angeles County Department of Public Works Hydrology Manual.		
Mitigation Measure 4.8.5:	**Floodplain Report.** During final design, the Project engineer shall prepare and submit a floodplain/hydrology report to the City Development Services Director, or designee, to address any potential impacts to the floodplain and, if required, reduce those impacts. The report shall comply with City and Federal Emergency Management Agency (FEMA) regulations and shall not increase the base flood elevation by more than 1 foot. Detailed analysis shall be conducted to ensure that the Project design specifically addresses floodplain issues so that the proposed Project complies with local and FEMA regulations on floodplains.	Project Engineer/City of Long Beach Development Services Director, or designee	During final design
4.9 Land Use			
The proposed Project would not result in potentially significant impacts related to land use. No mitigation is required.			
4.10 Noise			
Mitigation Measure 4.10.1:	Prior to issuance of the occupancy permit, the City of Long Beach's (City) Development Services Director, or designee, shall verify that a sound engineer has designed the permanent and temporary sound systems such that the City's exterior noise standards (daytime exterior noise level of 50 dBA L_{50}) are not exceeded at the surrounding sensitive land uses. Measures capable of reducing the noise levels include, but are not limited to: • Reducing the source levels; • Reducing the speaker elevations; • Directing the speakers away from adjacent noise-sensitive land uses; and • Using highly directional speakers.	City of Long Beach Development Services Director, or designee	Prior to issuance of the occupancy permit
Mitigation Measure 4.10.2:	Prior to issuance of demolition or grading permits, the City of Long Beach's (City) Development Services Director, or designee, shall verify that construction and grading plans include the following conditions to reduce potential construction noise impacts on nearby sensitive receptors:	City of Long Beach Development Services Director, or designee	Prior to issuance of demolition or grading permits

Table 7.A: Mitigation and Monitoring Reporting Program

	Mitigation Measures	Responsible Party	Timing for Mitigation Measure
	• During all site excavation and grading, the construction contractors shall equip all construction equipment, fixed or mobile, with properly operating and maintained mufflers consistent with manufacturers' standards; • The construction contractor shall place all stationary construction equipment so that emitted noise is directed away from sensitive receptors nearest the Project site; • The construction contractor shall locate equipment staging to create the greatest distance between construction-related noise sources and noise-sensitive receptors nearest the Project site during all Project construction; • The construction contractor shall ensure that engine idling from construction equipment (i.e., bulldozers and haul trucks) is limited to a maximum of 5 minutes at any given time; and • The construction contractor shall ensure that all construction activities are scheduled to avoid operating several pieces of heavy equipment simultaneously. • Construction, drilling, repair, remodeling, alteration, or demolition work shall be limited to the hours of 7:00 a.m. to 7:00 p.m. Monday through Friday, and 9:00 a.m. to 6:00 p.m. on Saturday. In accordance with City standards, no construction activities are permitted outside of these hours.		
Mitigation Measure 4.10.3:	Prior to issuance of a grading permit, the City of Long Beach Tidelands Capital Improvement Division shall hold a community preconstruction meeting in concert with the construction contractor to provide information to the public regarding the construction schedule. The construction schedule information shall include the duration of each construction activity and the specific location, days, frequency, and duration of the pile driving that will occur	City of Long Beach Tidelands Capital Improvement Division	Prior to issuance of a grading permit

Table 7.A: Mitigation and Monitoring Reporting Program

Mitigation Measures		Responsible Party	Timing for Mitigation Measure
	during each phase of the Project construction. Public notification of this meeting shall be undertaken in the same manner as the Notice of Availability mailings for this Draft Environmental Impact Report.		
4.11 Recreation			
With implementation of Mitigation Measure 4.12.2, as identified in the Transportation and Traffic section, short-term construction-related impacts on recreational resources would be less than significant.			
4.12 Transportation and Traffic			
Mitigation Measure 4.12.1:	**Event Traffic Management Plan.** In the event that a large special event (defined as more than 450 spectators) is held at Belmont Pool, the City of Long Beach (City) Parks and Recreation Director, or designee, shall develop an Event Traffic Management Plan for review and approval by the City Traffic Engineer. The plan shall be designed by a registered Traffic Engineer and shall address potential impacts to traffic circulation and the steps necessary to minimize potential impacts (e.g., active traffic management and/or off-site parking and shuttles) during the large special event.	City of Long Beach Parks and Recreation Department Director, or designee/City Traffic Engineer	Prior to any large special event (defined as more than 450 spectators)
Mitigation Measure 4.12.2:	**Construction Traffic Management Plan.** Prior to the issuance of any demolition permits, the City of Long Beach (City) Parks and Recreation Director, or designee, shall develop a Construction Traffic Management Plan for review and approval by the City Traffic Engineer. The plan shall be designed by a registered Traffic Engineer and shall address traffic control for any street closure, detour, or other disruption to traffic circulation and public transit routes and shall ensure that emergency vehicle access is maintained. The plan shall identify the routes that construction vehicles shall use to access the site, the hours of construction traffic, traffic controls and detours, and off-site staging areas. The plan shall also require that a minimum of one travel lane in each direction on Ocean Boulevard be kept open during construction activities. Access to Belmont Veterans' Memorial Pier, the Shoreline Beach Bike Path, and the beach shall be maintained at all times. The	City of Long Beach Parks and Recreation Director, or designee/ City Traffic Engineer	Prior to the issuance of any demolition permits

Table 7.A: Mitigation and Monitoring Reporting Program

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
Construction Traffic Management Plan shall also require that access to the pier, the bike path, and the beach be kept open during construction activities. The plan shall also require the City to keep all haul routes clean and free of debris including, but not limited to, gravel and dirt		
4.13 Utilities and Service Systems		
With implementation of Mitigation Measures 4.8.2 and 4.8.4, as identified in the Hydrology and Water Quality Section, impacts with respect to hydrology and water quality would be less than significant.		