KROC COMMUNITY CENTER
DRAFT ENVIRONMENTAL IMPACT REPORT

(SCH #2008071085)

Volume I

Prepared for:

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TECHNICAL APPENDICES

This Environmental Impact Report (EIR) analyzes the potential for significant environmental impacts in association with the proposed Kroc Community Center (proposed project). The proposed project would occur within the City of Long Beach (City), California.

The proposed project site would involve the reformation of up to roughly 19 acres of land designated by the Salvation Army, through a grant from the Kroc Foundation, for the location of a new recreation and community center to foster and serve the recreational needs of the local community. The proposed project aims to offer an array of social programs specifically designed to address the demands of the neighboring community. The proposed project consists of the development of the Kroc Community Center recreational facility. The indoor components intended for the proposed project would be enclosed in an approximately 170,536-square-foot, three- to four-story, three-building complex. The proposed project also is comprised of a set of outdoor components that are described in detail below in this section.

ES.1 EXISTING FACILITIES

The proposed project site consists of approximately 19 acres of undeveloped parcels of land that have also been intermittently used for recreation by the City pursuant to a lease agreement with the County of Los Angeles. The 19-acre proposed project site is owned by the County of Los Angeles Department of Public Works. The City has entered into a grant lease with the County of Los Angeles Department of Public Works (Flood Control District) that would allow the site to be developed for recreation and appurtenant uses.

The Hamilton Bowl / Chittick Field site operates as the Hamilton Bowl Detention Basin. This site is used as a storm water detention basin, as a National Pollution Discharge Elimination System (NPDES) compliance site for the City of Signal Hill and the City, and as a general recreational area for seasonal sports and picnicking by the surrounding community. There are currently two pump stations located on the site that provide drainage and discharge of water during storm events.[1] The Low-flow Pump Station was constructed during the 1930s and is located on the western border of the proposed project site, and the Hamilton Bowl Pump Station is located at the southern end of the proposed project site.

The proposed project site consists of largely undeveloped parcels of land with three structures on the detention basin. There is a privately owned single-family residence located near the northwest corner and outside of the proposed project site. The Hamilton Bowl Pump Station is located on the south side of the site and borders commercial development off East Pacific Coast Highway. A structure for Public Restrooms and the Low-flow Pump Station are located off Walnut Avenue on the west side of the property.

ES.2 PROPOSED PROJECT

The proposed project consists of six distinct elements: Chapel / Auditorium building, Administration/Education building, Recreation Center, Outdoor Recreation, Recreation "Soccer" Field, and Landscaping.

[1] Moffatt & Nichol. October 2006. *Hamilton Bowl Pump Station / Detention Basin Hydrology Analysis.* Long Beach, CA.

ES.2.1 Chapel / Auditorium Building

- *Chapel / Auditorium building*. This roughly 12,455-square-foot structure would be located near the southwest corner of the proposed project site near East Pacific Coast Highway and Walnut Avenue. This two-story building would include a lobby, lecture halls, stage, and backstage areas.

ES.2.2 Administration/Education Building

- *Administration/Education building*. The building would be roughly 73,910 square feet set back from Walnut Avenue and situated off the northeast corner of the chapel / auditorium building. This four-story building would house a drop-in daycare, a 3,500-square-foot kitchen, art studios, multipurpose rooms, classrooms, a library, a computer lab, and administrative offices.

ES.2.3 Recreation Center

- *Recreation Center*. This two-story building would be located to the north of the administration/education building and would consist of approximately 84,171 square feet, including a gymnasium, classrooms, a fitness center, exercise rooms, a weight room, locker rooms, a game room, and an indoor therapy pool.

ES.2.4 Outdoor Recreation

- *Outdoor Recreation*. This space would consist of a playing field (discussed below) and 2 acres of gardens, play yards, and horticulture areas. The outdoor recreation complex would include a 50-meter pool, a warm-up pool, and a leisure pool with fountains, slides, and a children's area. Other site amenities would include a playground, walking trails, a roughly 10,000-square-foot amphitheater, an outdoor climbing wall, a challenge course, an exterior patio, and a horticulture area.

ES.2.5 Recreation "Soccer" Field

- *Recreation "Soccer" Field*. This space would be a 4-acre field that would accommodate up to 5,000 spectators. It would be adjacent to a 10,000-square-foot amphitheater that would accommodate up to 750 spectators in a bowl-shaped seating area.[2]

ES.2.6 Landscaping

- *Landscaping*. Landscaping at the proposed project site would be consistent with the plant species and vegetation for the area. Planting of vegetation would consist of plant species that would continue to support the presence of the identified lepidopteran (specifically butterfly) species at the proposed project site, as well as the additional wildlife that would be supported by these plants.[3] The proposed

[2] Salvation Army, Southern California Division. 30 July 2007. *Kroc Facilities and Program Design*. Los Angeles, CA.

[3] Sapphos Environmental, Inc. 22 October 2008. Memorandum for the Record, 1222-004, No. 3. Pasadena, CA.

landscaping and irrigation system would be designed for moderate to draught tolerant plants for conservation purposes.[4]

ES.3 ISSUES TO BE RESOLVED

The analysis undertaken in support of this EIR determined that there are several environmental issue areas related to the California Environmental Quality Act (CEQA) that are not expected to have significant impacts resulting from implementation of the proposed project. These issue areas include: agriculture resources, mineral resources, population and housing, and public services. These issue areas, therefore, were not carried forward for detailed analysis in the EIR. The environmental issues identified in the Initial Study that need to be resolved in this EIR include: aesthetics, air quality, biological resources, cultural resources, geology and soils, hazards and hazardous materials, hydrology and water quality, NPDES, land use and planning, noise, recreation, transportation and traffic, and utilities and service systems.

ES.4 SUMMARY OF IMPACTS

The analysis undertaken in support of this EIR has determined that impacts to air quality, biological resources, geology and soils, hazards and hazardous materials, hydrology and water quality, NPDES, transportation and traffic, and utilities and service systems can be mitigated to below the level of significance. Table ES.5-1, *Summary of Significant Impacts*, presents potentially significant impacts related to each issue area analyzed that might result or can be reasonably expected to result from implementation of the proposed project. Table ES.5-1 also presents the measures that can mitigate the significant impacts and the level of significance after mitigation for each issue area analyzed in the EIR.

[4] Long Beach Water Department. 28 November 2007. Correspondence to Jeffery Winklepleck, City of Long Beach, Long Beach, CA.

TABLE ES.4-1
SUMMARY OF SIGNIFICANT IMPACTS

Impact	Mitigation Measure	Level of Significance After Mitigation
Aesthetics		
Implementation of the proposed project would be expected to result in significant impacts to aesthetics in relation to the substantial degradation of the existing visual character of the site and its surroundings.	**Measure Cultural-2** Impacts related to the loss of an historical resource, the Low-flow Pump Station, shall be reduced through archival documentation of as-found conditions. Prior to issuance of demolition permits, the applicant shall demonstrate to the satisfaction of the City of Long Beach Department of Development Services that documentation of the Low-flow Pump Station is completed by the applicant in the form of a Historic American Buildings Survey that shall comply with the *Secretary of the Interior's Standards for Architectural and Engineering Documentation*. The documentation shall include large-format photographic recordation; a detailed historic narrative report including description, history, and statement of significance; measured architectural drawings (as built and/or current conditions); and a compilation of historic research. The documentation shall be completed by a qualified architectural historian or historian who meets the Secretary of the Interior's Professional Qualification Standards for History and/or Architectural History. The original archival-quality documentation shall be offered as donated material to the National Park Service Heritage Documentation Program, Historic American Buildings Survey, for inclusion in the Library of Congress. Archival copies of the documentation also would be submitted to the Long Beach Public Library; the Historical Society of Long Beach; California State University, Long Beach; the Office of Historic Preservation; and the South Central Coastal Information Center where it would be available to local researchers. Completion of this mitigation measure shall be monitored and enforced by the City of Long Beach Department of Development Services.	Implementation of mitigation measure Cultural-2 would be expected to reduce significant direct, indirect, and cumulative impacts to aesthetics to the maximum extent feasible, in terms of a historical resource scheduled for demolition. However, the demolition of this historical resource would still remain a significant adverse impact.
Air Quality		
Implementation of the proposed project would result in significant impacts to air quality related to maximum daily PM_{10} emissions, $PM_{2.5}$ emissions, NO_X emissions, and fugitive dust impact.	**Measure Air-1** Water or a stabilizing agent shall be applied to exposed surfaces in sufficient quantity two times a day to prevent generation of dust plumes. Soil moistening shall be required to treat exposed soil during construction of each element of the project to avoid fugitive dust emissions, ensure compliance with current air quality standards, and avoid contributions to cumulative increases in criteria pollutants. Prior to the issuance of permits for each phase of the project, the applicant shall demonstrate to the satisfaction of the City of Long Beach Department of Development Services that the plans and specifications submitted for review include the requirement for the construction contractor to ensure that soil shall be	Implementation of air quality mitigation measures Air-1 through Air-7 would ensure that maximum daily PM_{10} emissions would be reduced by approximately 22 percent and $PM_{2.5}$ emissions would be reduced by approximately 6 percent, a much less significant fugitive dust impact. Therefore, with the incorporation of these mitigation measures, fugitive dust emissions associated with the project would be

TABLE ES.4-1
SUMMARY OF SIGNIFICANT IMPACTS, Continued

Impact	Mitigation Measure	Level of Significance After Mitigation
	moistened not more than 15 minutes prior to the daily commencement of soil-moving activities and three times a day, or four times a day under windy conditions, in order to maintain a soil moisture content of 12 percent. The applicant shall demonstrate compliance with this measure through the submission of weekly monitoring reports to the City of Long Beach Department of Development Services. At a minimum, active operations shall utilize one or more of the applicable best available control measures to minimize fugitive dust emissions from each fugitive dust source type that is part of the active operation. **Measure Air-2** Moistening or covering of excavated soil piles shall be required to treat grading areas during construction of the project to avoid fugitive dust emissions, ensure compliance with current air quality standards, and avoid contributions to cumulative increases in critical pollutants. Prior to the issuance of permits for each phase of the project, the applicant shall demonstrate to the satisfaction of the City of Long Beach Department of Development Services that the plans and specifications for each phase of the project include the requirement for the construction contractor to ensure that excavated soil piles are watered hourly for the duration of construction or covered with temporary coverings. **Measure Air-3** Discontinuing construction activities that occur on unpaved surfaces during windy conditions shall be required to avoid fugitive dust emissions, ensure compliance with current air quality standards, and avoid contributions to cumulative increases in critical pollutants. Prior to the issuance of permits for each phase of the project, the applicant shall demonstrate to the satisfaction of the City of Long Beach Department of Development Services that the plans and specifications for each phase of the project include the requirement for the construction contractor to cease construction activities that occur on unpaved surfaces during periods when winds exceed 25 miles per hour. **Measure Air-4** A wheel washing system shall be installed and used to remove bulk material from tires and vehicle undercarriages before vehicles exit the project site. Washing of wheels leaving the construction site during construction of each phase of the project shall be required to avoid fugitive dust emissions, ensure compliance with current air quality standards, and avoid contributions to cumulative increases in criteria pollutants. Prior to the issuance of permits for each phase of the project, the applicant shall demonstrate to the satisfaction of the City of Long Beach Department of Development Services that the plans and specifications for each phase of the project include the requirement for the	maintained below the level of significance for the threshold level. NO_x emissions would be expected to be significant during construction, but reduced to below the level of significance through the incorporation of mitigation measures Air-8 through Air-10.

TABLE ES.4-1
SUMMARY OF SIGNIFICANT IMPACTS, Continued

Impact	Mitigation Measure	Level of Significance After Mitigation
	construction contractor to clean adjacent streets of tracked dirt at the end of each workday or install on-site wheel-washing facilities. **Measure Air-5** Track out shall not extend 25 feet or more from an active operation, and track out shall be removed at the conclusion of each workday. Prior to the issuance of permits for each phase of the project, the applicant shall demonstrate to the satisfaction of the City of Long Beach Department of Development Services that the plans and specifications for each phase of the project include the requirement for the construction contractor to ensure that the track out shall not extend 25 feet or more from an active operation and that it would be removed at the conclusion of each workday. **Measure Air-6** All haul trucks hauling soil, sand, and other loose materials shall be covered (e.g., with tarps or other enclosures that would reduce fugitive dust emissions). All transport of soils to and from the project site for each phase of the project shall be conducted in a manner that avoids fugitive dust emissions, ensures compliance with current air quality standards, and avoids contributions to cumulative increases in criteria pollutants. Prior to the issuance of permits for each phase of the project, the applicant shall demonstrate to the satisfaction of the City of Long Beach Department of Development Services that the plans and specifications for each phase of the project include the requirement for the construction contractor to cover all loads of dirt leaving the site or to leave sufficient freeboard capacity in the truck to prevent fugitive dust emissions en route to the disposal site. **Measure Air-7** Traffic speeds on unpaved roads shall be limited to 15 miles per hour. Prior to issuance of permits for each phase of the project, the applicant shall demonstrate to the satisfaction of the City of Long Beach Department of Development Services that the plans and specifications for each phase of the project include the requirement for the construction contractor to ensure a traffic speed limited to 15 miles per hour. **Measure Air-8** Heavy-equipment operations shall be suspended during first- and second-stage smog alerts. Prior to issuance of permits for each phase of the project, the applicant shall demonstrate to the satisfaction of the City of Long Beach Department of Development Services that the plans and specifications for each phase of the project include the requirement for the construction contractor to ensure heavy equipment operations be suspended during first and second stage smog alerts.	

TABLE ES.4-1
SUMMARY OF SIGNIFICANT IMPACTS, Continued

Impact	Mitigation Measure	Level of Significance After Mitigation
	Measure Air-9 In order to mitigate the air quality impact caused by NO_x emissions from construction equipment, all construction equipment not expected to be used for a period in excess of 5 minutes shall be turned off as a means of reducing NO_x emissions to the maximum extent practicable. Prior to the issuance of permits for each phase of the project, the applicant shall demonstrate to the satisfaction of the City of Long Beach Department of Development Services that the plans and specifications require the construction contractor to shut off engines when not in use. Specifications shall require the construction contractor to certify monthly to the Department of Development Services that construction equipment is being maintained in peak operating condition. **Measure Air-10** In order to mitigate the air quality impact caused by NO_x emissions from construction equipment, all off-road diesel construction equipment shall use particulate filters. The applicant shall also ensure that cooled, exhaust gas recirculation devices are installed on all off-road diesel equipment where feasible. Prior to the issuance of permits for each phase of the project, the applicant shall demonstrate to the satisfaction of the City of Long Beach Department of Development Services that the plans and specifications require the construction contractor to use particulate filters on all off-road diesel equipment and install cooled, exhaust gas recirculation devices on all off-road diesel equipment where feasible.	
Biological Resources		
The analysis undertaken for this EIR determined that no significant impacts related to biological resources would arise from implementation of the proposed project. Therefore, no mitigation measures are required.		
Cultural Resources		
Implementation of the proposed project would result in significant impacts to cultural resources related to an adverse change in the significance of a paleontological resource, a historic period archaeological resource, historical resources, and to resources related to human remains.	**Measure Cultural-1** The impacts to cultural resources related directly or indirectly to the destruction of a unique paleontological resource from the project shall be reduced to below the level of significance through the salvage and disposition of paleontological resources that result from all earthmoving activities involving disturbances of the older Quaternary terrace deposits. Ground-disturbing activities include, but are not limited to, drilling, excavation, trenching, and grading. If paleontological resources are encountered during ground-disturbing activities, the applicant, under the direction of the City of Long Beach Department of Development Services, shall be required to and be responsible for salvage and recovery of those resources consistent with standards for such recovery established by the Society of Vertebrate Paleontology:[5]	Implementation of mitigation measures Cultural-1 and Cultural-3 would reduce impacts to cultural resources related to an adverse change in the significance of paleontological resources and human remains to below the level of significance. Implementation of mitigation measures Cultural-2 would reduce significant direct and cumulative impacts to historical resources scheduled for demolition to

[5] Society of Vertebrate Paleontology. Accessed 11 December 2008. "Assessment and Mitigation of Adverse Impacts to Nonrenewable Paleontologic Resources: Standard Guidelines." Available at: http://www.vertpaleo.org/society/polstatconformimpactmigig.cfm

TABLE ES.4-1
SUMMARY OF SIGNIFICANT IMPACTS, Continued

Impact	Mitigation Measure	Level of Significance After Mitigation
	Because the precise depth of strata considered highly sensitive for paleontological resources is unknown, the applicant, under the direction of the City of Long Beach Department of Development Services, shall be responsible for and shall ensure implementation of construction monitoring by a qualified paleontological monitor during all earthmoving activities that involve disturbance of native soil (i.e., soil that has not been artificially introduced and has not accumulated through Hamilton Bowl's function as a flood control basin). The paleontological monitor shall coordinate a pre-construction briefing to provide information regarding the protection of paleontological resources. Construction personnel shall be trained in procedures to be followed in the event that a fossil site or fossil occurrence is encountered during construction. An information package shall be provided for construction personnel not present at the initial pre-construction briefing. Should a potentially unique paleontological resource be encountered, a qualified paleontologist shall be contacted and retained by the City of Long Beach. The Society for Vertebrate Paleontology defines a qualified paleontologist as "A practicing scientist who is recognized in the paleontologic community and is proficient in vertebrate paleontology, as demonstrated by: 1. Institutional affiliations or appropriate credentials, 2. Ability to recognize and recover vertebrate fossils in the field, 3. Local geological and biostratigraphic expertise, 4. Proficiency in identifying vertebrate fossils, and 5. Publications in scientific journals."[6] If fossil localities are discovered, the paleontologist shall proceed according to guidelines offered by the Society for Vertebrate Paleontology.[7] This includes the controlled collection of fossil and geologic samples for processing, screen washing to recover small specimens (if applicable), and specimen preparation to a point of stabilization and identification. All significant specimens collected shall be appropriately	the maximum extent feasible. However, the demolition of this historical resource would still remain a significant adverse impact.

[6] Society of Vertebrate Paleontology. Accessed 11 December 2008. "Assessment and Mitigation of Adverse Impacts to Nonrenewable Paleontologic Resources: Standard Guidelines." Available at: http://www.vertpaleo.org/society/polstatconformimpactmigig.cfm

[7] Society of Vertebrate Paleontology. Accessed 11 December 2008. "Assessment and Mitigation of Adverse Impacts to Nonrenewable Paleontologic Resources: Standard Guidelines." Available at: http://www.vertpaleo.org/society/polstatconformimpactmigig.cfm

TABLE ES.4-1
SUMMARY OF SIGNIFICANT IMPACTS, Continued

Impact	Mitigation Measure	Level of Significance After Mitigation
	prepared, identified, and catalogued prior to their placement in a permanent accredited repository, such as the Natural History Museum of Los Angeles County. The qualified paleontologist shall be required to secure a written agreement with a recognized repository, regarding the final disposition, permanent storage, and maintenance of any significant fossil remains and associated specimen data and corresponding geologic and geographic site data that might be recovered as a result of the specified monitoring program. The written agreement shall specify the level of treatment (e.g., preparation, identification, curation, and cataloguing) required before the fossil collection would be accepted for storage. In addition, a technical report shall be completed. If the fossil collection is unable to be placed in an accredited repository, the collection may be donated by the City of Long Beach Department of Development Services to local schools for educational purposes. Daily logs shall be kept by the qualified paleontological monitor during all monitoring activities. The daily monitoring log shall be keyed to a location map to indicate the area monitored, the date, and the assigned personnel. In addition, this log shall include information of the type of rock encountered, fossil specimens recovered, and associated specimen data. Within 90 days of the completion of any salvage operation or monitoring activities, a mitigation report shall be submitted to the Historic Preservation Office / Officer for the City of Long Beach with an appended, itemized inventory of the specimens. The report and inventory, when submitted to the City of Long Beach Department of Development Services, will signify the completion of the program to mitigate impacts to paleontological resources. Completion of this mitigation measure shall be monitored and enforced by the City of Long Beach Department of Development Services. **Measure Cultural-2** Impacts related to the loss of an historical resource, the Low-flow Pump Station, shall be reduced through archival documentation of as-found conditions. Prior to issuance of demolition permits, the applicant shall demonstrate to the satisfaction of the City of Long Beach Department of Development Services that documentation of the Low-flow Pump Station is completed by the applicant in the form of a Historic American Buildings Survey that shall comply with the *Secretary of the Interior's Standards for Architectural and Engineering Documentation*. The documentation shall include large-format photographic recordation; a detailed historic narrative report including description, history, and statement of significance; measured architectural drawings (as built and/or current conditions); and a compilation of historic research. The documentation shall be completed by a qualified architectural historian or historian who meets the Secretary	

TABLE ES.4-1
SUMMARY OF SIGNIFICANT IMPACTS, Continued

Impact	Mitigation Measure	Level of Significance After Mitigation
	of the Interior's Professional Qualification Standards for History and/or Architectural History. The original archival-quality documentation shall be offered as donated material to the National Park Service Heritage Documentation Program, Historic American Buildings Survey, for inclusion in the Library of Congress. Archival copies of the documentation also would be submitted to the Long Beach Public Library; the Historical Society of Long Beach; California State University, Long Beach; the Office of Historic Preservation; and the South Central Coastal Information Center where it would be available to local researchers. Completion of this mitigation measure shall be monitored and enforced by the City of Long Beach Department of Development Services. **Measure Cultural-3** Although the discovery of human remains is not anticipated during ground-disturbing activities for the project, a process has been delineated by the State of California for addressing the unanticipated discovery of human remains: Unanticipated Discovery of Human Remains (Public Resources Code 5097): The Los Angeles County Coroner shall be notified within 24 hours of the discovery of human remains. Upon discovery of human remains, there shall be no further excavation or disturbance of the site or any of that area reasonably suspected to overlie adjacent human remains until the following conditions are met: • The Los Angeles County Coroner has determined that no investigation of the cause of death is required, and • If the remains are of Native American origin, the descendants from the deceased Native Americans have made a recommendation to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in Public Resources Code Section 5097.98.	
Geology and Soils		
Implementation of the proposed project would be expected to result in potentially significant impacts related to surface fault rupture of a known earthquake fault and strong seismic ground shaking.	**Measure Geology-1** Exposure of people or property to potentially adverse effects, including the risk of loss or injury, involving surface fault rupture from the operation of the project, shall be minimized through the applicant's compliance with the City of Long Beach General Plan, California Building Code, Long Beach Municipal Code, and Uniform Building Code.	Implementation of mitigation measures Geology-1 through Geology-3 and adherence to the standards of the California Building Code, Uniform Building Code, and City General Plan would reduce impacts associated with seismic hazards to the

TABLE ES.4-1
SUMMARY OF SIGNIFICANT IMPACTS, Continued

Impact	Mitigation Measure	Level of Significance After Mitigation
	Measure Geology-2 Exposure of people or property to potentially adverse effects, including the risk of loss or injury, involving seismic ground shaking from the operation of the project, shall be minimized through conformance with California Geological Survey's Guidelines for Evaluating and Mitigating Seismic Hazards in California and all applicable City of Long Beach codes and regulations related to seismic activity. The applicant shall demonstrate to the satisfaction of the City of Long Beach Department of Development Services that the site-specific geotechnical investigations for the project are incorporated into the project plans and specifications. The City of Long Beach Department of Development Services shall review and ensure that all recommendations of the site-specific geotechnical recommendations are incorporated into the final plans and specifications. **Measure Geology-3** The applicant shall demonstrate to the satisfaction of the City of Long Beach Department of Development Services that best management practices implemented for the project are consistent with the National Pollution Discharge Elimination System Permit No. CAS 004003 to avoid soil erosion during construction of the project. Prior to approval of final plans and specifications, the applicant shall demonstrate to the satisfaction of the City of Long Beach Department of Development Services that the requirement to comply with National Pollution Discharge Elimination System Permit No. CAS 004003 is included in the specifications. The City of Long Beach Department of Development Services shall monitor construction to ensure compliance with National Pollution Discharge Elimination System Permit No. CAS 004003.	maximum extent practicable, to below the level of significance. Structural failure due to a possible surface rupture of a known earthquake or as a result of ground shaking would be reduced to below the level of significance by implementing the most recent industry standards for structural designs.
Hazards and Hazardous Materials		
Implementation of the proposed project would be expected to result in hazards and hazardous materials impacts related to routine transport, use, or disposal of hazardous materials and to safety hazards for people working or residing in the proposed project area in the vicinity of an airport land use plan, a public airport, or a public-use airport.	**Measure Hazards-1** To reduce impacts related to routine transport, use, or disposal of hazardous materials hazardous materials during construction, the applicant shall demonstrate to the satisfaction of the City of Long Beach Department of Development Services that all contractors transport, store, and handle construction-required hazardous materials in a manner consistent with relevant regulations and guidelines, including those recommended by the California Department of Transportation; the California Regional Water Quality Control Board, Los Angeles Region; the Los Angeles County Municipal Storm Water Permit (National Pollutant Discharge Elimination System Permit No. CAS004003, Board Order No. 99-060; County of Los Angeles MS4 Permit); and the County of Los Angeles Fire Department. These agencies shall regulate through the permitting process the monitoring and enforcement of this mitigation measure as required by law. Standard personal protective equipment shall be worn during construction operations where warranted.	Implementation of mitigation measures Hazards-1 through Hazards-4 would reduce significant impacts related to hazards and hazardous materials below the level of significance.

TABLE ES.4-1
SUMMARY OF SIGNIFICANT IMPACTS, Continued

Impact	Mitigation Measure	Level of Significance After Mitigation
	Measure Hazards-2 To reduce impacts related to routine transport, use, or disposal of hazardous materials during construction, the applicant shall demonstrate to the satisfaction of the City of Long Beach Department of Development Services that all contractors immediately control the source of any unauthorized release of hazardous materials using appropriate release containment measures, and remediate any unauthorized release using the methodologies mandated by the City of Long Beach throughout the construction period. The City of Long Beach shall monitor and enforce regulations pertaining to the containment, disposal, and unauthorized release of hazardous materials. Engineering and administrative controls shall be utilized to reduce the potential of accidental releases from hazardous materials during the construction phase. **Measure Hazards-3** To reduce impacts related to routine transport, use, or disposal of hazardous materials, the applicant shall demonstrate to the satisfaction of the City of Long Beach Department of Development Services that all contractors are adhering to the appropriate regulations established by the South Coast Air Quality Management District, the Department of Toxic Substances Control, and other relevant guidelines regarding the release of hazardous emissions into the atmosphere and the off-site disposal of contaminated soils throughout the construction period. Engineering and administrative controls shall be utilized to reduce the potential of accidental releases from hazardous materials during the construction phase as well as during normal working hours. **Measure Hazards-4** The applicant shall demonstrate to the satisfaction of the City of Long Beach Department of Development Services that all contractors adhere to all federal, state, and local requirements in a manner consistent with relevant public safety regulations and guidelines. Engineering and administrative controls and reporting procedures shall be used to reduce the potential of accidental releases.	
Hydrology and Water Quality		
Implementation of the proposed project would be expected to result in significant impacts in relation to surface water quality.	**Measure Hydrology-1** In order to mitigate the hydrology and water quality impact related to surface water quality caused by construction at the project site to below the level of significance, prior to final plans and specifications, the City of Long Beach Department of Development Services shall require that the construction contractor implement best management practices consistent with National Pollutant Discharge Elimination System Permit No. CAS 004003. The construction contractor for each construction phase shall be required to submit a Standard Urban Storm Water	Implementation of mitigation measures Hydrology-1 through Hydrology-3 would reduce significant hydrology and water quality impacts related to surface water quality during construction to below the level of significance.

Impact	Mitigation Measure	Level of Significance After Mitigation
	Management Plan to the City of Long Beach for review and approval at least 30 days prior to the anticipated need for a grading permit. The City of Long Beach Department of Development Services shall monitor construction to ensure compliance with National Pollutant Discharge Elimination System Permit No. CAS 004003. Such compliance measures would, at a minimum, include preparation and implementation of a local Storm Water Quality Management Plan and a wet Season Erosion Control Plan (for work between October 15 and April 15). These plans shall incorporate all applicable best management practices described in the California Storm Water Best Management Practice Handbook, Construction Activity into the construction phase of the project. Prior to construction, temporary measures must be implemented in order to prevent transport of pollutants of concern from the construction site to the storm drainage system. The best management practices should apply to both the actual work areas as well as contractor staging areas. Selection of construction-related best management practices would be in accordance with the requirements of the City of Long Beach Department of Development Services. The City of Long Beach Department of Development Services shall ensure compliance throughout the duration of the project. **Measure Hydrology-2** In order to mitigate the hydrology and water quality impact related to surface water quality caused by construction at the project site, prior to the issuance of permits for all phases of the project, the applicant shall demonstrate to the satisfaction of the City of Long Beach Department of Development Services that the plans and specifications require the construction contractor to prepare a Standard Urban Storm Water Mitigation Plan for construction activities and implement best management practices for construction, construction material handling, and waste handling activities, which include the following: • Schedule excavation, grading, and paving activities for dry weather periods. • Control the amount of runoff crossing the construction site by means of berms and drainage ditches to divert water flow around the site. • Identify potential pollution sources from materials and wastes that will be used, stored, or disposed of on the job site. • Inform contractors and subcontractors about the clean storm water requirements and enforce their responsibilities in pollution prevention. The construction contractor shall incorporate Standard Urban Storm Water Mitigation Plan requirements and best management practices to mitigate storm water runoff, which include the following: • The incorporation of bio-retention facilities	

TABLE ES.4-1
SUMMARY OF SIGNIFICANT IMPACTS, Continued

Impact	Mitigation Measure	Level of Significance After Mitigation
	located within the project area. • The incorporation of catch basin filtration systems. • The use of porous pavements to reduce runoff volume. **Measure Hydrology-3** In order to mitigate the hydrology and water quality impact related to surface water quality caused by construction at the project site, the applicant shall demonstrate to the satisfaction of the City of Long Beach Department of Development Services that the construction contractor is undertaking daily street sweeping and trash removal throughout the construction of the project to avoid degradation of water quality.	
NPDES		
Implementation of the proposed project would result in significant impacts related to NPDES which would result in an impact from loss of pervious surfaces, to total increase in vehicular trips on roadways and driveways, and the associated increase in parking surrounding the project site would be expected to contribute additional pollutants to storm water runoff.	**Measure NPDES-1** The applicant shall be required to demonstrate that the construction contractor is implementing best management practices consistent with National Pollutant Discharge Elimination System Permit No. CAS 004003 to reduce transport of pollutants of concern from the construction site to the storm drainage and waterway system for each construction phase of the project as well as during the operation of the project. Prior to the issuance of permits for each construction phase of the project, the applicant shall demonstrate to the satisfaction of the City of Long Beach Department of Development Services that final plans and specifications require compliance with National Pollutant Discharge Elimination System Permit No. CAS 004003 throughout the life of the project. The construction contractor for each construction phase shall be required to submit a Standard Urban Storm Water Management Plan to the City of Long Beach Department of Development Services for review and approval at least 30 days prior to the anticipated need for a grading permit. The City of Long Beach Department of Development Services shall monitor construction to ensure compliance with National Pollutant Discharge Elimination System Permit No. CAS 004003. The City of Long Beach Department of Development Services shall ensure National Pollutant Discharge Elimination System compliance throughout the duration of the project.	Implementation of mitigation measure NPDES-1 would be expected to reduce potential impacts to NPDES to below the level of significance.
Land Use and Planning		
Implementation of the proposed project would result in significant impacts to land use and planning related to a substantial adverse change in the significance of a potential historic resource.	**Measure Cultural-2** Impacts related to the loss of an historical resource, the Low-flow Pump Station, shall be reduced through archival documentation of as-found conditions. Prior to issuance of demolition permits, the applicant shall demonstrate to the satisfaction of the City of Long Beach Department of Development Services that documentation of the Low-flow Pump Station is completed by the applicant in the form of a Historic American Buildings Survey that shall comply with the *Secretary of the Interior's Standards for Architectural and Engineering Documentation*. The documentation shall include large-format photographic	Implementation of mitigation measure Cultural-2 would be expected to reduce anticipated significant impacts to land use and planning resulting from construction of the site to the maximum extent feasible; however, demolition of the historical resource remains a significant impact to land use and planning due to its conflict with the City General

TABLE ES.4-1
SUMMARY OF SIGNIFICANT IMPACTS, Continued

Impact	Mitigation Measure	Level of Significance After Mitigation
	recordation; a detailed historic narrative report including description, history, and statement of significance; measured architectural drawings (as built and/or current conditions); and a compilation of historic research. The documentation shall be completed by a qualified architectural historian or historian who meets the Secretary of the Interior's Professional Qualification Standards for History and/or Architectural History. The original archival-quality documentation shall be offered as donated material to the National Park Service Heritage Documentation Program, Historic American Buildings Survey, for inclusion in the Library of Congress. Archival copies of the documentation also would be submitted to the Long Beach Public Library; the Historical Society of Long Beach; California State University, Long Beach; the Office of Historic Preservation; and the South Central Coastal Information Center where it would be available to local researchers. Completion of this mitigation measure shall be monitored and enforced by the City of Long Beach Department of Development Services.	Plan.
Noise		
Implementation of the proposed project would be anticipated to result in a significant impact in terms of exposure of persons to or generation of construction related noise levels in excess of applicable standards. Implementation of the proposed project would result in significant impacts in terms of a substantial temporary increase in ambient noise levels in the project vicinity above those existing without the project. Implementation of the proposed project would result in significant impacts in terms of a permanent increase in ambient noise levels in the project vicinity above those existing without the project. Implementation of the proposed project would	**Measure Noise-1** All construction equipment shall be equipped with mufflers and other suitable noise attenuation devices. **Measure Noise-2** The applicant shall require that grading and construction contractors use equipment with rubber tires rather than tracks to the extent possible, to minimize the impacts of excavation and grading noise upon the adjacent neighborhood. **Measure Noise-3** A 10-foot sound attenuation blanket shall be installed along the eastern portion of the property line such that the line of sight is blocked from construction activity to the residential land uses. The blankets shall remain in place as long as construction activity utilizing heavy duty equipment is located within 200 feet of the property line. **Measure Noise-4** A 10-foot sound attenuation blanket shall be installed along the northwestern portion of the property line such that the line of sight is blocked from construction activity to the single-family residence. The blankets shall remain in place as long as construction activity utilizing heavy duty equipment is located within 130 feet of the property line. **Measure Noise-5** A 10-foot sound attenuation blanket shall be installed	Implementation of mitigation measure Noise-1 would reduce noise levels by approximately 3 dBA. Implementation of mitigation measures Noise-3 through Noise-6 would reduce noise levels by at least 10 dBA. Implementation of mitigation measures Noise-2 and Noise-7 would further assist in attenuating construction noise levels. While implementation of mitigation measures Noise-1 through Noise-7 would reduce construction generated noise levels, noise levels would still exceed the 5-dBA significance threshold at multiple receptors. Therefore, construction-generated noise would still remain a significant adverse and unavoidable impact. Implementation of mitigation measure Noise-8 would reduce outdoor activity noise levels at the single- and multi-family residential uses to the east of the site by approximately 5 dBA. With the implementation of this

TABLE ES.4-1
SUMMARY OF SIGNIFICANT IMPACTS, Continued

Impact	Mitigation Measure	Level of Significance After Mitigation
be anticipated to result in a significant impact in terms of exposure of persons to or generation of outdoor activity related noise levels in excess of applicable standards. The proposed project would be anticipated to result in a significant impact in terms of exposure of persons to or generation of parking related noise levels in excess of applicable standards.	along the southern portion of the property line such that the line of sight is blocked from construction activity to the multi-family residence. The blankets shall remain in place as long as construction activity utilizing heavy duty equipment is located within 100 feet of the property line. **Measure Noise-6** A 10-foot sound attenuation blanket shall be installed along the northern portion of the property line such that the line of sight is blocked from construction activity to the Alvarado (Juan Bautista) Elementary School. The blankets shall remain in place as long as construction activity utilizing heavy duty equipment is located within 50 feet of the property line. **Measure Noise-7** A noise disturbance coordinator shall be established. The disturbance coordinator shall be responsible for responding to any local complaints about construction noise. The disturbance coordinator shall determine the cause of the noise complaint (e.g., starting too early, bad muffler, etc.) and shall be required to implement reasonable. **Measure Noise-8** A 6-foot-high solid wall shall be constructed along the eastern portion of the outdoor aquatics area such that the line of sight is blocked from the swimming pools to residential land uses. **Measure Noise-9** A 6-foot-high solid wall shall be constructed along the eastern property line of the project site such that the line of sight is blocked from the parking lot to residential land uses.	mitigation measure, these residential uses would experience a 4.7 dBA increase from outdoor activity over the existing ambient noise level. This level would not exceed the 5-dBA threshold for operational noise. Therefore, implementation of the mitigation measure Noise-8 would reduce significant impacts related to outdoor activity generated noise to below the level of significance. Implementation of mitigation measure Noise-9 would reduce outdoor activity noise levels at the single- and multi-family residential uses to the east of the site by approximately 5 dBA. With the implementation of this mitigation measure, these residential uses would experience a 4.1-dBA increase from parking activity over the existing ambient noise level. This level would not exceed the 5-dBA threshold for operational noise. Therefore, implementation of mitigation measure Noise-9 would reduce significant impacts related to parking activity generated noise to below the level of significance.
Recreation		
Implementation of the proposed project would have the potential to result in indirect significant impacts to recreation constituting a significant adverse effect on the environment.	**Measure Cultural-2** Impacts related to the loss of an historical resource, the Low-flow Pump Station, shall be reduced through archival documentation of as-found conditions. Prior to issuance of demolition permits, the applicant shall demonstrate to the satisfaction of the City of Long Beach Department of Development Services that documentation of the Low-flow Pump Station is completed by the applicant in the form of a Historic American Buildings Survey that shall comply with the *Secretary of the Interior's Standards for Architectural and Engineering Documentation*. The documentation shall include large-format photographic recordation; a detailed historic narrative report including description, history, and statement of significance; measured architectural drawings (as built and/or current conditions); and a compilation of historic research. The	Implementation of mitigation measure Cultural-2 would be expected to reduce significant direct, indirect, and cumulative impacts to recreation to the maximum extent feasible, in terms of a historical resource scheduled for demolition. However, the demolition of this historical resource would still remain a significant adverse impact.

TABLE ES.4-1
SUMMARY OF SIGNIFICANT IMPACTS, Continued

Impact	Mitigation Measure	Level of Significance After Mitigation
	documentation shall be completed by a qualified architectural historian or historian who meets the Secretary of the Interior's Professional Qualification Standards for History and/or Architectural History. The original archival-quality documentation shall be offered as donated material to the National Park Service Heritage Documentation Program, Historic American Buildings Survey, for inclusion in the Library of Congress. Archival copies of the documentation also would be submitted to the Long Beach Public Library; the Historical Society of Long Beach; California State University, Long Beach; the Office of Historic Preservation; and the South Central Coastal Information Center where it would be available to local researchers. Completion of this mitigation measure shall be monitored and enforced by the City of Long Beach Department of Development Services.	
Transportation and Traffic		
Implementation of the proposed project would result in significant traffic and transportation impacts related to site access., related to increasing hazards due to a design feature or incompatible uses, and related to cumulative transportation and traffic related impacts.	**Measure Transportation-1** In order to mitigate the impact related to substantially increasing hazards due to a design feature or incompatible uses, the project applicant shall install a traffic signal at the intersection of Rose Avenue and East Pacific Coast Highway. The installation of a traffic signal at this key intersection, and associated signing and striping modifications inclusive of crosswalks to facilitate pedestrian access to the site, is subject to the approval of the City of Long Beach and/or the California Department of Transportation. **Measure Transportation-2** To ensure that impacts to the surrounding street system are minimized, it is recommended that the construction management plan for the project be developed in coordination with the City of Long Beach and, at a minimum, address the following: • Address traffic control for any street closure, detour, or other disruption to traffic circulation. • Identify the routes that construction vehicles shall utilize for the delivery of construction materials (i.e., lumber, tiles, piping, windows, etc.) and to access the site, traffic controls and detours, and construction phasing plan for the project. • Specify the hours during which transport activities can occur and methods to mitigate construction-related impacts to adjacent streets. • Require the applicant to keep all haul routes clean and free of debris including but not limited to gravel and dirt as a result of its operations. The applicant shall clean adjacent streets, as directed by the City Engineer (or representative of the City Engineer), of any	Implementation of mitigation measure Transportation-1 would reduce significant impacts related to traffic, intersection capacity, and LOS to below the level of significance. Impacts to traffic caused by increased construction related traffic in the vicinity of the site, would be reduced to below the level of significance with the implementation of mitigation measure Transportation-2.

TABLE ES.4-1
SUMMARY OF SIGNIFICANT IMPACTS, Continued

Impact	Mitigation Measure	Level of Significance After Mitigation
	material which may have been spilled, tracked, or blown onto adjacent streets or areas. • Limit hauling or transport of oversize loads to between the hours of 9:00 a.m. and 3:00 p.m. only, Monday through Friday, unless approved otherwise by the City Engineer. No hauling or transport shall be allowed during nighttime hours, weekends, or federal holidays. • Prohibit use of local streets. • Ensure that haul trucks entering or exiting public streets shall at all times yield to public traffic. • Ensure that, if hauling operations cause any damage to existing pavement, street, curb, and/or gutter along the haul route, the applicant shall be fully responsible for repairs. The repairs shall be completed to the satisfaction of the City Engineer. • Keep all constructed-related parking and staging of vehicles on site and out of the adjacent public roadways. • Ensure that the plan shall meet standards established in the current California Manual on Uniform Traffic Control Device as well as City of Long Beach requirements.	
Utilities and Service Systems		
Implementation of the proposed project has the potential to impact the wastewater treatment requirements of the RWQCB, related to insufficient water supplies, and related to solid waste.	**Measure Utilities-1** The City of Long Beach shall require the construction contractor to comply with the California Department of Transportation construction site best management practices, as identified in the Storm Water Quality Handbook Best Management Practices Manual, when installing or repairing wastewater treatment facilities. The City of Long Beach Department of Development Services shall require the construction contractor to implement best management practices consistent with National Pollutant Discharge Elimination System Permit No. CAS 004003 to reduce transport of pollutants of concern from the construction site to the storm drainage and waterway system for each construction phase of the project, as well as during operation of the project. The construction contractor for each phase of the project shall be required to submit a Standard Urban Storm Water Management Plan to the City of Long Beach for review and approval at least 30 days prior to the anticipated need for a grading permit. The Department of Development Services shall monitor construction to ensure compliance with National Pollutant Discharge Elimination System Permit No. CAS 004003. **Measure Utilities-2** The City of Long Beach has incorporated Leadership in Energy and Environmental Design elements into the project that would reduce the potable water demand at the site and increase the efficiency of the water used for the project. The applicant shall demonstrate to the satisfaction of the City of Long Beach Department of Development	Implementation of mitigation measures Utilities-1 through Utilities -3 would reduce significant impacts to utilities and service systems to below the level of significance.

TABLE ES.4-1
SUMMARY OF SIGNIFICANT IMPACTS, Continued

Impact	Mitigation Measure	Level of Significance After Mitigation
	Services that consultation with the County of Los Angeles and Long Beach Water Department is conducted to incorporate other best management practices to address the increase in water demand, with the potential of implementing ordinances and regulations that would promote the efficient use of water at the project site. Degradation of water quality during construction of the project shall be reduced to below the level of significance through the requirement to conduct a detailed hydrology study based on the final site plans and to implement the recommendations, or comparable measures, into the plans and specifications for each project element prior to final approval by the City of Long Beach Department of Development Services. A Senate Bill 610 water supply assessment or comparable study shall be prepared by a certified civil engineer, and a draft report, including recommendations, shall be submitted to the Department of Development Services for review. The Department of Development Services shall provide comments, if any, within 14 days of receiving the draft hydrology study. **Measure Utilities-3** The applicant shall demonstrate to the satisfaction of the City of Long Beach Department of Development Services that at least 50 percent of the construction solid waste from the project is being diverted to comply with applicable federal, state, and local statutes related to solid waste and reduce direct and cumulative impacts from construction to below the level of significance. To ensure conformance with the Solid Waste Management Act of 1989, the City of Long Beach shall further require the construction contractor to manage the solid waste generated during construction of each element of the project by diverting at least 50 percent of it from disposal in landfills, particularly Class III landfills, through source reduction, reuse, and recycling of construction and demolition debris. The construction contractor shall submit a construction Solid Waste Management Plan to the City of Long Beach prior to construction of the project. The construction contractor shall demonstrate compliance with the Solid Waste Management Plan through the submission of monthly reports during demolition activities that estimate the total solid waste generated and diversion of 50 percent of the solid waste.	

ES.5 PROJECT ALTERNATIVES

As a result of the project formulation process, the City explored alternatives to the proposed project to assess their ability to meet most of the objectives of the project and reduce significant effects of the proposed project. Alternative projects recommended by the scoping process were evaluated as related to the proposed project objectives and their ability to reduce significant impacts as described in Section 4.0 of this EIR. Four project alternatives required under CEQA have been carried forward for detailed analysis in this EIR:

- No Project Alternative

- Alternative 1, Reduced Site Alternative
- Alternative 2, Alternate Site Alternative (former Sports Park site)
- Alternative 3, Enhance Existing Facilities Alternative

A summary of the ability of the project alternatives to meet the objectives of the proposed project is presented and further analyzed in Section 4.0, *Alternatives to the Proposed Project*, of this Draft EIR.

SECTION 1.0
INTRODUCTION

This Environmental Impact Report (EIR) has been prepared by the City of Long Beach (City) to assess the environmental consequences of the proposed Kroc Community Center (proposed project). The City is the lead agency for the proposed project pursuant to the California Environmental Quality Act (CEQA).

1.1 PURPOSE AND SCOPE OF EIR

The City has prepared this EIR to support the fulfillment of the six major goals of CEQA:

- To disclose to the decision makers and the public significant environmental effects of the proposed activities.
- To identify ways to avoid or reduce environmental damage.
- To prevent environmental damage by requiring implementation of feasible alternatives or mitigation measures.
- To disclose to the public reasons for agency approvals of projects with significant environmental effects.
- To foster interagency coordination in the review of projects.
- To enhance public participation in the planning process.

Although the EIR neither controls nor anticipates the ultimate decision on the proposed project, the City (and other agencies that rely on this EIR) must consider the information in the EIR and make findings concerning each potentially significant impact identified.

1.1.1 Intent of CEQA

As provided in the State CEQA Guidelines,[1] public agencies are charged with the duty to avoid or minimize environmental damage where feasible. In discharging this duty, the City has an obligation to balance a variety of public objectives, including economic, environmental, and social issues.[2] The findings and conclusions of the EIR regarding environmental impacts do not control the City's discretion to approve, deny, or modify the proposed project, but instead are presented as information intended to aid the decision-making process. Sections 15122 through 15132 of the State CEQA Guidelines describe the required content of an EIR: a description of the proposed project and the environmental setting (existing conditions), an environmental impact analysis, mitigation measures, alternatives, significant irreversible environmental changes, growth-inducing impacts, and cumulative impacts. As a project level EIR, this document primarily focuses on the changes in the environment that would result from construction and operation of the proposed project. The City is required to consider the information in the EIR, along with any other relevant information, in making final decisions on the proposed project.[3]

[1] *California Code of Regulations*. Title 14, Chapter 3, Article 7, Section 15080–15097.

[2] *California Code of Regulations*. Title 14, Chapter 3, Article 2, Section 15021.

[3] *California Code of Regulations*. Title 14, Chapter 3, Article 7, Section 15080.

1.1.2 Environmental Review Process

A Notice of Preparation (NOP) concerning the EIR for the proposed project was circulated for a 30-day review period that began on July 16, 2008 and closed on August 14, 2008. An Initial Study was prepared to focus the environmental topic areas to be analyzed in the EIR. Copies of the NOP and the comment letters submitted in response to the Initial Study are included in this document (Appendix A, *Initial Study and Comment Letters*). The Initial Study prepared for the proposed project identified the contents of the EIR on environmental issue areas potentially subject to significant impacts.

The NOP and Initial Study were sent to the State Clearinghouse on Wednesday, July 16, 2008, and distributed to various federal, state, regional and local government agencies. A public notice was provided in the Long Beach Press-Telegram newspaper. The NOP and Initial Study were mailed directly to more than 50 agencies and interested parties and posted at the City of Long Beach Web site (http://www.lbds.info/), as well as at the following repositories:

- Mark Twain Neighborhood Library, 1401 East Anaheim Street
- Burnett Neighborhood Library, 560 East Hill Street
- Martin Luther King, Jr. Park, 1950 Lemon Avenue
- Long Beach Main Library, 101 Pacific Avenue
- Long Beach City Hall, 333 West Ocean Boulevard, 5th Floor

The NOP advertised a public scoping meeting for interested parties to receive information on the proposed project and the CEQA process as well as providing an opportunity for the submittal of comments. The scoping meeting facilitated early consultation with interested parties in compliance with Section 15082 of the State CEQA Guidelines. The meeting was held on Monday, July 28, 2008, at 6:00 p.m., in the Social Hall at the Martin Luther King, Jr. Park, 1950 Lemon Avenue, Long Beach, California, 90805. A total of seven individuals attended the scoping meeting. The City requested information from the public related to the range of actions under consideration, alternatives, mitigation measures, and significant effects to be analyzed in depth in the EIR. All verbal and written comments related to environmental issues that were provided during public review of the NOP and at the scoping meeting have been taken into consideration in the preparation of this document. This EIR considers alternatives that are capable of avoiding or reducing significant effects of the proposed project. The comment period on the NOP and Initial Study closed on Thursday, August 14, 2008. A total of 11 comment letters were received in response to the NOP and Initial Study (Appendix A). The comments provided have been reviewed by the City and responses to these letters are incorporated into the analysis and discussion provided in this EIR.

Based on the analysis undertaken in the Initial Study, the City determined that the proposed project may have a significant effect on the environment and that the preparation of an EIR would be required. As a result of the analysis undertaken in the Initial Study, it was determined that the proposed project would not be expected to result in impacts to agricultural resources, mineral resources, population and housing, and public services.[1] Those issue areas will receive no further analysis. However, the analysis in the Initial Study concluded that the proposed project had the

[1] City of Long Beach, Department of Development Services. 16 July 2008. *Kroc Community Center Initial Study*. Prepared by: Sapphos Environmental, Inc., Pasadena, CA.

potential to result in significant impacts related to 13 environmental topics that are the subject of the detailed evaluation undertaken in this EIR:

- Aesthetics
- Air Quality
- Biological Resources
- Cultural Resources
- Geology and Soils
- Hazards and Hazardous Materials
- Hydrology
- National Pollution Discharge Elimination System
- Land Use and Planning
- Noise
- Recreation
- Transportation and Traffic
- Utilities and Service Systems

This Draft EIR has been distributed to various federal, state, regional, and local government agencies and interested organizations and individuals for a 45-day public review period. This Draft EIR was provided to the State Clearinghouse on March 26, 2009, for additional distribution to agencies. In addition, a public Notice of Availability of the EIR will appear in the *Long Beach Press Telegram* and will be mailed directly to interested parties requesting the document. The dates of the public review period are specified on the transmittal memo accompanying this Draft EIR. In addition, copies of this Draft EIR are available during the public review period at the following libraries:

Mark Twain Neighborhood Library
401 East Anaheim Street
Telephone number: (562) 570-1046
Hours of operation: Monday, Tuesday, Thursday, 12 p.m. to 7 p.m.; Wednesday, 12 p.m. to 6 p.m.; Friday and Saturday 10 a.m. to 5 p.m.; closed on Sunday

Burnett Neighborhood Library
560 East Hill Street
Telephone number: (562) 570-1041
Hours of operation: Closed on Sunday and Monday; Tuesday and Thursday 12 p.m. to 7 p.m.; Wednesday 12 p.m. to 7 p.m.; Friday and Saturday 10 a.m. to 5 p.m.

Martin Luther King, Jr. Park
1950 Lemon Avenue
Telephone number: (562) 570-4405
Hours of operation: Monday through Friday 12 p.m. to 6 p.m.; Saturday 12 p.m. to 4 p.m.

Long Beach Main Library
101 Pacific Avenue
Telephone number: (562) 570-7500
Hours of operation: Closed on Monday; Tuesday 10 a.m. to 8 p.m.; Wednesday and Thursday 10 a.m. to 6 p.m.; Friday and Saturday 10 a.m. to 5 p.m.; Sunday 12 p.m. to 5 p.m.

The Draft EIR will also be available for review at the following location:

Long Beach City Hall
333 West Ocean Boulevard, 5th Floor
Telephone number: (562) 570-6191
Hours of operation: Monday to Friday 7:30 a.m. to 4:30 p.m.
Contact: Ms. Jill Griffiths

The Draft EIR will also be available online at: http://www.lbds.info/

Written comments on this Draft EIR should be transmitted during the public review period via U.S. mail or e-mail to:

Ms. Jill Griffiths
City of Long Beach, Planning Bureau
333 Ocean Boulevard, 5th Floor
Long Beach, California 90802-4664
Jill_Griffiths@longbeach.gov

Written comments provided by the general public and public agencies will be evaluated and written responses will be prepared for all comments received during the designated comment period. Upon completion of the evaluation, a Final EIR will be prepared and provided to the City for certification of compliance with CEQA and for review and consideration as part of the decision-making process for the proposed project.

1.2 ORGANIZATION AND CONTENT

This Draft EIR consists of the following sections:

- **Section ES, Executive Summary** provides a summary of the existing setting, proposed project, identified significant impacts of the proposed project, and mitigation measures. Those alternatives that were considered to avoid significant effects of the proposed project are identified in the executive summary. In addition, the executive summary identifies areas of controversy known to the City including issues raised by agencies and the public. The executive summary includes a list of the issues to be resolved, including the choice among alternatives and whether or how to mitigate significant effects of the project.

- **Section 1**, **Introduction** provides information related to the purpose and scope of the EIR, the environmental review process, and the organization and content of the EIR.

- **Section 2, Project Description** provides the location and boundaries of the proposed project; a statement of objectives; a description of the technical, economic, and environmental characteristics of the project; and consideration of the principal engineering proposals and supporting public service facilities. The project description identifies the intended uses of the EIR, including the list of agencies that are expected to use the EIR in their respective decision-making processes, a list of the related discretionary actions (permits and approvals) required to implement the proposed project, and a list of any related environmental review and consultation requirements mandated by federal, state, or local laws, regulations, or policies. The project description lists the related projects that were considered in the evaluation of the proposed project.

- **Section 3, Existing Conditions, Impacts, Mitigation, and Level of Significance after Mitigation** describes existing conditions found at the proposed project site and the surrounding area; lists the thresholds used to assess the potential for the proposed project to result in significant impacts; evaluates the potential impacts on environmental resources that may be generated by the proposed project, including the cumulative impacts of the proposed project in conjunction with other related projects in the area; identifies available mitigation measures to reduce significant impacts; and assesses the effectiveness of proposed measures to reduce identified impacts to below the level of significance. This portion of the EIR is organized by the applicable environmental topics resulting from the analysis undertaken in the Initial Study.

- **Section 4, Alternatives to the Proposed Project** describes a range of reasonable alternatives to the proposed project or to the location of the proposed project. CEQA requires that the EIR explore feasible alternatives that would avoid or substantially lessen any of the significant effects of the proposed project. To be feasible, an alternative must be capable of attaining most of the basic objectives of the proposed project. CEQA requires an evaluation of the comparative impacts of the proposed project, action alternatives to the proposed project, and the No Project alternative.

- **Section 5, Unavoidable Impacts** summarizes the significant effects of the proposed project.

- **Section 6, Significant Irreversible Environmental Changes Related to Implementation of the Proposed Project** evaluates potential uses of non-renewable resources and potential irreversible changes that may occur during the course of the proposed project.

- **Section 7, Growth-inducing Impacts** evaluates the potential for the proposed project to foster economic growth or population growth, either directly or indirectly, in the surrounding environment.

- **Section 8, Organizations and Persons Consulted** provides a list of all governmental agencies, community groups, and other organizations consulted during the preparation of this EIR.

- **Section 9, Report Preparation Personnel** provides a list of all personnel that provided technical input to this EIR.

- **Section 10, References** lists all sources, communications, and correspondence used in the preparation of this EIR.

- **Section 11, Distribution List** provides a distribution list of agencies and libraries receiving this Draft EIR that was made available during the 45-day public review period.

SECTION 2.0
PROJECT DESCRIPTION

Consistent with the requirements of Section 15124 of the State California Environmental Quality Act Guidelines (State CEQA Guidelines), the description of the proposed Kroc Community Center project (proposed project) includes the precise location and boundaries of the proposed project; a brief characterization of the existing conditions at the proposed project site; a statement of objectives for the proposed project; a general delineation of the proposed project's technical, economic, and environmental characteristics; and a statement describing the intended uses of the Environmental Impact Report (EIR).

2.1 PROPOSED PROJECT LOCATION

The proposed project site is located in the central part of the City of Long Beach (City) on a site known as the Hamilton Bowl / Chittick Field approximately 1.9 miles north of the Pacific Ocean, 2 miles east of the 710 Freeway, 1.5 miles south of the 405 Freeway, and 4.7 miles west of the 605 Freeway (Figure 2.1-1, *Regional Vicinity Map*). The proposed project site is located on the U.S. Geological Survey 7.5-Minute Series Long Beach Topographic Quadrangle (Figure 2.1-2, *Topographic Map*).[1] The elevation of the proposed project site is 3 feet to 16 feet above mean sea level (MSL). The proposed project is located on a roughly 19-acre site at 1900 Walnut Avenue in the City of Long Beach, County of Los Angeles, California, and is directly south of the City of Signal Hill (Figure 2.1-3, *Local Vicinity*). The proposed project site is bounded by local residential streets. These streets consist of East 20th Street and the City of Signal Hill to the north; a 12'0" alley between Rose Avenue and Gardenia Avenue to the east; commercial parcels fronting on East Pacific Coast Highway to the south; and Walnut Avenue to the west (Figure 2.1-4, *Aerial Photograph*).

2.2 EXISTING CONDITIONS

The site consists of approximately 19 acres of undeveloped parcels of land that have also been intermittently used for recreation by the City pursuant to a lease agreement with the County of Los Angeles. The 19-acre proposed project site is owned by the County of Los Angeles Department of Public Works. The City has entered into a grant lease with the County of Los Angeles Department of Public Works (Flood Control District) that would allow the site to be developed for recreation and appurtenant uses.

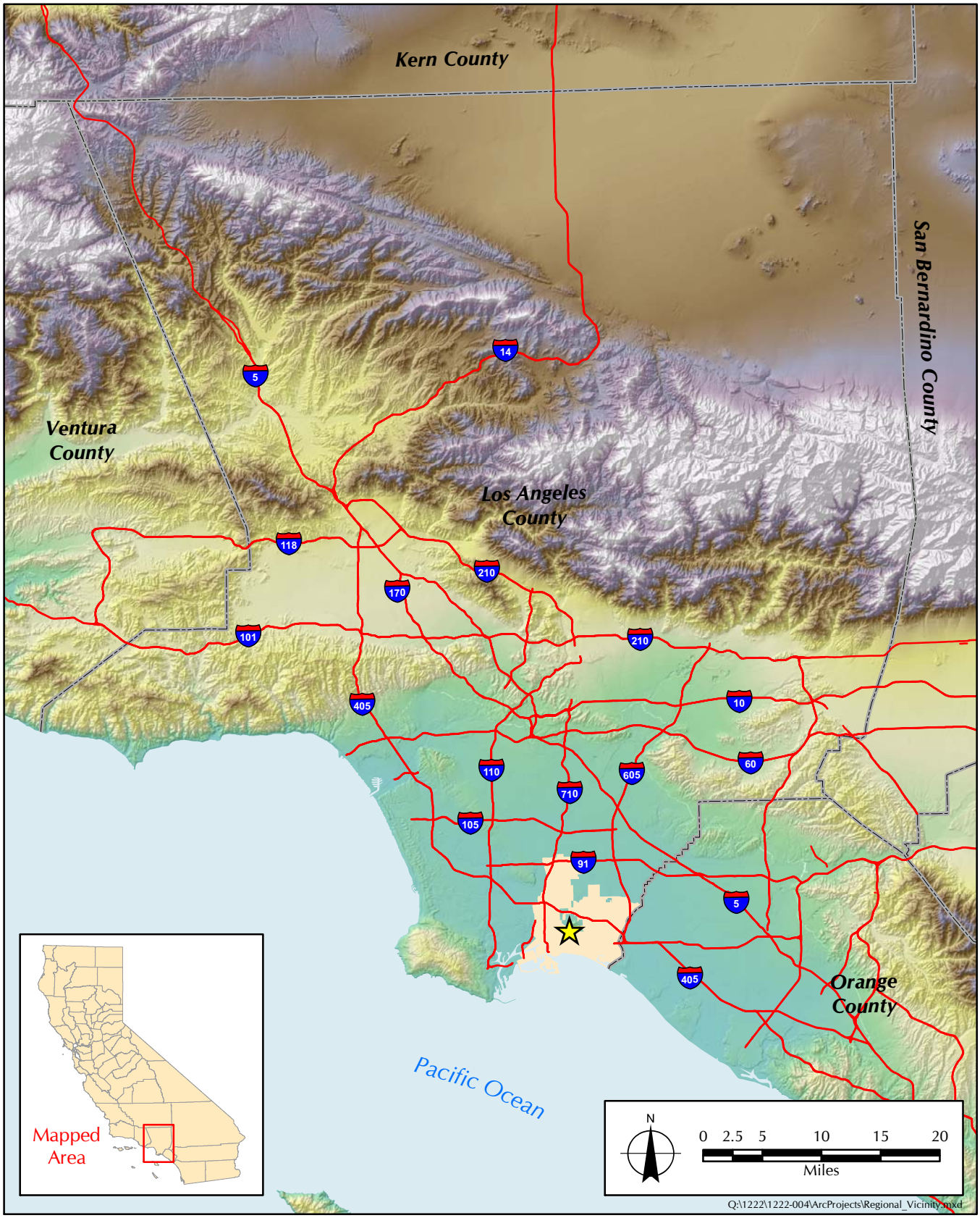
2.2.1 Local Demographics

According to the 2000 U.S. Census, the City's population was 461,522.[2] In 1990, the population was 429,433,[3] which reflects a roughly 7 percent growth in population. Population within 1 mile of the proposed project site has increased by 7.6 percent from the year 1990 to 2000. This trend is reflected within 5 miles of the proposed project site.

[1] U.S. Geological Survey. [1964] Photo revised 1981. 7.5-Minute Series, Long Beach, California, Topographic Quadrangle. Reston, VA.

[2] U.S. Census 2000. November 2007. Web site. "Population Finder." Available at: http://factfinder.census.gov/

[3] Brailsford & Dunlavey / Heery International. 2006. *Salvation Army of Long Beach Ray and Joan Kroc Corps Community Center Report.* Long Beach, CA.

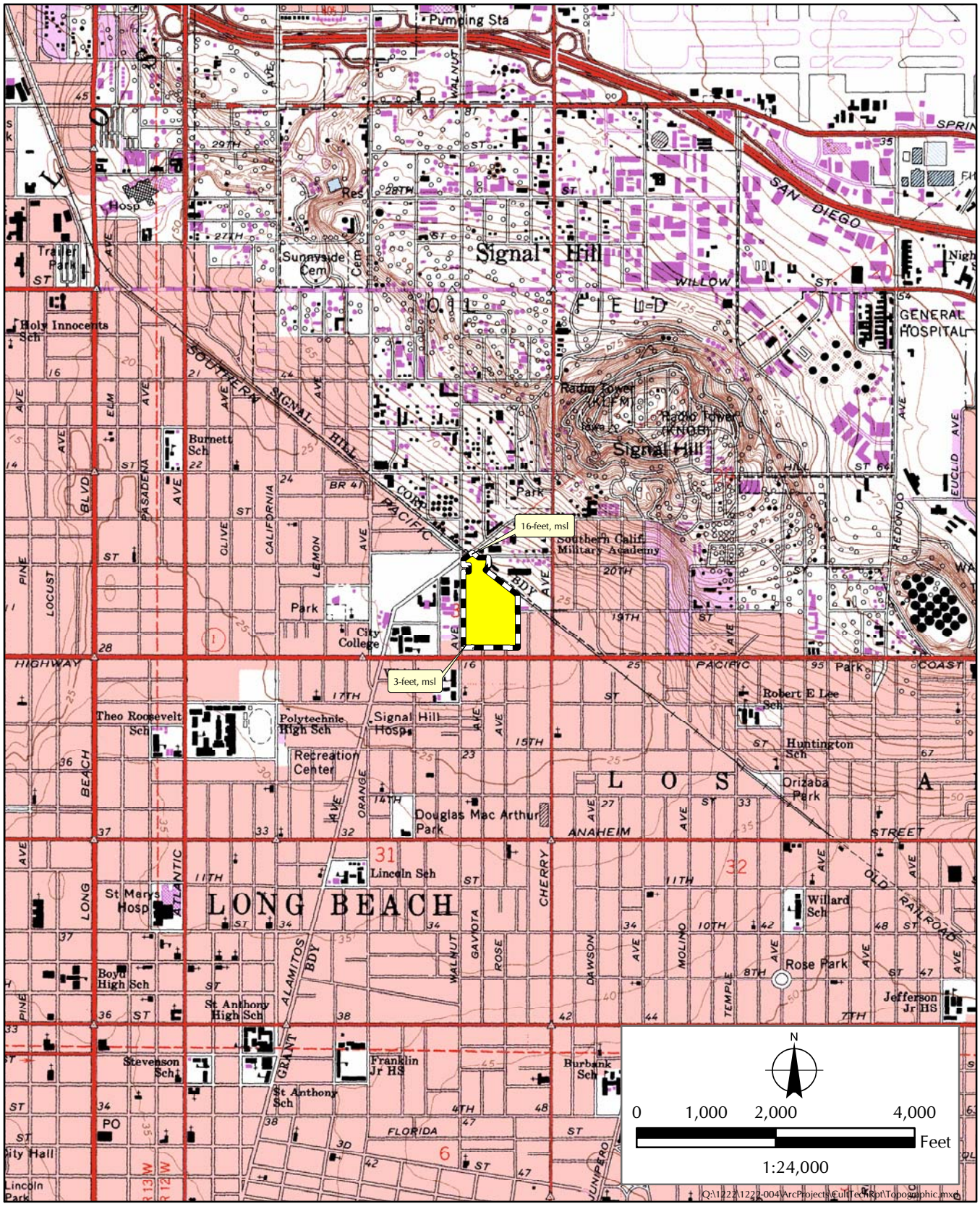


Proposed Project Location

City of Long Beach

FIGURE 2.1-1

Regional Vicinity Map



Proposed Project

FIGURE 2.1-2

Topographic Map

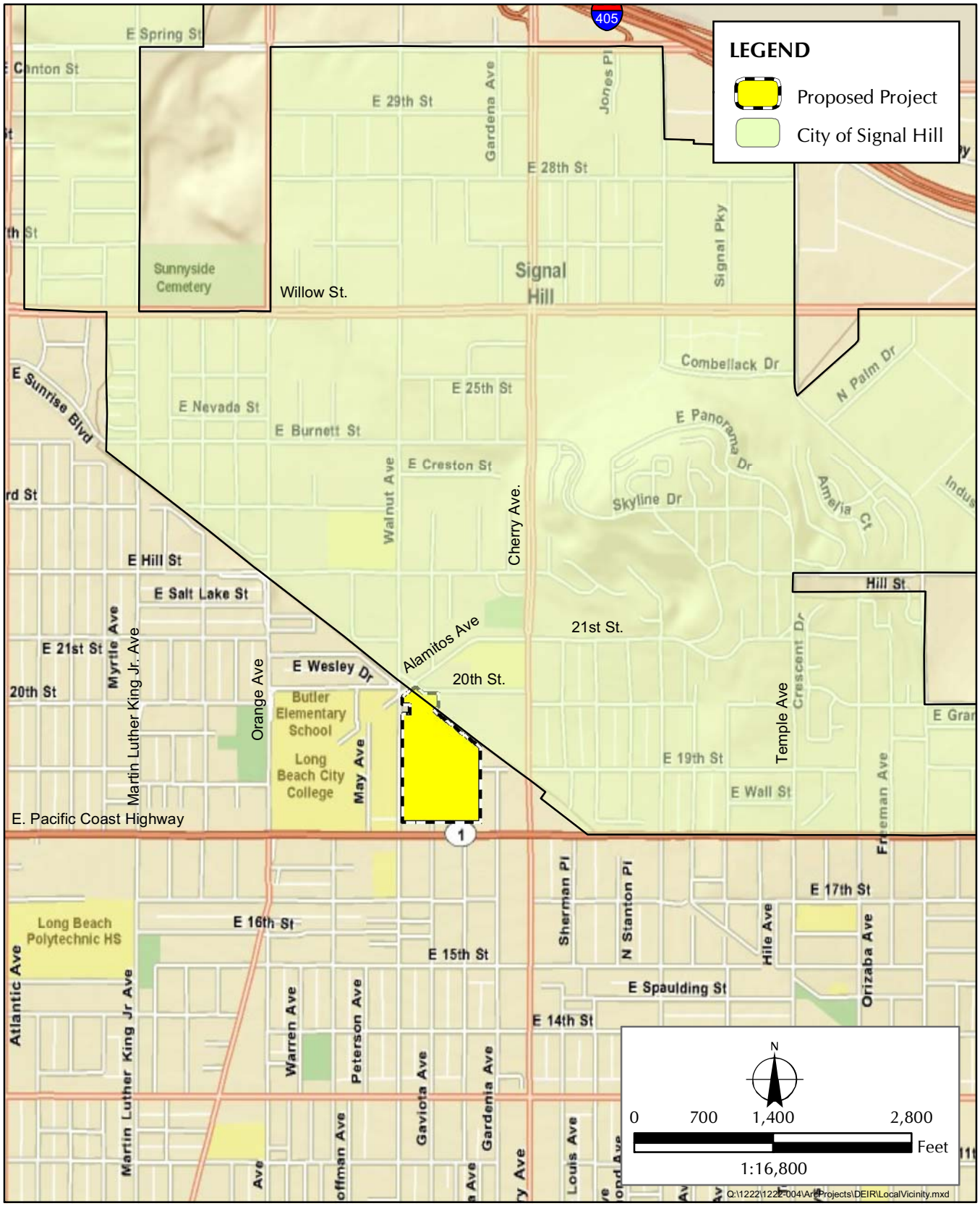


FIGURE 2.1-3

Local Vicinity

FIGURE 2.1-4
Aerial Photograph

While growth rates for the proposed project area are comparable to those of the City, other statistics for the proposed project area are opposed to the City and contrary to national standards. Of the roughly 74,621 people living within a 1-mile radius of the proposed project site, nearly 30 percent[4] are below poverty level as opposed to roughly 9.2 percent[5] nationally. Approximately 46 percent of the population is not employed and more than half of the population above the age of 25 years has less than a high school diploma.[6] The community is ethnically diverse with approximately 34 percent Hispanic, 23 percent Caucasian, 21 percent Asian, and 14 percent African American residents in the population within a 1-mile radius.[7] In addition, the immediate community surrounding the proposed project site consists primarily of families (an average of 3.67 persons per household), with approximately 18 percent of the households within a 1-mile radius of the site headed by a single parent.[8]

According to the City General Plan Housing element, the proposed project is located in both a Community Development Block Grant area and in a Neighborhood Improvement Strategy Area.[9] Both these designations represent underserved urban areas that require improvements based upon economic, social, and public indicators.[10] Development of the proposed project would satisfy neighborhood improvement goals set forth for these areas in the City General Plan Housing element.

2.2.2 Site Acquisition

The proposed project would be located on land that is owned by the County of Los Angeles Department of Public Works who embodies the responsibility and authority of the Los Angeles County Flood Control District.[11] The Hamilton Bowl / Chittick Field site is currently owned and operated by the County of Los Angeles Department of Public Works. The project applicant has acquired a 99-year lease and would be interested in options to purchase the property to ensure that the site is capable of serving the needs of the community while addressing all of the proposed objectives for this project.

2.2.3 Existing Uses of the Site

The Hamilton Bowl / Chittick Field site operates as the Hamilton Bowl Detention Basin. This site is used as a storm water detention basin, as a National Pollution Discharge Elimination System (NPDES) compliance site for the City of Signal Hill and the City, and as a general recreational area

[4] U.S. Census 2000. November 2007. Web site. "Population Finder." Available at: http://factfinder.census.gov/

[5] Brailsford & Dunlavey / Heery International. 2006. *Salvation Army of Long Beach Ray and Joan Kroc Corps Community Center Report.* Long Beach, CA.

[6] Brailsford & Dunlavey / Heery International. 2006. *Salvation Army of Long Beach Ray and Joan Kroc Corps Community Center Report.* Long Beach, CA.

[7] Brailsford & Dunlavey / Heery International. 2006. *Salvation Army of Long Beach Ray and Joan Kroc Corps Community Center Report.* Long Beach, CA.

[8] City of Long Beach, Department of Planning and Building. October 2002. *City of Long Beach General Plan, Housing Element*. Long Beach, CA.

[9] City of Long Beach, Department of Planning and Building. October 2002. *City of Long Beach General Plan, Housing Element*. Long Beach, CA.

[10] City of Long Beach, Department of Planning and Building. October 2002. *City of Long Beach General Plan, Housing Element*. Long Beach, CA.

[11] County of Los Angeles Department of Public Works. March 2008. Web site. "Flood Control and Water Conservation." Available at: http://ladpw.org/wrd/report/0203/fc-wc.cfm

for seasonal sports and picnicking by the surrounding community. There are currently two pump stations located on the site that provide drainage and discharge of water during storm events.[12] The Low-flow Pump Station was constructed during the 1930s and is located on the western border of the proposed project site, and the Hamilton Bowl Pump Station is located at the southern end of the proposed project site. During rain events, storm water from the City also drains into the Hamilton Bowl Detention Basin. The Hamilton Bowl Detention Basin is also used by the City of Signal Hill to comply with their NPDES requirements. Approximately one half of Signal Hill's runoff drains into the Hamilton Bowl Detention Basin. By removing trash from this urban runoff, the City of Signal Hill is able to maintain compliance with local and federal regulations.[13] At this time, the Low-flow Pump Station has a 30-horsepower electric submersible pump that is used to pump out the dry weather flow and low level flows from the detention basin. This pump is operated by County of Los Angeles staff during storm activity. The Low-flow Pump Station housed a natural gas engine that has already been relocated to the Hamilton Bowl Pump Station, which is situated at the southern edge of the proposed project site.

2.2.4 Existing Site Facilities

The roughly 19-acre loosely trapezoid shaped land parcel is bounded by a flood control area to the north, residential uses to the east, commercial uses to the immediate south, and a small two-way street (Walnut Avenue) to the west along with an institutional use immediately west of Walnut Avenue. The site is an un-level dirt detention basin and would require some grading. The proposed project is located in an area that is susceptible to strong ground shaking from severe earthquakes.[14] The Newport-Inglewood Fault is located near the proposed project site (Figure 2.2.4-1, *Neighboring Land Uses*).

The proposed project site consists of largely undeveloped parcels of land with three structures on the detention basin. There is a privately owned caretaker's house located near the northwest corner and outside of the proposed project site. The Hamilton Bowl Pump Station is located on the south side of the site and borders commercial development off East Pacific Coast Highway. A structure for restrooms and a Low-flow Pump Station are located off Walnut Avenue on the west side of the property. The Low-flow Pump Station is eligible for designation through the California Register of Historical Resources because it may have historical significance as a result of its age and architectural context (Table 2.2.4-1, *Existing Conditions: Gross Floor Areas*).

[12] Moffatt & Nichol. October 2006. *Hamilton Bowl Pump Station / Detention Basin Hydrology Analysis*. Long Beach, CA.

[13] City of Signal Hill, Public Works. November 2007. Web site. "Storm Water Runoff." Available at: http://www.signal-hill.ca.us/public_works/storm_water_runoff.php

[14] U.S. Geological Survey. [1964] Photo revised 1981. 7.5-Minute Series, Long Beach, California, Topographic Quadrangle. Reston, VA.

FIGURE 2.2.4-1
Neighboring Land Uses

TABLE 2.2.4-1
EXISTING CONDITIONS: GROSS FLOOR AREAS

Building Number per Existing Building Plan*	Building	Gross Floor Areas (in square feet)
7216–012–905	Hamilton Bowl Pump Station	5,900
7216–012–902	Low-flow Pump Station	1,000
7216–012–902	Restrooms	1,075
	Total	**7,975**

*Numbers reflect County of Los Angeles APN.

2.2.5 General Plan Land Use Designation

The City General Plan designates the proposed project site as Open Space and Park District in Land Use District (LUD) No. 11.[15] The City General Plan Open Space and Recreation element currently designates the use of this site as a special-use park (entailing green space, picnic tables, and soccer/softball fields).[16] The proposed use of the site is not consistent with the existing land use designation. The proposed project would include amending the Land Use Map of the City General Plan to LUD No. 10 – Institutional and School District in order to accommodate the proposed use.

The land uses in LUD No. 10 - Institutional and School District are characterized by the permanence of the built use, or the intentions for such use, once the location has been established for the proper citywide or sub-regional distribution of public services. These uses include civic buildings and academic, medical, and religious headquarters and facilities. Institutional uses serve basic public needs over a long period of time, enduring through changes in the surrounding socio-economic environment.

The surrounding properties to the immediate north, east, south, and west are LUD 9R, Restricted Industry; LUD 3B, Moderate Density Residential; LUD 8M, Mixed Office / Residential Strips; and LUD 10, Institutional and School. Adjacent and neighboring land uses near the proposed project site are largely commercial and residential land uses, including: LUD 8A, Traditional Retail Strip Commercial District; LUD 1, Single-family District; and LUD 2, Mixed-style Homes District. The proposed project does not include and would not require a change in the current adjacent land uses.

2.2.6 Zoning

The proposed project site consists of six parcels that include Assessor's parcel number (APN) 7216–012–900 to 906.[17] The City Zoning Ordinance for the previously mentioned APNs designates the proposed project area as Park (P).[18] The proposed project would be built atop a

[15] City of Long Beach, Department of Planning and Building. July 1991. *City of Long Beach General Plan, Land Use Element*. Long Beach, CA.

[16] City of Long Beach, Department of Planning and Building. October 2002. *City of Long Beach General Plan, Open Space and Recreation Element*. Long Beach, CA.

[17] Los Angeles County, Office of the Assessor. 2008. Available at: http://assessor.lacounty.gov

[18] City of Long Beach. 1988. Title 21, Zoning, Chapter 21.35, Park District. Available at: http://municipalcodes.lexisnexis.com/codes/longbeach/_DATA/TITLE21/index.html

raised building pad, which would be re-zoned as Institutional (I).[19] The lower portions of the site would continue to function as flood detention and open space, which would be consistent with the existing zoning class specifications. The purpose of the I zoning classification is to create, preserve, and enhance areas for public and institutional land uses.[20]

The I zoning designation allows for the elements to be combined and incorporated into the proposed project, including an educational and vocational training center and day care.[21] According to the City Zoning Ordinance:

> "any site with a lot area exceeding forty thousand square feet shall submit a long range development plan for the institution. Such long range development plan shall include all development of the site and site expansions (within the institutional zone or under the institution's ownership, whichever is greater) anticipated over the next twenty years. Such plan shall be submitted to the planning commission for approval through the site plan review procedure. No site plan review shall be approved and no building permit shall be issued for any building or structure which is not consistent with the long range development plan."[22]

The project applicant has complied with the requirements of the Department of Development Services in order to ensure that the proposed project meets the criteria established by the City Municipal Code for the proposed land use.

The following information represents tax assessor information for the proposed project site:

7216–012–900: 1900 Walnut Avenue, Long Beach, CA 90806
7216–012–902: 1900 Walnut Avenue, Long Beach, CA 90806
7216–012–903: 1900 Walnut Avenue, Long Beach, CA 90806
7216–012–904: 1900 Walnut Avenue, Long Beach, CA 90806
7216–012–905: 1900 Walnut Avenue, Long Beach, CA 90806
7216–012–906: 1900 Walnut Avenue, Long Beach, CA 90806

The additional zoning designations surrounding the proposed project site include: I, Institutional; PD-22, Pacific Railway; R-2-N, Two-family Residential; R-3-S, Low-density Multi-family Residential; and CHW, Regional Highway Commercial.

2.3 ENVIRONMENTAL CONTAMINATION

Phase I and Phase II Environmental Site Assessments have been conducted at the Hamilton Bowl / Chittick Field site.[23,24] These assessments addressed the potential contamination to the site caused

[19] City of Long Beach. 1988. Title 21, Zoning, Chapter 21.34, Institutional District. Available at: http://municipalcodes.lexisnexis.com/codes/longbeach/_DATA/TITLE21/index.html

[20] City of Long Beach. 1988. Title 21, Zoning, Chapter 21.34, Institutional District. Available at: http://municipalcodes.lexisnexis.com/codes/longbeach/_DATA/TITLE21/index.html

[21] City of Long Beach. 1988. Title 21, Zoning, Chapter 21.34, Institutional District. Available at: http://municipalcodes.lexisnexis.com/codes/longbeach/_DATA/TITLE21/index.html

[22] City of Long Beach. 1988. Title 21, Zoning, Chapter 21.34, Institutional District. Available at: http://municipalcodes.lexisnexis.com/codes/longbeach/_DATA/TITLE21/index.html

[23] SCS Engineers. October 2005. *Phase I Environmental Assessment 1601–1801, Pacific Coast Highway (APNS 7216-033-001, 004-010, 026, and 027) and 1986 Walnut Avenue (APN 7216-012-002)*. Long Beach, CA.

by the use of the site as a flood control sump, as well as the former presence of a petroleum refinery in the northeastern corner of the proposed project site. The Phase I Environmental Site Assessment found that while there is no presence of volatile organic compounds (VOCs), a presence of diesel and heavy range hydrocarbons, traces of organochlorine pesticides, and typical levels of metals were found in soils located in multiple areas surveyed throughout the site. The Phase II Environmental Site Assessment concluded that there are no significant concentrations of VOCs, petroleum hydrocarbon, metals, or organochlorine pesticides on the proposed project site and that no further investigation was recommended to the site.

2.4 STATEMENT OF OBJECTIVES

The underlying purpose and need of the proposed project is to provide facilities, programs, and services that encourage positive life-changing experiences for children and adults, strengthen families, and enrich the lives of individuals in the central area of Long Beach, California, and the neighboring City of Signal Hill.

2.4.1 Objectives

The Salvation Army and the City have identified 12 objectives that are requisite to the achievement of the proposed project goals:

- Provide a safe recreational facility that meets the needs and interests of the residents in an underserved community.
- Provide services to individuals in the central area of the City and the southwestern portion of the City of Signal Hill. The primary service area would be U.S. Census Tract Numbers 5733.00, 5752.02, 5751.01, 5751.02, and 5752.01 in the City, and 5734.02 in the City of Signal Hill.[25]
- Contain the passive and active recreation for a minimum of 32,000 square feet of gymnasium, 25,000 square feet for aquatic recreation, and 4 acres of playing fields.
- Have the ability to provide educational programming for a minimum of 300 adults and 100 children at one time and the capacity to serve a minimum of 100 families within the same facility.
- Offer social programs (such as job training, family resources, and health seminars) to accommodate up to 450 people at one time.
- Be accessible to public transit.
- Encourage positive social and recreational opportunities to an ethnically diverse community.
- Stimulate stability and growth in an economically challenged neighborhood.
- Create a sustainable facility that reflects the requirements of the City interim Green Building Requirements for Private Development.
- Be consistent with Kroc Foundation Grant requirements.
- Be consistent with NPDES permit requirements.
- Maintain water detention capability of approximately 160 acre feet.

[24] SCS Engineers. October 2005. *Phase II Investigation Report, Chittick Field*. Long Beach, CA.

[25] U.S. Census. 2000. Available at: http://www.census.gov/

2.5 SITE SUITABILITY

An analysis of the proposed project site has determined the site to be a highly suitable location for the proposed recreational facility for four key reasons:

- A market analysis for the neighborhood completed by Brailsford & Dunlavey in consultation with Heery International in 2006 included a 5-mile radius of the proposed project site and revealed that the area surrounding the proposed project site is a low-income, underserved, and transitioning community.[26]
- The large undeveloped parcel of land provides sufficient space and support necessary for the development of the proposed project.
- The proximity of the proposed site to pedestrian traffic, public transportation, and neighborhood institutions—including local schools, churches, and Long Beach City College (Pacific Coast Campus)—ensures access to the proposed facility.
- Current recreational facilities in the surrounding neighborhood lack the capacity to fulfill the recreational needs of the community.

2.6 PROPOSED PROJECT

The proposed project would consist of a recreational facility that includes both indoor and outdoor components. Up to 7 acres of the Hamilton Bowl / Chittick Field site would be developed as the location of the proposed project, which would include a 170,536-square-foot three-building facility that would be located on the proposed site atop 304,920 square feet of raised building pads. The land located around and below the building pads would continue its current function as a flood detention basin. Approximately 12 acres would continue to serve as a Flood Control Detention Basin for the City of Signal Hill and the City. The pump station located at the southern end of the Hamilton Bowl / Chittick Field site would be expanded and would remain in operation. Development of the proposed project would not conflict with the existing potable water system / sanitary sewer system.[27] Furthermore, wastewater generated and flowing from the proposed project site would be treated by the existing sanitation system and would not require the construction or alteration of additional or existing sewage services.[28]

The Kroc Community Center and main entrance to the facility would be situated along the western side of Hamilton Bowl / Chittick Field off Walnut Avenue. A secondary access to the proposed site would be located at Rose Avenue off East Pacific Coast Highway. In addition, there will be an emergency-only access located on 19th Street that would also be used as a point of access to relieve traffic to and from the site during special events.

The proposed project would be designed to complement the surrounding neighborhood and would be constructed to conform to all applicable City, state, and federal design guidelines. The proposed project was prepared in collaboration with the City and various branches of the County

[26] Brailsford & Dunlavey / Heery International. 2006. *Salvation Army of Long Beach Ray and Joan Kroc Corps Community Center Report.* Long Beach, CA.

[27] Long Beach Water Department. 28 November 2007. Correspondence to Jefferey Winklepleck, City of Long Beach, Long Beach, CA.

[28] County Sanitation Districts of Los Angeles County. 21 July 2008. Correspondence to Jill Griffiths, City of Long Beach, Long Beach, CA.

of Los Angeles in order to ensure that all proposed efforts are completed in accordance with the plans and designs approved by the City, county, and state.

2.6.1 Project Elements

The proposed project would include the development of Kroc Community Center recreational facility (Figure 2.6.1-1, *Site Plan*). The indoor components intended for the proposed project would be enclosed in an approximately 170,536-square-foot, three- to four-story, three-building complex and would include the following:

- *Chapel / Auditorium building*. This roughly 12,455-square-foot structure would be located at the southwest corner of the proposed project site near East Pacific Coast Highway and Walnut Avenue. This two-story building would include a lobby, lecture halls, stage, and backstage areas.

- *Administration/Education building*. The building would be roughly 73,910 square feet set back from Walnut Avenue and situated off the northeast corner of the chapel / auditorium building. This three- to four-story building would house a drop-in daycare, a 3,500-square-foot kitchen, art studios, multipurpose rooms, classrooms, a library, a computer lab, and administrative offices.

- *Recreation Center*. This two-story building would be located to the north of the administration/education building and would consist of approximately 84,171 square feet, including a gymnasium, classrooms, a fitness center, exercise rooms, a weight room, locker rooms, a game room, and an indoor therapy pool.

The outdoor components would consist of the following:

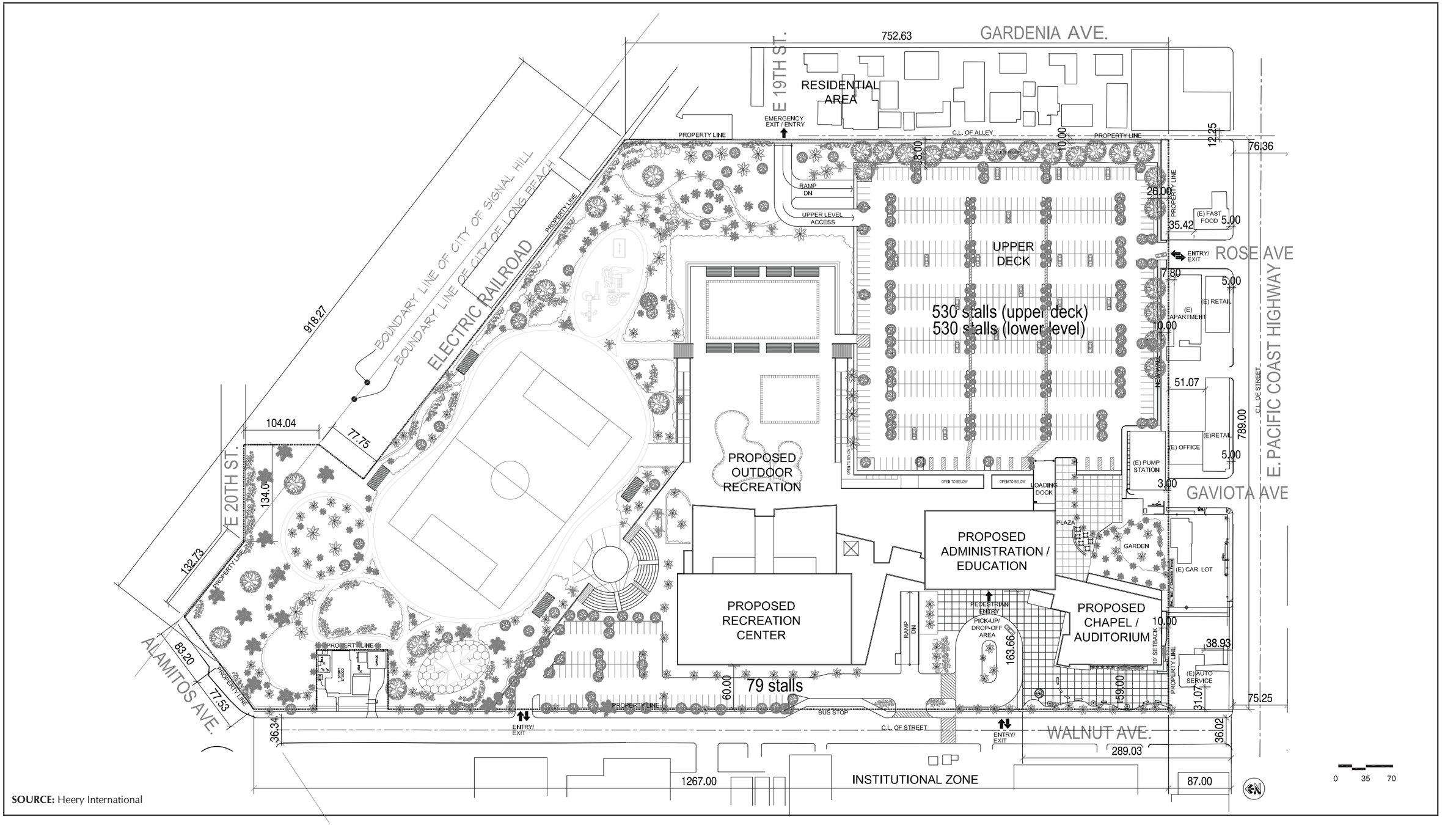
- *Outdoor Recreation*. This space would consist of a playing field (discussed below) and 2 acres of gardens, play yards, and horticulture areas. The outdoor aquatics complex would include a 50-meter pool, a warm-up pool, a leisure pool with fountains and slides, and a children's area. Other site amenities would include a playground, walking trails, a roughly 10,000-square-foot amphitheater, an outdoor climbing wall, a challenge course, an exterior patio, and a horticulture area.

- *Recreation "Soccer" Field*. This space would be a 4-acre field that would accommodate up to 5,000 spectators. It would be adjacent to a 10,000-square-foot amphitheater that would accommodate up to 750 spectators in a bowl-shaped seating area.[29]

- *Landscaping*. Landscaping at the proposed project site would be consistent with the plant species and vegetation for the area. Planting of vegetation would consist of plant species that would continue to support the presence of the identified lepidopteran (specifically butterfly) species at the proposed project site, as well as the additional wildlife that would be supported by these plants.[30] The proposed

[29] Salvation Army, Southern California Division. 30 July 2007. *Kroc Facilities and Program Design*. Los Angeles, CA.

[30] Sapphos Environmental, Inc. 22 October 2008. Memorandum for the Record, 1222-004, No. 3. Pasadena, CA.



SOURCE: Heery International

FIGURE 2.6.1-1
Site Plan

landscaping and irrigation system would be designed for moderate to draught tolerant plants for conservation purposes.[31]

The proposed project would offer a safe recreational space and to the underserved neighborhoods bordering the proposed project site. The individuals served would include residents of the central area of Long Beach and the southwestern portion of the City of Signal Hill.

2.6.2 Leadership in Energy and Environmental Design Elements

The Long Beach City Council adopted interim Green Building Requirements for Private Development on November 21, 2006.[32] The interim policy applies to all new projects that apply for development entitlements and meet the policy thresholds beginning November 22, 2006, until the date that a permanent policy is adopted and becomes effective.

According to the interim Green Building Requirements for Private Development in the City, all private development projects that receive direct city funding or benefit from other direct city incentives would be required, prior to the issuance of a Certificate of Occupancy, to have registered their project with the U.S. Green Building Council with the intent to achieve a minimum level of Leadership in Energy and Environmental Design (LEED) certified in their final building design or to provide third-party verification that they meet the equivalent of the minimum requirements of LEED certification in the final building design to the satisfaction of the Director of Planning and Building."[33]

The proposed project would be designed in a manner that is consistent with the interim Green Building Requirements for Private Development for the City. LEED elements would be incorporated in the construction and operational phases of the proposed project to ensure that it is eligible to attain the minimum level of LEED certification.

2.6.3 Construction Scenario

While the construction of the proposed project is envisioned as a single continuous process to be completed in 29 months between the years of 2009 and 2012, the construction of the proposed project would consist of two distinct stages: the reconfiguration of the existing detention basin and the development of the proposed facility buildings and the associated site improvements. The two stages would include four phases for the development of the 886,065-gross-square-foot proposed project.

Specifically, Stage 1 would consist of Phase I - Demolition, Phase II – Earthwork, and Phase III – Drainage Improvements. The three phases would be performed in a concurrent manner, such that throughout the duration of Stage 1, the storm water detention and pumping capabilities of the Hamilton Bowl Pump Station would not be impaired. At the completion of Stage 1, the Hamilton Bowl Detention Basin will have been reconfigured and a single, large building pad will have been created.

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[31] Long Beach Water Department. 28 November 2007. Correspondence to Jeffery Winklepleck, City of Long Beach. Long Beach, CA.

[32] City of Long Beach. Accessed 24 November 2007. Web site. "Green Building for Private Development (Green Ribbon Committee)." Available at: http://www.longbeach.gov/plan/pb/apd/green/default.asp#privdev

[33] City of Long Beach. Accessed 24 November 2007. Web site. "Green Building for Private Development (Green Ribbon Committee)." Available at: http://www.longbeach.gov/plan/pb/apd/green/default.asp#privdev

The next step would be Stage 2, which would consist of Phase IV - Construction. This phase would include the actual development of the 170,536-gross-square-foot buildings and the remaining 715,259-square-foot space for the parking lots, gardens, aquatic center, and sports fields.[34]

Construction would be scheduled in compliance with the City regulations and would commence no earlier than 7:00 a.m. and cease no later than 7:00 p.m. on weekdays. Work could be conducted on Saturdays and would commence no earlier than 9:00 a.m. and cease no later than 6:00 p.m. The information contained in the construction scenarios for reasonably anticipated proposed project elements was developed in coordination with Heery International and Moffatt & Nichol Engineers and was used in the assessment of potential construction impacts to air quality, ambient noise levels, and traffic and circulation.

Noise levels in the proposed project area exceeding a decibel level of 45 (dBA) between the hours of 10:00 p.m. and 7:00 a.m. and a decibel level of 50 (dBA) between the hours of 7:00 a.m. and 10:00 p.m.[35] are prohibited. While it is understood that construction noise is a temporary by-product of new development and urban redevelopment,[36] the contractor would conduct construction activities in such a manner that the maximum noise levels at the affected buildings would not exceed established noise levels.

The construction contractor would be required to incorporate best management practices consistent with the guidelines provided in the *California Stormwater Best Management Practice Handbooks: Construction*.[37] Should the construction period continue into the rainy season, supplemental erosion measures would need to be implemented, including, but not limited to, the following:

- Mulching
- Geotextiles and mats
- Earth dikes and drainage swales
- Temporary drains and gullies
- Silt fence
- Straw bale barriers
- Sandbag barrier
- Brush or rock filter
- Sediment trap
- Velocity dissipation devices

Wherever possible, grading activities would be undertaken outside the normal rainy season (i.e., October 15 through April 15 for most of Southern California), thus minimizing the potential for increased surface runoff and the associated potential for soil erosion. A recommended construction

[34] Some tasks associated with the various construction phases may be completed concurrently with tasks from other phases.

[35] City of Long Beach. *The Long Beach Municipal Code, Noise*. Section 8.80.160, Exterior Noise Limits – Correction for Character of Sound. Available at: http://www.longbeach.gov/cityclerk/

[36] City of Long Beach, Department of Planning and Building. 25 March 1975. *City of Long Beach General Plan, Noise Element* . Long Beach, CA.

[37] California Stormwater Quality Association. 2003. *California Stormwater Best Management Practice Handbooks: Construction*. Menlo Park, CA. Available at: http://www.cabmphandbooks.com/Documents/Construction/Section_3.pdf

period would begin in late April or early May and be completed in late January, assuming the majority of the construction would be completed in this recommended nine-month period. Best management practices to control surface runoff and soil erosion would be required for construction taking place during rainy periods.

Construction equipment would be turned off when not in use. The construction contractor would ensure that all construction and grading equipment is properly maintained. All vehicles and compressors would utilize exhaust mufflers and engine enclosure covers (as designed by the manufacturer) at all times.

The type and quantity of equipment that would potentially be used in construction of the proposed project is listed below in tables prepared for each of the anticipated phases of construction.

2.6.3.1 Phase I: Demolition

This phase would involve the demolition of existing structures and utilities in order to accommodate the proposed project. The demolition phase of construction would include the following tasks:

- Removal of existing utilities on site, including light poles, electrical services, underground water mains, and existing irrigation systems.
- Removal of the existing low-flow concrete drainage swales that are located along the Walnut Avenue and East Pacific Coast Highway proposed project limits.
- Removal of existing storm-drain outlets that would interfere with the earthwork phase of the proposed project. These storm-drain outlets would be reconstructed when the site-drainage improvements are constructed.

While the current site plan reveals that all structures located on the proposed project site, with the exception of the Hamilton Bowl Pump Station, would be removed in preparation of the proposed project, plans to demolish the restrooms and the Low-flow Pump Station may need to be avoided or delayed due to the historical significance of these structures.

It is anticipated that the demolition subphase of the detention basin's reconfiguration would last approximately one month. A list of the type and quantity of equipment that would potentially be used in this phase of the construction of the basin's reconfiguration is shown in Table 2.6.3.1-1, *Anticipated Construction Equipment*.

TABLE 2.6.3.1-1
ANTICIPATED CONSTRUCTION EQUIPMENT

Approximate Quantity	Type of Equipment/Vehicle
1	Loader / Caterpillar 966, 250 HP
2	End dump trucks (25 ton)
1	Flat bed truck (6 ton)
1	Water truck (4,000 gallon)
1	Crane (100 ton)
1	Excavator with hydraulic hammer / Caterpillar 350, 300 HP
1	Bulldozer / Caterpillar D-9, 400 HP
1	Pickup truck

Key: HP = horse power

2.6.3.2 Phase II: Earthwork

Earthwork at the proposed project site would include the following items of work:

- Mass grading of those portions of the existing detention basin that are to be deepened. It is anticipated that these portions of the detention basin would be deepened between 24 and 36 inches.
- Over-excavation and initial re-compaction of those portions of the detention basin that are to become the proposed project's new land mass.
- Using the on-site materials (and limited off-site materials) from the mass-grading operation to create the base of the proposed project's land mass, including compaction of the material.

The new project land mass would be completed when the proposed project site's elevation reaches a measurement of 16 feet above MSL.

It is anticipated that the earthwork during this phase of the detention basin's reconfiguration would last approximately four months. A list of the type and quantity of equipment that would potentially be used in this phase of the construction of the basin's reconfiguration is shown in Table 2.6.3.2-1, *Anticipated Construction Equipment*.

TABLE 2.6.3.2-1
ANTICIPATED CONSTRUCTION EQUIPMENT

Approximate Quantity	Type of Equipment/Vehicle
7	Scrapers / Caterpillar 631, 500 HP 30 CY capacity
1	Grader / Caterpillar 14G, 200 HP
2	Bull Dozers / Caterpillar D-9, 400 HP
3	Water trucks
1	Dozer / Caterpillar 834C, 500 HP Compactor
20	Bottom dump trucks (25 ton)
1	Loader / Caterpillar 980, 300 HP (off site)
3	Pickup trucks

Key: HP = horse power

2.6.3.3 Phase III: Drainage Improvements

Drainage improvements would be required to ensure that the proposed project site is able to operate as the proposed project and retain its existing function as a detention basin. A Preliminary Conceptual Level Detention Basin Analysis[38] prepared for the Hamilton Bowl / Chittick Field site provides recommendations for the improvement and reconfiguration of the existing site in order to accommodate the development of the proposed project. The recommendations provided in the analysis have been incorporated into the project design for the proposed site and would be implemented during Phase III of the construction of the site. The following tasks would be implemented during this phase:

- Construction of a perimeter low-flow drainage system using a large-diameter, reinforced, gasketed concrete pipe. This system would be located along the deepened portions of the reconfigured detention basin. In general, this system would be located along Walnut Avenue and the basin's northern, eastern, and southern limits. This system would terminate at the location of the existing Hamilton Bowl Pump Station.

- Construction of a new low-flow pump station, below ground, in the vicinity of the existing Hamilton Bowl Pump Station. This new low-flow pump station would be equipped with its own emergency electrical power system should a loss of off-site power occur.

- Construction of a new discharge line for the new low-flow pump station. This discharge line would start at the new low-flow pump station, head west, and tie into the existing 48-inch storm drain located west of Walnut Avenue at East Pacific Coast Highway.

[38] Moffatt & Nichol. October 2006. *Hamilton Bowl Pump Station / Detention Basin Hydrology Analysis*. Long Beach, CA.

- Construction of crib walls around the perimeter of the reconfigured and deepened detention basin, including the edges of the proposed project's land mass.

- Reconstruction of the numerous storm drain outlets entering the detention basin and their connections to the new low-flow drainage system. These new storm drain outlets would be fitted with debris-retention devices to capture and retain incoming storm water conveyed debris.

It is anticipated that the drainage improvement subphase of the detention basin's reconfiguration would last approximately six months. A list of the type and quantity of equipment that would potentially be used in this phase of the construction of the basin's reconfiguration is shown in Table 2.6.3.3-1, *Anticipated Construction Equipment*.

TABLE 2.6.3.3-1
ANTICIPATED CONSTRUCTION EQUIPMENT

Approximate Quantity	Type of Equipment/Vehicle
1	Backhoe / Caterpillar 446, 100 HP
1	Excavator with hydraulic hammer / Caterpillar 350, 300 HP
1	Loader / Caterpillar 966, 250 HP
1	Water truck (4,000 gallon)
1	Delivery truck
1	Concrete transit mix truck, 10 CY capacity
1	End dump truck (25 ton)
1	Crane (30 ton)
3	Pickup trucks
2	Diesel-powered hand compactors, 5 HP

Key: HP = horse power

2.6.3.4 Phase IV: Construction

The 170,536-gross-square-foot three-building community center facility would be constructed in one phase, and a traditional building process would be employed. After the site grading, earthwork, and 304,920 square feet of building pads are completed, the underground utilities and foundations would be constructed. The structural system, vertical and horizontal utilities, floors, and roof would then be constructed. Following this, the exterior walls, windows, doors, and other waterproofing elements would be constructed simultaneously. Interior construction and final finish materials would be installed. The exterior aquatics center, patios, and open areas would be constructed as the building is being constructed.

Parking lots and fields would be constructed toward the end of the building construction phase and completed at the same time as all other structures.

It is anticipated that the construction of the buildings, pools, and parking facilities would last approximately 18 months. A list of the type and quantity of equipment that would potentially be used in the building phase is shown in Table 2.6.3.4-1, *Anticipated Construction Equipment*.

TABLE 2.6.3.4-1
ANTICIPATED CONSTRUCTION EQUIPMENT

Approximate Quantity	Type of Equipment/Vehicle
1	Loader / Caterpillar 966, 250 HP
1	End dump truck (25 ton)
3	Flat-bed trucks (6 ton)
2	Water trucks (4,000 gallon)
3	Cranes (100 ton)
3	Forklifts (20 ton)
2	Man lifts (40-foot reach)
1	Backhoe Caterpillar 446, 100 HP
3	Grader Caterpillars 14G, 200 HP
1	Delivery truck
1	Steel roller (20 ton)
1	Asphalt paver 200 HP
5	Pickup trucks
1	Concrete pump (36 meters)
1	Concrete transit mix truck, 10 CY capacity

Key: HP = horse power

2.6.4 FACILITY ACCESS, PARKING, AND CIRCULATION

2.6.4.1 Access

The proposed project would have the following vehicular accesses:

- A primary access on Walnut Avenue south of Alamitos Avenue.
- A secondary access on Walnut Avenue near the southwest corner of the proposed project site.
- A secondary access via Rose Avenue off East Pacific Coast Highway. The proposed project would include the installation of a traffic signal at the intersection of Rose Avenue and East Pacific Coast Highway. The installation of a traffic signal at this key intersection will include signing crosswalks and striping modifications to improve pedestrian access to the site. These improvements are subject to the approval of the City and/or the California Department of Transportation.
- A gated, emergency-only access located along the eastern boundary of the site at the terminus of 19th Street. This access would also potentially be used to relieve the anticipated increase in service levels when special events are scheduled at the proposed project site.

In the traffic study that would be required for the proposed project, the access to the proposed project site would need to be evaluated in terms of their linkages to the adjacent street system. Access to the proposed project site would develop a balance between ensuring accessibility of the proposed project facilities for the community and ensuring that the site is secure. In order to ensure the safety of all visitors to the site, access to the facility would be monitored and the site would

have a perimeter fence on all sides. Visitors arriving on foot or by bicycle, as well as those that arrive by car, would all use the same secure entrance to access the facility on foot.

Conceptual plans depict a proposed Long Beach Transit Authority bus stop located on the east side of Walnut Avenue, adjacent to the western boundary of the site. The bus stop would give visitors using public transportation better access to the proposed project site. This proposed bus stop would require Long Beach Transit Authority approval.

2.6.4.2 Parking and On-site Circulation

The on-site parking would be open for public access. The proposed project would provide approximately 1,100 parking spaces on one surface lot and in a two-level parking structure. The proposed parking and on-site circulation would need to be evaluated for the following:

- Adequacy of the parking to satisfy the project demand
- Parking when the detention basin is flooded
- On-site circulation for maintenance and emergency vehicles
- On-site circulation for commercial truck deliveries
- Locations of passenger drop off / pick up
- Locations of bicycle racks, which have been incorporated into the project's design
- Parking during special events
- Mass transit, shuttle service, etc.

2.6.4.3 Off-site Circulation

In order to function effectively, the proposed project would utilize multiple accesses and would rely on the surrounding streets for safe ingress and egress. The public right-of-ways surrounding the proposed project site would be evaluated for their adequacy to serve the proposed project. Evidence of deteriorated infrastructure could result in required street improvements for the proposed project. The City Municipal Code requires that when new development occurs, any substandard public right-of-way abutting the proposed project site must be improved to current code standards.[39]

2.7 INTENDED USES OF THE EIR

The City is the lead agency for the proposed project. The Salvation Army is the project applicant. The City Planning Commission would be the certifying body for the EIR. The City Council would consider the EIR before rendering a decision on the General Plan Amendment and Zone Change for the proposed project.

Specific project elements may be subject to additional permits as described in Table 2.7-1, *Permit Requirements*.

[39] City of Long Beach. *The Long Beach Municipal Code*. Title 10: Vehicles and Traffic. Available at: http://municipalcodes.lexisnexis.com/codes/longbeach/maintoc.htm

TABLE 2.7-1
PERMIT REQUIREMENTS

Agency	Permit	How to obtain the permit
City of Long Beach	Building Permit / Grading Permits / Development Plan / Plan Approval	Application
County of Los Angeles	Notification	Letter / Lease
South Coast Air Quality Management District	Notification and Operating Permit	Application
NPDES Program	NPDES Permit / SUSMP Plan / SWPPP Plan	Application
Advisory Council on Historic Preservation	Notification	Letter

KEY: SUSMP = Standard Urban Storm Water Management Plan; SWPPP = Storm Water Pollution Prevention Plan

Table 2.7-1 reflects a list of the required permits necessary for the approval of the proposed project. This list includes the responsible agencies for the proposed project as they relate to permit approval, which were completed to the best of the knowledge of the City. Section 11, *Distribution List*, of this Draft EIR, contains a list of all reviewing agencies that have been notified of the proposed project.

2.8 RELATED PROJECTS

The area surrounding the proposed project site was examined in order to determine whether there are currently any projects in progress or proposed for the future that could potentially add to the impacts of the proposed project, creating cumulative significant impacts.

It was determined that there are at least 39 projects that could affect the cumulative impacts analysis of the proposed project within the jurisdiction of the City and 13 projects that could affect the cumulative impacts analysis of the proposed project within the jurisdiction of the County of Los Angeles. These projects that are anticipated to be implemented within the next year occur within an approximate 7-mile radius of the proposed project site (Table 2.8-1, *List of Related Projects*).

TABLE 2.8-1
LIST OF RELATED PROJECTS

Number	Cumulative Project (Entitled / Under Construction)	Location	Description
1	0102-02 SPR	2702 Long Beach Boulevard	Long Beach Memorial Hospital expansion; 105,800-square-foot medical building
2	0208-18 SPR	2080 Obispo Avenue	106 single-family homes

TABLE 2.8-1
LIST OF RELATED PROJECTS, Continued

Number	Cumulative Project (Entitled / Under Construction)	Location	Description
3	0303-02 SPR, TM	25 South Chestnut Avenue	(Phase II of Harbor View): Construction of two condominium towers (315 feet and 305 feet) totaling 246 units; parking structure serving both the condominiums and the adjacent California Bank and Trust Building (763 parking spaces)
4	0307-15 SPR, TM	433 Pine Avenue	Mixed-use development (Newberry's Department Store); 18 residential units; 15,000 square feet of commercial development
5	0404-13 SPR, TM	3855 Lakewood Boulevard	Douglas Park Project – 268-acre Planned Development (PD-32), Design Guidelines, Development Agreement, 400-room hotel, 3.3 million square feet of commercial/light industrial, and 10 acres of open space
6	0411-17 SPR	285 Bay Street	138-room boutique hotel at The Pike (Avia)
7	0411-18 SPR, TM	421 West Broadway	291 residential units (including 26 density bonus units) (Lyon West Gateway)
8	0412-06 SPR, TM	2555 Atlantic Avenue	66 residential units, 4-story building (Menorah Housing)
9	0503-01 SPR, TM	350 Long Beach Boulevard	82 residential units, 7,000 square feet of commercial development (Intercorp)
10	0601-02 SPR, TM	2001 River Avenue	Transitional housing (Villages at Cabrillo)
11	0605-44 SPR	201 The Promenade	5-story, 165-room hotel (Esterel)
12	0704-05 SPR	6750 Cherry Avenue	134,000-square-foot department store, Food 4 Less, gas station, and retail shops (Target)
13	6–8 Middle School	1777 and 1778 Signal Hill	Middle School
14	0612-06 SPR, TM, AUP General Plan Conformity	1235 Long Beach Boulevard	Mixed-use development, 186 senior rental units, 170 condominiums, 42,000 square feet of retail (META Housing)

KEY: SPR = site plan review; TM = tentative map

SOURCES:

1. City of Long Beach Department of Development Services. September 2008. Web site. Available at: http://lbds.longbeach.gov
2. Long Beach Unified School District. 21 August 2008. Letter to Jill Griffiths, City of Long Beach, Long Beach, CA.

2.9 PROJECT ALTERNATIVES

During the initial design phases of the proposed project, several alternatives were analyzed. A total of five project alternatives were evaluated for the proposed project. The No Project Alternative, which is required under the State CEQA Guidelines, was also assessed, and all five alternatives have been carried forward for detailed analysis in this Draft EIR.

- No Project Alternative
- Alternative 1, Reduced Site Alternative
- Alternative 2, Alternate Site Alternative (former Sports Park site)
- Alternative 3, Enhance Existing Facilities Alternative
- Alternative 4, East Pacific Coast Highway Frontage

A summary of the ability of the project alternatives to meet the objectives of the project is presented and further analyzed in Section 4.0, *Alternatives*, of this Draft EIR.

SECTION 3.0
EXISTING CONDITIONS, IMPACTS, MITIGATION, AND LEVEL OF SIGNIFICANCE AFTER MITIGATION

This section of the Environmental Impact Report (EIR) evaluates the potential of the proposed Kroc Community Center (proposed project) to result in significant impacts to the environment as a result of construction, operation, and maintenance of the proposed project. This section of the EIR provides a full scope of environmental analysis in conformance with the State California Environmental Quality Act Guidelines (State CEQA Guidelines).

The Initial Study for the proposed project determined that there was no evidence that the proposed project would cause significant environmental effects related to four environmental resources: agriculture resources, mineral resources, population and housing, and public services.[1] The Initial Study identified the potential for the proposed project to result in significant impacts to 13 environmental resources warranting further analysis: aesthetics, air quality, biological resources, cultural resources, geology and soils, hazards and hazardous materials, hydrology and water quality, National Pollution Discharge Elimination System (NPDES), land use and planning, noise, recreation, traffic and transportation, and utilities and service systems. As a result of the detailed evaluation contained in this EIR, it has been determined that the proposed project would not result in potential significant impacts to biological resources. The potential significant impacts to air quality, geology and soils, hazards and hazardous materials, hydrology and water quality, NPDES, noise (operation), traffic and transportation (operation), and utilities and service systems would be avoided or reduced to below a level of significance. Impacts related to aesthetics, cultural resources, land use and planning, noise (construction), and recreation would be reduced to the maximum extent feasible but would remain significant.

Each section describes the regulatory framework, existing conditions, thresholds of significance, impact analysis, mitigation measures for significant impacts, and level of significance after mitigation. The applicable federal, state, regional, county, and local statutes and regulations that govern individual environmental resources that must be considered by the City of Long Beach Planning Commission in the decision-making process are included in the regulatory framework described for each environmental resource. The existing conditions portion of the analysis has been prepared in accordance with the State CEQA Guidelines and includes a description of the environment in the vicinity of the proposed project as it currently exists, from both a local and regional perspective. The existing conditions are described based on a literature review and archived resources, agency coordination, and field inspections. Significance thresholds were established in accordance with Appendix G of the State CEQA Guidelines. The potential for cumulative impacts was considered in relation to 39 related projects identified as a result of scoping, agency consulting, and site inspections. Mitigation measures were derived from public and agency input and state-of-the-practice engineering methods. The level of significance after mitigation was evaluated in accordance with the thresholds of significance and the effectiveness of the proposed mitigations to reduce potentially significant impacts to below the significance threshold. The impact analysis contained in this environmental document is based solely on the implementation of the proposed project as described in Section 2, *Project Description*.

[1] City of Long Beach, Department of Development Services. 16 July 2008. *Kroc Community Center Initial Study*. Prepared by: Sapphos Environmental, Inc., Pasadena, CA.

3.1 AESTHETICS

As a result of the Initial Study,[1] the City of Long Beach (City) determined that the proposed Kroc Community Center (proposed project) had the potential to result in impacts to aesthetics. Therefore, this issue area has been carried forward for detailed analysis in this Environmental Impact Report. This analysis was undertaken to identify opportunities to avoid, reduce, or otherwise mitigate potential significant impacts to aesthetics and identify potential alternatives.

The analysis of aesthetics consists of a summary of the regulatory framework that guides the decision-making process, a description of the existing conditions at the proposed project area, thresholds for determining if the proposed project would result in significant impacts, anticipated impacts (direct, indirect, and cumulative), mitigation measures, and level of significance after mitigation. The potential for impacts to aesthetics has been analyzed in accordance with the methodologies provided by the City Land Use element of the Long Beach General Plan;[2] the Long Beach Strategic Plan 2010;[3] the California Department of Transportation (Caltrans) Scenic Highway System designations;[4] previously published information regarding the visual character of the proposed project site, including light and glare; site reconnaissance; and a review of conceptual elevations and site plan.

3.1.1 Regulatory Framework

State

California Scenic Highway Program

California's Scenic Highway Program preserves and protects scenic highway corridors from changes that would diminish their aesthetic value. Caltrans designates scenic highway corridors. State Route 1 (Pacific Coast Highway) is an arterial that parallels the southern edge of the proposed project site and runs directly south of the commercial properties that border the south side of the site from east to west. It is, in some sections, eligible for State Scenic Highway designation. The closest section of State Route 1 eligible for State Scenic Highway designation begins at the intersection of Lincoln Boulevard and Venice Boulevard and runs northwest. This eligible section is 30.26 miles from the proposed project site.[5]

Regional

The Open Space and Conservation element of the Southern California Association of Government's Regional Comprehensive Plan and Guide[6] states that urban-type land uses and facilities need to

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[1] City of Long Beach, Department of Development Services. 16 July 2008. *Kroc Community Center Initial Study*. Prepared by: Sapphos Environmental, Inc., Pasadena, CA.

[2] City of Long Beach, Department of Planning and Building. July 1991. *City of Long Beach General Plan, Land Use Element*. Long Beach, CA.

[3] City of Long Beach. 20 June 2000. *Long Beach Strategic Plan 2010*. Long Beach, CA. Available at: http://www.longbeach.gov/civica/filebank/blobdload.asp?BlobID=3191

[4] California Department of Transportation. 13 November 2007. Web site. "California Scenic Highway System." Available at: http://www.dot.ca.gov/hq/LandArch/scenic_highways/scenic_hwy.htm

[5] California Department of Transportation. 13 November 2007. Web site. "California Scenic Highway System." Available at: http://www.dot.ca.gov/hq/LandArch/scenic_highways/scenic_hwy.htm

[6] Southern California Association of Governments. Adopted April 1995. *Regional Comprehensive Plan and Guide*. Available at: http://www.scag.ca.gov/rcp/pdf/pastprojects/1996RCPGOpenSpaceChapter.pdf

support future additional population growth that will consume a large portion of the remaining privately held land in the region. The plan emphasizes three primary goals that are related to the consideration of the proposed project:

- Provide adequate opportunities to meet the needs for outdoor recreation, which is considered important to providing a good quality of life for residents who live in highly urbanized areas of the region
- Maintain open space for adequate protection of lives and property against natural and man-made disasters
- Develop well-managed and viable ecosystems or known habitats of rare, threatened, and endangered species

Local

City of Long Beach

The City General Plan includes 10 elements. The Land Use, Conservation, and Open Space elements establish goals and policies for the City land designations within the proposed project area. The Land Use element of the City General Plan designates the proposed project area as Land Use District No. 11 Open Space and Park District.[7] The proposed project would include amending the Land Use Map of the City General Plan to LUD No. 10 – Institutional and School District, in order to accommodate the proposed use. The City General Plan Open Space and Recreation element currently designates the use of this site as a special-use park (entailing green space, picnic tables, and soccer/softball fields).[8]

Park open spaces are tracts of land that are accessible to the general public (usually free but sometimes with a parking/access fee) for the purposes of preserving natural and habitat areas and promoting the mental and physical health of the community through recreational, cultural, and relaxation pursuits. In addition, the Land Use element of the City Master Plan states that commercial recreational uses of this site are permitted so long as they contribute to the park patron's total experience, supplement the recreational services, and aesthetically complement existing programming and facilities.[9]

The following goal and policies from the Land Use element of the City General Plan apply to the proposed project.

City of Long Beach General Plan, Conservation Element[10]

This Conservation element provides goals, policies, and action items related to open space conservation as well as a wide range of other topics that relate to the natural environment of the City, including its natural resources and its water resources. The goals and policies contained in this element also address practices to preserve the environmental health of the city as well as the sustainable use and management of these resources and similar issues.

[7] City of Long Beach, Department of Planning and Building. July 1991. *City of Long Beach General Plan, Land Use Element*. Long Beach, CA.

[8] City of Long Beach, Department of Planning and Building. October 2002. *City of Long Beach General Plan, Open Space and Recreation Element*. Long Beach, CA.

[9] City of Long Beach, Department of Planning and Building. July 1991. *City of Long Beach General Plan, Land Use Element*. Long Beach, CA.

[10] City of Long Beach, Department of Planning and Building. 1973. *City of Long Beach General Plan, Conservation Element*. Long Beach, CA.

Goals for other resources:

- To identify and preserve sites of outstanding scenic, historic, and cultural significance or recreational potential.
- To encourage citizen participation in the identification and preservation of historic and cultural sites.

City of Long Beach General Plan, Open Space and Recreation Element[11]

The Open Space and Recreation element of the City General Plan includes general goals and principles that guide decision making related to recreation resources. The goals of the City General Plan aim to preserve natural resources, to manage production of resources, to protect against natural hazards, and to provide adequate public recreational opportunities. Specific principles related to the proposed project include:[12]

- Achieve a ratio of 8 acres of publicly owned recreation open per 1,000 residents
- Add recreation open space and recreation facilities in the areas of the City that are most underserved
- Provide the recreational resources the public wants
- Make all recreational resources environmentally friendly and socially and economically feasible
- Increase recreation resources and supplement publicly owned recreation resources with privately owned recreation resources
- Provide access to recreation resources for all individuals in the community

3.1.2 Existing Conditions

Scenic Vista

There are no designated scenic resources within the proposed project site. The nearest designated scenic resource is Ocean Boulevard between the 710 Freeway and Livingston Avenue, approximately 1.2 miles south of the proposed project site.[13]

The proposed project site is currently used as a flood detention basin for the Cities of Signal Hill and Long Beach. In this capacity, urban storm water run-off collects in the site's flood detention basin and is pumped to the Los Angeles River from this site. Some trash is filtered out and collected within the site's existing pump plant; however, some litter remains on the site. When it is the dry season, the flood detention basin is used by local residents for recreation (primarily baseball and soccer). Because there is no grass or other flora to keep the earth in place, in windy conditions the air above the site becomes dust filled.

[11] City of Long Beach, Department of Planning and Building. October 2002. *City of Long Beach General Plan, Open Space and Recreation Element.* Long Beach, CA.

[12] City of Long Beach, Department of Planning and Building. October 2002. *City of Long Beach General Plan, Open Space and Recreation Element.* Long Beach, CA.

[13] California Department of Transportation. 13 November 2007. Web site. "California Scenic Highway System." Available at: http://www.dot.ca.gov/hq/LandArch/scenic_highways/scenic_hwy.htm

The City Zoning Ordinance designates the proposed project area as Park (P).[14] The proposed project would be built atop a raised building pad, which would be re-zoned as Institutional (I). The City of Signal Hill is northeast of the proposed site and reaches an elevation of 148 feet at its summit. A strip of commercial retail property runs along the south edge of the proposed site on a main urban corridor (East Pacific Coast Highway). Walnut Avenue and Long Beach City College–Pacific Coast Campus are to the west of the proposed project site and residential property is located east of the proposed project site. The view for surrounding residents is of a dusty and dry 19-acre detention basin with sparse vegetation. The proposed project site is sporadically wet depending upon the amount of storm water runoff. The City General Plan,[15] the Long Beach Strategic Plan 2010,[16] and the Caltrans Scenic Highway System do not designate any scenic vistas looking out from or looking onto the proposed project (Figure 3.1.2-1, *Hamilton Bowl / Chittick Field Existing Site Photographs*).[17]

Visual Character

The neighborhood surrounding the proposed project site consists primarily of brick and stucco commercial and residential structures that are common to the urban landscape. The Long Beach City College–Pacific Coast Campus, located west of the proposed project site across Walnut Avenue, consists of multi-story buildings of similar materials, parking lots, and small patches of grass and trees that are used for landscaping purposes.[18]

The Land Use element of the City Master Plan states that commercial recreational uses of this site are permitted so long as they contribute to the park patron's total experience, supplement the recreational services, and aesthetically complement existing programming and facilities.[19] Currently, the site offers few aesthetically enhancing features. The site currently does not undergo regular maintenance and collects debris that is carried in through storm drains, blown or carried onto the site. Minimal landscaping exists at the site, and the existing fields are unleveled.

Light and Glare

Within both a regional and local context, there are existing sources of light from nearby homes and businesses, Long Beach City College–Pacific Coast Campus, and park and street lights at the site of the proposed project. At present, there are no sources of light or glare at the proposed location except for necessary and required street lighting surrounding the site. Existing light and glare in the surrounding neighborhood are typical of an urban landscape and of the proposed project's neighborhood. Street lights and neon store signage are present in the area. Structures in the area are primarily painted stucco or brick. The parking lot of the community college to the west of the proposed site has some treescape coverage that reduces glare from parked automobiles and asphalt pavement.

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[14] City of Long Beach. 1988. Title 21, Zoning, Chapter 21.35, Park District. Available at: http://municipalcodes.lexisnexis.com/codes/longbeach/_DATA/TITLE21/index.html

[15] City of Long Beach, Department of Planning and Building. July 1991. *City of Long Beach General Plan, Land Use Element*. Long Beach, CA.

[18] City of Long Beach, Department of Planning and Building. July 1991. *City of Long Beach General Plan, Land Use Element*. Long Beach, CA.

[16] City of Long Beach. 20 June 2000. *Long Beach Strategic Plan 2010*. Long Beach, CA. Available at: http://www.longbeach.gov/civica/filebank/blobdload.asp?BlobID=3191

[17] Sapphos Environmental, Inc. August 2007 to February 2008. Site visits.

[18] Sapphos Environmental, Inc. August 2007 to February 2008. Site visits.

[19] City of Long Beach, Department of Planning and Building. July 1991. *City of Long Beach General Plan, Land Use Element*. Long Beach, CA.

PHOTO 1
Southwest Portion of Bowl (Restrooms)

PHOTO 2
Southern Portion of Bowl (Hamilton Bowl Pump Station)

FIGURE 3.1.2-1
Hamilton Bowl / Chittick Field Existing Site Photographs

PHOTO 3
Hamilton Bowl Pump Station (From Walnut Avenue Access)

PHOTO 4
Hamilton Bowl / Chittick Field (From East 19th Street Access)

FIGURE 3.1.2-1
Hamilton Bowl / Chittick Field Existing Site Photographs

PHOTO 5
Hamilton Bowl / Chittick Field (Restrooms and Low-flow Pump Station)

PHOTO 6
Hamilton Bowl / Chittick Field (North toward Signal Hill)

FIGURE 3.1.2-1
Hamilton Bowl / Chittick Field Existing Site Photographs

3.1.3 Significance Threshold

The potential for the proposed project to result in impacts related to aesthetics was analyzed in relation to the questions contained in Appendix G of the State CEQA Guidelines. The project would normally be considered to have a significant impact to aesthetics when the potential for any one of the following four thresholds occurs:

- Results in a substantial adverse effect on a scenic vista
- Substantially damages scenic resources, including but not limited to, trees, rock outcrops, and historic buildings within a state scenic highway
- Substantially degrades the existing visual character or quality of the site and its surroundings
- Creates a new source of light or glare that would adversely affect day or nighttime views in the area

3.1.4 Impact Analysis

Scenic Vista

The proposed project would not be expected to result in significant impacts to aesthetics related to scenic vistas. There are no designated scenic resources within the proposed project site. The nearest designated scenic resource is Ocean Boulevard between the 710 Freeway and Livingston Avenue, approximately 1.2 miles south of the proposed project site.[20] Therefore, the proposed project would not be expected to result in significant impacts to aesthetics related to scenic vistas.

The proposed project would not be expected to result in significant impacts to aesthetics in relation to substantial damage to scenic resources within a state scenic highway. State Route 1 (Pacific Coast Highway) is an arterial that parallels the southern edge of the proposed project site from east to west. It is, in some sections, eligible for State Scenic Highway designation. The closest section of State Route 1 eligible for State Scenic Highway designation begins at the intersection of Lincoln Boulevard and Venice Boulevard and runs northwest, which is 30.26 miles from the proposed project site.[21] Therefore, the proposed project would not be expected to result in significant impacts to aesthetics related to substantial damage to scenic resources within a state scenic highway.

Visual Character

The proposed project would be expected to result in significant impacts to aesthetics in relation to the substantial degradation of the existing visual character of the site and its surroundings. The proposed site is currently used as a flood detention basin for the Cities of Signal Hill and Long Beach. The long-term impact of the demolition of the Low-flow Pump Station, a historical resource pursuant to CEQA, is considered to be a significant impact to the existing visual character of the proposed project site. Residents in the surrounding neighborhood would view a well-planned, landscaped community center rather than an underdeveloped water detention basin with implementation of the proposed project.

[20] City of Long Beach, Department of Planning and Building. July 1991. *City of Long Beach General Plan, Transportation Element*. Long Beach, CA.

[21] California Department of Transportation. 13 November 2007. Web site. "California Scenic Highway System." Available at: http://www.dot.ca.gov/hq/LandArch/scenic_highways/scenic_hwy.htm

The materials and finishes that would be used on the proposed project would utilize both colors and designs that are consistent with structures in the neighboring community. The proposed project would be cohesive in height and form with buildings located on the adjacent Long Beach City College–Pacific Coast Campus, which would face the proposed project on Walnut Avenue.

The proposed project would result in the demolition of the Low-flow Pump Station. Therefore, implementation of the proposed project would have the potential to result in significant impacts to aesthetics related to substantial degradation of the existing visual character of the site and its surroundings. The consideration of mitigation measure Cultural-2 and alternatives are necessary to reduce the impacts related to degradation of the existing visual character through removal of character-defining historic features to the maximum extent practicable.

Light and Glare

The proposed project would result in less than significant impacts to aesthetics in relation to the creation of a new source of substantial light or glare. At present, there are no sources of light or glare at the proposed project site except for the necessary and required street lighting surrounding the site. Existing light and glare in the surrounding neighborhood are typical of an urban landscape and of the proposed project's neighborhood. Street lights and neon store signage are present in the area. Structures in the area are primarily painted stucco or brick. The parking lot of the city college to the west of the proposed site has some treescape coverage that reduces glare from parked automobiles and asphalt pavement.

It is expected that the proposed project and its parking lot, security, and walkway lighting would contribute to nighttime lighting levels of the proposed project. However, implementation of non-reflective and low reflective materials will be used for the proposed project. In addition, lights will be placed at angles that will create the least amount of glare for the surrounding neighborhoods. Parking lot and walkway lighting are necessary for creating a safe nighttime setting and will not create a substantial increase in the amount of glare to the already lit, urbanized setting of the proposed project area. Therefore, the proposed project would not be expected to result in significant impacts to aesthetics related to the creation of a new source of substantial light or glare that would adversely affect day or nighttime views in the area.

Cumulative Impacts

The incremental impacts of the proposed project to aesthetics, when added to the related past, present, or reasonably foreseeable, probable future projects listed in Section 2, *Project Description*, would not be expected to be significant. This determination was made based upon a review of City General Plan;[22] the Long Beach Strategic Plan 2010;[23] the Caltrans Scenic Highway System designations;[24] previously published information regarding the visual character of the proposed project site, including light and glare; site reconnaissance; and a review of conceptual elevations and site plans. In addition, the proposed project is consistent with the surrounding neighboring community and would not create or contribute as substantial impact related to aesthetics.

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[22] City of Long Beach, Department of Planning and Building. July 1991. *City of Long Beach General Plan*. Long Beach, CA.

[23] City of Long Beach. 20 June 2000. *Long Beach Strategic Plan 2010*. Long Beach, CA. Available at: http://www.longbeach.gov/civica/filebank/blobdload.asp?BlobID=3191

[24] California Department of Transportation. 13 November 2007. Web site. "California Scenic Highway System." Available at: http://www.dot.ca.gov/hq/LandArch/scenic_highways/scenic_hwy.htm

3.1.5 Mitigation Measures

The aesthetics impacts as identified in this section (specifically, on the visual character through demolition of a potentially historical resource) may be reduced to the maximum extent feasible through the adoption of mitigation measure Cultural-2.

Measure Cultural-2

Impacts related to the loss of an historical resource, the Low-flow Pump Station, shall be reduced through archival documentation of as-found conditions. Prior to issuance of demolition permits, the applicant shall demonstrate to the satisfaction of the City of Long Beach Department of Development Services that documentation of the Low-flow Pump Station is completed by the applicant in the form of a Historic American Buildings Survey that shall comply with the *Secretary of the Interior's Standards for Architectural and Engineering Documentation*. The documentation shall include large-format photographic recordation; a detailed historic narrative report including description, history, and statement of significance; measured architectural drawings (as built and/or current conditions); and a compilation of historic research. The documentation shall be completed by a qualified architectural historian or historian who meets the Secretary of the Interior's Professional Qualification Standards for History and/or Architectural History. The original archival-quality documentation shall be offered as donated material to the National Park Service Heritage Documentation Program, Historic American Buildings Survey, for inclusion in the Library of Congress. Archival copies of the documentation also would be submitted to the Long Beach Public Library; the Historical Society of Long Beach; California State University, Long Beach; the Office of Historic Preservation; and the South Central Coastal Information Center where it would be available to local researchers.

Completion of this mitigation measure shall be monitored and enforced by the City of Long Beach Department of Development Services.

3.1.6 Level of Significance after Mitigation

Implementation of mitigation measure Cultural-2 would be expected to reduce significant direct, indirect, and cumulative impacts to aesthetics to the maximum extent feasible, in terms of a historical resource scheduled for demolition. However, the demolition of this historical resource would still remain a significant adverse impact.

3.2 AIR QUALITY

As a result of the Initial Study, the City of Long Beach (City) determined that the proposed Kroc Community Center (proposed project) would have the potential to result in impacts to air quality.[1] Therefore, this issue has been carried forward for detailed analysis in this Environmental Impact Report (EIR). This analysis was undertaken to identify opportunities to avoid, reduce, or otherwise mitigate potential significant impacts to air quality and identify potential alternatives.

The analysis of air quality consists of a summary of the regulatory framework that guides the decision-making process, a description of the existing conditions at the proposed project area, thresholds for determining if the proposed project would result in significant impacts, anticipated impacts (direct, indirect, and cumulative), mitigation measures, and level of significance after mitigation. The potential for impacts to air quality has been analyzed in accordance with Appendix G of the State California Environmental Quality Act Guidelines (State CEQA Guidelines)[2] and the methodologies and significance thresholds provided by the City General Plan,[3] the federal Clean Air Act (CAA), the National Ambient Air Quality Standards (NAAQS),[4] the California CAA, the California Ambient Air Quality Standards (CAAQS),[5] and the Air Quality Technical Impact Report prepared for the proposed project (Appendix B, *Air Quality Technical Impact Report*).[6]

Data on existing air quality in the South Coast Air Basin (SCAB), in which the proposed project site is located, is monitored by a network of air monitoring stations operated by the California Environmental Protection Agency (Cal/EPA), the California Air Resources Board (CARB), and the South Coast Air Quality Management District (SCAQMD). The air quality technical impact analysis for this section of the EIR was undertaken by Sapphos Environmental, Inc. The air quality technical impact analysis considers all phases of project planning, construction, operation, and maintenance. The analysis of construction impacts was based on a construction scenario developed with assistance from Heery International, Inc. and Moffatt & Nichol Engineers. The conclusions reflect guidelines established by SCAQMD's *1993 CEQA Air Quality Handbook*.[7] Methodologies and modeling tools used to assess the proposed project's greenhouse gas (GHG) emissions impacts reflect guidance provided in reviews of regulatory publications from the Climate Change Action Registry (CCAR), the California Air Pollution Control Officers Association (CAPCOA),[8] the State of California Office of Attorney General,[9] and the Governor's Office of Planning and Research (OPR).[10]

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[1] City of Long Beach, Department of Development Services. 16 July 2008. *Kroc Community Center Initial Study*. Prepared by: Sapphos Environmental, Inc., Pasadena, CA.

[2] *California Code of Regulations*. Title 14, Division 6, Chapter 3, Sections 15000–15387, Appendix G.

[3] City of Long Beach, Department of Planning and Building. December 1996. *City of Long Beach General Plan, Air Quality Element*. Long Beach, CA.

[4] U.S. Environmental Protection Agency. 28 March 2008. *National Ambient Air Quality Standards*. Available at: http://www.epa.gov/air/criteria.html

[5] California Environmental Protection Agency Air Resource Board. 5 March 2008. *California Ambient Air Quality Standards*. Available at: http://www.arb.ca.gov/research/aaqs/caaqs/caaqs.htm

[6] Sapphos Environmental, Inc. 19 November 2008. *Kroc Community Center Air Quality Technical Impact Report*. Pasadena, CA.

[7] South Coast Air Quality Management District. 1993. *CEQA Air Quality Handbook*. Diamond Bar, CA.

[8] California Air Pollution Control Office Association. January 2008. *CEQA and Climate Change: Evaluating and Addressing Greenhouse Gas Emissions from Projects Subject to the California Environmental Quality Act*. Sacramento, CA.

[9] California Department of Justice Office of the Attorney General. 21 May 2008. *The California Environmental Quality Act Addressing Global Warming Impacts at the Local Agency Level*. Sacramento, CA.

3.2.1 Regulatory Framework

This regulatory framework identifies the federal and state laws that govern the regulation of air quality and must be considered by the City regarding decisions on projects that involve construction, operation, or maintenance activities that would result in air pollutant emissions.

Responsibility for attaining and maintaining ambient air quality standards in California is divided between the CARB and regional air pollution control or air quality management districts. Areas of control for the regional districts are set by the CARB, which divides the state into air basins. These air basins are based largely on topography that limits air flow access or by county boundaries. The proposed project area is located in the City of Long Beach in the County of Los Angeles, California within the SCAQMD portion of the SCAB.

In October 2007, the CARB published a list of 44 early action measures to reduce GHG emissions in California.[11] This regulatory framework identifies state guidance on early GHG emissions reduction measures that must be considered by the City.

Among the GHG emissions calculation methodologies utilized in the regulatory publications, the use of the per capita methodology (the total GHG emissions over the population or service population) to calculate GHG emissions inventories, projections, and annual reduction required for every man, woman, and child in California in order to reduce the statewide GHG emissions levels to the 1990 levels by 2020 is used by the CARB in its June 2008 Climate Change Draft Scoping Plan and by the CARB Economic and Technology Advancement and Advisory Committee in its February 14, 2008, final report to CARB. [12,13] Therefore, the per capita methodology is used in this analysis for calculating countywide GHG emissions inventories, projections, and reduction thresholds, which is consistent with the state GHG emissions calculation methodology and approach. In addition, in establishing GHG emissions reduction targets for the County of Los Angeles, the Board of Supervisors has recognized the importance of capturing energy and water consumption and establishing energy and water efficiency programs in its Policy Manual, Policy No. 3.045, Energy and Environmental Policy.[14] Therefore, the GHG emissions impact analysis considers whether the energy consumption required for annual operation of the proposed project would be consistent with the County of Los Angeles Energy and Environmental Policy.

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[10] Governor's Office of Planning and Research. 19 June 2008. *CEQA and Climate Change; Addressing Climate Change through California Environmental Quality Act (CEQA) Review*. Technical Advisory. Sacramento, CA.

[11] California Air Resources Board. October 2007. *Expanded List of Early Action Measures to Reduce Greenhouse Gas Emissions in California Recommended for Board Consideration*. Available at: http://www.arb.ca.gov/cc/ccea/meetings/ea_final_report.pdf

[12] California Air Resources Board. June 2008. *Climate Change Draft Scoping Plan: A Framework for Change*. Available at: http://www.arb.ca.gov/cc/scopingplan/document/sp_executivesummary_draft.pdf

[13] California Air Resources Board Economic and Technology Advancement and Advisory Committee. 14 February 2008. *Recommendation of the Economic and Technology Advancement and Advisory Committee (ETAAC).* Available at: http://www.arb.ca.gov/cc/etaac/meetings/021108pubmeet/meeting_handouts_and_materials/arb_etaac_letter.pdf

[14] County of Los Angeles Board of Supervisors Policy Manual. 19 December 2006. *Policy No. 3.045, Energy and Environmental Policy*. Available at: http://countypolicy.co.la.ca.us/

Federal

Federal Clean Air Act

The 1990 federal CAA requires that federally supported activities must conform to the State Implementation Plan (SIP), which has the purpose of attaining and maintaining the NAAQS. Section 176 (c) of the CAA as amended in 1990, established the criteria and procedures by which the Federal Highway Administration (Title 23 USC), the Federal Transit Administrations, and metropolitan planning organizations determine the conformity of federally funded or approved highway and transit plans, programs, and projects to SIPs.[15] The provisions of the Code of Federal Regulations, Title 40, Parts 51 and 93[16] apply in all non-attainment and maintenance areas for transportation-related criteria pollutants for which the area is designated as non-attainment or has a maintenance plan.

The U.S. EPA sets NAAQS for criteria pollutants. Criteria air pollutants are defined as pollutants that are hazardous for human health and are regulated by federal and state ambient air quality standards or criteria for outdoor concentrations. The federal and state standards have been set at levels above which concentrations would be harmful to human health. These standards are designed to protect the most sensitive persons from illness or discomfort. Criteria pollutants of concern include carbon monoxide (CO), ozone (O_3), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), particulate matter (PM), and lead (Pb). In 2007, the Supreme Court ruled that the CAA gives the U.S. EPA the authority to regulate emissions of GHGs, including carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), and fluorinated gases such as hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6),[17] thereby legitimizing greenhouse gases as air pollutants under the CAA.

CO is formed by the incomplete combustion of fossil fuels and is emitted from motor vehicles, power plants, refineries, industrial boilers, ships, aircrafts, and trains. In urban areas, automobile exhaust accounts for the majority of CO emissions. One of the main components of photochemical smog in urban areas is O_3, and it is formed in the atmosphere when reactive organic gases react in the presence of ultraviolet sunlight. The primary sources of reactive organic gases are automobile exhaust emissions and industrial emissions. NO_2 is a criteria pollutant that plays a major role in the formation of ground-level O_3 and acid rain. The main sources of NO_2 include fuel combustion in industry and motor vehicles. SO_2 is formed primarily by the combustion of sulfur-containing fossil fuels from sources such as large industrial complexes where coal and oil are used in power plants and industries. In recent years, SO_2 concentrations have been reduced due to limits on the sulfur content of fuels. Particulate matter consists of very small liquid and solid particles suspended in air, which can include smoke, soot, dust, salts, acids, and metals. Fine particulate matter, or $PM_{2.5}$, refers to particles that are 2.5 microns or less in diameter and PM_{10} refers to particles that are 10 microns or less in diameter. Sources of $PM_{2.5}$ emissions include fuel combustion from motor vehicles, power generation, industrial facilities, residential fireplaces, wood stoves, and atmospheric reactions. Major sources of PM_{10} include crushing or grinding operations; dust stirred up by vehicles traveling on roads; wood burning stoves and fireplaces; dust from construction, landfills, and agriculture; wildfires and brush/waste burning activities; industrial sources; windblown dust from open lands; and atmospheric reactions. Pb in the atmosphere occurs as particulate matter. Since leaded gasoline has been phased out, main sources of Pb emissions now include battery manufacture, paint, ink, ceramics, ammunition, and

[15] U.S. Environmental Protection Agency. 10 November 2008. *1990 Clean Air Act*. Available at: http://www.epa.gov/air/caa/

[16] U.S. Environmental Protection Agency. 29 October 2008. *CFR Title 40: Protection of the Environment*. Available at: http://www.epa.gov/lawsregs/search/40cfr.html

[17] U.S. Supreme Court. 2 April 2007. *Massachusetts, et al., v. Environmental Protection Agency, et al.* 549 U.S. 1438; 127 S. Ct. 1438. Washington DC.

secondary lead smelters. CO_2 is the most abundant GHG in the earth's atmosphere after water vapor. CO_2 enters the atmosphere through natural process such as respiration and forest fires and through human activities such as the burning of fossil fuels (oils, natural gas, and coal) and solid waste, deforestation, and industrial processes. CH_4 is a principal component of natural gas and is formed and released to the atmosphere by biological processes from livestock and other agricultural practices and by the decay of organic waste in anaerobic environments such as municipal solid waste landfills. CH_4 is also emitted during the production and transport of coal, natural gas, and oil. N_2O has heat trapping effects about 310 times more powerful than carbon dioxide on a per molecule basis. The primary human-related sources of N_2O are agricultural soil management like soil cultivation practices, animal manure management, sewage treatment, mobile and stationary combustion of fossil fuels, and production of adipic and nitric acids. Hydrofluorocarbons (HFCs), perfluorocarbons, and sulfur hexafluoride (SF_6) are synthetic, powerful GHGs that are emitted from a variety of industrial processes, including aluminum production, semiconductor manufacturing, electric power transmission, magnesium production and processing, and the production of HFC-22.

Existing national standards for criteria pollutants are shown in Table 3.2.1-1, *Ambient Air Quality Standards*, along with state standards. Federal standards for GHGs have not been developed. In July 1997, the EPA promulgated stricter standards for O_3 and $PM_{2.5}$; however, deadlines for attaining the standards were extended over original proposals, with up to 15 years allowed for attaining the $PM_{2.5}$ standard. In 2006, EPA revised the air quality standards for particulate matter and tightened the 24-hour $PM_{2.5}$ standard from 65 micrograms per cubic meter ($\mu g/m^3$) to 35 $\mu g/m^3$ and retained the 1997 annual $PM_{2.5}$ standard at 15 $\mu g/m.^3$ The EPA also decided to retain the 1997 24-hour PM_{10} standard of 150 $\mu g/m.^3$ In addition, EPA revoked the annual PM_{10} standard, because available evidence did not suggest a link between long-term exposure to PM_{10} and health problems. In 2008, the EPA introduced a new 8-hr standard for O_3 of 0.075 parts per million (ppm); however, the 1997 standard of 0.08 ppm for O_3 will remain in place for implementation purposes until EPA finalizes rulemaking to address the transition from the 1997 O_3 standard to the 2008 O_3 standard.

TABLE 3.2.1-1
AMBIENT AIR QUALITY STANDARDS

	National		State
Air Pollutant	**Primary**	**Secondary**	**Standard**
Ozone (O_3)	0.08 ppm, 8-hr avg. 0.12 ppm, 1-hr avg.[1]	0.08 ppm, 8-hr ave. 0.12 ppm, 1-hr avg.[1]	0.09 ppm, 1-hr avg. 0.070 ppm, 8-hr avg.
Carbon monoxide (CO)	9 ppm, 8-hr avg. 35 ppm, 1-hr avg.	None	9.0 ppm, 8-hr avg. 20 ppm, 1-hr avg.
Nitrogen dioxide (NO_2)	0.053 ppm, annual avg.	0.0534 ppm, annual avg.	0.030 ppm, annual avg. 0.18 ppm, 1-hr avg.
Sulfur dioxide (SO_2)	0.03 ppm, annual avg. 0.14 ppm, 24-hr avg.	0.50 ppm, 3-hr avg.	0.25 ppm, 1-hr 0.04 ppm, 24-hr avg.
Particulate matter (PM_{10})	150 $\mu g/m,^3$ 24-hr avg.	150 $\mu g/m,^3$ 24-hr avg.	50 $\mu g/m,^3$ 24-hr avg. 20 $\mu g/m,^3$ annual avg.
Particulate matter ($PM_{2.5}$)	35 $\mu g/m,^3$ 24-hr avg. 15 $\mu g/m,^3$ annual avg.	35 $\mu g/m,^3$ 24-hr avg. 15 $\mu g/m,^3$ annual avg.	 12 $\mu g/m,^3$ annual avg
Sulfates (SO_4)	---	---	25 $\mu g/m,^3$ 24-hr avg.

TABLE 3.2.1-1
AMBIENT AIR QUALITY STANDARDS, Continued

	National		State
Air Pollutant	**Primary**	**Secondary**	**Standard**
Lead (Pb)	1.5 μg/m,^{3} calendar quarterly average	1.5 μg/m,^{3} calendar quarterly average	1.5 μg/m,^{3} 30-day avg.
Hydrogen sulfide (H_2S)	---	---	0.03 ppm, 1-hr avg.
Vinyl chloride	---	---	0.01 ppm, 24-hr avg.
Visibility-reducing particles	---	---	Extinction coefficient of 0.23 per kilometer —visibility of 10 miles or more due to particles when relative humidity is less than 70 percent. (8-hr avg.)

NOTES:
1. On June 15, 2005, EPA revoked the 1-hr O_3 standard in all areas except the 8-hr ozone non-attainment areas.
2. ppm = parts per million by volume
3. avg. = average
4. μg/m3 = micrograms per cubic meter

SOURCE: U.S. EPA and California Air Resources Board. 2008. *Ambient Air Quality Standards*. Available at: http://epa.gov/air/criteria.html

The 1990 amendments to the federal CAA divide the nation into five categories of planning regions, depending on the severity of their pollution, and set new timetables for attaining the NAAQS. The categories range from marginal to extreme. Attainment deadlines are from 3 to 20 years, depending on the category. Areas with more serious pollution are subject to more prescribed requirements and are given longer to attain the standard. The requirements are designed to bring areas into attainment by their specified attainment dates. The state must submit enforceable commitments to develop and adopt contingency measures to be implemented if the anticipated technologies do not achieve planned reductions.

The EPA can withhold certain transportation funds from states that fail to comply with the planning requirements of the federal CAA. If a state fails to correct these planning deficiencies within two years of federal notification, the EPA is required to develop a federal implementation plan for the identified non-attainment area or areas.

The SCAB is currently designated as a non-attainment area for $PM_{2.5}$, a Severe-17 non-attainment area for O_3, and a Serious non-attainment area for PM_{10}.,[18] but SCAB has achieved the federal 1-hour and 8-hour carbon monoxide (CO) air quality standards since 1990 and 2002, respectively, and has met the federal air quality standards for nitrogen dioxide (NO_2) since 1992.[19]

State

California Clean Air Act

The California CAA of 1988 requires all air pollution control districts in the state to endeavor to achieve and maintain state ambient air quality standards for O_3, CO, and NO_2 by the earliest

[18] U.S. Environmental Protection Agency. 15 August 2008. *The Green Book Nonattainment Areas for Criteria Pollutants*. Available at: http://www.epa.gov/oar/oaqps/greenbk/

[19] South Coast Air Quality Management District. 2007. *2007 Air Quality Management Plan*. Diamond Bar, CA.

practicable date and to develop plans and regulations specifying how they will meet this goal. There are no planning requirements for the state PM_{10} standard.

The CARB, which became a part of the Cal/EPA in 1991, is responsible for meeting the state requirements of the federal CAA, administering the California CAA, establishing the CAAQS (Table 3.2.1-1), and overseeing the functions of local air pollution control districts and air quality management districts, which in turn administer the issuance of air quality at the regional and county levels.

The California CAA, as amended in 1992, requires all air districts in the state to endeavor to achieve and maintain the CAAQS, which are generally stricter than national standards for the same pollutants and incorporate additional standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility reducing particles. The California CAA requires CARB to designate areas within California as either attainment or non-attainment for each criteria pollutant based on whether the CAAQS have been achieved. Under the California CAA, areas are designated as non-attainment for a pollutant if air quality data shows that a state standard for the pollutant is violated at least once during the previous three calendar years. Exceedences that are affected by highly irregular or infrequent events are not considered violations of a state standard and are not used as a basis for designating areas as non-attainment. In addition, there is no penalty for non-attainment under the California CAA.

Assembly Bill 1493

Recognizing global warming is a matter of increasing concern for public health and the environment in the state and would impose [many] compelling and extraordinary impacts on California, Assembly Bill (AB) 1493 , was signed by the Governor on June 22, 2002. It requires CARB to "develop and adopt, by January 1, 2005, regulations that achieve the maximum feasible reduction of GHG emitted from passenger vehicles and light-duty trucks and any other vehicles determined by [CARB] to be vehicles whose primary use is noncommercial personal transportation in the state."[20] In addition, AB 1493 requires CARB to consider socioeconomic impacts, maximum cost-effective technologies, maximum flexibility to automobile manufacturers, and other alternatives when it develops and adopts regulations.[21]

Executive Order S-3-05

On June 1, 2005, Governor Arnold Schwarzenegger signed Executive Order S-3-05. Recognizing that California is particularly vulnerable to the impacts of climate change, Executive Order S-3-05 establishes statewide climate change emission reduction targets to reduce total GHG emissions, measured in $CO_{2equivalent}$ (CO_{2e}),[22] to the 2000 level (473 million metric tons) by 2010, to the 1990 level (427 million metric tons of CO_{2e}) by 2020, and to 80 percent below the 1990 level (341 million metric tons of CO_{2e}) by 2050 (Figure 3.2.1-1, *California Climate Change Emissions and Targets*, and Table 3.2.1-2, *California Climate Change Emission Baseline*).[23,24] The executive order directs the Cal/EPA

[20] California Assembly Bill 1493: Chapter 200. 2002. Available at: http://www.newamerica.net/files/CA%20LEV%20ab1493.pdf

[21] California Assembly Bill 1493: Chapter 200. 2002. Available at: http://www.newamerica.net/files/CA%20LEV%20ab1493.pdf

[22] CO_{2e} is the sum of the emissions of each GHG multiplied by their respective global warming potential (GWP), where the GWP of CO_2 is equal to 1.

[23] State of California. 1 June 2005. Executive Order S-3-05. Sacramento, CA.

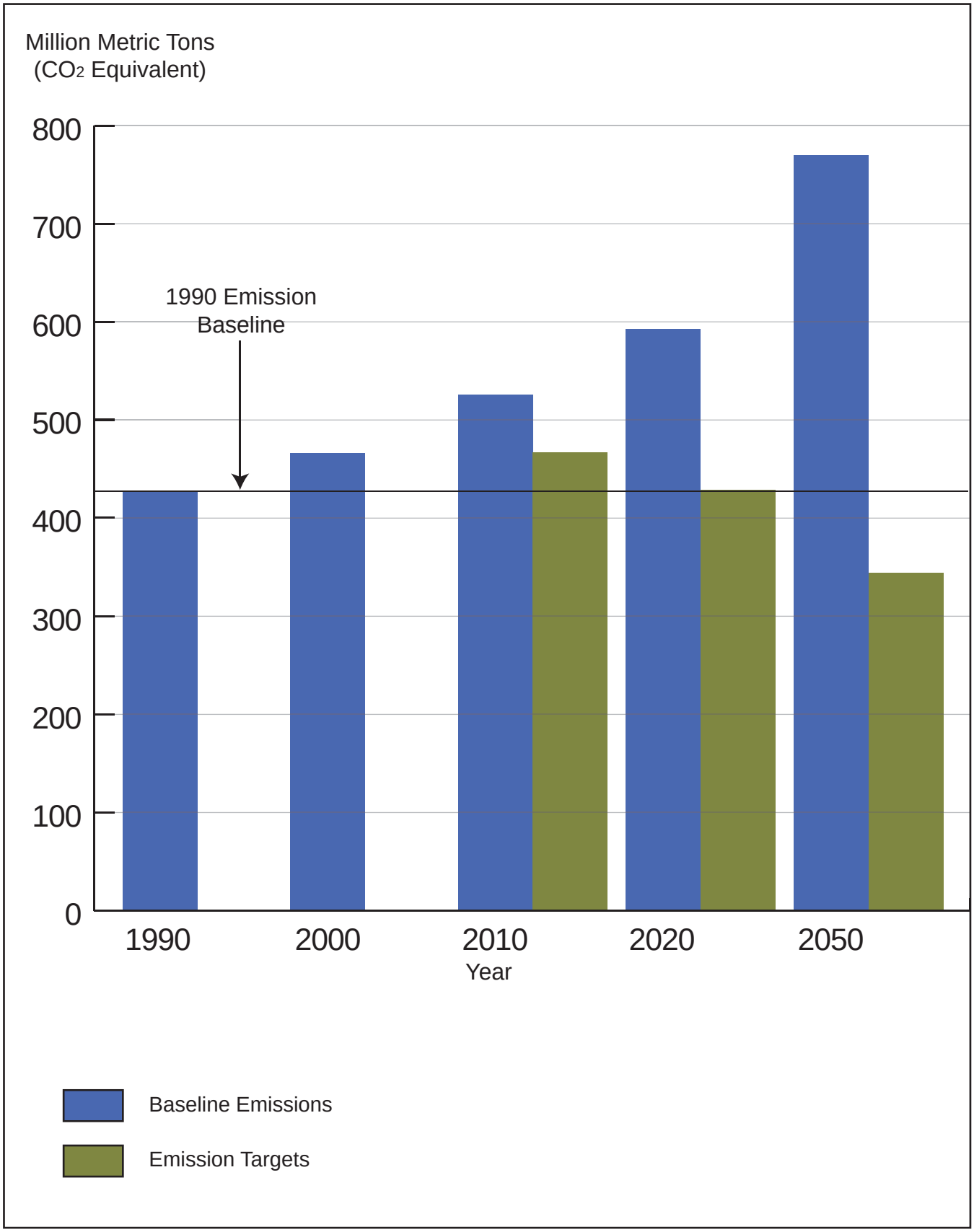


FIGURE 3.2.1-1
California Climate Change Emissions and Targets

Secretary to coordinate and oversee efforts from multiple agencies (i.e., Secretary of the Business, Transportation and Housing Agency; Secretary of the Department of Food and Agriculture; Secretary of the Resources Agency; Chairperson of the Air Resources Board; Chairperson of the Energy Commission; and President of the Public Utilities Commission) to reduce GHG emissions to achieve the target levels. In addition, the Cal/EPA secretary is responsible for submitting biannual reports to the governor and state legislature that outline: (1) progress made toward reaching the emission targets, (2) impacts of global warming on California's resources, and (3) measures and adaptation plans to mitigate these impacts. To further ensure the accomplishment of the targets, the secretary of Cal/EPA would create and lead a climate action team made up of representatives from agencies listed above to implement global warming emission reduction programs and report on the progress made toward meeting the statewide GHG targets established in this executive order. In December 2005, the first report was released and identified that "the climate change emission reduction targets [could] be met without adversely affecting the California economy," and "when all the strategies are implemented, those underway and those needed to meet the Governor's targets, the economy will benefit."[25]

TABLE 3.2.1-2
CALIFORNIA CLIMATE CHANGE EMISSION BASELINE

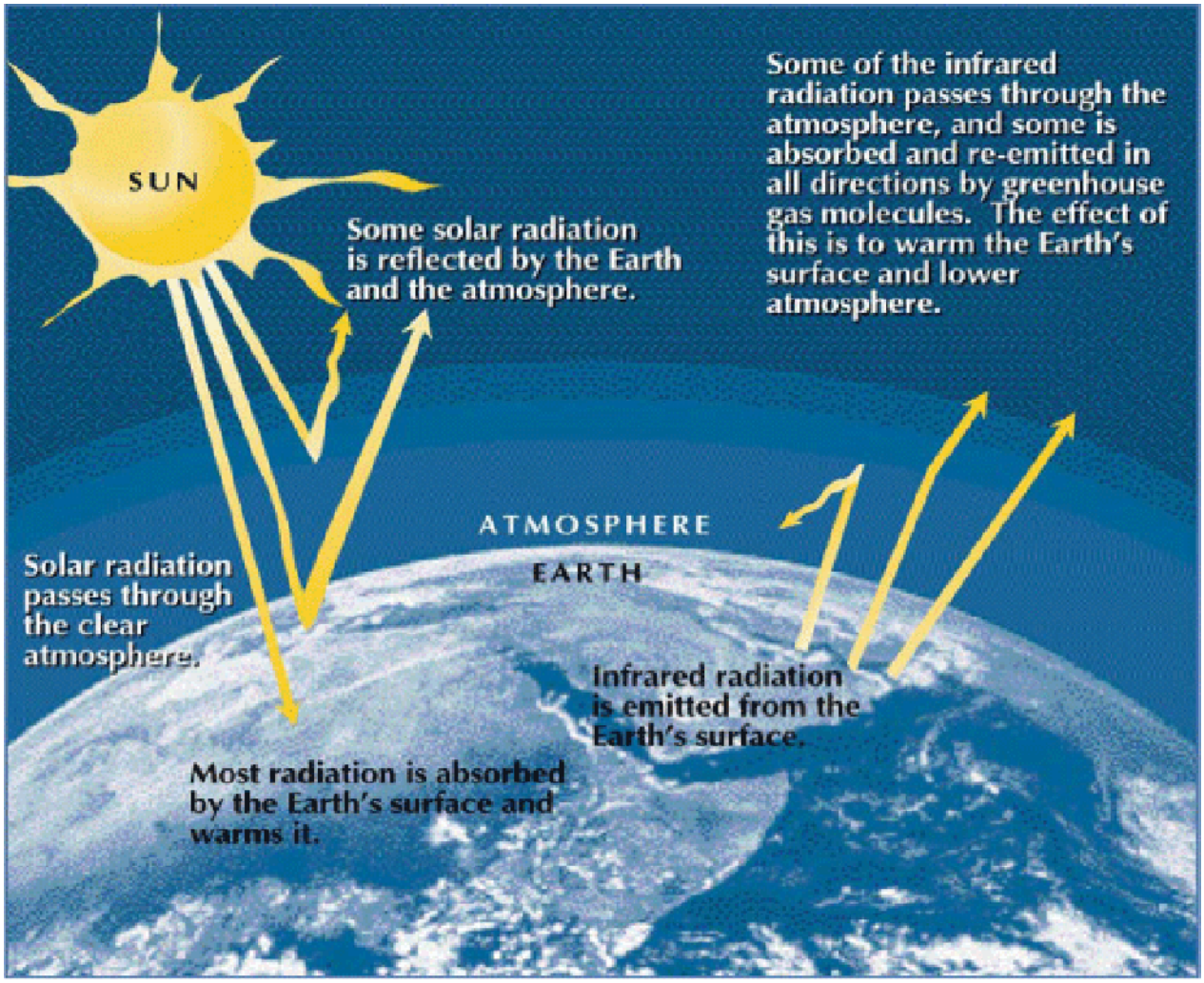
California Climate Change Emission Baseline (Million Metric Tons of CO_{2e})				
Year	1990	2000	2010	2020
Baseline Emissions	427	473	532	596

Assembly Bill 32: Global Warming Solutions Act of 2006

In September 2006, the State of California Global Warming Solutions Act (AB 32) was signed by Governor Arnold Schwarzenegger. In passing AB 32, the state legislature has acknowledged that global warming and related effects of climate change are a significant environmental issue, particularly the anthropogenic causes that are believed to be largely attributable to increased concentrations of GHGs in the atmosphere. Listed in order of their abundance in the atmosphere, GHGs include water vapor, carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), ozone (O_3), and chlorofluorocarbons. These gases trap the energy from the sun and help maintain the temperature of the earth's surface, creating a process known as the greenhouse effect (Figure 3.2.1-2, *The Greenhouse Effect*). The sun emits solar radiation and provides energy to the earth. Six percent of the solar radiation emitted by the sun is reflected back by the atmosphere surrounding the earth; 20 percent of the solar radiation is scattered and reflected by clouds; 19 percent of the solar radiation is absorbed by the atmosphere and clouds; 4 percent of the solar radiation is reflected back to the atmosphere by the earth's surface; and 51 percent of the solar energy is absorbed by the earth. GHGs like water vapor and CO_2 are naturally present in the atmosphere. The presence of these gases prevent outgoing infrared radiation from escaping the lower atmosphere and the earth's surface, thereby allowing incoming solar radiation to be absorbed by living organisms on earth. Global climate change results from a combination of three factors: 1) natural factors such as changes in the sun's intensity or slow changes in the earth's orbit around the sun; 2) natural processes within the earth's climate system such as changes in ocean circulation; and 3) anthropogenic activities, such as fossil fuel combustion, deforestation, reforestation, urbanization, and desertification that change the composition of atmospheric gases. In its 2007 climate change synthesis report to policymakers, the

[24] California Climate Action Team. March 2006. *Climate Action Team Report to Governor Schwarzenegger and the Legislature.* Sacramento, CA.

[25] State of California. 2005. Executive Order S-3-05. Sacramento, CA.



SOURCE: U.S. Environmental Protection Agency. March 2000. State and Local Climate Change Outreach Kit.

FIGURE 3.2.1-2
The Greenhouse Effect

Intergovernmental Panel on Climate Change concluded that "global GHG emissions due to human activities have grown since pre-industrial times, with an increase of 70 percent between 1970 and 2004."[26] Therefore, significant attention is being given to the anthropogenic causes of the increase GHG emissions level. In the review of some recent regulatory publications from the CAPCOA,[27] the California Attorney General,[28] and the Governor's OPR,[29] there is a consensus on the closely associated relationship between fossil fuel combustion in conjunction with other human activities and GHG emissions. Without GHGs, the earth would be too cold to be habitable; however, an excess of GHGs in the atmosphere can raise the earth's temperature, resulting in significant environmental impacts related to snowpack losses, flood hazards, sea-level rises, and fire hazards. In California, GHG emissions are largely contributed by the transportation sector, which was responsible for 38 percent of statewide GHG emissions in 2004, followed by the electricity generation sector and the industrial sector, which were responsible for 25 percent and 20 percent of statewide 2004 GHG emissions, respectively.[30] The construction and operation of the proposed project would have the potential to contribute to statewide GHG emissions; therefore, potential incremental contributions to global warming need to be analyzed.

AB 32 requires a statewide commitment and effort to reduce GHG emissions to 2000 levels by 2010 (11 percent below business as usual), to 1990 levels by 2020 (25 percent below business as usual), and 80 percent below 1990 levels by 2050. This intended reduction in GHG emissions will be accomplished with an enforceable statewide cap on GHG emissions, which will be phased in 2012. To effectively implement the cap, AB 32 requires CARB to develop appropriate regulations and establish a mandatory reporting system to track and monitor global warming emissions levels from stationary sources. In response to AB 1493, AB 32 provides that regulations adopted in AB 1493 should be used to address GHG emissions from vehicles. However, AB 32 also includes language insisting that if AB 1493 regulations cannot be implemented, then CARB shall develop new regulations to control vehicle GHG emissions under the authorization of AB 32. Moreover, under the bill, CARB needs to use the following four principles when implementing the cap.

- Distribute benefits and costs equitably;
- Ensure that there are no direct, indirect, or cumulative increases in air pollution in local communities;
- Protect entities that have reduced their emissions through actions prior to this regulatory mandate; and
- Allow for coordination with other states and countries to reduce emissions.[31]

This bill is the first statewide policy in the United States to mitigate GHG emissions and includes penalties for non-compliance. Consistent with goals and targets set by other actions taking place at the

[26] Intergovernmental Panel on Climate Change. November 2007. *Climate Change 2007: Synthesis Report, Summary for Policymakers*. Page 5. Available at: http://www.ipcc.ch/pdf/assessment-report/ar4/syr/ar4_syr_spm.pdf

[27] California Air Pollution Control Office Association. January 2008. *CEQA and Climate Change: Evaluating and Addressing Greenhouse Gas Emissions from Projects Subject to the California Environmental Quality Act.* Sacramento, CA.

[28] California Department of Justice Office of the Attorney General. 21 May 2008. *The California Environmental Quality Act Addressing Global Warming Impacts at the Local Agency Level*. Sacramento, CA.

[29] California Governor's Office of Planning and Research. 19 June 2008. *CEQA and Climate Change: Addressing Climate Change through California Environmental Quality Act (CEQA) Review*. Technical Advisory. Sacramento, CA.

[30] California Environmental Protection Agency, Air Resources Board. 16 November 2007. *California 1990 Greenhouse Gas Emissions Level and 2020 Emissions Limit*. Sacramento, CA.

[31] Official California Legislative Information. *AB 32: Global Warming Solutions Act.* Available at: http://www.leginfo.ca.gov/pub/05-06/bill/asm/ab_0001-0050/ab_32_bill_20060927_chaptered.pdf

regional and international levels, AB 32 sets precedence in inventorying and reducing GHG emissions.

Executive Order S-20-06

On October 17, 2006, Governor Arnold Schwarzenegger signed Executive Order S-20-06, which calls for continued efforts and coordination among state agencies for the implementation of GHG emission reduction policies and AB 32 and Health and Safety Code (Division 25.5) through the design and development of a market-based compliance program.[32] In addition, Executive Order S-20-06 requires the development of GHG reporting and reduction protocols and a multi-state registry through joint efforts among the CARB, the Cal/EPA, and the CCAR. Economic analysis, including cost-effectiveness analysis, shall be used to develop a plan, by June 1, 2008, that will incentivize market-based mechanisms that have the potential to reduce GHG emissions.[33]

California Senate Bill 97

Approved by Governor Arnold Schwarzenegger on August 24, 2007, California Senate Bill (SB) 97 is designed to work in conjunction with the State CEQA Guidelines and the AB 32. Pursuant to the State CEQA Guidelines, the OPR is required to prepare for and develop proposed guidelines for implementation of CEQA by public agencies. Pursuant to the AB 32, the CARB is required to monitor and regulate emission sources of GHGs that cause global warming in order to reduce GHG emissions. "SB 97 requires OPR, by July 1, 2009, to prepare, develop, and transmit to the [CARB] guidelines for the feasible mitigation of greenhouse gas emissions or the effects of greenhouse gas emissions, as required by CEQA, including, but not limited to, effects associated with transportation or energy consumption."[34] By January 1, 2010, the CARB is required to certify and adopt those guidelines. In addition, the OPR and the CARB are required to periodically update the guidelines to incorporate new information or criteria established by the CARB pursuant to the AB 32. Although SB 97 exempts transportation projects funded under the Highway Safety, Traffic Reduction, Air Quality and Port Security Bond Act of 2006, and projects funded under the Disaster Preparedness and Flood Prevention Bond Act of 2006, it would apply retroactively for any environmental documents, including Environmental Impact Reports, Negative Declarations, Mitigated Negative Declarations, or other documents required by CEQA that have not been certified or adopted by the CEQA lead agency by January 1, 2010.

State of California Office of Attorney General Guidance Letter on California Environmental Quality Act, Addressing Global Warming Impacts at the Local Agency Level

On May 21, 2008, the California Office of Attorney General provided guidance to public agencies on how to address global warming impacts in CEQA documents. In the publication entitled *The California Environmental Quality Act Addressing Global Warming Impacts at the Local Agency Level*, the Office of Attorney General directs public agencies to take a leadership role in integrating sustainability into public projects by providing 52 project level mitigation measures for consideration in the development of projects.[35] In addition, the Office of Attorney General has negotiated four

[32] State of California. 2006. Executive Order S-20-06. Sacramento, CA.

[33] State of California. 2006. Executive Order S-20-06. Sacramento, CA.

[34] California Governor's Office of Planning and Research. 24 August 2007. *Senate Bill No. 97. Chapter 185*. Available at: http://www.opr.ca.gov/ceqa/pdfs/SB_97_bill_20070824_chaptered.pdf

[35] California Department of Justice Office of the Attorney General. 21 May 2008. *The California Environmental Quality Act Addressing Global Warming Impacts at the Local Agency Level*. Sacramento, CA.

settlement agreements under CEQA, all of which require the project proponents to consider sustainable design for projects and feasible mitigation measures and alternatives to substantially lessen global warming related effects.

California Climate Action Registry

Established in 2001, the CCAR is a private non-profit organization originally formed by the State of California. The CCAR serves as a voluntary GHG registry and has taken a leadership role on climate change by developing credible, accurate, and consistent GHG reporting standards and tools for businesses, government agencies, and non-profit organizations to measure, monitor, and reduce GHG emissions. For instance, the CCAR General Reporting Protocol, Version 3.0, dated April 2008, provides the principles, approach, methodology, and procedures required for voluntary GHG emissions reporting by businesses, government agencies, and non-profit organizations. In 2007, the County of Los Angeles became a member of the CCAR and has committed their efforts to monitor, report, and reduce GHG emissions pursuant to their participation in the CCAR.

Regional

South Coast Air Quality Management District

The SCAQMD, which monitors air quality within the project area, has jurisdiction over an area of approximately 10,743 square miles and a population of over 16 million. The 1977 Lewis Air Quality Management Act (Act) created SCAQMD to coordinate air quality planning efforts throughout Southern California. This Act merged four County of Los Angeles air pollution agencies into one regional district to improve air quality in Southern California. SCAQMD is responsible for monitoring air quality as well as planning, implementing, and enforcing programs designed to attain and maintain federal and state Ambient Air Quality Standards in the district. In addition, SCAQMD is responsible for establishing stationary source permitting requirements and for ensuring that new, modified, or related stationary sources do not create net emission increases.

On a regional level, SCAQMD and the Southern California Association of Governments (SCAG) have responsibility under state law to prepare the Air Quality Management Plan (AQMP), which contains measures to meet state and federal requirements. When approved by CARB and the U.S. EPA, the AQMP becomes part of the SIP.

The most recent update to the SCAQMD AQMP was prepared in order for air quality improvement to meet both state and federal CAA planning requirements for all areas under AQMP jurisdiction. This Final 2007 AQMP was adopted on June 1, 2007, by SCAQMD. On September 27, 2007, the plan was adopted by CARB for inclusion in the SIP. The AQMP sets forth strategies for attaining the federal PM_{10} and $PM_{2.5}$ air quality standards and the federal 8-hour O_3 air quality standard, as well as meeting state standards at the earliest practicable date. With incorporation of new scientific data, emission inventories, ambient measurements, control strategies, and air quality modeling, this 2007 AQMP focuses on O_3 and $PM_{2.5}$ attainments.

Local

City of Long Beach General Plan, Air Quality Element

The proposed project area is located within the City; therefore, development in the area is governed by the goals, policies, and implementation measures adopted in the City General Plan.[36] The proposed project would be expected to be consistent with the City land use designations for the area and would not be expected to result in a change to the population growth assumptions used by SCAQMD for attainment planning.[37] The policy and implementation measures that are relevant to the proposed project that contribute toward preventing and mitigating air pollution include the following:

Policy 2.1.2 Reduced Vehicle Miles Traveled

- **Policy 2.1.2.** Use incentives, regulations, and transportation demand management in cooperation with other jurisdiction in the SCAB, to reduce vehicle miles traveled.

- **Implementation Program 2.1.2.1.** Encourage the use of telecommuting and/or teleconferencing systems by business employees where operational costs are acceptable.

- **Implementation Program 2.1.2.2.** Promote trip reduction programs, such as carpool incentives, vanpools, telecommuting, and free transit passes, among City employees to set an example for private employers.

- **Implementation Program 2.1.2.5.** Encourage City employee participation in the Telework Facilities Exchange Program, sponsored by the League of California Cities, Institute of Self Government.

Policy 2.4.1 Non-motorized Means of Transport

- **Policy 2.4.1.** Promote convenient and continuous bicycle paths and pleasant pedestrian environments that will encourage non-motorized travel within the City.

- **Implementation Program 2.4.1.3.** Ensure that all new development is designed and constructed to facilitate and encourage travel by carpool, vanpool, transit, bicycle, and foot.

- **Implementation Program 2.4.1.8.** Provide convenient, secure bicycle parking facilities at public buildings, shopping centers, employment and activity centers, and multi-family developments.

- **Implementation Program 2.4.1.10.** Ensure that pedestrian walkways are safe, convenient, and aesthetically appealing, especially at major activity centers.

[36] City of Long Beach, Department of Development Services. Accessed 19 September 2008. *City of Long Beach General Plan*. Available at: http://www.lbds.info/planning/advance_planning/general_plan.asp

[37] City of Long Beach, Department of Planning and Building. December 1996. *City of Long Beach General Plan, Air Quality Element*. Long Beach, CA.

Policy 7.1 Energy Consumption

- **Policy 7.1.** Reduce energy consumption through conservation improvements and requirements.

- **Implementation Program 7.1.2.** Reduce overall energy use in local government facilities.

- **Implementation Program 7.1.4.** Encourage the incorporation of energy conservation features in the design of all new construction.

- **Implementation Program 7.1.5.** Encourage the installation of conversation devices and low energy using / water consumption appliances in new and existing development.

- **Implementation Program 7.1.7.** Support efforts to reduce GHG emissions that diminish the stratospheric ozone layer.

3.2.2 Existing Conditions

South Coast Air Basin

The proposed project area is located in the County of Los Angeles portion of the SCAB, which is composed of a 6,745-square-mile area encompassing all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties. The analysis of existing conditions related to air quality includes an air pollution climatology of the SCAB, a local climate summary of the proposed project area, and a summary of pollutant levels prior to implementation of each component of the proposed project. All of the proposed project components are located within the SCAB; therefore, all air quality data and analyses are presented as an aggregate of the entire proposed project area.

The SCAB is under the jurisdiction of the SCAQMD and is in an area of high air pollution potentials due to its climate and topography. The climate of the proposed project area (i.e., the SCAB) is characterized by warm summers, mild winters, infrequent rainfalls, light winds, and moderate humidity. This mild climatological pattern is interrupted infrequently by extremely hot summers, winter storms, or the Santa Ana winds. The SCAB is a coastal plain bounded by the Pacific Ocean to the south and west; the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east; and the San Diego County line to the south. During the dry season, the Eastern Pacific High Pressure Area (a semi-permanent feature of the general hemispheric circulation pattern) dominates the weather over much of Southern California, resulting in a mild climate tempered by cool sea breezes with light average wind speed. High mountains surround the rest of the SCAB's perimeter, contributing to the variation of rainfall, temperature, and winds in the SCAB.

Temperature Inversions

The SCAB frequently experiences temperature inversions, a condition characterized by an increase in temperature with an increase in altitude. In a normal atmosphere, temperature decreases with altitude. In a temperature inversion condition, as pollution rises, it reaches an area where the ambient temperature exceeds the temperature of the pollution, thereby limiting vertical dispersion of air pollutants and causing the pollution to sink back to the surface, trapping it close to the ground. During

the summer, the interaction between the ocean surface and the low layer of the atmosphere creates a marine layer. With an upper layer of warm air mass over the cool marine layer, air pollutants are prevented from dispersing upward. Additional air quality problems in the SCAB can be attributed to the bright sunshine, which causes a reaction between hydrocarbons and oxides of nitrogen to form ozone. Peak ozone concentrations in the SCAB over the past two decades have occurred at the base of the mountains around Azusa and Glendora in the County of Los Angeles and at the crestline in the mountain area above the City of San Bernardino. Both the peak ozone concentrations and the number of days the standards were exceeded decreased everywhere in the SCAB throughout the 1990s. During the fall and winter, the greatest pollution problems are CO and NO_x emissions, which are trapped and concentrated by the inversion layer. CO concentrations are generally worse in the morning and late evening (around 10:00 p.m.). Since CO is produced almost entirely from automobiles, the highest CO concentrations in the SCAB are associated with heavy traffic. In the morning, CO levels are relatively high due to cold temperatures and the large number of cars traveling. High CO levels during the late evenings are a result of stagnant atmospheric conditions trapping CO in the area. However, CO concentrations have dropped significantly throughout the SCAB as a result of strict new emission controls and reformulated gasoline sold in winter months.

Climatic Conditions

The mountains and hills within the SCAB contribute to the variation of rainfall, temperature, and winds throughout the region. The annual average high temperature in the proposed project area and its vicinity is 74 degrees of Fahrenheit (°F) and the annual average low temperature in the proposed project area and its vicinity is 55 °F.[38] The annual average wind speed within the proposed project area and its vicinity, as recorded at the Long Beach Airport Automated Surface Observing System (approximately 2.3 miles northeast of the proposed project site at 4100 Donald Douglas Drive, Long Beach, California, 90808), is approximately 5.1 miles per hour (MPH),[39] and it blows predominantly from the westerly direction.[40] Severe weather is uncommon in the SCAB, but strong offshore easterly winds known as the Santa Ana winds can reach 25 to 35 MPH below the passes and canyons. During the spring and summer months, air pollution is moved out of the region through mountain passes or is lifted by the warm vertical currents produced by the heating of the mountain slopes. From the late summer through the winter months, because of the average lower wind speeds of approximately 3.8 MPH in the proposed project area and its vicinity,[41] air contaminants do not readily disburse, thus trapping air pollutions in the area.

The annual average of total precipitation in the proposed project area is approximately 12 inches, which occurs mostly during the winter and is relatively infrequently during the summer.[42] Precipitation averages approximately 7.2 inches during the winter (December, January, and

[38] Western Regional Climate Center. Accessed 19 September 2008. *Long Beach WSCMO, California Period of Record General Climate Summary – Temperature*. Available at: http://www.wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca5085

[39] Western Regional Climate Center. Accessed 19 September 2008. *California – Average Wind Speed – MPH, Station, Long Beach Airport ASOS (KLGB) (1996-2006)*. Available at: http://www.wrcc.dri.edu/htmlfiles/westwind.final.html

[40] South Coast Air Quality Management District. June 2007. *Draft Air Quality Management Network Plan, Quality Assurance Site Information for South Long Beach*. Page B-149 through B-152. Culver City, CA.

[41] Western Regional Climate Center. Accessed 19 September 2008. *California – Average Wind Speed – MPH, Station, Long Beach Airport ASOS (KLGB) (1996-2006)*. Available at: http://www.wrcc.dri.edu/htmlfiles/westwind.final.html

[42] Western Regional Climate Center. Accessed 19 September 2008. *Long Beach WSCMO, California Period of Record General Climate Summary – Precipitation*. Available at: http://www.wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca5085

February), approximately 2.8 inches during the spring (March, April, and May), 1.8 inches during fall (September, October, and November), and 0.15 inch during the summer (June, July, and August).[43]

Emission Sources

The proposed project area is located in the City. Emissions are generated daily from adjacent land uses and facilities by landscape maintenance equipment, space and water heating, and vehicle trips to and from the proposed project area and its vicinity.

City of Long Beach Air Quality

Existing air quality within the Long Beach vicinity is characterized by a mix of local emission sources that include stationary activities, such as space and water heating, landscape maintenance, consumer products and mobile sources, which include primarily automobile and truck traffic. Motor vehicles are the primary source of pollutants within the proposed project vicinity, because they have the potential to generate elevated localized levels of CO, termed as CO hotspots. Section 9.4 of SCAQMD's *CEQA Air Quality Handbook* identifies CO as a localized problem requiring additional analysis when a proposed project is likely to expose sensitive receptors to CO hotspots.[44]

Source Receptor Area

The SCAQMD has divided the SCAB into Source Receptor Areas (SRAs) based on similar meteorological and topographical features. The proposed project site is located in SCAQMD's SRA 4, South Los Angeles County Coastal,[45] which is served by the South Long Beach Monitoring Station (Station No. 077) located at 1305 East Pacific Coast Highway, Long Beach, California, and the North Long Beach Monitoring Station (Station No. 072) located at 3648 North Long Beach Boulevard, Long Beach, California (Figure 3.2.2-1, *Air Quality Monitoring Stations*). Criteria pollutants monitored at both stations include PM_{10}, $PM_{2.5}$, and lead (Pb). In addition, the North Long Beach Monitoring Station monitors CO, O_3, NO_2, and SO_2. A summary of the ambient air quality data in the proposed project vicinity recorded at the North Long Beach Monitoring Station from 2005 to 2007 and the applicable state standards are shown in Table 3.2.2-1, *Summary of 2005–2007 Ambient Air Quality Data in the Proposed Project Vicinity*. Background CO concentration in the proposed project area is established because CO concentrations are typically used as an indicator of the conformity with CAAQS, and estimated changes in CO concentrations generally reflect operational air quality impacts associated with the project. The highest reading of the CO concentrations over the past three years is defined by SCAQMD as the background level. A review of data from the North Long Beach Monitoring Station from the 2005 to 2007 period indicates that the highest readings of 1- and 8-hour background CO concentrations are approximately 4 and 3.5 ppm, respectively. The existing 1- and 8-hour background concentrations do not exceed the state CO standards of 20 ppm and 9 ppm, respectively. In addition, criteria pollutants NO_2 and SO_2 did not exceed the CAAQS during the 2005 through 2007 period. The 1- and 8- hour state standards of O_3 were not exceeded during 2005 and 2006, but were exceeded once in 2007. The annual state standards for PM_{10} and $PM_{2.5}$ were exceeded numerous times during the 2005 to 2007 time period.[46]

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[43] Western Regional Climate Center. Accessed 19 September 2008. *Long Beach WSCMO, California Period of Record General Climate Summary – Precipitation*. Available at: http://www.wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca5085

[44] South Coast Air Quality Management District. 1993. *CEQA Air Quality Handbook*. Diamond Bar, CA.

[45] South Coast Air Quality Management District. 1999. *South Coast Air Quality Management District*. Map-Monitoring Station. Available at: http://www.aqmd.gov/map/MapAQMD2.pdf

[46] South Coast Air Quality Management District. Accessed 19 September, 2008. *Historical Data by Year*. Available at:

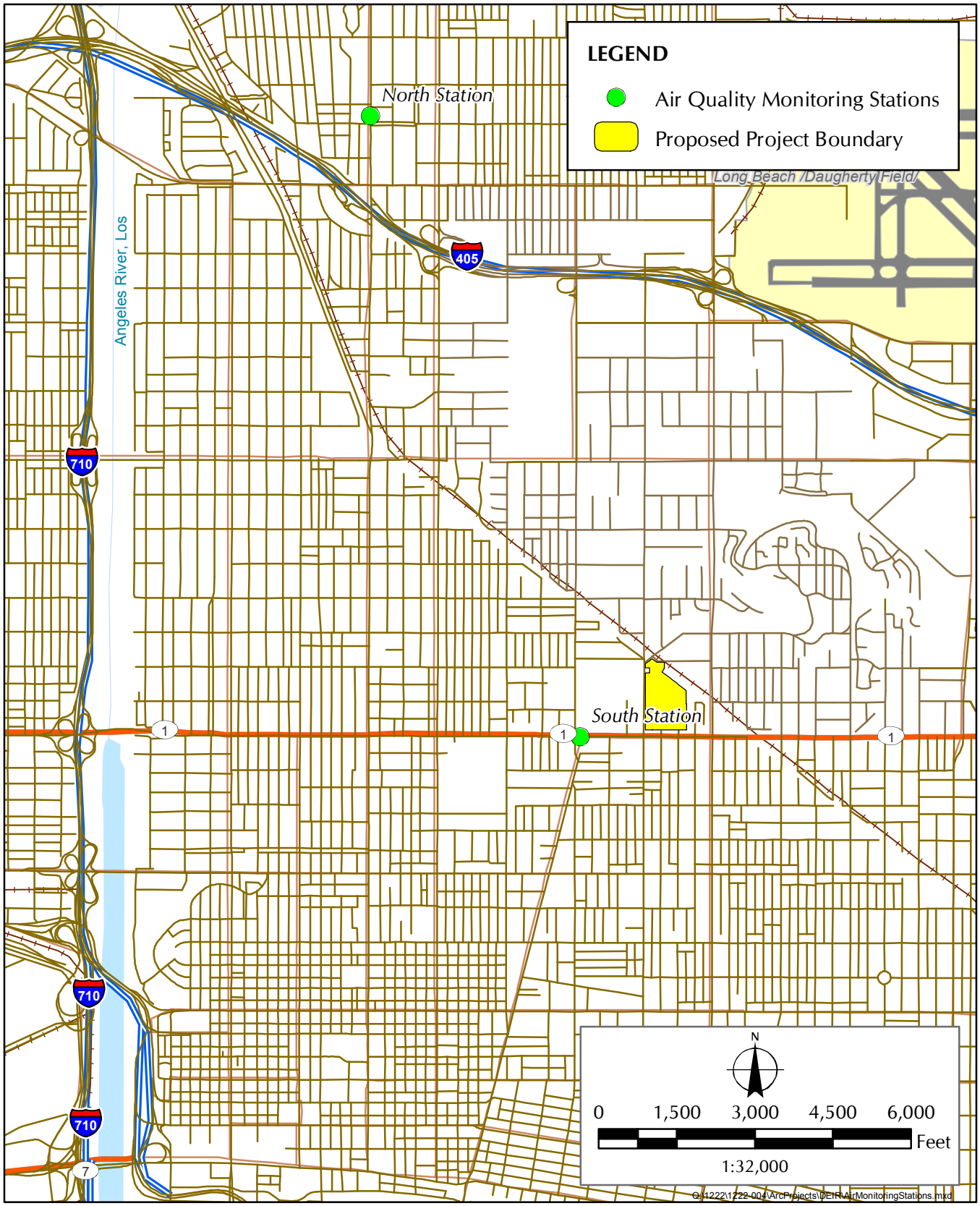

FIGURE 3.2.2-1

Air Quality Monitoring Stations

TABLE 3.2.2-1
SUMMARY OF 2005–2007 AMBIENT AIR QUALITY DATA IN THE PROPOSED PROJECT VICINITY

Pollutants	Pollutant Concentration and Standards	Number of Days Above State Standard		
		2005	2006	2007
Ozone	Maximum 1-hr Concentration (ppm) Days > 0.09 ppm (State 1-hr standard) Maximum 8-hr Concentration (ppm) Days > 0.07 ppm (State 8-hr standard)	0.09 0 0.07 0	0.08 0 0.06 0	0.10 1 0.07 1
Carbon Monoxide	Maximum 1-hr Concentration (ppm) Days > 20 ppm (State 1-hour standard) Maximum 8-hr Concentration (ppm) Days > 9.0 ppm (State 8-hr standard)	4 0 3.5 0	4 0 3.4 0	3 0 2.6 0
Nitrogen Dioxide	Maximum 1-hr Concentration (ppm) Days > 0.18 ppm (State 1-hr standard)	0.14 0	0.10 0	0.11 0
PM_{10}	Maximum 24-hr Concentration ($\mu g/m^3$) Days > 50 $\mu g/m^3$ (State 24-hr standard)	66 5	78 6	75 5
$PM_{2.5}$	Maximum 24-hr Concentration ($\mu g/m^3$) Exceed State Standard (12 $\mu g/m^3$ Annual Arithmetic Mean)?	54 Yes	59 Yes	83 Yes
Sulfur Dioxide	Maximum 24-hr Concentration (ppm) Days > 0.25 ppm (State 24-hr standard)	0.01 0	0.01 0	0.01 0

SOURCE: South Coast Air Quality Management District. Accessed 19 September 2008. *Historical Data by Year*. Available at: http://www.aqmd.gov/smog/historicaldata.htm

Susceptibility to the Effects of Climate Change

The following sections, including Snowpack Losses and Changes in Water Supply, Flood Hazard, Sea-Level Rises, and Fire Hazards, use the business-as-usual models for their findings, which do not take into account the reductions in GHG emissions required by Executive Order S-3-05 or AB 32.

Snowpack Losses and Changes in Water Supply

One of the effects of global warming–related impacts is potential losses in snowpack. It has been projected that, with a low GHG emissions range corresponding to a 3 to 5.5°F temperature increase, approximately 30 to 60 percent of the Sierra snowpack would be lost by 2070. If the temperature increases by 5.5 to 8°F, which corresponds to a medium to high GHG emissions range, approximately 70 to 80 percent of the Sierra snowpack would be lost by 2090[47] (Figure 3.2.2-2, *Possible Snowpack Losses*). The proposed project is located in the City of Long Beach, in the County of Los Angeles, which is not directly affected by losses in Sierra snowpack. However, losses in Sierra snowpack can indirectly

http://www.aqmd.gov/smog/historicaldata.htm

[47] California Air Resources Board. 9 January 2008. *Overview of Climate Change and School Related Impacts*. Available at: http://www.chps.net/manual/climate/DanaPapkeGHG_Overview.pdf

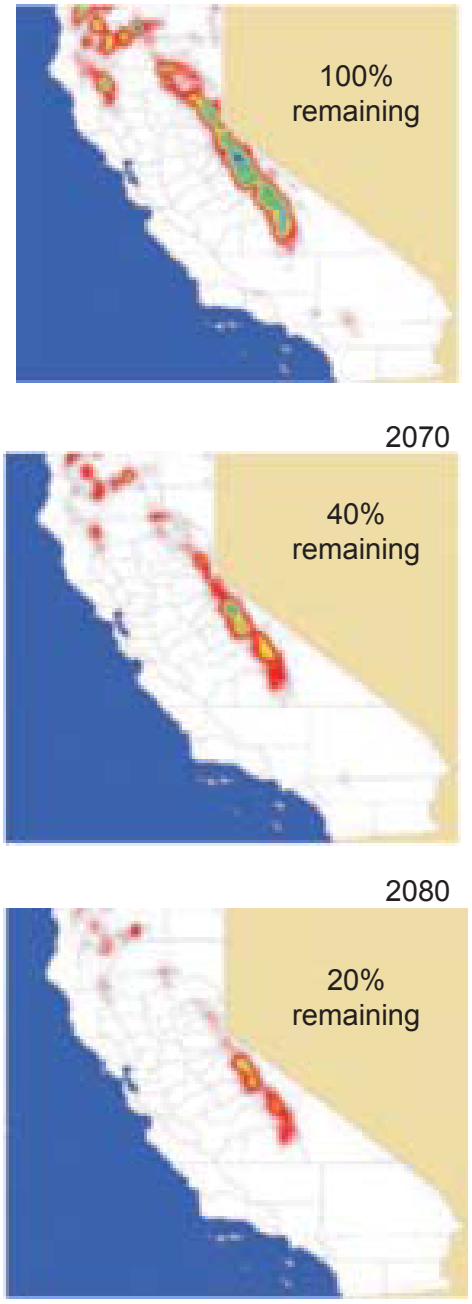

FIGURE 3.2.2-2
Possible Snowpack Losses

affect implementation of the proposed project because of its dependence on snowpack areas for water supplies as a majority of California's water supplies are derived from these sources.

Flood Hazard

Increased concentrations of GHGs in the atmosphere are likely to result in more rain precipitated onto the earth's surface. If the temperature increases by 5.4°F, it is expected that 1 inch of rain would fall in the Sierra Nevada for 5 to 15 additional days each year,[48] and soil moisture would be increased significantly, creating a high potential for flood. In addition, according to the U.S. Geological Survey Scripps Institute of Oceanography California Climate Change Center, a 5°F increase in temperature would likely increase extreme precipitation events by nearly 50 percent by the year 2100.[49] As described in Section 3.7, *Hydrology and Water Quality*, of this EIR, the proposed project site is located in the Hamilton Bowl Detention Basin, a region that is historically known to flood during seasonal rains due to its low elevation in relation to the surrounding topography. The proposed project site is located approximately 2 miles north of the Pacific Ocean, but is not within a 100-year flood plain as indicated in the City General Plan, Federal Emergency Management Agency maps, and Flood Insurance Rate Maps for the County of Los Angeles.[50,51,52] However, if there is a continuous increase in the atmospheric GHG concentrations, more frequent significant rain events would be likely to occur, which may result in potential flood hazards at the proposed project site.

Sea Level Rises

Global climate change is expected to result in a potentially significant impact related to a rising sea level. In February 2006, the California Climate Change Center and Cal/EPA predicted that by 2050 there would be approximately 14 to 22 inches in sea level rises associated with a medium warming scenario (5.5 to 8°F increase in temperature). [53] However, in 2007, the CALFED Independent Science Board predicted that if the temperature increases by 5.5 to 8°F, there would be approximately 28 to 39 inches in sea level rises, nearly doubling the rise previously predicted one year ago.[54] If a warming scenario occurs as a result of an increased amount of GHG emissions in the atmosphere, more icebergs will melt, leading to a rise in sea level. California is particularly vulnerable to the rising sea level; the more icebergs that melt, the higher the sea level will become, and the more California coastal areas will be subject to various catastrophic and economic hazards and uncertainties. If enough ice cover and icebergs of the earth melt and ice-cold water is introduced into the ocean, causing the slowing, disrupting, or stopping of the Great Ocean Conveyor Belt, regional climates in North America will be strongly influenced as the Great Ocean Conveyor Belt controls global ocean

[48] U.S. Geological Survey and Scripps Institute of Oceanography California Climate Change Center. 16 May 2005. *Rainfed Flood Risks in a Warming West*. Yosemite Valley, CA.

[49] U.S. Geological Survey and Scripps Institute of Oceanography California Climate Change Center. 16 May 2005. *Rainfed Flood Risks in a Warming West*. Yosemite Valley, CA.

[50] City of Long Beach, Department of Planning and Building. 1973. *City of Long Beach General Plan, Conservation Element*. Long Beach, CA.

[51] Federal Emergency Management Agency. *Flood Maps*. Available at: http://www.fema.gov/hazard/map/index.shtm

[52] Federal Emergency Management Agency. December 1980. *Flood Insurance Rate Maps for the County of Los Angeles*. DFIRM Panel #0650430955B. Washington, DC.

[53] California Air Resources Board. 9 January 2008. *Overview of Climate Change and School Related Impacts*. Available at: http://www.chps.net/manual/climate/DanaPapkeGHG_Overview.pdf

[54] CALFED, Independent Science Board. 6 September 2007. *Sea Level Rise and Delta Planning*. Available at: http://calwater.ca.gov/science/pdf/isb/meeting_082807/ISB_response_to_ls_sea_level_090707.pdf

circulation between deep, colder water and warm, surface water.[55] The proposed project site is approximately 2 miles north of the Pacific Ocean; therefore, it is located in an area expected to be directly affected by sea level rises. A rising sea level would also be expected to result in broad indirect effects to the proposed project by its dependence on coastal communities for habitat diversity, abundance, and distribution, specifically for migratory birds.

Fire Hazards

Increased concentrations of GHG emissions in the atmosphere is also likely to result in a significant impact related to fire hazards. If the average statewide temperature increases by 3 to 5.5°F, a low global warming scenario, the risk of large wildfires in California would be expected to increase about 11 percent by 2070 and 50 percent by 2099.[56] If the average statewide temperature increased by 5.5 to 8°F (a medium to high global warming scenario), the risk of large wildfires in California would increase by about 55 percent, thereby resulting in a five-time more significant increase in fire risk in California. Although the proposed project site is not located in an area expected to be directly affected by increased fire hazards, it is indirectly affected because increased fire hazards would result in increases in regional and local $PM_{2.5}$ and PM_{10} levels and would aggravate various cardiovascular and respiratory illnesses.

Greenhouse Gas Emissions

In order to establish a reference point for future GHG emissions, CO_{2e} emissions are projected based on an unregulated, business-as-usual, GHG emissions scenario that does not take into account the reductions in GHG emissions required by Executive Order S-3-05 or AB 32. Under a business-as-usual development scenario, the CARB has recommended that 427 million metric tons be used as the total GHG emissions in CO_{2e} for California in 1990 and that 596 million metric tons of CO_{2e} emissions be used as the projected level for 2020, presenting a linear upward trend in California's total GHG emissions levels (Figure 3.2.1-1).[57] To characterize the GHG emissions baseline conditions for the entire County of Los Angeles, including the unincorporated areas, information on the County of Los Angeles population, employment, and service population has been collected from SCAG. It has been projected that the County of Los Angeles would increase its service population from approximately 15 million in 2010 to approximately 17 million in 2035.[58] Using the current CO_{2e} emissions factor of 14 metric tons per capita,[59] the County of Los Angeles would be expected to be responsible for a total of approximately 1125 million metric tons of CO_{2e} emissions from 2010 to 2030 under a business-as-usual emissions scenario, and each year, more GHGs would be expected to be emitted by the County of Los Angeles than the previous year due to the increase in service population (Table 3.2.2-2, *Characterization of GHG Emissions Baseline Conditions for the County of Los Angeles*).

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[55] National Aeronautics and Space Administration. 5 March 2004. Web site. "A Chilling Possibility: By Disturbing a Massive Ocean Current, Melting Arctic Sea Ice Might Trigger Colder Weather in Europe and North America." Available at: http://science.nasa.gov/headlines/y2004/05mar_arctic.htm

[56] Union of Concerned Scientists. Accessed 2 June 2008. "Global Warming and California Wildfires." *California Climate Choices: A Fact Sheet of the Union of Concerned Scientists*. Berkeley, CA. Available at: http://www.ucsusa.org/assets/documents/global_warming/ucs-ca-wildfires-1.pdf

[57] California Air Resources Board. 19 September 2008. *California 1990 Greenhouse Gas Emissions Level and 2020 Limit*. Available at: http://www.arb.ca.gov/cc/inventory/1990level/1990level.htm

[58] Southern California Association of Governments. 2 June 2008. E-mail to William Meade, Sapphos Environmental, Inc. Pasadena, CA.

[59] California Air Resources Board. 15 October 2008. *Climate Change Proposed Scoping Plan: A Framework for Change*. Available at: http://www.arb.ca.gov/cc/scopingplan/document/scopingplandocument.htm

TABLE 3.2.2-2
CHARACTERIZATION OF GHG EMISSIONS BASELINE CONDITIONS FOR THE COUNTY OF LOS ANGELES

	Year				
	2010	**2015**	**2020**	**2025**	**2030**
Population	10,615,700	10,971,589	11,329,802	11,678,528	12,015,892
Employment	4,552,385	4,675,849	4,754,738	4,847,442	4,946,388
Service Population (SP)	15,168,085	15,647,438	16,084,540	16,525,970	16,962,280
CARB Emission Factor (metric tons of CO_{2e}/SP)	14	14	14	14	14
Total GHG emissions for the County of Los Angeles (million metric tons of CO_{2e})	212	219	225	231	237
Total	**~ 1,125 million metric tons of CO_{2e}**				

SOURCES:

1. Southern California Association of Governments. 2 June 2008. E-mail to William Meade, Sapphos Environmental, Inc. Pasadena, CA.
2. California Air Resources Board. 2008. *Summary of Population, Employment, and GHG Emissions Projections Data*. Sacramento, CA.

Sensitive Receptors

The proposed project would be located in the City, near existing residences and commercial facilities. Exposure to potential emissions would vary substantially from day to day, depending on the amount of work being conducted, the weather conditions, the location of receptors, and the length of time that receptors would be exposed to air emissions. The construction phase emissions estimated in this analysis are based on conservative estimates and worst-case conditions, with maximum levels of construction activity occurring simultaneously within a short period of time. The land uses identified as sensitive receptors by SCAQMD include residences, schools, playgrounds, child care centers, athletic facilities, long-term health care facilities, rehabilitation centers, convalescent centers, and retirement homes. People with compromised immune systems, the elderly, and young children may be affected by emissions released from the construction and operation of the proposed project. The greatest potential for exposure of sensitive receptors to air contaminants would occur during the temporary construction phase, when equipment would be used for site grading, materials delivery, and building construction. The nearest sensitive receptors (residential and school land uses) with the highest potential to be impacted by the proposed project include the following (Figure 3.2.2-3, *Nearest Sensitive Receptors to Project Location*):

- Signal Hill Elementary School, located at 2285 Walnut Avenue, Signal Hill, California, 90755, approximately 1,800 feet north of the proposed project site.
- Alvarado Elementary School, located at 1900 East 21st Street, Signal Hill, California, 90755, approximately 520 feet northeast of the proposed project site.
- Courtyard Care Center, located at 1880 Dawson Avenue Signal Hill, California, 90755, approximately 1,210 feet east of the proposed project site.

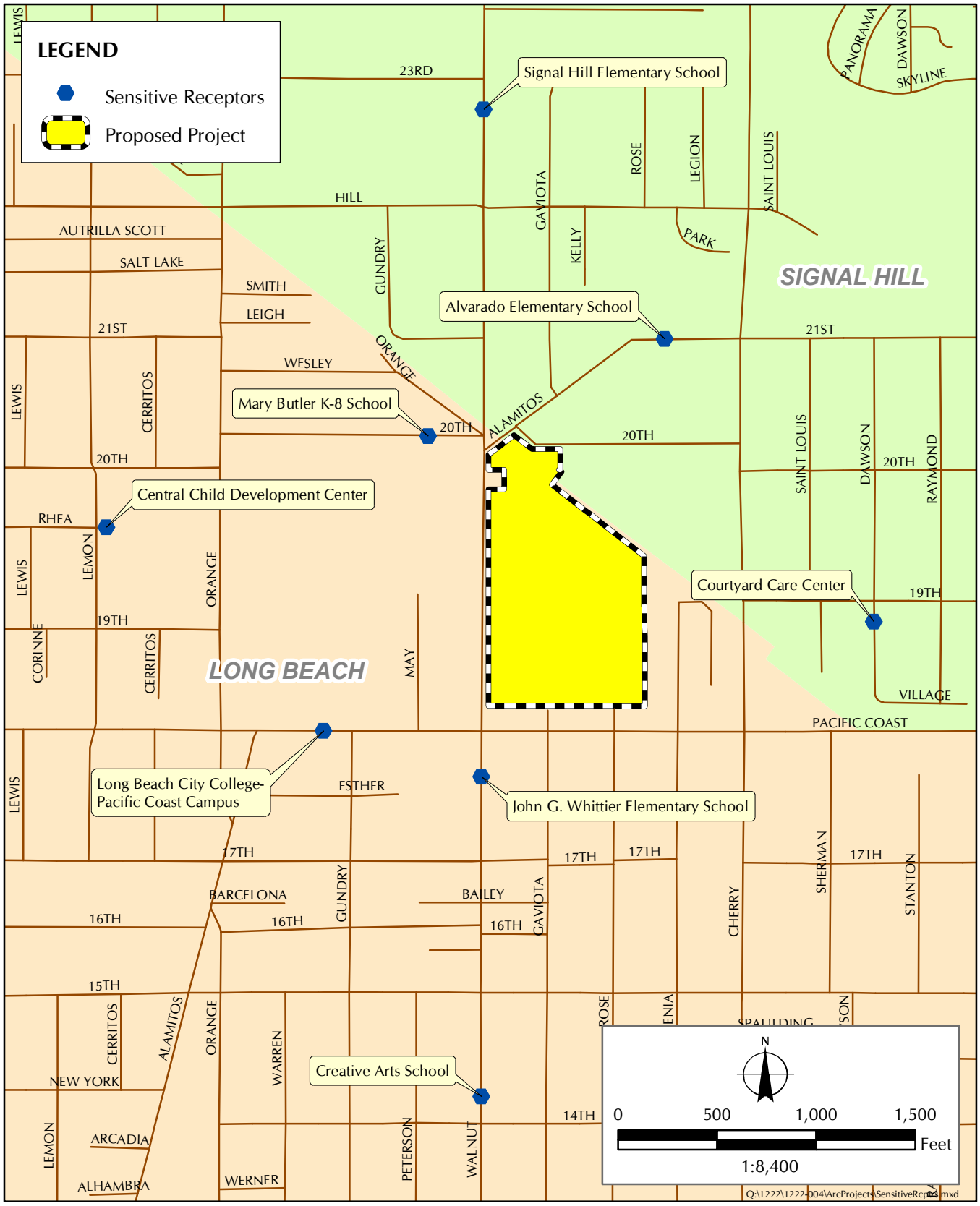

FIGURE 3.2.2-3

Nearest Sensitive Receptors to Project Location

- Creative Arts School, located at 1423 Walnut Avenue, Long Beach, California, 90813, approximately 1,860 feet south of the proposed project site.

- John G. Whittier Elementary School, located at 1761 Walnut Avenue, Long Beach, California, 90813, approximately 310 feet south of the proposed project site.

- John G. Whittier Preschool, located at 1424 East Esther Street, Long Beach, California, 90813, approximately 749 feet southwest of the proposed project site.

- Long Beach City College–Pacific Coast Campus, located at 1305 East Pacific Coast Highway, Long Beach, California, 90806, approximately 65 feet west of the proposed project site.

- Central Child Development Center, located at 1133 East Rhea Street, Long Beach, California, 90806, approximately 1,890 feet west of the proposed project site.

- Mary Butler K–8 School, located at 1400 East 20th Street, Long Beach, California, 90806, approximately 530 feet west of the proposed project site.

Additional single-family and multi-family residences are located in the surrounding community with 0.25 mile of the proposed project site.

3.2.3 Significance Thresholds

The proposed project's air quality impacts can be separated into short-term impacts due to construction and long-term permanent impacts from project operation. Both types of impacts may occur on a local or regional scale. The potential for the proposed project to result in impacts related to air quality was analyzed in relation to the questions contained in Appendix G of the State CEQA Guidelines and one additional criterion developed by the County of Los Angeles for GHG emission reductions:

- Would the project conflict with or obstruct implementation of the applicable air quality plan;

- Would the project violate any air quality standard or contribute substantially to an existing or projected air quality violation;

- Would the project result in a cumulatively 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 release in emissions which exceed quantitative thresholds for ozone precursor);

- Would the project expose sensitive receptors to substantial pollutant concentrations;

- Would the project create objectionable odors affecting a substantial number of people; and

- Would the project conflict with broad strategies established by the County of Los Angeles for GHG emissions reduction established pursuant to their participation in the CCAR.

Ambient Air Quality Standards

Ambient air standards are established to protect the average person from health effects associated with air pollution. The standards include an adequate margin of safety. However, some people are particularly sensitive to some pollutants. These sensitive people defined by CARB include persons with respiratory illnesses or impaired lung function because of other illnesses, the elderly over 65 years of age, and children under 14. Facilities and structures where these sensitive people live or spend considerable amounts of time are known as sensitive receptors. According to SCAQMD, land uses considered to be sensitive receptors include long-term health care facilities, rehabilitation centers, convalescent centers, retirement homes, residences, schools, playgrounds, child care centers, and athletic facilities. The nearest sensitive receptors within 0.25 mile of the proposed project site include Long Beach City College–Pacific Coast Campus located approximately 65 feet west of the proposed project site, John G. Whittier Elementary School located approximately 310 feet south of the proposed project site, Alvarado (Juan Bautista) Elementary School located approximately 520 feet northeast of the proposed project site, and Mary Butler Elementary School located approximately 530 feet west of the proposed project site (Figure 3.2.2-3). In addition, single-family and multi-family residences are located in the surrounding community within 0.25 mile of the proposed project site.

The County of Los Angeles relies on significance thresholds recommended by SCAQMD in its *CEQA Air Quality Handbook*, as revised in November 1993 and approved by the SCAQMD's Board of Directors.[60] The SCAQMD emission thresholds apply to all federally regulated air pollutants except lead, which is not exceeded in the SCAB.

The SCAQMD is currently in the process of preparing a new air quality handbook, *AQMD Air Quality Analysis Guidance Handbook*. Chapters 2, 3, and 4 related to air quality background information and the roles of regulatory agencies are available online at the SCAQMD Web site. Other chapters will be posted there as they become available. The chapters completed to date make no change in significance thresholds or analysis methodology.

Construction Phase Significance Criteria

The significance criteria for the construction phase of the proposed project include the following:

- Daily SCAQMD construction emission thresholds for CO, volatile organic compounds (VOCs), NO_x, SO_x, $PM_{2.5}$, and PM_{10} as presented in Table 3.2.3-1, *SCAQMD Daily Construction Emission Thresholds of Significance*;

- Emissions of toxic air contaminants (TAC) including carcinogens and non-carcinogens – Maximum Incremental Cancer Risk ≥ 10 in 1 million; Hazard Index ≥ 1.0 (project increment);[61] and

[60] South Coast Air Quality Management District. 1993. *CEQA Air Quality Handbook*. Diamond Bar, CA.

[61] South Coast Air Quality Management District. July 2008. *SCAQMD Air Quality Significance Thresholds*. Available at: http://www.aqmd.gov/CEQA/handbook/signthres.pdf

- Odor nuisance pursuant to SCAQMD's Rule 402.

TABLE 3.2.3-1
SCAQMD DAILY CONSTRUCTION EMISSION THRESHOLDS OF SIGNIFICANCE

Criteria Air Pollutant	Project Construction (lbs/day)
Carbon monoxide (CO)	550
Volatile organic compounds (VOCs)	75
Nitrogen oxides (NO_x)	100
Sulfur oxides (SO_x)	150
Particulate matter ($PM_{2.5}$)	55
Particulate matter (PM_{10})	150

SOURCE: South Coast Air Quality Management District. 1993. *CEQA Air Quality Handbook*. Diamond Bar, CA.

Operational Phase Significance Criteria

The significance criteria for the operational phase of the proposed project include the following:

- Daily SCAQMD operational emissions thresholds for CO, VOCs, NO_x, SO_x, $PM_{2.5}$, and PM_{10} as presented in Table 3.2.3-2, *SCAQMD Daily Operational Emission Thresholds of Significance*;

- The CAAQS for the 1- and 8-hour periods of CO concentrations of 20 ppm and 9 ppm, respectively. If CO concentrations currently exceed the CAAQS, then an incremental increase of 1.0 ppm over no project conditions for the 1-hour period would be considered as a significant impact. An incremental increase of 0.45 ppm over the no project conditions for the 8-hour period would be considered significant;

- Emission of TAC;[62] and

- Odor nuisance pursuant to SCAQMD's Rule 402.

TABLE 3.2.3-2
SCAQMD DAILY OPERATIONAL EMISSION THRESHOLDS OF SIGNIFICANCE

Criteria Air Pollutant	Project Operation (lbs/day)
Carbon monoxide (CO)	550
Volatile organic compounds (VOCs)	55
Nitrogen oxides (NO_x)	55
Sulfur oxides (SO_x)	150
Particulate matter ($PM_{2.5}$)	55
Particulate matter (PM_{10})	150

SOURCE: South Coast Air Quality Management District. 1993. *CEQA Air Quality Handbook*. Diamond Bar, CA

[62] South Coast Air Quality Management District. July 2008. *SCAQMD Air Quality Significance Thresholds*. Available at: http://www.aqmd.gov/CEQA/handbook/signthres.pdf

3.2.4 Impact Analysis

This section analyzes the potential for significant impacts to air quality that would occur from implementation of the proposed project. Air quality impacts of a project generally fall into four major categories:

1) *Construction Impacts* -- temporary impacts, including airborne dust from grading, demolition, and dirt hauling and gaseous emissions from heavy equipment, delivery and dirt hauling trucks, employee vehicles, and paints and coatings.

   Construction emissions vary substantially from day to day, depending on the level of construction phase and weather conditions.

2) *Operational Regional Impacts* -- primarily gaseous emissions from natural gas and electricity usage and vehicles traveling to and from a proposed project site.

3) *Operational Local Impacts* -- increases in pollutant concentrations, primarily carbon monoxide, resulting from traffic increases in the immediate vicinity of a project, as well as any toxic and odor emissions generated on site.

4) *Cumulative Impacts* -- air quality changes resulting from the incremental impact of the project when added to other projects in the vicinity.

Assessment Methods and Models

In an effort to provide guidance on how to quantify GHG emissions impacts of project and plans, in May 2007, the California Office of Attorney General provided the public agencies with modeling tools that are recommended for evaluating public projects' potential impacts to global climate change.[63] Among the modeling tools recommended by the Attorney General's Office, two tools [URBEMIS and CARB Emissions Factors (EMFAC)] were used in this analysis of the proposed project's potential impacts to global climate change, as well as criteria pollutant emission levels. In addition, the CCAR's General Reporting Protocol was used to calculate operational GHG emissions.

URBEMIS Model

The methodology used to analyze construction and operational air quality impacts is consistent with the methods described in the 1993 *CEQA Air Quality Handbook*.[64] The CARB URBEMIS 2007, Version 9.2.4, was used to estimate the emissions from the construction and operation of the 19-acre proposed project. URBEMIS is a computer program that can be used to estimate emissions associated with land development projects in California such as residential neighborhoods, shopping centers, and office buildings; air sources such as gas appliances, wood stoves, fireplaces, and landscape maintenance equipment; and construction projects. The URBEMIS 2007 emission model directly calculates criteria pollutants' emissions, including CO, NO_2, SO_2, VOCs, PM_{10}, $PM_{2.5}$, and CO_2 emissions. SCAQMD daily construction thresholds of significance were used to compare the proposed project's daily construction emission impacts to determine project significance. URBEMIS 2007 Version 9.2.4 was also used to analyze the proposed project's mobile and area operational

[63] State of California Department of Justice Office of Attorney General. 21 May 2008. *The California Environmental Quality Act Addressing Global Warming Impacts at the Local Agency Level*. Sacramento, CA.

[64] South Coast Air Quality Management District. 1993. *CEQA Air Quality Handbook*. Diamond Bar, CA.

emissions, which would be likely to result from additional vehicle trips traveling to and from the proposed project by employees and visitors. Because the proposed project site does not contain an industrial component that is considered a lead emission source, the concentrations and emissions of lead were not analyzed for the proposed project. The URBEMIS 2007 model was used for estimating construction and operational GHG emissions, and analysis of construction impacts to air quality is based on the construction scenario described as an element of Section 2, *Project Description*, of this EIR.

EMFAC 2007 Model

The CARB EMFAC 2007 model, Version 2.3, was used to evaluate the proposed project's GHG emission level contributed by mobile sources, such passenger cars, based on the expected vehicle fleet mix, vehicle speeds, commute distances, and temperature conditions for the estimated start date of the proposed project. The EMFAC 2007, Version 2.3, which is embedded within the URBEMIS 2007 emissions model, includes emission factors for CO_2, CH_4, and criteria pollutants. Therefore, the transportation-related GHG emissions impacts generated by implementation of the proposed project were analyzed using the EMFAC 2007 model. In this analysis, fleet mix, vehicle speeds, commute distances, and temperature conditions were based on the default values in the URBEMIS 2007 and EMFAC 2007 emissions models (Table 3.2.4-1, *URBEMIS 2007 and EMFAC 2007 Emissions Models Input Parameters for Mobile Source and Operational Emissions*).

TABLE 3.2.4-1
URBEMIS 2007 AND EMFAC 2007 EMISSIONS MODELS INPUT PARAMETERS FOR MOBILE SOURCE AND OPERATIONAL EMISSIONS

Parameter	Value	Comment
Air Basin	SCAQMD	Proposed project site is located in the City of Long Beach
Analysis Year	2011	Projected build-out year
Temperature	60°F and 80°F	Operational winter temperature = 60°F Operational summer temperature = 80°F
Land Use Categories	Place of worship (12,460 square feet) Day care center (3,100 square feet) General office building (11,400 square feet) Recreational community center (143,580 square feet)	1. Total acreage = 19 acres 2. Total trips per day = 3,770 3. Total VMT = 20,580
Vehicle Fleet Mix	Light Auto = 53.5 Light Truck (<3750 lbs) = 6.8 Light Truck (3751–5750 lbs) = 22.9 Med Truck (5751–8500 lbs) = 10.0 Light-Heavy (8501–10000 lbs) = 1.5 Light-Heavy (10001–14000 lbs) = 0.5 Med-Heavy (14001–33000 lbs) = 0.9 Heavy-Heavy (33001–60000 lbs) = 0.5 Line Haul (>60000) = 0.1 Urban Bus = 0.1 Motorcycle = 2.3 School Bus = 0.1 Motor Home = 0.8	Default values

TABLE 3.2.4-1
URBEMIS 2007 AND EMFAC 2007 EMISSONS MODELS INPUT PARAMETERS FOR MOBILE SOURCE AND OPERATIONAL EMISSIONS, Continued

Parameter	Value	Comment
Default Values for Operations	11 changes made to the default values for operation	1. Operational emission year = 2011 2. Operational winter temperature = 60°F 3. Operational summer temperature = 80°F 4. The natural gas option is checked 5. The hearth option is checked 6. The landscape option is checked 7. The consumer product option is checked 8. The architectural coatings option is checked 9. Road dust option is checked 10. Pass-by trips option is checked 11. Double counting option is checked
All other parameters	Default values	Default values

KEY: VMT = vehicle miles traveled
SOURCE: Sapphos Environmental, Inc. 19 November 2008. *Kroc Community Center Draft Air Quality Technical Impact Report*. Pasadena, CA.

CCAR General Reporting Protocol

The methodology to quantify annual electricity consumption at the proposed project buildings followed the recommendations set out in the CCAR's General Reporting Protocol. The CO_2, N_2O, and CH_4 emission factors for electricity use in the Western Electricity Coordinating Council California eGRID subregion was used to calculate the proposed project's annual GHG emissions. As described in the SCAQMD's *CEQA Air Quality Handbook*, the electricity consumption rate for commercial use is approximately 12.95 KWh/square foot/year. Based on the operational scenario described in the EIR, the proposed project would be operated as a 170,536-square-foot three-building facility. Therefore, the annual electricity use required by operation of the proposed project buildings was calculated by multiplying the total floor area in square feet with the annual electricity consumption rate recommended by SCAQMD.

Construction Scenario

Construction activities for the proposed project would include demolition, earthwork, construction, and landscaping. The proposed project construction, as currently conceived, would consist of demolition of existing elements on the site; earthwork required to increase the depth of portions of the detention basin and create the single, large building pad; drainage improvements related to the storm water management; and construction of the 170,536-gross-square-foot buildings and the remaining 715,259-square-foot space for the parking lots, gardens, aquatic center, and sports fields. Construction would be expected to last approximately 29 months.

Section 2, *Project Description*, of this EIR summarizes the types of equipment and vehicles expected to be used during construction of the proposed project. Table 3.2.4-2, *Anticipated Demolition Equipment*, shows the types, quantities, and duration of construction equipment used for the demolition phase of the URBEMIS simulation. This phase represents Phase I of the proposed project's

construction, which would include removal of existing utilities on site, removal of existing low-flow concrete drainage swales, and removal of existing storm-drain outlets.

TABLE 3.2.4-2
ANITICIPATED DEMOLITION EQUIPMENT

Type of Equipment/Vehicle	Quantities (Approximate)	Horsepower	Approximate Duration of On-site Construction Activity (hours/day)
Tractors/Loaders/Backhoes	2	108	6
Cranes	1	399	8
Excavators	1	300	8
Off Highway Trucks	1	479	8
Other Material Handling Equipment	1	191	8
Rubber Tired Dozers	1	400	1
Rubber Tired Loaders	1	250	8
Water Trucks	1	189	8

Table 3.2.4-3, *Anticipated Mass Grading Equipment*, shows the types, quantities, and duration of construction equipment used during the mass grading phase of the URBEMIS simulation. This phase is intended to be equivalent to Phase II of the proposed project's construction, which includes deepening the detention basin and over-excavation and re-compaction of earth to prepare the base of the proposed project.

TABLE 3.2.4-3
ANITICIPATED MASS GRADING EQUIPMENT

Type of Equipment/Vehicle	Quantities (Approximate)	Horsepower	Approximate Duration of On-site Construction Activity (hours/day)
Dumpers/Tenders	20	16	8
Scrapers	7	500	8
Tractors/Loaders/Backhoes	3	108	7
Water Trucks	3	189	8
Rubber Tired Dozers	2	400	6
Graders	1	200	6
Other Equipment	1	500	8
Rubber Tired Loaders	1	300	8

Table 3.2.4-4, *Anticipated Construction Equipment - 1*, shows the types, quantities, and duration of construction equipment used during the first construction phase of the URBEMIS simulation. This phase is intended to represent Phase III of the construction activities, which relate to drainage improvements.

TABLE 3.2.4-4
ANITICIPATED CONSTRUCTION EQUIPMENT - 1

Type of Equipment/Vehicle	Quantities (Approximate)	Horsepower	Approximate Duration of On-site Construction Activity (hours/day)
Dumpers/Tenders	3	16	8
Other Equipment	2	5	8
Cement and Mortar Mixers	1	10	8
Cranes	1	399	6
Excavators	1	300	8
Other General Industrial Equipment	1	238	8
Other Material Handling Equipment	1	191	8
Rubber Tired Loaders	1	250	8
Tractors/Loaders/Backhoes	1	100	8
Water Trucks	1	189	8

Table 3.2.4-5, *Anticipated Construction Equipment - 2*, shows the types, quantities, and duration of construction equipment used during the second construction phase of the URBEMIS simulation. This phase represents the construction activities involved in construction of the 170,536-gross-square-foot buildings and the remaining 715,259-square-foot space for parking lots, gardens, aquatic center, and sports fields.

TABLE 3.2.4-5
ANITICIPATED CONSTRUCTION EQUIPMENT - 2

Type of Equipment/Vehicle	Quantities (Approximate)	Horsepower	Approximate Duration of On-site Construction Activity (hours/day)
Other Equipment	5	190	8
Cranes	3	399	6
Forklifts	3	145	6
Graders	3	200	8
Off Highway Trucks	3	479	8
Aerial Lifts	2	60	8
Water Trucks	2	189	8
Cement and Mortar Mixers	1	10	8
Dumpers/Tenders	1	16	8
Other Material Handling Equipment	1	250	8
Pavers	1	200	8
Pumps	1	53	8
Rollers	1	95	8
Rubber Tired Loaders	1	164	8
Tractors/Loaders/Backhoes	1	100	8

The plans and specifications for the proposed project would include operations and maintenance requirements in an effort to reduce impacts related to the construction equipment. Construction equipment would be turned off when not in use. The construction contractor would ensure that all

construction and grading equipment is properly maintained. All vehicles and compressors would utilize exhaust mufflers and engine enclosure covers (as designed by the manufacturer) at all times.

Assumptions listed in the following were made in order to perform the air quality technical analysis using the URBEMIS 2007, Version 9.2.4, emission model.

1. The proposed project was assumed to consist of a roughly 19-acre development.

2. The URBEMIS land use categories used for the air quality analysis were place of worship (12,460 square feet), day care center (3,100 square feet), and general office building (11,400 square feet). The recreational community center (143,580 square feet) was represented with a blank land use category.

3. It was assumed that the proposed project will generate up to 3,770 trips per day[65] by using trip generation factors of 22.88 trips per 1,000 square feet for the recreation community center, 9.11 trips per 1,000 square feet for the place of worship, 79.26 trips per 1,000 square feet for the day care center, and 11.01 trips per 1,000 square feet for the general office building.

4. The total project construction was assumed to take 29 months in maximum from 2009 to 2012.

5. Four construction phases were assumed: demolition, earthwork, drainage improvements, and construction of the recreational facilities.

6. It was assumed that demolition would take 1 month, earthwork would take 4 months, drainage improvements would take 6 months, and construction would take 18 months.

7. It was assumed that a maximum of 0.24 acre (19 acres ÷ 80 days) would be disturbed daily during grading.

8. Default parameters such as the horsepower and the operational duration were used for all construction equipment anticipated to be used for the proposed project.

9. Area air emission sources of natural gas fuel combustion, hearth fuel combustion, landscape fuel combustion, consumer products, and architectural coatings were selected to represent area sources in the vicinity of the proposed project.

10. Default values (i.e., vehicular fleet, trip characteristics, temperature data, and variable starts) were used to calculate air emissions generated by vehicular trips to and from the proposed project site.

11. The build-out year for the proposed project was assumed to be 2012, which was inputted to represent the vehicular fleet mix in 2012 upon completion of the project's construction.

[65] Linscott, Law & Greenspan. 30 January 2009. *Traffic Impact Analysis: Kroc Community Center*. Costa Mesa, CA.

3.2.4.1 Construction Impacts

The air quality related impacts for the proposed project were analyzed and discussed in the Air Quality Technical Impact Report (Appendix B). During construction of the proposed project, there is the potential to create air quality impacts through the use of heavy duty construction equipment and through vehicle trips generated from construction workers traveling to and from the proposed project site. Potential emission estimates from construction activities are based on emission factors and construction scenario information for development at the proposed project site. The total amount of construction, including duration and level of construction activity occurring at the proposed project site, would influence the estimated construction emissions and resulting potential impacts. The emission forecasts are therefore based on conservative assumptions about the construction scenario, with construction activities occurring 8 hours a day, 5 days a week, and being completed within a relatively short timeframe. In addition, estimates included in this analysis include the highest number of potential worker commute trips. Due to the conservative nature of these assumptions, actual emissions from the individual construction projects would most likely be less than the estimates forecasted.

Construction emissions are expected to result from the following activities:

- Demolition
- Site grading and earthwork
- Building construction
- Paving
- Coating
- Delivery and hauling of construction materials and equipment
- Fuel combustion by on-site construction equipment
- Construction worker commute trips

Demolition of existing structures and site preparation (i.e., site excavation, grading, and soil re-compaction) activities would primarily cause fugitive dust emissions. The delivery and hauling of construction materials and equipment, the use of heavy duty construction equipment, and the construction workers' commute trips from and to the proposed project site would primarily result in NO_x emissions. During the application of architectural coating and asphalt paving operations, VOCs would likely be released. The construction air impacts assessment considers each of these potential emission sources; however, the level of activity, the specific type of operation, and, for dust, the prevailing weather conditions can contribute to substantial variations in daily construction emissions.

It is mandatory for all construction projects in the SCAB to comply with SCAQMD Rule 403 for Fugitive Dust. Amended on June 3, 2005, the Fugitive Dust Rule 403 requires actions to prevent, reduce, or mitigate fugitive dust emissions of particulate matter in the ambient air as a result of any anthropogenic activities that are capable of generating fugitive dusts. Compliance with Rule 403 would reduce regional PM_{10} emissions associated with construction activities by approximately 21 percent.[66] The proposed project's daily regional construction emissions, which were estimated by using the URBEMIS 2007 emissions model, are listed in Table 3.2.4.1-1, *Estimated Daily Construction Emissions*. The daily construction emissions associated with the proposed project's construction activities would not exceed the SCAQMD daily construction emission thresholds of significance for

[66] Sapphos Environmental, Inc. 19 November 2008. *Kroc Community Center Air Quality Technical Impact Report*. Pasadena, CA.

VOCs, CO, SO_x, PM_{10}, or $PM_{2.5}$. However, the daily construction emissions associated with the proposed project's construction activities would exceed the SCAQMD daily construction emission threshold of significance for NO_x (Table 3.2.4-1). During the construction phase, peak day emissions of NO_x would be significant in the grading phase without mitigation.[67] However, each calculated emission represents worst case conditions that would be unlikely to occur due to the assumption that all equipment and trucks are operating continuously for six to eight hours per day during each phase of construction.

TABLE 3.2.4.1-1
ESTIMATED DAILY CONSTRUCTION EMISSIONS

Construction Phase	Construction Emissions (Pounds/Day)					
	VOCs	NO_x	CO	SO_x	$PM_{2.5}$	PM_{10}
Demolition	6.49	60.01	23.06	0	2.31	2.52
Mass Site Grading	31.95	293.15	140.94	0.01	12.47	17.30
Building Construction I	5.53	50.41	29.06	0.02	1.91	2.12
Building Construction II	5.53	50.41	29.06	0.02	1.91	2.12
Maximum Regional Total	**31.95**	**293.15**	**140.94**	**0.02**	**12.47**	**17.30**
SCAQMD Daily Significance Threshold (Pounds/Day)	**75**	**100**	**550**	**150**	**55**	**150**
Significant?[1]	**No**	**Yes**	**No**	**No**	**No**	**No**

NOTE: 1. Maximum peak day construction emissions = total of pollutants for each source. Pollutant emissions are considered significant if the maximum peak daily construction emissions exceed the SCAQMD daily significance threshold.
SOURCE: Sapphos Environmental, Inc. 19 November 2008. *Kroc Community Center Draft Air Quality Technical Impact Report*. Pasadena, CA.

The greatest potential for TAC emissions during construction would be diesel particulate emissions associated with heavy duty equipment operations. TAC emissions associated with construction of the proposed project have been analyzed by using the standard health risks assessment methodology to determine individual cancer risk of a person continuously exposed to TACs over a 70-year lifetime. Given the short-term construction schedule of approximately 29 months, the proposed project would not be expected to result in a long-term (i.e., 70 years) source of TAC emissions. No residual TAC emissions and corresponding individual cancer risk are anticipated after construction.[68] Therefore, construction-related TAC emissions from the proposed project would be expected to be below the level of significance.

Potential sources that may contribute to odor impacts during construction activities include equipment exhaust, application of architectural coatings, and asphalt operation. However, the proposed project has a short-term construction schedule. In addition, since odors are normally localized and confined to the proposed project site, an odor nuisance associated with the proposed project is less likely to occur. The construction of the proposed project would use typical construction equipment, and odors at the proposed project site would be typical for most construction sites. In addition, construction of the proposed project is required to comply with SCAQMD Rule 402; thereby, odor impacts from the construction of proposed project are anticipated to be below the level of significance.

[67] Sapphos Environmental, Inc. 19 November 2008. *Kroc Community Center Air Quality Technical Impact Report*. Pasadena, CA.

[68] Sapphos Environmental, Inc. 19 November 2008. *Kroc Community Center Air Quality Technical Impact Report*. Pasadena, CA.

3.2.4.2 Operational Impacts

Given that the proposed project would operate as a community center, it would require stationary sources for daily operation and maintenance. The proposed project would also incorporate Leadership in Energy and Environmental Design elements, which would support operational activities and practices that would further reduce or limit the potential air quality related impacts. However, as the proposed project would include the development of increased parking availability and would cause additional traveling directly to and from the proposed project site, there would be a significant amount of additional daily vehicle trips generated by the proposed project, and there would be long-term operation-related air emissions at the site as a result of mobile sources. It is assumed that the proposed project would generate up to a maximum of 3,770 vehicular trips per day.[69]

URBEMIS 2007 emission model, Version 9.2.4, was used to calculate emissions from mobile sources. URBEMIS 2007 emission model, Version 9.2.4, is based on the EMFAC2007 emission inventory model, Version 2.3, which projects emission estimates based upon the expected vehicle fleet mix for the estimated finish date of the proposed project, the vehicle speed and distance assumption, trip characteristics, and temperature conditions. Vehicle fleet mix, speeds, distance, and temperature conditions were based on the default values in the URBEMIS 2007 emission model, Version 9.2.4, to calculate mobile source emissions. In contrast to the URBEMIS 2002 emission model, the URRBEMIS 2007 emission model directly calculates both $PM_{2.5}$ and CO_2 emissions.

Long-term operation emissions of the proposed project are listed in Table 3.2.4.2-1, *Estimated Daily Operational Emissions*. Daily operational emissions of CO, SO_x, NO_x, VOCs, PM_{10}, and $PM_{2.5}$ would not exceed SCAQMD thresholds of significance. Thus, the proposed project would not be expected to result in a significant level of regional or local impacts to air quality during operations.

TABLE 3.2.4.2-1
ESTIMATED DAILY OPERATIONAL EMISSIONS

	Operational Emissions		
Air Pollutants	**URBEMIS[1] (Pounds/Day)**	**SCAQMD Daily Significance Threshold (Pounds/Day)**	**Significant?[2]**
Carbon monoxide (CO)	207.66	550	No
Sulfur oxides (SO_x)	0.22	150	No
Nitrogen oxides (NO_x)	23.36	55	No
Volatile organic gases (VOCs)	19.92	55	No
Particulate matter (PM_{10})	35.58	150	No
Fine particulate matter ($PM_{2.5}$)	6.94	55	No

NOTES:
1. Maximum peak day operational emissions = total of pollutants for each source. Pollutant emissions are considered significant if the maximum peak day construction emissions exceed the SCAQMD daily significance threshold.

SOURCE: Sapphos Environmental, Inc. 19 November 2008. *Kroc Community Center Draft Air Quality Technical Impact Report*. Pasadena, CA.

[69] Linscott, Law & Greenspan. 30 January 2009. *Traffic Impact Analysis: Kroc Community Center*. Costa Mesa, CA.

Carbon monoxide is considered a localized problem under Section 9.4 of SCAQMD's *CEQA Air Quality Handbook*; thus, additional analysis when a proposed project is likely to expose sensitive receptors to CO hotspots is required. Localized levels of CO concentrations from vehicles termed as CO hotspots were analyzed for the proposed project as an additional number of vehicle trips that would be added to the intersections under the existing congested condition without the proposed project. As indicated above, the proposed project would result in approximately 3,770 vehicle trips a day. This number of daily peak-hour vehicle trips is expected to be adequately absorbed by the regional roadway network; thereby, no significant increase in CO concentrations at sensitive receptor locations would be expected, and localized operational CO emissions would be expected to result in significant impacts that would be below the level of significance.

The SCAQMD recommends that a health risk assessment be conducted for substantial sources of diesel particulate emissions such as emissions from truck stops and warehouse distribution facilities. The operation of the proposed project as a community center would not be expected to require heavy duty equipment operations or generate daily truck trips. To take a conservative approach when considering the proposed project's contribution to the TAC levels, trucks used for maintenance and delivery purposes during the proposed project's operation would be the only potential source contributing to the TAC level at the proposed project site. However, the number and frequency of heavy duty trucks accessing the proposed project site on a daily basis would be minimal. Typical sources of acute and chronically hazardous TACs include commercial developments, manufacturing industries, and automobile repair facilities. Since the proposed project does not fall under any of those categories, additional amounts of TACs would not be expected to be emitted from the proposed project site. Therefore, operation-related TAC emissions from the proposed project would be anticipated to be below the level of significance, and, consequently, have an air toxic impact on human health that would be below the level of significance.

According to the SCAQMD *CEQA Air Quality Handbook*, land uses and industrial operations that are associated with odor complaints include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding. Since the proposed project development would be an institutional use / community center and would not include any land uses or industrial operations that are typically associated with odor nuisance, the proposed project would cause less than significant odor impacts. Furthermore, although trash bins at the site would have the potential to create odors, they would be maintained and controlled in a manner that controls adverse odors and complies with SCAQMD Rule 402. Therefore, operational odor impacts from the proposed project are anticipated to be below the level of significance.

Sensitive Receptors

Daily operational air emissions of criteria air pollutants, TAC levels, and odor impacts would be expected to be below the level of significance. Therefore, the long-term exposure of sensitive receptors to the proposed project's operational air emissions would not be expected to occur at a level that is beyond the level of SCAQMD's thresholds of significance.

3.2.4.3 Cumulative Impacts

SCAQMD's methodological framework was used to assess the proposed project's cumulative impacts. In order to assess cumulative impacts based on the AQMD's forecasts of attainment of ambient air quality standards set forth in the federal and California CAAs, this methodological framework takes into account forecasted regional growth projections from SCAG. The proposed project would be expected to generate 3,770 vehicular trips commuting to the proposed project site

each day, or a total of approximately 20,580 vehicle miles traveled (VMT) to the proposed project site.[70] These additional trip generations or VMTs that would result from implementation of the proposed project would be expected to be absorbed by the existing roadwork network in the Long Beach community and its neighboring cities. In addition, operation of the proposed project would not be expected to generate any population growth. Therefore, the proposed project would be consistent with the SCAG's regional growth forecasts for attaining the ambient air quality standards and would cause cumulative air quality impacts that would be below the level of significance.

Global Climate Change

Methodology to assess the proposed project's impacts on global climate change has not been developed by SCAQMD, state, or federal agencies. No significance thresholds have been established to determine the project's construction and operational impacts on global climate change. Given the absence of methodology and thresholds to evaluate global climate change impacts of the proposed project and the challenges associated with determining criteria for the proposed project-specific significance in regards to GHG emissions, the project's global climate change impacts were analyzed qualitatively according to its operational scenario, size, and location. In order to quantify the amount of GHG emissions contributed by construction and operation of the proposed project, the URBEMIS 2007 emissions model, the EMFAC 2007 model, and the CCAR's General Reporting Protocol GHG emissions quantification methodologies were used. Due to the absence of significance criteria and thresholds for GHG emissions, the level of significance of the proposed project's potential impacts to global climate change were determined by comparison to the 2004 emissions for California.[71]

Qualitative Analysis of Proposed Project's Impacts on Global Climate Change

The proposed project's incremental impact on greenhouse gas emission would be significant if the size, the nature, or the duration of the construction phase would generate a substantial amount of greenhouse gas emissions. The construction phase of the proposed project would take approximately 29 months to complete and would cover an area of 19 acres in size. During construction, normal construction equipment would be operated. The short-term nature of the construction duration and the typical nature of the construction activities would not substantially increase global greenhouse gas emissions.

During the operational phase of the proposed project, emissions of greenhouse gases would occur from daily operations and maintenance and from vehicular trips traveling to and from the proposed project site. Daily operational emissions would be caused by electricity use for space and water heating, lighting, and electrical appliances. However, the proposed project's function as a community center would cause far less greenhouse gas emissions than a larger industrial building such as a power plant or factory. Therefore, the proposed project's operational phase would not result in substantial increases in greenhouse gas emissions, and the proposed project's cumulative impact on global climate change would be below the level of significance.

[70] Sapphos Environmental, Inc. 19 November 2008. *Kroc Community Center Air Quality Technical Impact Report*. Pasadena, CA.

[71] Energy Information Administration. April 2007. *Table 3 State Emissions by Year*. Available at: http://www.eia.doe.gov/oiaf/1605/ggrpt/excel/tbl_statetotal.xls

Quantitative Analysis of Proposed Project's Impacts on Global Climate Change

The principal anthropogenic greenhouse gases that enter the atmosphere include CO_2, methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (CFCs), perfluorocarbons (HCFCs), and sulfur hexafluoride (SF_6).[72] Among these greenhouse gases, CO_2 is considered to be the most dominant gas contributing to global climate change.[73] To quantitatively analyze the proposed project's impacts on global climate change, URBEMIS 2007 emission model, Version 9.2.4, was used to calculate CO_2 emissions resulting from construction and operation of the proposed project. Given the absence of federal, state, or regional construction-related and operation-related greenhouse gas emission thresholds of significance, California's total greenhouse gas emissions of 2004 were used to determine the significance level of the proposed project's impacts on global climate change.[74] In 2004, California was reported to have contributed approximately 399 million metric tons of CO_2 emissions statewide.[75]

When calculating the potential greenhouse gas emissions caused by construction of the proposed project, only CO_2 emissions were considered. Although CH_4 and N_2O are considered principal greenhouse gases, CH_4 is primarily emitted by landfills, natural gas systems, and enteric fermentation processes,[76] and N_2O emissions originate from agricultural soil management, on-road mobile sources, and manure management.[77] Since construction of the proposed project would not involve landfills, natural gas systems, enteric fermentation, agricultural soil management, or manure management and would require operation of construction equipment for completing daily construction activities, CO_2 emissions were determined to be primary greenhouse gas emissions to be emitted by the proposed project's construction.

When calculating the amount of potential greenhouse gas emissions caused by operation of the proposed project, CO_2, CH_4, and N_2O emissions were used to calculate CO_2 equivalent (CO_{2e}) emissions associated with electricity use, as recommended by the California Climate Action Registry.[78] When calculating CO_2 emission levels associated with mobile sources, the California Air Resources Board Emissions Factors 2007, Version 2.3, recommended by the Office of the Attorney General, were used.

According to Appendix B, a maximum of 1,728.23 metric tons per year of CO_2 would be emitted as result of the proposed project's construction. Given that development of the proposed project would only contribute approximately 0.0004 percent[79] of California's total 2004 CO_2 emissions, the

[72] U.S. Environmental Protection Agency. 11 October 2007. *Greenhouse Gas Emissions, Greenhouse Gas Overview*. Available at: http://www.epa.gov/climatechange/emissions/index.html

[73] Energy information Administration. October 2003. *Units for Measuring Greenhouse Gases*. Available at: http://www.eia.doe.gov/oiaf/1605/archive/gg03rpt/summary/special_topics.html

[74] At the time the Air Quality Technical Impact Report was completed, the 2004 greenhouse gas emissions were the most current data available from the Energy Information Administration.

[75] Energy Information Administration. September 2008. *Table 3 State Emissions by Year*. Available at: http://www.eia.doe.gov/oiaf/1605/ggrpt/excel/tbl_statetotal.xls

[76] U.S. Environmental Protection Agency. Accessed 23 September 2008. *Methane Sources and Emissions*. Available at: http://www.epa.gov/methane/sources.html

[77] U.S. Environmental Protection Agency. Accessed 23 September 2008. *Nitrous Oxide Sources and Emissions*. Available at: http://www.epa.gov/nitrousoxide/sources.html

[78] California Climate Action Registry. April 2008. *California Climate Action Registry General Reporting Protocol, version 3.0, Chapter 6, Indirect Emissions from Electricity Use*. Available at: http://www.climateregistry.org/resources/docs/protocols/grp/GRP_V3_April2008_FINAL.pdf

[79] 0.0004 percent = [1,728.23 metric tons per year / (399,000,000 metric tons)] x 100 percent

proposed project's constructional phase would be expected to result in a less than significant level of cumulative impacts on global climate change. Annual electricity consumption associated with implementation of the proposed project was calculated by using the electricity consumption rates based on land use classifications in accordance with the SCAQMD *CEQA Air Quality Handbook*.[80] The electricity consumption rate for office use is approximately 12.95 kilowatt hours (KWh) per square foot per year. As the proposed project would be operated as a 170,536-square-foot facility, the annual electricity use required by operation of the proposed project was calculated by multiplying its floor area in square feet with the annual electricity consumption rate for the office land use recommended by SCAQMD. As a result, operation of the proposed project would be expected to use approximately 2,208.44 megawatt hours per year,[81] resulting in approximately 0.0067 metric ton of CH_4 emissions, 0.0037 metric ton of N_2O emissions, and 880.23 metric tons of CO_2 emissions per year. When the emissions of each gas are multiplied by their respective global warming potentials, the total amount of CO_{2e} generated by electricity use of the project is calculated to be 881.52 metric tons per year. In addition, mobile sources would be expected to contribute 3,777.64 metric tons of CO_2 emissions per year, meaning that the total operational emissions of CO_{2e} would be 4,659.16 metric tons per year, which is approximately 0.001 percent of California's total 2004 CO_2 emissions. Thus, the proposed project's operational phase would not be expected to result in substantial increases in California's total greenhouse gas emissions, and the proposed project operation-related cumulative impact on global climate change would be below the level of significance.

3.2.5 Mitigation Measures

Construction Phase Mitigation Measures

Mitigation measures Air-1 to Air-10 would be required to reduce the potentially significant air quality impacts related to the construction phase for the proposed project.

Measure Air-1

Water or a stabilizing agent shall be applied to exposed surfaces in sufficient quantity two times a day to prevent generation of dust plumes. Soil moistening shall be required to treat exposed soil during construction of each element of the project to avoid fugitive dust emissions, ensure compliance with current air quality standards, and avoid contributions to cumulative increases in criteria pollutants. Prior to the issuance of permits for each phase of the project, the applicant shall demonstrate to the satisfaction of the City of Long Beach Department of Development Services that the plans and specifications submitted for review include the requirement for the construction contractor to ensure that soil shall be moistened not more than 15 minutes prior to the daily commencement of soil-moving activities and three times a day, or four times a day under windy conditions, in order to maintain a soil moisture content of 12 percent. The applicant shall demonstrate compliance with this measure through the submission of weekly monitoring reports to the City of Long Beach Department of Development Services. At a minimum, active operations shall utilize one or more of the applicable best available control measures to minimize fugitive dust emissions from each fugitive dust source type that is part of the active operation.

[80] South Coast Air Quality Management District. 1993. *CEQA Air Quality Handbook*. Page A9–114. Diamond Bar, CA.

[81] U.S. Environmental Protection Agency. Accessed 28 October 2008. Web site. "Power Profiler." Available at: http://www.epa.gov/cleanenergy/energy-and-you/how-clean.html

Measure Air-2

Moistening or covering of excavated soil piles shall be required to treat grading areas during construction of the project to avoid fugitive dust emissions, ensure compliance with current air quality standards, and avoid contributions to cumulative increases in critical pollutants. Prior to the issuance of permits for each phase of the project, the applicant shall demonstrate to the satisfaction of the City of Long Beach Department of Development Services that the plans and specifications for each phase of the project include the requirement for the construction contractor to ensure that excavated soil piles are watered hourly for the duration of construction or covered with temporary coverings.

Measure Air-3

Discontinuing construction activities that occur on unpaved surfaces during windy conditions shall be required to avoid fugitive dust emissions, ensure compliance with current air quality standards, and avoid contributions to cumulative increases in critical pollutants. Prior to the issuance of permits for each phase of the project, the applicant shall demonstrate to the satisfaction of the City of Long Beach Department of Development Services that the plans and specifications for each element of the project include the requirement for the construction contractor to cease construction activities that occur on unpaved surfaces during periods when winds exceed 25 miles per hour.

Measure Air-4

A wheel washing system shall be installed and used to remove bulk material from tires and vehicle undercarriages before vehicles exit the project site. Washing of wheels leaving the construction site during construction of each phase of the project shall be required to avoid fugitive dust emissions, ensure compliance with current air quality standards, and avoid contributions to cumulative increases in criteria pollutants. Prior to the issuance of permits for each phase of the project, the applicant shall demonstrate to the satisfaction of the City of Long Beach Department of Development Services that the plans and specifications for each phase of the project include the requirement for the construction contractor to clean adjacent streets of tracked dirt at the end of each workday or install on-site wheel-washing facilities.

Measure Air-5

Track out shall not extend 25 feet or more from an active operation, and track out shall be removed at the conclusion of each workday. Prior to the issuance of permits for each phase of the project, the applicant shall demonstrate to the satisfaction of the City of Long Beach Department of Development Services that the plans and specifications for each phase of the project include the requirement for the construction contractor to ensure that the track out shall not extend 25 feet or more from an active operation and that it would be removed at the conclusion of each workday.

Measure Air-6

All haul trucks hauling soil, sand, and other loose materials shall be covered (e.g., with tarps or other enclosures that would reduce fugitive dust emissions). All transport of soils to and from the project site for each phase of the project shall be conducted in a manner that avoids fugitive dust emissions, ensures compliance with current air quality standards, and avoids contributions to cumulative increases in criteria pollutants. Prior to the issuance of permits for each phase of the project, the applicant shall demonstrate to the satisfaction of the City of Long Beach Department of Development Services that the plans and specifications for each phase of the project include the requirement for the

construction contractor to cover all loads of dirt leaving the site or to leave sufficient freeboard capacity in the truck to prevent fugitive dust emissions en route to the disposal site.

Measure Air-7

Traffic speeds on unpaved roads shall be limited to 15 miles per hour. Prior to issuance of permits for each phase of the project, the applicant shall demonstrate to the satisfaction of the City of Long Beach Department of Development Services that the plans and specifications for each phase of the project include the requirement for the construction contractor to ensure a traffic speed limited to 15 miles per hour.

Measure Air-8

Heavy equipment operations shall be suspended during first- and second-stage smog alerts. Prior to the issuance of permits for each phase of the project, the applicant shall demonstrate to the satisfaction of the City of Long Beach Department of Development Services that the plans and specifications for each phase of the project include the requirement for the construction contractor to ensure that heavy equipment operations is suspended during first- and second-stage smog alerts.

Measure Air-9

In order to mitigate the air quality impact caused by NO_x emissions from construction equipment, all construction equipment not expected to be used for a period in excess of 5 minutes shall be turned off as a means of reducing NO_x emissions to the maximum extent practicable. Prior to the issuance of permits for each phase of the project, the applicant shall demonstrate to the satisfaction of the City of Long Beach Department of Development Services that the plans and specifications require the construction contractor to shut off engines when not in use. Specifications shall require the construction contractor to certify monthly to the Department of Development Services that construction equipment is being maintained in peak operating condition.

Measure Air-10

In order to mitigate the air quality impact caused by NO_x emissions from construction equipment, all off-road diesel construction equipment shall use particulate filters. The applicant shall also ensure that cooled, exhaust gas recirculation devices are installed on all off-road diesel equipment where feasible. Prior to the issuance of permits for each phase of the project, the applicant shall demonstrate to the satisfaction of the City of Long Beach Department of Development Services that the plans and specifications require the construction contractor to use particulate filters on all off-road diesel equipment and install cooled, exhaust gas recirculation devices on all off-road diesel equipment where feasible.

Operational Phase Mitigation Measures

As indicated in Section 5.0, *Impact Analysis*, of the Air Quality Technical Impact Report (Appendix B), air quality impacts resulting from the operation and maintenance of the project would be below the level of significance and would require no mitigation. Therefore, operational phase mitigation measures are not included in this section.

3.2.6 Level of Significance after Mitigation

Implementation of air quality mitigation measures Air-1 through Air-7 would ensure that maximum daily PM_{10} emissions would be reduced by approximately 22 percent and $PM_{2.5}$ emissions would be reduced by approximately 6 percent, a much less significant fugitive dust impact.[82] Therefore, with the incorporation of these mitigation measures, fugitive dust emissions associated with the project would be maintained below the level of significance for the threshold level. NO_X emissions would be expected to be significant during construction, but reduced to below the level of significance through the incorporation of mitigation measures Air-8 through Air-10.

[82] Sapphos Environmental, Inc. 19 November 2008. *Kroc Community Center Air Quality Technical Impact Report*. Pasadena, CA.

3.3 BIOLOGICAL RESOURCES

As a result of the Initial Study, the City of Long Beach (City) determined that the proposed Kroc Community Center (proposed project) had the potential to result in impacts to biological resources.[1] Therefore, this issue has been carried forward for detailed analysis in this Environmental Impact Report. This analysis was undertaken to identify opportunities to avoid, reduce, or otherwise mitigate potential significant impacts to biological resources and identify potential alternatives.

The analysis of biological resources consists of a summary of the regulatory framework that guides the decision-making process, a description of the existing conditions at the proposed project area, thresholds for determining if the proposed project would result in significant impacts, anticipated impacts (direct, indirect, and cumulative), mitigation measures, and level of significance after mitigation. The biological resources at the proposed project site were evaluated in accordance with Section 15063 of the State California Environmental Quality Act Guidelines (State CEQA Guidelines);[2] the Conservation element of the City General Plan;[3] a query of the California Natural Diversity Database (CNDDB)[4] for the U.S. Geological Survey (USGS) 7.5-Minute Series, Long Beach, Topographic Quadrangle[5] where the project is located, and all surrounding USGS 7.5-minute Series Topographic Quadrangles: Inglewood,[6] South Gate,[7] Whittier,[8] Torrance,[9] Los Alamitos,[10] San Pedro,[11] and Seal Beach;[12] and a review of published and unpublished literature, including but not limited to the Memorandum for the Record documenting the results of 2008 habitat assessment and lepidopteran surveys in support of the proposed project prepared by Sapphos Environmental, Inc.[13]

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[1] City of Long Beach, Department of Development Services. 16 July 2007. *Kroc Community Center Initial Study*. Prepared by: Sapphos Environmental, Inc., Pasadena, CA.

[2] *California Code of Regulations*. Title 14, Division 6, Chapter 3, Sections 15000–15387, Appendix G.

[3] City of Long Beach, Department of Planning and Building. 1973. *City of Long Beach General Plan, Conservation Element*. Long Beach, CA.

[4] California Department of Fish and Game. 2002. *Rarefind 2: A Database Application for the Use of the California Department of Fish and Game Natural Diversity Database*. Sacramento, CA.

[5] U.S. Geological Survey. [1964] Photo revised 1981. 7.5-Minute Series, Long Beach, California, Topographic Quadrangle. Reston, VA.

[6] U.S. Geological Survey. [1964] Photo revised 1981. 7.5-Minute Series, Inglewood, California, Topographic Quadrangle. Reston, VA.

[7] U.S. Geological Survey. [1964] Photo revised 1981. 7.5-Minute Series, South Gate, California, Topographic Quadrangle. Reston, VA.

[8] U.S. Geological Survey. [1965] Photo revised 1981. 7.5-Minute Series, Whittier, California, Topographic Quadrangle. Reston, VA.

[9] U.S. Geological Survey. [1964] Photo revised 1981. 7.5-Minute Series, Torrance, California, Topographic Quadrangle. Reston, VA.

[10] U.S. Geological Survey. [1964] Photo revised 1981. 7.5-Minute Series, Los Alamitos, California, Topographic Quadrangle. Reston, VA.

[11] U.S. Geological Survey. [1965] Photo revised 1981. 7.5-Minute Series, San Pedro, California, Topographic Quadrangle. Reston, VA.

[12] U.S. Geological Survey. [1965] Photo revised 1981. 7.5-Minute Series, Seal Beach, California, Topographic Quadrangle. Reston, VA.

[13] Sapphos Environmental, Inc. 22 October 2008. Memorandum for the Record, 1222-004, No. 3. Pasadena, CA.

3.3.1 Regulatory Framework

This regulatory framework identifies the federal, state, and local statutes, ordinances, or policies that govern the conservation and protection of biological resources that must be considered by the City during the decision-making process for projects that have the potential to affect biological resources.

Federal

Federal Endangered Species Act

The purposes of the federal Endangered Species Act (ESA) are to provide a means to conserve the ecosystems that endangered and threatened species depend on and to provide a program for conservation and recovery of these species. The federal ESA defines species as endangered and threatened and provides regulatory protection for any species thus designated. Section 9 of the federal ESA prohibits the take of species listed by the U.S. Fish and Wildlife Service (USFWS) as threatened or endangered. As defined in the federal ESA, take means "...to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect or attempt to engage in such conduct." In recognition that take cannot always be avoided, Section 10(a) of the federal ESA includes provisions for take that is incidental to, but not the purpose of, otherwise lawful activities. Section 10(a)(1)(B) permits (incidental take permits) may be issued if taking is incidental and does not jeopardize the survival and recovery of the species in the wild.

Section 7(a)(2) of the federal ESA requires all federal agencies, including USFWS, to evaluate the proposed project with respect to any species proposed for listing or already listed as endangered or threatened and their critical habitat, if any is proposed or designated. Federal agencies must undertake programs for the conservation of endangered and threatened species and are prohibited from authorizing, funding, or carrying out any action that will jeopardize a listed species or destroy or modify its critical habitat.

As defined in the federal ESA, "individuals, organizations, states, local governments, and other non-Federal entities are affected by the designation of critical habitat only if their actions occur on Federal lands, require a Federal permit, license, or other authorization, or involve Federal funding." As a result of a habitat assessment, no listed species were found to have the potential to occur and no critical habitat exists on site, therefore section 7(a)(2) and 10(a)(1)(B) of the federal ESA are not applicable to the proposed project.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) makes it unlawful to pursue, capture, kill, or possess or attempt to do the same to any migratory bird or part, nest, or egg of any such bird listed in wildlife protection treaties between the United States, Great Britain, Mexico, Japan, and the countries of the former Soviet Union. As with the federal ESA, the MBTA authorizes the Secretary of the Interior to issue permits for incidental take. Nesting birds and the contents of the nest within the construction area of the proposed project are protected pursuant to the MBTA.

Section 404 of the Federal Clean Water Act

Section 404 of the federal Clean Water Act (CWA), which is administered by the U.S. Army Corps of Engineers (USACOE), regulates the discharge of dredged and fill material into waters of the United States. The USACOE has established a series of nationwide permits that authorize certain activities in waters of the United States, provided that a proposed activity can demonstrate compliance with standard conditions. Normally, the USACOE requires an individual permit for an activity that will affect an area equal to or in excess of 0.3 acre of waters of the United States. Projects that result in impacts to less than 0.3 acre of waters of the United States can normally be conducted pursuant to one of the nationwide permits, if consistent with the standard permit conditions. The USACOE also has discretionary authority to require an Environmental Impact Statement for projects that result in impacts to an area between 0.1 and 0.3 acre. Use of any nationwide permit is contingent upon the activities having no impacts to endangered species. The proposed project does not involve any wetlands or other designated waters of the United States, nor does it involve any potential wetlands designated on the National Wetlands Inventory.

State

California Endangered Species Act

The California ESA prohibits the taking of listed species except as otherwise provided in state law. Unlike the federal ESA, the California ESA applies the take prohibitions to species petitioned for listing (state candidates). State lead agencies are required to consult with the California Department of Fish and Game (CDFG) to ensure that any actions undertaken by that lead agency are not likely to jeopardize the continued existence of any state-listed species or result in destruction or degradation of required habitat. CDFG is authorized to enter into a Memoranda of Understanding (MOU) with individuals, public agencies, universities, zoological gardens, and scientific or educational institutions to import, export, take, or possess listed species for scientific, educational, or management purposes. The California ESA was considered due to the potential for state-listed rare, threatened, or endangered species to be present. However, as a result of a habitat assessment,[14] no listed species were found to have the potential to occur on site.

Section 2080 and 2081 of the State Fish and Game Code

Section 2080 of the State Fish and Game Code (Code) states that "no person shall import into this state [California], export out of this state, or take, possess, purchase, or sell within this state, any species, or any part or product thereof, that the commission [State Fish and Game Commission] determines to be an endangered species or threatened species, or attempt any of those acts, except as otherwise provided in this chapter, the Native Plant Protection Act, or the California Desert Native Plants Act."

Under Section 2081 of the Code, CDFG may authorize individuals or public agencies to import, export, take, or possess any state-listed endangered, threatened, or candidate species. These otherwise prohibited acts may be authorized through permits or MOU if: (1) the take is incidental to an otherwise lawful activity; (2) impacts of the authorized take are minimized and fully mitigated; (3) the permit is consistent with any regulations adopted pursuant to any recovery plan for the species; and (4) the applicant ensures adequate funding to implement the measures required by CDFG. CDFG shall make this determination based on the best scientific and other information that is reasonably available and

[14] Sapphos Environmental, Inc. 22 October 2008. Memorandum for the Record, 1222-004, No. 3. Pasadena, CA.

shall include consideration of the species' capability to survive and reproduce. Section 2081 of the Code was considered due to the potential for state-listed rare, threatened, or endangered species to be present. However, as a result of a habitat assessment, no species listed as endangered, threatened, or candidate have the potential to occur on the proposed project site.

Native Plant Protection Act

The Native Plant Protection Act includes measures to preserve, protect, and enhance rare and endangered native plants. The definitions of rare and endangered differ from those contained in the California ESA. However, the list of native plants afforded protection pursuant to the Native Plant Protection Act includes those listed as rare and endangered under the California ESA. The Native Plant Protection Act provides limitations on take as follows: "...no person will import into this State, or take, possess, or sell within this State" any rare or endangered native plant, except in compliance with provisions of the Native Plant Protection Act. Individual land owners are required to notify CDFG at least 10 days in advance of changing land uses to allow CDFG to salvage any rare or endangered native plant material. The Native Plant Protection Act was considered due to the potential for state-listed rare, threatened, or endangered plant species to be present. However, no plant species protected by this act have been observed within the proposed project site.

California Desert Native Plants Act

The California Desert Native Plants Act was passed in 1981 to protect non-listed California desert native plants from unlawful harvesting on both publicly and privately owned lands. Harvest, transport, sale, or possession of specific native desert plants is prohibited unless a person has a valid permit, or wood receipt, and the required tags and seals. However, no plant species protected by this act have been observed within the proposed project site.

Section 3503 and 3503.5 of the State Fish and Game Code

These sections of the Code provide regulatory protection to resident and migratory birds and all birds of prey within the state including the prohibition of the taking of nests and eggs unless other provided for by the Code.

Section 1600 of the State Fish and Game Code

All diversions, obstructions, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake in California are subject to the regulatory authority of CDFG pursuant to Sections 1600 through 1603 of the Code, requiring preparation of a Streambed Alteration Agreement. Under the Code, a stream is defined as a body of water that flows at least periodically, or intermittently, through a bed or channel having banks and supporting fish or other aquatic life. Included are watercourses with surface or subsurface flows that support or have supported riparian vegetation. CDFG also has jurisdiction within altered or artificial waterways based on the value of those waterways to fish and wildlife, and also has jurisdiction over dry washes that carry water ephemerally during storm events. There are no CDFG jurisdiction waterways located within the proposed project site that would require a Streambed Alteration Agreement.

City

City of Long Beach General Plan

The Conservation element of the City General Plan[15] states that the continued existence of wildlife areas is important and pleasurable to an urban environment. Projects proposed within ecologically sensitive areas should require environmental impact reports measuring ecological damage and should consider alternative measures that would allow minimal degradation.

3.3.2 Existing Conditions

Listed species are those species provided special legal protection under the federal ESA, the California ESA, or both. A federally or state-listed endangered species is a species that is in danger of extinction throughout all or a significant portion of its range. A federally or state-listed threatened species is one that is likely to become endangered in the absence of special protection or management efforts provided by the listing. A candidate species is one that is proposed by the federal or state government for listing as endangered or threatened.

Sensitive species are those that are not listed by the federal or state government as endangered, threatened, or candidate species, but are categorized by the federal government as a federal species of concern or by the state government as a Species of Special Concern or fully protected species. Federal species of concern is a term-of-art that describes a taxon whose conservation status may be of concern to USFWS, but does not have official status. In addition, the sensitive species include those designated as such by the Bureau of Land Management and the U.S. Forest Service.

Species that are not monitored by the resource agencies but are monitored by private organizations or local municipal governments are considered to be locally important species. For the purposes of this report, locally important species include plants recognized by the California Native Plant Society (CNPS), a private organization dedicated to the conservation of native plants as well as lepidopteran species identified by experts from the El Dorado Nature Center and the Santa Monica Bay area, including the Euphala skipper (*Lerodea eufala*).

Survey Methods

Field surveys were undertaken to document the presence or absence of locally important biological resources within the proposed project site and to provide a baseline description of the existing biological resources including plant communities; endangered, threatened, rare, or sensitive plant and wildlife species; and wetlands or stream course areas potentially subject to USACOE or CDFG jurisdiction. All directed surveys were performed according to USFWS, CDFG, or CNPS protocols, as applicable. Directed surveys[16] for lepidopteran species were conducted to determine if the proposed project site supports habitat suitable to support locally important butterfly species and to determine the presence/absence of the locally important butterfly species. Sapphos Environmental, Inc. conducted a total of six site visits to the proposed project property during the months of August and September 2008 (August 11, 18, 20, and September 1, 8, and 20), which are the peak flight months of locally

[15] City of Long Beach, Department of Planning and Building. 1973. *City of Long Beach General, Conservation Element*. Long Beach, CA.

[16] Sapphos Environmental, Inc. 22 October 2008. Memorandum for the Record, 1222-004, No. 3. Pasadena, CA.

important butterfly species that were identified as having the potential to be present within the proposed project site.

All survey personnel were experienced in the undertaking of field surveys for locally important plant and wildlife species. All survey personnel were knowledgeable of the identification and ecology of all species. All survey personnel were familiar with both federal and state statutes related to locally important plants and wildlife, in addition to being experienced with analyzing impacts of development on biological resources. Furthermore, the field teams were knowledgeable of the habitat requirements for each of the target species and of the locations of such habitats within the proposed project area.

Plant Communities

A plant community is defined as a regional element of vegetation characterized by the presence of certain dominant species.[17] The plant communities described in this section are described in accordance with the definitions provided in *Preliminary Descriptions of the Terrestrial Natural Communities of California*[18] and cross-referenced to the vegetation series described in *A Manual of California Vegetation*.[19]

Plant communities were mapped with geographic information system data, using 0.6-meter resolution orthorectified color imagery of the proposed project site, at a mapping scale of 1:12,000 (1 inch equals 1,000 feet). Criteria used for the in-house effort included comparison of aerial imagery of the property with the USGS 7.5-Minute Series, Long Beach, California, Topographic Quadrangle[20] to identify slopes and drainages to aid in the identification of distinct vegetation assemblages.

The following descriptions of existing biological conditions on the proposed project site are based on the results of on-site surveys conducted during the months of August and September 2008 (August 5, 11, 18, 20, and September 1, 8, and 20) by Sapphos Environmental, Inc. (Dr. Irena Mendez and Mr. Jack Goldfarb). While in the field, series and associations were verified and mapped onto 1:12,000–scale color aerial photographs through visual inspection.

The proposed project site is described as vegetation series and associations where applicable. Series are based on the identity of the largest dominant plant, associations by the identity of co-dominant plant species, particularly in the understory. The series was then compared with Sawyer and Keeler-Wolf[21] and Holland,[22] to determine which series or community descriptions provide the best fit (Figure 3.3.2-1, *Plant Community Map*).

[17] Munz, Philip A., and D.D. Keck, 1949. "California Plant Communities." *El Aliso 2(1)*: 87–105.

[18] Holland, R.F. 1986. *Preliminary Descriptions of the Terrestrial Natural Communities of California*. California Department of Fish and Game, Sacramento, CA.

[19] Sawyer, J.O., and T. Keeler-Wolf. 1995. *A Manual of California Vegetation*. California Native Plant Society, Sacramento, CA.

[20] U.S. Geological Survey. [1964] Photo revised 1981. 7.5-Minute Series, Long Beach, California, Topographic Quadrangle. Reston, VA.

[21] Sawyer, J.O., and T. Keeler-Wolf. 1995. *A Manual of California Vegetation*. California Native Plant Society, Sacramento, CA.

[22] Holland, R.F. 1986. *Preliminary Descriptions of the Terrestrial Natural Communities of California*. California Department of Fish and Game, Sacramento, CA.

FIGURE 3.3.2-1

Plant Community Map

The proposed project site operates as the Hamilton Bowl Detention Basin. The site is used as a storm water detention basin, as a National Pollution Discharge Elimination System–compliance site for the City of Signal Hill and the City, and as a general recreational area for seasonal sports by the surrounding community. The site is characterized by primarily turf, compacted soils, non-native vegetation consisting of herbs and shrubs and several landscaped trees. The proposed project site can be characterized by two distinct types of vegetation: disturbed and landscaped (Figure 3.3.2-1).

Disturbed

The disturbed areas are composed mainly of two large sports fields in the center of the proposed project area. Vegetation in the area consists of turf and compacted soils unsuitable to support vegetation. Scattered landscaped trees were also present in this area and consisted of eucalyptus trees (*Eucalyptus* sp.), ficus (*Ficus* sp.), and California fan palm (*Washingtonia filifera*). Disturbed areas comprise 17.36 acres of the proposed project site (Figure 3.3.2-1).

Landscaped

The landscaped areas are composed mainly of a narrow band of planted trees surrounding the open sports fields. Vegetation in this area consists mainly of eucalyptus trees, ficus, and California fan palm. Understory species of the landscaped areas consists of non-native ruderal species including western ragweed (*Ambrosia acanthicarpa*), sunflower (*Helianthus annus*), everlasting (*Gnaphalium bicolor*), yellow star-thistle (*Centaurea solstitialis*), silver puffs (*Uropappus lindleyi*), bristly oxtongue (*Picris echioides*), wild radish (*Raphanus sativus*), Russian thistle (*Salsola tragus*), yellow nutsedge (*Cyperus esculantus*), umbrella plant (*Cyperus involucratus*), island false bindweed (*Calystegia macrostegia*), castor bean (*Ricinus communis*), white horehound (*Marrubium vulgare*), primrose (*Oenothera* sp.), and common cattail (*Typha latifolia*). Along the western portion of the proposed project area, there was evidence that a portion of the understory vegetation is routinely cut and mowed primarily along Walnut Street. Landscaped areas comprise 2.26 acres of the proposed project site (Figure 3.3.2-1).

Rare, Threatened, and Endangered Species

As a result of the literature review;[23] previously prepared reports;[24]and a query of the CNDDB[25] for the USGS 7.5-Minute Series, Long Beach, California, Topographic Quadrangle[26] where the project is located, and all surrounding USGS 7.5-minute series topographic quadrangles: Inglewood,[27] South Gate,[28] Whittier,[29] Torrance,[30] Los Alamitos,[31] San Pedro,[32] and Seal Beach;[33] and consultation with

[23] California Department of Fish and Game. 2002. *Rarefind 2: A Database Application for the Use of the California Department of Fish and Game Natural Diversity Database*. Sacramento, CA.

[24] City of Long Beach, Department of Development Services. 16 July 2007. *Kroc Community Center Initial Study*. Prepared by: Sapphos Environmental, Inc., Pasadena, CA.

[25] California Department of Fish and Game. 2002. *Rarefind 2: A Database Application for the Use of the California Department of Fish and Game Natural Diversity Database*. Sacramento, CA.

[26] U.S. Geological Survey. [1964] Photo revised 1981. 7.5-Minute Series, Long Beach, California, Topographic Quadrangle. Reston, VA.

[27] U.S. Geological Survey. [1964] Photo revised 1981. 7.5-Minute Series, Inglewood, California, Topographic Quadrangle. Reston, VA.

[28] U.S. Geological Survey. [1964] Photo revised 1981. 7.5-Minute Series, South Gate, California, Topographic Quadrangle. Reston, VA.

[29] U.S. Geological Survey. [1965] Photo revised 1981. 7.5-Minute Series, Whittier, California, Topographic Quadrangle. Reston, VA.

experts on the area's biological resources, seven plant species and nine wildlife species federally or state designated as rare, threatened, or endangered were identified as having the potential to occur in southern portion of the County of Los Angeles. The seven plant species include: Lyon's pentachaeta (*Pentachaeta lyonii*), Gambel's water cress (*Rorippa gambelii*), Ventura marsh milk-vetch (*Astragalus pycnostachyus* var. *lanosissimus*), coastal dunes milk-vetch (*Astragalus tener* var. *titi*), spreading navarretia (*Navarretia fossalis*), salt marsh bird's-beak (*Cordylanthus maritimus* ssp. *maritimus*), and California orcutt grass (*Orcuttia californica*). The nine wildlife species include: Palos Verde blue butterfly (*Glaucopsyche lygdamus palosverdesensis*), Mohave tui chub (*Gila bicolor mohavensis*), California brown pelican (*Pelecanus occidentalis californicus*), California least tern (*Sternula antillarum browni*), western yellow-billed cuckoo (*Coccyzus americanus occidentalis*), southwestern willow flycatcher (*Empidonax traillii extimus*), coastal California gnatcatcher (*Polioptila californica californica*), Belding's savannah sparrow (*Passerculus sandwichensis beldingi*), and Pacific pocket mouse (*Perognathus longimembris pacificus*; Table 3.3.2-1, *Listed Species with the Potential to Occur in the Region of the Proposed Project Site*).

TABLE 3.3.2-1
LISTED SPECIES WITH THE POTENTIAL TO OCCUR IN THE REGION OF THE PROPOSED PROJECT SITE

Species	Status	Habitat Requirements	Habitat Assessment
Plants			
Lyon's pentachaeta (*Pentachaeta lyonii*)	FE, SE, CNPS 1B	Chaparral, coastal scrub, and valley and foothill grassland. Occurs between 30 and 630 meters above mean sea level (MSL). Blooms from March to August.	Not observed on the proposed project survey area. No suitable habitat occurs within the proposed project site.

[30] U.S. Geological Survey. [1964] Photo revised 1981. 7.5-Minute Series, Torrance, California, Topographic Quadrangle. Reston, VA.

[31] U.S. Geological Survey. [1964] Photo revised 1981. 7.5-Minute Series, Los Alamitos, California, Topographic Quadrangle. Reston, VA.

[32] U.S. Geological Survey. [1965] Photo revised 1981. 7.5-Minute Series, San Pedro, California, Topographic Quadrangle. Reston, VA.

[33] U.S. Geological Survey. [1965] Photo revised 1981. 7.5-Minute Series, Seal Beach, California, Topographic Quadrangle. Reston, VA.

TABLE 3.3.2-1
LISTED SPECIES WITH THE POTENTIAL TO OCCUR IN THE REGION OF THE PROPOSED PROJECT SITE, Continued

Species	Status	Habitat Requirements	Habitat Assessment
Gambel's water cress (*Rorippa gambelii*)	FE, SE, CNPS 1B	Marshes and swamps. Occurs between 5 and 330 meters above MSL. Blooms from April to September.	Not observed on the proposed project study area. No suitable habitat occurs within the proposed project site.
Ventura marsh milk-vetch (*Astragalus pycnostachyus* var. *lanosissimus*)	FE, SE, CNPS 1B	Coastal dunes, coastal scrub, and marshes and swamps. Occurs between 1 and 305 meters above MSL. Blooms from March to June.	Not observed on the proposed project study area. No suitable habitat occurs within the proposed project site.
coastal dunes milk-vetch (*Astragalus tener* var. *titi*)	FE, SE, CNPS1B	Coastal bluff scrub, coastal dunes, and coastal prairie. Occurs between 1 and 50 meters above MSL. Blooms from March to May.	Not observed on the proposed project study area. No suitable habitat occurs within the proposed project site.
spreading navarretia (*Navarretia fossalis*)	FT, CNPS 1B	Chenopod scrub, marshes and swamps, playas, and vernal pools. Occurs between 30 and 1,300 meters above MSL. Blooms from April to June.	Not observed on the proposed project study area. No suitable habitat occurs within the proposed project site.
salt marsh bird's-beak (*Cordylanthus maritimus* ssp. *Maritimus*)	FE, SE, CNPS 1B	Coastal dunes, marshes, and swamps. Occurs between 0 and 30 meters above MSL. Blooms from May to October.	Not observed on the proposed project study area. No suitable habitat occurs within the proposed project site.
California orcutt grass (*Orcuttia californica*)	FE, SE, CNPS 1B	Vernal pools. Occurs between 15 and 660 meters above MSL. Blooms from April to August.	Not observed on the proposed project study area. No suitable habitat occurs within the proposed project site.
Wildlife			
Palos Verde blue butterfly (*Glaucopsyche lygdamus palosverdesensis*)	FE	Occurs in coastal sage scrub on the Palos Verdes Peninsula and requires either deerweed or locoweed as a host plant.	Not observed on the proposed project study area. No suitable habitat occurs within the proposed project site.
Mohave tui chub (*Gila bicolor mohavensis*)	FE, SE	Found in deep pools and slough-like areas of the Mojave River, but now only occurs in highly modified refuge sites in San Bernardino County.	Not observed on the proposed project study area. No suitable habitat occurs within the proposed project site.

TABLE 3.3.2-1
LISTED SPECIES WITH THE POTENTIAL TO OCCUR IN THE REGION OF THE PROPOSED PROJECT SITE, Continued

Species	Status	Habitat Requirements	Habitat Assessment
California brown pelican (*Pelecanus occidentalis californicus*)	FE, SE	Nest on islands in the Gulf of California and along the coast to West Anacapa and Santa Barbara Islands. They rarely occur inland.	Not observed on the proposed project study area. No suitable habitat occurs within the proposed project site.
California least tern (*Sternula antillarum browni*)	FE, SE	Nest in colonies on bare or sparsely vegetated flat substrates near the coast.	Not observed on the proposed project study area. No suitable habitat occurs within the proposed project site.
western yellow-billed cuckoo (*Coccyzus americanus occidentalis*)	FC, SE	Found in association with riparian forest, along lower flood-bottom of larger river systems.	Not observed on the proposed project study area. No suitable habitat occurs within the proposed project site.
southwestern willow flycatcher (*Empidonax traillii extimus*)	FE, SE	Found in association with riparian habitat where willow, cottonwoods, and stinging nettles are dense.	Not observed on the proposed project study area. No suitable habitat occurs within the proposed project site.
coastal California gnatcatcher (*Polioptila californica californica*)	FT, CSC	Occurs in or near sage scrub habitat, which includes the following plant communities: Venturan coastal sage scrub, Diegan coastal sage scrub, maritime succulent scrub, Riversidean sage scrub, Riversidean alluvial fan scrub, southern coastal bluff scrub, and coastal sage-chaparral scrub.	Not observed on the proposed project study area. No suitable habitat occurs within the proposed project site.
Belding's savannah sparrow (*Passerculus sandwichensis beldingi*)	SE	Resides year-round in coastal salt marshes from Goleta Slough in Santa Barbara County to northern Baja California. Primarily nests in pickleweed habitat.	Not observed on the proposed project study area. No suitable habitat occurs within the proposed project site.
Pacific pocket mouse (*Perognathus longimembris pacificus*)	FE, CSC	Found on soils of fine, alluvial sands near the ocean. Open spaces in otherwise dense, weedy areas.	Not observed on the proposed project study area. No suitable habitat occurs within the proposed project site.

KEY: FE = Listed as endangered under the federal ESA; SE = Listed as endangered by the State of California; 1B = Species designated as rare and endangered in California and elsewhere; FT = Listed as threatened under the federal ESA; FC = Listed as candidate under the federal ESA; CSC = California Species of Concern

Plants

The seven listed plant species were identified as endangered, threatened, or rare were determined to be absent from the proposed project site as a result of a habitat assessment conducted on October 9, 2007. As a result of the habitat assessment and a review of the habitat requirements for the subject species, it was determined that the proposed project site does not contain habitat suitable to support the seven listed plant species with the potential to occur in the region of the proposed project. The proposed project site is located within an urban setting and consists of disturbed and landscaped vegetation. The disturbed vegetation is characterized by non-native turf and compacted soils unsuitable to support vegetation within an open field used seasonally for sports. A man-made canal partially lined with concrete is bordered by an area planted with landscaped trees and an understory of non-native invasive species. The site, characterized by primarily turf, compacted soils, non-native vegetation consisting of herbs and shrubs, and several landscaped trees does not provide habitat suitable to support the subject listed plant species.

Wildlife

The nine listed wildlife species were identified as endangered, threatened, or rare were determined to be absent from the proposed project site as a result of a habitat assessment and field surveys conducted on August 11, 18, 20; September 1, 8, 20; and October 7, 2008. As a result of the habitat assessment and a review of the habitat requirements for the subject species, it was determined that the proposed project site lacked suitable habitat to support the nine listed wildlife species with the potential to be present in the region of the proposed project. As described above, the proposed project is in an urban setting lacking the native plant communities needed to support the subject species. Therefore, there would be no expected impacts to biological resources related to species listed as rare, threatened, or endangered pursuant to the federal and California ESAs.

Sensitive Species

As a result of the literature review;[34] previously prepared reports;[35] and a query of the CNDDB[36] for the USGS 7.5-Minute Series, Long Beach, California, Topographic Quadrangle[37] where the project is located, and all surrounding USGS 7.5-minute series topographic quadrangles: Inglewood,[38] South Gate,[39] Whittier,[40] Torrance,[41] Los Alamitos,[42] San Pedro,[43] and Seal Beach;[44] and consultation with

[34] California Department of Fish and Game. 2002. *Rarefind 2: A Database Application for the Use of the California Department of Fish and Game Natural Diversity Database*. Sacramento, CA.

[35] City of Long Beach, Department of Development Services. 16 July 2007. *Kroc Community Center Initial Study*. Prepared by: Sapphos Environmental, Inc., Pasadena, CA.

[36] California Department of Fish and Game. 2002. *Rarefind 2: A Database Application for the Use of the California Department of Fish and Game Natural Diversity Database*. Sacramento, CA.

[37] U.S. Geological Survey. [1964] Photo revised 1981. 7.5-Minute Series, Long Beach, California, Topographic Quadrangle. Reston, VA.

[38] U.S. Geological Survey. [1964] Photo revised 1981. 7.5-Minute Series, Inglewood, California, Topographic Quadrangle. Reston, VA.

[39] U.S. Geological Survey. [1964] Photo revised 1981. 7.5-Minute Series, South Gate, California, Topographic Quadrangle. Reston, VA.

[40] U.S. Geological Survey. [1965] Photo revised 1981. 7.5-Minute Series, Whittier, California, Topographic Quadrangle. Reston, VA.

[41] U.S. Geological Survey. [1964] Photo revised 1981. 7.5-Minute Series, Torrance, California, Topographic Quadrangle. Reston, VA.

experts on the areas biological resources, 13 wildlife species recognized by USFWS as federal Species of Concern or by CDFG as California Special Concern Species were identified as having the potential to occur in southern portion of the County of Los Angeles (Table 3.3.2-2, *Sensitive Species with the Potential to Occur in the Region of the Proposed Project Site*). A query of the CNDDB identified no sensitive plant species and 13 sensitive wildlife species that are known from the region: western spadefoot (*Spea hammondii*), southwestern pond turtle (*Clemmys marmorata pallida*), coast (San Diego) horned lizard (*Phrynosoma coronatum blainvillii*), ferruginous hawk (*Buteo regalis*), burrowing owl (*Athene cunicularia*), tricolored blackbird (*Agelaius tricolor*), Southern California saltmarsh shrew (*Sorex ornatus salicornicus*), greater western mastiff bat (*Eumops perotis californicus*), pocketed free-tailed bat (*Nyctinomops femorosaccus*), big free-tailed bat (*Nyctinomops macrotis*), American badger (*Taxidea taxus*), south coast marsh vole (*Microtus californicus stephensi*), and San Diego desert woodrat (*Neotoma lepida intermedia*). As a result of a habitat assessment conducted on October 7, 2007, and a review of the habitat requirements of the 13 sensitive species, it was determined that none have the potential to occur on the proposed project site. The proposed project is in an urban setting lacking the native plant communities needed to support the subject species. Therefore, there are no expected impacts to biological resources related to sensitive species recognized by USFWS as federal Species of Concern or by CDFG as California Special Concern Species.

TABLE 3.3.2-2
SENSITIVE SPECIES WITH THE POTENTIAL TO OCCUR IN THE REGION OF THE PROPOSED PROJECT SITE

Species	Status	Habitat	On-site Potential
Amphibians			
western spadefoot (*Spea hammondii*)	CSC	Require temporary rain pools with water temperatures between 9 and 30 degrees Celsius for reproducing. Soil characteristics of burrow refuge sites have not been studied. Occurs between near sea level and 1,363 meters above MSL.	Not observed on the proposed project study area. No suitable habitat occurs within the proposed project site.

[42] U.S. Geological Survey. [1964] Photo revised 1981. 7.5-Minute Series, Los Alamitos, California, Topographic Quadrangle. Reston, VA.

[43] U.S. Geological Survey. [1965] Photo revised 1981. 7.5-Minute Series, San Pedro, California, Topographic Quadrangle. Reston, VA.

[44] U.S. Geological Survey. [1965] Photo revised 1981. 7.5-Minute Series, Seal Beach, California, Topographic Quadrangle. Reston, VA.

TABLE 3.3.2-2
SENSITIVE SPECIES WITH THE POTENTIAL TO OCCUR IN THE REGION OF THE PROPOSED PROJECT SITE, Continued

Species	Status	Habitat	On-site Potential
Reptiles			
southwestern pond turtle (*Clemmys marmorata pallida*)	CSC, BLM	Require some slack- or slow-water aquatic habitat. Reach higher densities where many aerial and aquatic basking sites are available. Nests are located on unshaded slopes usually within 200 meters of the aquatic site.	Not observed on the proposed project study area. No suitable habitat occurs within the proposed project site.
Coast (San Diego) horned lizard (*Phrynosoma coronatum blainvillii*)	CSC	Coastal sage, annual grassland, chaparral, oak woodland, riparian woodland, and coniferous forest.	Not observed on the proposed project study area. No suitable habitat occurs within the proposed project site.
Birds			
Ferruginous hawk (*Buteo regalis*)	CSC	Nests on steep cliff faces or atop tall species of trees. Also found in uncultivated pastures on the prairies and arid grasslands of western North America.	Not observed on the proposed project study area. No suitable habitat occurs within the proposed project site.
burrowing owl (*Athene cunicularia*)	CSC	Found in open grasslands, agricultural and range lands, and desert habitats and are often associated with burrowing animals, specifically the California ground squirrel. They can also inhabit grass, forbs, and shrub stages of pinyon and ponderosa pine habitats.	Not observed on the proposed project study area. No suitable habitat occurs within the proposed project site.
tricolored blackbird (*Agelaius tricolor*)	CSC	Freshwater marshes and croplands.	Not observed on the proposed project study area. No suitable habitat occurs within the proposed project site.
Mammals			
Southern California saltmarsh shrew (*Sorex ornatus salicornicus*)	CSC	No information other than coastal marshes. Likely requires dense ground cover and nesting sites above mean high tide and free from inundation.	Not observed on the proposed project study area. No suitable habitat occurs within the proposed project site.

TABLE 3.3.2-2
SENSITIVE SPECIES WITH THE POTENTIAL TO OCCUR IN THE REGION OF THE PROPOSED PROJECT SITE, Continued

Species	Status	Habitat	On-site Potential
greater western mastiff bat (*Eumops perotis californicus*)	CSC, BLM	Occurs in many open, semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, annual and perennial grasslands, palm oases, chaparral, and desert scrub. This species also occurs in urban habitats.	Not observed on the proposed project study area. No suitable habitat occurs within the proposed project site.
pocketed free-tailed bat (*Nyctinomops femorosaccus*)	CSC	Associated with rocky, desert areas with relatively high cliffs.	Not observed on the proposed project study area. No suitable habitat occurs within the proposed project site.
big free-tailed bat (*Nyctinomops macrotis*)	CSC	Rocky areas in the arid southwest, roosting primarily in crevices in cliffs.	Not observed on the proposed project study area. No suitable habitat occurs within the proposed project site.
American badger (*Taxidea taxus*)	CSC	Found in arid, open habitats, particularly grasslands, savannahs, mountain meadows, and desert scrub openings. Needs friable soils for digging and open, uncultivated ground. Occurs at low to moderate slopes. Has been associated with Joshua tree woodland and pinyon-juniper habitats.	Not observed on the proposed project study area. No suitable habitat occurs within the proposed project site.
south coast marsh vole (*Microtus californicus stephensi*)	CSC	Marshland habitat (generally restricted to this habitat type)	Not observed on the proposed project study area. No suitable habitat occurs within the proposed project site.
San Diego desert woodrat (*Neotoma lepida intermedia*)	CSC	Found in a variety of shrub and desert habitats, primarily associated with rock outcroppings, boulders, cacti, or areas of dense undergrowth	Not observed on the proposed project study area. No suitable habitat occurs within the proposed project site.

KEY: CSC = California Department of Fish and Game Species of Special Concern; BLM = Sensitive species under Bureau of Land Management

Plants

There is no plant species designated as sensitive pursuant to CDFG identified as having the potential to occur within the region of the proposed project.

Wildlife

There are 13 sensitive wildlife species designated as California Species of Special Concern by the CDFG identified as having the potential to occur within the region of the proposed project. As a result of a habitat assessment conducted on October 7, 2007, and a review of the habitat requirements of the 13 sensitive species, it was determined that none have the potential to occur on the project site. The proposed project is in an urban setting lacking the suitable habitat of native plant communities needed to support the subject species. Therefore, there are no expected impacts to biological resources related to sensitive species recognized by USFWS as federal Species of Concern or by CDFG as California Special Concern Species.

Locally Important Species

As a result of the above described review, 20 plant species and 1 wildlife species designated as locally important were identified as having the potential to occur in southern portion of the County of Los Angeles including aphanisma (*Aphanisma blitoides*), southern tarplant (*Centromadia parryi* ssp. *australis*), Coulter's goldfields (*Lasthenia glabrata* ssp. *coulteri*), San Bernardino aster (*Symphyotrichum defoliatum*), south coast saltscale (*Atriplex pacifica*), Parish's brittlescale (*Atriplex parishii*), Davidson's saltscale (*Atriplex serenana* var. *davidsonii*), estuary seablite (*Suaeda esteroa*), Santa Barbara morning-glory (*Calystegia sepium* ssp. *bingamiae*), island green dudleya (*Dudleya virens* ssp. *insularis*), Catalina crossosoma (*Crossosoma californicum*), Parish's gooseberry (*Ribes divaricatum* var. *parishii*), mud nama (*Nama stenocarpum*), Brand's phacelia (*Phacelia stellaris*), Salt Spring checkerbloom (*Sidalcea neomexicana*), Lewis' evening-primrose (*Camissonia lewisii*), prostrate navarretia (*Navarretia prostrate*), coast woolly-heads (*Nemacaulis denudata* var. *denudate*), Santa Catalina Island desert-thorn (*Lycium brevipes* var. *hassei*), Sanford's arrowhead (*Sagittaria sanfordii*), and the Eufala skipper (Table 3.3.2-3, *Locally Important Species with the Potential to Occur in the Region of the Proposed Project Site*).

TABLE 3.3.2-3
LOCALLY IMPORTANT SPECIES WITH THE POTENTIAL TO OCCUR IN THE REGION OF THE PROPOSED PROJECT SITE

Species	Status	Habitat	On-site Potential
Plants			
aphanisma (*Aphanisma blitoides*)	CNPS 1B	Coastal bluff scrub, coastal dunes, and coastal scrub. Occurs between 1 and 305 meters above MSL. Blooms from March to June.	Not observed on the proposed project study area. No suitable habitat occurs within the proposed project site.
Southern tarplant (*Centromadia parryi* ssp. *Australis*)	CNPS 1B	Marshes and swamps, valley and foothill grassland, and vernal pools. Occurs between 0 and 425 meters above MSL. Blooms from May to November.	Not observed on the proposed project study area. No suitable habitat occurs within the proposed project site.

TABLE 3.3.2-3
LOCALLY IMPORTANT SPECIES WITH THE POTENTIAL TO OCCUR IN THE REGION OF THE PROPOSED PROJECT SITE, Continued

Species	Status	Habitat	On-site Potential
Coulter's goldfields (*Lasthenia glabrata* ssp. *Coulteri*)	CNPS 1B	Marshes and swamps, playas, and vernal pools. Occurs between 1 and 1,220 meters above MSL. Blooms from February to June.	Not observed on the proposed project study area. No suitable habitat occurs within the proposed project site.
San Bernardino aster (*Symphyotrichum defoliatum*)	CNPS 1B	Cismontane woodland, coastal scrub, lower montane coniferous forest, meadows and seeps, marshes and swamps, and valley and foothill grassland. Occurs between 2 and 2,040 meters above MSL. Blooms from July to November.	Not observed on the proposed project study area. No suitable habitat occurs within the proposed project site
south coast saltscale (*Atriplex pacifica*)	CNPS 1B	Coastal bluff scrub, coastal dunes, coastal scrub, and playas. Occurs between 0 and 140 meters above MSL. Blooms from March to October.	Not observed on the proposed project study area. No suitable habitat occurs within the proposed project site.
Parish's brittlescale (*Atriplex parishii*)	CNPS 1B	Chenopod scrub, playas, and vernal pools. Occurs between 25 and 1,900 meters above MSL. Blooms from June to October.	Not observed on the proposed project study area. No suitable habitat occurs within the proposed project site.
Davidson's saltscale (*Atriplex serenana var. davidsonii*)	CNPS 1B	Coastal bluff scrub and coastal scrub. Occurs between 10 and 200 meters above MSL. Blooms from April to October.	Not observed on the proposed project study area. No suitable habitat occurs within the proposed project site.
estuary seablite (*Suaeda esteroa*)	CNPS 1B	Marshes and swamps. Occurs between 0 and 5 meters above MSL. Blooms from May to October.	Not observed on the proposed project study area. No suitable habitat occurs within the proposed project site.
Santa Barbara morning-glory (*Calystegia sepium* ssp. *Bingamiae*)	CNPS 1A	Marshes and swamps. Occurs between 0 and 20 meters above MSL. Blooms from April to May.	Not observed on the proposed project study area. No suitable habitat occurs within the proposed project site.
island green dudleya (*Dudleya virens* ssp. *Insularis*)	CNPS 1B	Coastal bluff scrub and coastal scrub. Occurs between 5 and 300 meters above MSL. Blooms from April to June.	Not observed on the proposed project study area. No suitable habitat occurs within the proposed project site.
Catalina crossosoma (*Crossosoma californicum*)	CNPS 1B	Chaparral and coastal scrub. Occurs between 0 and 500 meters above MSL. Blooms from February to May.	Not observed on the proposed project study area. No suitable habitat occurs within the proposed project site.

TABLE 3.3.2-3
LOCALLY IMPORTANT SPECIES WITH THE POTENTIAL TO OCCUR IN THE REGION OF THE PROPOSED PROJECT SITE, Continued

Species	Status	Habitat	On-site Potential
Parish's gooseberry (*Ribes divaricatum* var. *parishii*)	CNPS 1A	Riparian woodland. Occurs between 65 and 300 meters above MSL. Blooms from February to April.	Not observed on the proposed project study area. No suitable habitat occurs within the proposed project site.
mud nama (*Nama stenocarpum*)	CNPS 2	Marshes and swamps. Occurs between 5 and 500 meters above MSL. Blooms from January to July.	Not observed on the proposed project study area. No suitable habitat occurs within the proposed project site.
Brand's phacelia (*Phacelia stellaris*)	CNPS 1B	Coastal dunes and coastal scrub. Occurs between 1 and 400 meters above MSL. Blooms from March to June.	Not observed on the proposed project study area. No suitable habitat occurs within the proposed project site.
Salt Spring checkerbloom (*Sidalcea neomexicana*)	CNPS 2	Chaparral, coastal scrub, lower montane coniferous forest, Mojavean desert scrub, and playas. Occurs between 15 and 1,530 meters above MSL. Blooms from March to June.	Not observed on the proposed project study area. No suitable habitat occurs within the proposed project site.
Lewis' evening-primrose (*Camissonia lewisii*)	CNPS 3	Coastal bluff scrub, coastal woodland, coastal dunes, coastal scrub, and valley and foothill grassland. Occurs between 0 and 300 meters above MSL. Blooms from March to May.	Not observed on the proposed project study area. No suitable habitat occurs within the proposed project site.
prostrate navarretia (*Navarretia prostrate*)	CNPS 1B	Coastal scrub, meadows and seeps, valley and foothill grassland, and vernal pools. Occurs between 15 and 700 meters above MSL. Blooms from April to July.	Not observed on the proposed project study area. No suitable habitat occurs within the proposed project site.
coast woolly-heads (*Nemacaulis denudata var. denudate*)	CNPS 1B	Coastal dunes. Occurs between 0 and 100 meters above MSL. Blooms from April to September.	Not observed on the proposed project study area. No suitable habitat occurs within the proposed project site.
Santa Catalina Island desert-thorn (*Lycium brevipes* var. *hassei*)	CNPS 1B	Coastal bluff scrub and coastal scrub. Occurs between 10 and 300 meters above MSL. Blooms in June.	Not observed on the proposed project study area. No suitable habitat occurs within the proposed project site.
Sanford's arrowhead (*Sagittaria sanfordii*)	CNPS 1B	Marshes and swamps. Occurs between 0 and 650 meters above MSL. Blooms from May to October.	Not observed on the proposed project study area. No suitable habitat occurs within the proposed project site.

TABLE 3.3.2-3
LOCALLY IMPORTANT SPECIES WITH THE POTENTIAL TO OCCUR IN THE REGION OF THE PROPOSED PROJECT SITE, Continued

Species	Status	Habitat	On-site Potential
Animals			
Eufala skipper *(Lerodea eufala)*	Locally important	Open, sunny areas, old fields, lawns	Observed on site

KEY:
CNPS = California Native Plant Society (as List 1, List 2, List 3, or List 4 species). Listed as rare, threatened, or endangered in California and elsewhere by the California Native Plant Society
CNPS2 = CNPS listings from its January 2000 edition of *Inventory of Rare and Endangered Vascular Plants of California*. List 2 (CNPS2) indicates that plants are rare, threatened, or endangered in California, but are common elsewhere (Skinner and Pavlik, 1994).
CNPS 3 = Plants about which we need more information.
CNPS1A = Plant presumed extinct in California by the CNPS
CNPS1B = Plants considered rare, threatened, or endangered in California and elsewhere by the CNPS

Plants

The 20 plant species designated as locally important pursuant to CNPS or CDFG were listed as having the potential to occur within the region of the proposed project but were determined to be absent from the proposed project site as a result of a habitat assessment and field surveys conducted on October 9, 2007, and August 11, 18, 20 and September 1, 8, and 20, 2008. As a result of the habitat assessment and a review of the habitat requirements for the subject species, it was determined that the proposed project site does not contain habitat suitable to support the 20 listed plant species with the potential to occur in the region of the proposed project. The proposed project site is located within an urban setting and consists of an open field used for sports and a man-made canal partially lined with concrete. The site is characterized by primarily non-native vegetation consisting of herbs and shrubs and several landscaped trees.

Wildlife

There is no wildlife species designated as locally important pursuant to CNPS or CDFG identified as having the potential to occur within the region of the proposed project. However, as a result of a siting in May 2008 of a potential locally important lepidopteran species at the proposed project site, it was determined that a habitat assessment and directed surveys should be performed to determine the suitability of the proposed project site to support locally important lepidopteron species, including the Eufala skipper. Several lepidopteran species were observed during the month of May 2008 at Hamilton Bowl / Chittick Field on the proposed project site by a naturalist (Mr. Richard James) from the El Dorado Nature Center. Discussions with Mr. Jess Morton, a local butterfly expert, indicate that one or more butterflies that frequent the proposed project property may be considered locally important due to the decline in numbers in recent years, including the Eufala skipper. The locally important wildlife species, the Eufala skipper, was determined to have the potential to occur within the proposed project site and hence was targeted for directed surveys and habitat assessments. A review of the existing relevant literary information indicates that the Eufala skipper is not a state-designated species of special concern; however, due to the local concern for the subject species, a habitat assessment followed by directed surveys for lepidopteran species was recommended to determine if the proposed project property supports habitat suitable to support locally important butterfly species and to determine the presence/absence of the locally important butterfly species. Based on the results of directed surveys, Sapphos Environmental, Inc. has quantified habitat suitable to support the Eufala skipper and has made

a determination of the quality of the habitat. Directed surveys and habitat assessments were guided by information on the distribution, description, habitat requirements, and reproduction of listed plant species gathered from a literature review.[45,46]

Directed surveys were performed for locally important species, including the Eufala skipper, identified as having the potential to occur at the proposed project site as a result of a literature review, agency consultation, and habitat assessment. Field surveys were designed and performed to take into account the particular life history traits and habitat requirements of the target species.

Sapphos Environmental, Inc. wildlife biologists (Mr. Jack Goldfarb, Dr. Irena Mendez, and Ms. Saudamini Sindhar) conducted directed surveys to determine the presence/absence of the Eufala skipper and other lepidopteran species on the proposed project site. Sapphos Environmental, Inc. conducted a total of six site visits to the proposed project property during the months of August and September 2008 (August 11, 18, 20, and September 1, 8, and 20), which are the peak flight months of the Eufala skipper. Surveys focused in areas where adult and larval food plants exist as well as areas where flowering plants persisted, mainly on the vegetated slope along the northern portion of the site.

Directed surveys were conducted primarily within vegetated areas and thus were focused on the vegetated slope along the northern portion of the site to determine the presence/absence of the Eufala skipper and other lepidopteran species on the proposed project site. In addition, open areas of the proposed project property were surveyed by walking transects spaced between 20 and 30 feet apart until the entire site had been covered. The majority of the butterflies observed were identified within the vegetated slope along the northern perimeter of the proposed project property. A total of 28 Eufala skippers were sighted during the six site visits to the proposed project site. Several other lepidopteran species were found as well, including 5 gray hairstreaks (*Strymon melinus pudica*), 1 pygmy blue (*Brephidium exilis*), 6 cabbage whites (*Pieris rapae*), 32 fiery skippers (*Hylephila phyleus*), 20 rural skippers (*Ochlodes agricola*), and 7 gulf fritillaries (*Agraulis vanillae*).

Wetlands

As a result of the literature review,[47] a habitat assessment conducted by Sapphos Environmental, Inc. on October 9, 2007, a review of the National Wetlands Inventory Map for the USGS 7.5-minute series topographic quadrangle for the proposed project area (Long Beach),[48] a review of the USGS 7.5-Minute Series, Southern California, Downey, Long Beach, and Long Beach Vicinity topographic quadrangles,[49,50,51,52,53,54,55,56] no wetland or riparian areas were identified within the proposed project

[45] Blue Sky Institute, Montana State University. Accessed 24 September 2008. Web site. "Butterflies and Moths of North America." Available at: http://www.butterfliesandmoths.org/species?l=2166

[46] Bryant, Peter J. Accessed 16 October 2008. Web site. "Butterflies and Their Larval Foodplants." Available at: http://nathistoc.bio.uci.edu/bflyplnt.htm

[47] U.S. Fish and Wildlife Service, Division of Habitat and Resource Conservation. Accessed 6 November 2007. Web site. "Wetlands Geodatabase." Available at: http://wetlandsfws.er.usgs.gov/NWI/index.html

[48] U.S. Fish & Wildlife Service, Division of Habitat and Resource Conservation. Accessed 6 November 2007. Web site. "Wetlands Geodatabase." Available at: http://wetlandsfws.er.usgs.gov/NWI/index.html

[49] U.S. Geological Survey. 1901. 7.5-Minute Series, Southern California, Sheet 1, Topographic Quadrangle. Reston, VA.

[50] U.S. Geological Survey. 1902. 7.5-Minute Series, Downey, California, Topographic Quadrangle. Reston, VA.

[51] U.S. Geological Survey. 1925. 7.5-Minute Series, Long Beach, California, Topographic Quadrangle. Reston, VA.

[52] U.S. Geological Survey. 1947. 7.5-Minute Series, Downey, California, Topographic Quadrangle. Reston, VA.

[53] U.S. Geological Survey. 1951. 7.5-Minute Series, Long Beach Vicinity 20F3, California, Topographic Quadrangle. Reston, VA.

area as potentially subject to regulatory jurisdiction by the USACOE pursuant to Section 404 of the federal CWA or subject to jurisdiction by CDFG pursuant to Section 1600 of the Code. The proposed project site is located within an urban setting and consists of an open field used for sports and a man-made canal partially lined with concrete that supports detention basin operations. The site is characterized by primarily non-native vegetation consisting of herbs and shrubs and several landscaped trees. It was determined that no blue-line drainages or wetlands are present within the proposed project that would support sensitive natural communities. In addition, no riparian habitat was observed associated with the man-made canal. The proposed project is not expected to result in impacts to biological resources in relation to federally protected wetlands as defined by Section 404 of the CWA through direct removal, filling, hydrological interruption, or other means.

Corridors

As a result of the literature review[57] and a review of the USGS 7.5-Minute Series, Long Beach, Topographic Quadrangle,[58] biological resources within the region were determined to be present within or adjacent to the proposed project site.

The proposed project would not be expected to result in impacts to biological resources in relation to movement of any migratory fish or wildlife species or with an established wildlife corridor. The project site includes a 19-acre site that contains an open field used seasonally for sports and a man-made canal that supports detention basin operations. Several bird species were found on the proposed project site within both the open field and the man-made canal, including the great blue heron (*Ardea herodias*), killdeer (*Charadrius vociferous*), western gull (*Larus occidentalis*), mourning dove (*Zenaida macroura*), black phoebe (*Sayornis nigricans*), and Say's phoebe (*Sayornis saya*). However, these common species were not abundant. The proposed project site is present in an urban matrix, does not constitute an established wildlife movement corridor, and is isolated from any wildlife corridor. Therefore, the implementation of the proposed project would not be expected to result in significant impacts to biological resources in relation to movement of any wildlife species or with an established wildlife corridor. Implementation of the proposed project would also not interfere with the movement of any migratory fish because the man-made canal present on the subject property is isolated from any other water way and does not contain fish. Therefore, there are no anticipated impacts to biological resources related to movement of any migratory fish or wildlife species or with an established wildlife corridor.

Nursery Sites

The proposed project is not expected to result in impacts to biological resources in relation to the use of nursery sites by any migratory fish or wildlife species. The project site is 19 acres in size and includes an open field used seasonally for sports as well as a man-made canal that supports detention basin operations. The site is characterized by primarily non-native vegetation consisting of herbs, shrubs, and several landscaped trees. A few native avian species were identified. Over 15 species of

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[54] U.S. Geological Survey. 1964. 7.5-Minute Series, Long Beach, California, Topographic Quadrangle. Reston, VA.

[55] U.S. Geological Survey. [1964] Photo revised 1972. 7.5-Minute Series, Long Beach, California, Topographic Quadrangle. Reston, VA.

[56] U.S. Geological Survey. [1964] Photo revised 1981. 7.5-Minute Series, Long Beach, California, Topographic Quadrangle. Reston, VA.

[57] California Department of Fish and Game. 2002. *Rarefind 2: A Database Application for the Use of the California Department of Fish and Game Natural Diversity Database*. Sacramento, CA.

[58] U.S. Geological Survey. 1925. 7.5-Minute Series, Long Beach, California, Topographic Quadrangle. Reston, VA.

non-status birds including several species, which may breed in rockeries, were found on the proposed project site. However, none of these species will use the project site as a nursery site due to the lack of suitable habitat.

3.3.3 Significance Thresholds

The potential for the proposed project to result in impacts related to biological resources was analyzed in relation to the questions contained in Appendix G of the State CEQA Guidelines. The project would normally be considered to have a significant impact to biological resources when the potential for any one of the following six thresholds occurs:

- Have a substantial adverse effect, through either direct or indirect modification of more than 10 percent of potentially suitable or occupied habitat, or direct take, to any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFG or USFWS;

- Have an adverse effect on 10 percent of existing riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by CDFG or USFWS;

- Have a substantial adverse effect on more than 0.3 acre of 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;

- Interfere with the movement of any native resident or migratory fish or wildlife species such that migratory patterns are eliminated from within the proposed project area or reduce the use of native wildlife nursery sites by 10 percent of more;

- Conflict with the policies established by the City General Plan[59] to provide protection for threatened and endangered species; and

- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

3.3.4 Impact Analysis

Impacts to State-designated Sensitive Habitats

The proposed project is not expected to result in impacts to state-designated sensitive habitats. The proposed project site has been surveyed, and no state-designated sensitive habitats were found on site or in immediately adjacent areas. Therefore, there are no expected impacts to state-designated sensitive habitats, and no further mitigation is warranted.

[59] City of Long Beach, Department of Planning and Building. 1973. *City of Long Beach General Plan, Conservation Element*. Long Beach, CA.

Impacts to Rare, Threatened, and Endangered Species

The proposed project is not expected to result in impacts to biological resources in relation to species listed as rare, threatened, or endangered pursuant to the federal and California ESAs. The proposed project site has been surveyed, and no listed species or potential habitat was found to exist on site or in adjacent areas. Therefore, there are no expected impacts to species listed as rare, threatened, or endangered pursuant to the federal and California ESAs, and no further mitigation is warranted.

Impacts to Sensitive Species

The proposed project is not expected to result in impacts to biological resources in relation to sensitive designated as Species of Special Concern by CDFG. The proposed project site has been surveyed, and no sensitive species were found to exist on site or in adjacent areas. Therefore, there are no expected impacts to sensitive species designated as Species of Special Concern by CDFG, and no further mitigation is warranted.

Impacts to Locally Important Species

The proposed project is not expected to result in significant impacts to locally important species related to biological resources considered locally important species, as landscaped vegetation within residential and commercial areas adjacent to the proposed project site provide more than sufficient nectaring and larval food sources for the small number of locally important butterfly species, including the Eufala skipper, expected to be present at the proposed project site. The subject species are common to residential and other areas that contain landscaped vegetation with suitable nectar and larval food sources. The low population estimate is a result of the observation of 28 individuals of the locally important Eufala skipper after extensive field efforts. Although the proposed project would not be expected to result in significant impacts to the Eufala skipper, the planting of suitable host plants to support local lepidopteran species, including the Eufala skipper, into the landscaped areas of the proposed project would be incorporated as an element of the proposed project (Table 3.3.4-1, *Foodplants for Lepidopteran Species*). No further mitigation is warranted.

TABLE 3.3.4-1
FOODPLANTS FOR LEPIDOPTERAN SPECIES

Host Plant	Butterfly
coast live oak (*Quercus agrifolia*)	gray hairstreak (*Strymon melinus pudica*)
greenbark ceanothus (*Ceanothus spinosus*)	gray hairstreak (*Strymon melinus pudica*)
California buckwheat (*Eriogonum fasciculatum*)	gray hairstreak (*Strymon melinus pudica*)
ashy leaf buckwheat (*Eriogonum cinereum*)	gray hairstreak (*Strymon melinus pudica*)
bush lupine (*Lupinus longifolius*)	gray hairstreak (*Strymon melinus pudica*)
tower mustard (*Arabis glabra*)	cabbage white (*Pieris rapae*)
elegant rock cress (*Arabis sparsifolia* var. *californica*)	cabbage white (*Pieris rapae*)

TABLE 3.3.4-1
FOODPLANTS FOR LEPIDOPTERAN SPECIES, Continued

Host Plant	Butterfly
California croton (*Croton californicus*)	Eufala skipper (*Lerodea eufala*)
California brome (*Bromus californica*)	fiery skipper (*Hylephila phyleus*) Eufala skipper (*Lerodea eufala*) rural skipper (*Ochlodes agricola*)
California melic (*Melica imperfecta*)	fiery skipper (*Hylephila phyleus*) Eufala skipper (*Lerodea eufala*) rural skipper (*Ochlodes agricola*)
deer grass (*Muhlenbergia rigens*)	fiery skipper (*Hylephila phyleus*) Eufala skipper (*Lerodea eufala*) rural skipper (*Ochlodes agricola*)
nodding needlegrass (*Nassella cernua*)	fiery skipper (*Hylephila phyleus*) Eufala skipper (*Lerodea eufala*) rural skipper (*Ochlodes agricola*)
passionflower vine (*Passiflora* sp.)	gulf fritillary (*Agraulis vanillae*)
saltbush (*Atriplex* sp.)	pigmy blue (*Brephidium exilis*)
goosefoot (*Chenopodium* sp.)	pigmy blue (*Brephidium exilis*)
slender sunflower (*Helianthus gracilentus*)	Nectar source for many adult butterflies
black sage (*Salvia mellifera*)	Nectar source for many adult butterflies
California fuchsia (*Zauschneria californica*)	Nectar source for many adult butterflies

Impacts to Federally Protected Wetlands

The proposed project is not expected to result in impacts to federally protected wetlands pursuant to Section 404 of the CWA. The proposed project site has been surveyed, and no federally protected wetlands were found within the project area. Therefore, there are no expected impacts to federally protected wetlands pursuant to Section 404 of the CWA, and no further mitigation is warranted.

Impacts to Migratory Corridors and/or Nursery Sites

The proposed project would not be expected to result in impacts to biological resources in relation to movement of any migratory fish or wildlife species or with an established wildlife corridor. The proposed project site includes a 19-acre plot that contains an open field used seasonally for sports and a man-made canal that supports detention basin operations. Several bird species were found on the proposed project site within both the open field and the man-made canal, including the great blue heron, killdeer, western gull, mourning dove, black phoebe, and Say's phoebe. However, these common species were not abundant due to the disturbed nature of the site. The proposed project site is present in an urban matrix, isolated from any other wildlife corridor. Therefore, the implementation of the proposed project would not be expected to result in impacts to biological resources in relation to movement of any wildlife species or with an established wildlife corridor. Implementation of the proposed project would also not interfere with the movement of any migratory fish because the man-

made canal present on the subject property is isolated from any other water way and does not contain fish. Therefore, there are no expected impacts to biological resources related to movement of any migratory fish or wildlife species or with an established wildlife corridor, and no further mitigation is warranted.

Conflict with the Policies Established by the City of Long Beach General Plan to Provide Protection for Threatened and Endangered Species

The proposed project would not be expected to result in impacts to biological resources in relation to conflicts with any local policies or ordinances protecting biological resources. Based on a combination of field investigations and a review of the Conservation element of the City General Plan,[60] the proposed project does not conflict with any local policies or ordinances protecting biological resources. Therefore, there are no expected impacts to biological resources related to conflicts with any local policies or ordinances protecting biological resources. Therefore, there are no expected impacts with local policies related to threatened or endangered species, and no further mitigation is warranted.

Conflict with the Provisions of an Adopted Habitat or Natural Community Conservation Plan

The proposed project would not be expected to result in impacts to biological resources in relation to conflicts with the provisions of any adopted Habitat Conservation Plan or Natural Community Conservation Plan. Based on review of existing and potential Habitat Conservation Plan and Natural Community Conservation Plan boundaries pursuant to USFWS and CDFG, respectively,[61,62] it was determined that the proposed project site is not within the boundaries of any Habitat Conservation Plan or Natural Community Conservation Plan. Therefore, there would be no expected impacts to biological resources related to conflicts with the provisions of any adopted Habitat Conservation Plan or Natural Community Conservation Plan, and no further mitigation is warranted.

Cumulative Impacts

The incremental impact of the proposed project, when evaluated in relation to the closely related past, present, or reasonably foreseeable, probable future projects, would not be expected to cause significant impacts to biological resources. Therefore, implementation of the proposed project would not cause an incremental impact when considered with the related past, present, reasonably foreseeable, probable future projects.

[60] City of Long Beach, Department of Planning and Building. 1973. *City of Long Beach General Plan, Conservation Element*. Long Beach, CA.

[61] California Department of Fish and Game. Accessed 28 June 2007. Web site. "Natural Community Conservation Planning." Sacramento, CA. Available at: http://www.dfg.ca.gov/nccp/

[62] U.S. Fish and Wildlife Service. Accessed 12 December 2007. Web site. "Habitat Conservation Plans." Carlsbad, CA. Available at: http://www.fws.gov/carlsbad/HCPs.htm