DRAFT

INITIAL STUDY/ NEGATIVE DECLARATION

HARBOR BOULEVARD IMPROVEMENTS PROJECT

U.S. DEPARTMENT OF COMMERCE - ECONOMIC DEVELOPMENT ADMINISTRATION (EDA) GRANT AWARD NO. 07-79-06911

CITY OF GARDEN GROVE, CALIFORNIA

Submitted to:

City of Garden Grove
Department of Public Works
13802 Newhope Street
Garden Grove, California 92840

Prepared by:

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Project No. CGG1301

LSA

March 2014

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1.0 INTRODUCTION

In accordance with the California Environmental Quality Act (CEQA) and its Guidelines, this Initial Study (IS) has been prepared as documentation for a Negative Declaration (ND) for the proposed Harbor Boulevard Improvements Project (U.S. Department of Commerce - Economic Development Administration (EDA) Grant Award No. 07-79-06911) (project) located in the City of Garden Grove (City). Consistent with *State CEQA Guidelines* Section 15071, this IS/ND includes a description of the project, an evaluation of the potential environmental impacts of the project, and findings from the environmental review.

This IS/ND evaluates the potential environmental impacts that may result from development of the proposed project. The City is the Lead Agency under CEQA. Implementation of this project would include approval by the City Council, who is responsible for approval of the environmental documentation and for approval of the project.

1.1 CONTACT PERSON

Any questions regarding the preparation of this IS/ND, its assumptions, or conclusions should be referred to the following office:

Digna De Los Reyes, Assistant Engineer
City of Garden Grove
11222 Acacia Parkway
Garden Grove, California 92840
(714) 741-5179
dignar@garden-grove.org

1.2 LIST OF PREPARERS

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Ivan H. Strudwick, Archaeologist

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Lauren Johnson, Editing

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2.0 PROJECT DESCRIPTION

2.1 PROJECT LOCATION AND SITE DESCRIPTION

The proposed Harbor Boulevard Improvements Project (U.S. Department of Commerce - Economic Development Administration (EDA) Grant Award No. 07-79-06911) (project) site is located in the City of Garden Grove (City), in the County of Orange (County), California.

The proposed project consists of two components: (1) street improvements, and (2) storm drain improvements. The project area for the street improvement component includes the existing right-of-way, and the area within the existing curb widths along Harbor Boulevard from Garden Grove Boulevard north to Chapman Avenue, approximately 1.1 miles. The land uses adjacent to this stretch of Harbor Boulevard are varied and include vacant lots, single-family residential, hotels, and varying sized commercial developments. The storm drain improvements component extends east from the intersection of Harbor Boulevard and Twintree Lane to include portions of Twintree Lane, Choisser Road, Greentree Avenue, and Bangor Street. This component is approximately 0.4 miles in length and is completely surrounded by single-family residential land uses.

The overall project area extends the entire length of the City's proposed Grove District development area. The Grove District development area is a master plan of 560 acres of new resort, commercial, hospitality, and entertainment land uses, including 5,000 new hotel rooms and hundreds of thousands of square feet of new retail, dining, and entertainment facilities. A Mitigated Negative Declaration (MND) was prepared for the International West Hotel – Harbor East (Site C) located northeast corner of Harbor Boulevard and Twintree Lane in August 2012, and was utilized for background information and data purposes in the preparation of this document.

Regional access to the project site is provided by State Route 22 (SR-22), which is located south of the project site. Local access to the project site is provided from Chapman Avenue (north) and Garden Grove Boulevard (south) (Figure 2-1).

2.2 PROJECT CHARACTERISTICS

The project includes seven primary project elements or project areas, which are designated as Project Area 1 (PA-1) through Project Area 7 (PA-7).

Generally, the improvements to be constructed in the designated project areas include, but are not limited to, minor curb and gutter improvements, bus stop replacements, landscaped parkway, street trees, decorative sidewalk, landscaped medians, water services, storm drain piping with catch drain inlets, and walkway and tree lighting. The street improvements portion of the project would occur entirely within the existing right-of-way. The right-of-way averages between 100 feet and 120 feet in width along Harbor Boulevard. The proposed project improvements will be designed and constructed to meet current planning and engineering design standards for basic public health and safety. It is anticipated that construction will take approximately 6 to 7 months to complete. A description of each project area is presented below.

Project Area 1. PA-1 includes approximately 1,300 linear feet in length along the western side of Harbor Boulevard from Twinleaf Lane to Twintree Avenue. This project area would include the removal of all parkway improvements within the existing public right-of-way, including sidewalk, fencing, tree wells, etc.; replace them with a new decorative sidewalk, landscaping, palm trees, tree lighting, bus stop replacement, walkway lighting, and irrigation services; and adjust existing utility boxes to grade. New driveways, accessible pathways and ramps, concrete gutters, and transitions will be constructed at the anticipated locations of driveways and entries to the parcels along this project area. Existing utility boxes and vaults will be adjusted to grade as needed to accommodate the finished improvements.

Project Area 2. PA-2 includes approximately 6,050 linear feet and is confined to the median area in the center of Harbor Boulevard from Garden Grove Boulevard to Chapman Avenue. The proposed improvements include removal of existing median improvements within the existing median curbs, including landscaping, irrigation, hardscape, etc., replacing them with new drought-tolerant landscaping, palm trees, lighting for the trees, irrigation services, local drainage devices, and stamped concrete.

Project Area 3. PA-3 includes approximately 975 linear feet along the east side of Harbor Boulevard from the southerly property line of the existing 7-11 store to the southerly corner of Twintree Lane. The proposed improvements will remove all existing parkway improvements, including sidewalk, fencing, tree wells, etc., replacing them with new decorative sidewalk, tree lighting, enhancements to existing block walls with decorative and/or screening features, and adjustments to existing utility boxes to bring to grade.

Project Area 4. PA-4 includes approximately 990 linear feet along the east side of Harbor Boulevard stretching northward from the intersection of Harbor Boulevard and Palm Avenue. The proposed improvements will remove the existing parkway improvements, including sidewalk, tree wells, and other appurtenances as appropriate and replace them with new landscaping and irrigation for part of the project area and new decorative sidewalk along the northerly portion of the project area. Existing utility boxes and vaults will be adjusted to grade as needed to accommodate the finished improvements.

Project Area 5. PA-5 includes approximately 1,650 linear feet, confined to the median area in the center of Harbor Boulevard from Chapman Avenue to West Wilken Way. The proposed improvements within this project area include removal of all existing roadway improvements within the limits of the proposed median curbs, constructing new median curbs, drainage, drought-tolerant landscaping, palm trees, lighting for the trees, irrigation services, local drainage devices, and stamped concrete.

Project Area 6. PA-6 includes storm drain improvements from the intersection of Harbor Boulevard and Twintree Lane, east to the intersection of Twintree Lane and Choisser Road. The storm drain improvements continue to the north along Choisser Road to Greentree Avenue, continue to the east along Greentree Avenue to the intersection with Bangor Street, and continue north to the terminus of Bangor Street. This area lacks the appropriate drainage infrastructure appropriate for existing and future demands. This project area includes the installation of the storm drain line called "H4" in the City's Master Plan of Drainage to connect to the storm drain system on Harbor Boulevard. This line upgrade is considered critical to reduce exposure to property loss and damage due to flooding from major storm events. Existing utility boxes and vaults will be adjusted to grade as needed to accommodate the finished improvements.

Project Area 7. PA-7 includes approximately 990 linear feet along the east side of Harbor Boulevard from across the street of the Sheraton Hotel northward to the intersection of Harbor Boulevard and Chapman Avenue. The improvements within this project area will remove all existing parkway improvements including sidewalk and tree wells, replacing them with new decorative sidewalk, palm trees, landscaping, irrigation, walkway lighting, and adjustments to existing utility boxes and vaults, as needed to accommodate the finished improvements.

2.2.1 Project Design Features

The following measures will be implemented as Project Design Features (PDFs) by the contractor as a part of the Construction Specifications required by the City. These PDF's are operational requirements that have been identified as reducing the potential for significant environmental impacts to occur as a result of the proposed project.

The Contractor shall:

PDF No. 1: If project scheduling allows, the removal of trees will be conducted outside of the Migratory Bird Treaty Act (MBTA) and peak bird nesting seasons (February 15 through September 15). If tree removal must be conducted during this time period, the City contractor will hire a qualified Biologist to conduct a survey for active bird nests within 3 days prior to commencement of any demolition or construction activities. Should an active nest be identified, restrictions will be placed on construction activities in the vicinity of any active nest observed until the nest is no longer active, as determined by a qualified Biologist. These restrictions may include a 300- to 500-foot buffer zone designated around a nest to allow construction to proceed while minimizing disturbance to the active nest. Once the nest is no longer active, construction can proceed within the buffer zone.

PDF No. 2: Obtain a tree removal permit in accordance with the City's Municipal Code (Title 11.32.020: Permits).

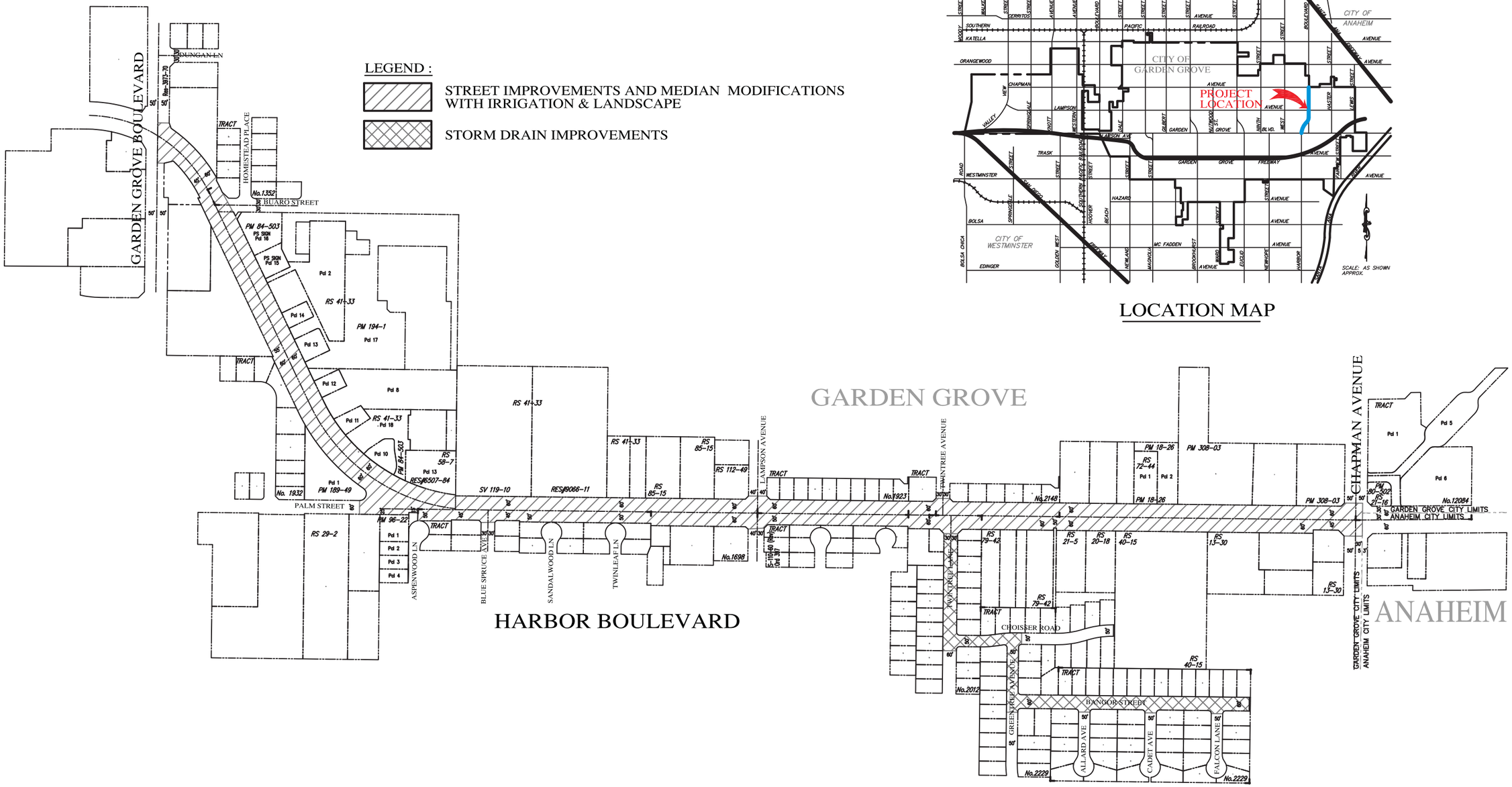
PDF No. 3: If any previously unknown or unrecorded archaeological or paleontological resources are discovered during grading and construction activities, work in the area should cease, and deposits should be treated in accordance with federal, State, and local guidelines, including those set forth in California Public Resources Code (PRC) Section 21083.2. More specifically, in the event that archaeological materials are encountered during construction, work in the vicinity of the find should be halted and a qualified archaeologist should be consulted to determine the appropriate treatment of the discovery (California Code of Regulations [CCR], Title 14, Chapter 3, Section 15064.5(f)).

PDF No. 3: Construction is proposed to only be conducted at depths of 7.5 feet or less. If excavation activities are anticipated to extend deeper than 15 feet below the surface, the Applicant shall retain a qualified paleontologist, subject to the review and approval of the City, to prepare a Paleontological Resources Impact Mitigation Program (PRIMP) for the proposed project prior to the issuance of any grading permits. The PRIMP shall be consistent with the guidelines of the Society of Vertebrate Paleontology (SVP). If any fossils are collected during monitoring, they should be prepared to the point of identification, identified to the lowest taxonomic level, and curated into an accredited institutional repository. If paleontological monitoring occurs, a report of findings shall be prepared by the Professional Paleontologist to document the results of the monitoring at the conclusion of the monitoring effort.

PDF No. 4: Comply with State Health and Safety Code Section 7050.5, which states, in the event that human remains are encountered during construction activities, that no further disturbance shall occur until the County Coroner has determined the origin and disposition of the remains pursuant to State Public Resources Code Section 5097.98. The County Coroner shall be notified of the find immediately. If the human remains are determined to be of Native American descent, the County Coroner shall notify the Native American Heritage Commission (NAHC), which will determine and notify a Most Likely Descendant (MLD). The City shall give permission to the MLD to inspect the site of the discovery. The MLD shall complete the inspection of the site within 72 hours of

notification by the NAHC. The MLD may recommend scientific removal and nondestructive analysis of the remains and items associated with Native American burials.

PDF No. 5: Submit a Traffic Control Plan (TCP), in accordance with requirements set forth in the most current version of the California Manual of Uniform Traffic Control Devices (CAMUTCD), to be approved by the City Traffic Engineer and other City Departments (i.e., Fire and Police Departments).



LOCATION MAP

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FIGURE 2-1

N

0 300 600

FEET

SOURCE: City of Garden Grove, Deptartment of Public Works

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Harbor Boulevard Improvements Project

Location and Project Site Map

3.0 ENVIRONMENTAL CHECKLIST FORM

1. Project title: Harbor Boulevard Improvements Project, U.S. Department of Commerce - Economic Development Administration (EDA) Grant Award No. 07-79-06911

2. Lead agency name and address:

   City of Garden Grove, Department of Public Works
   11222 Acacia Parkway
   Garden Grove, California 92840

3. Contact person and phone number:

   Digna De Los Reyes, Assistant Engineer
   Garden Grove Department of Public Works, Engineering Division
   11222 Acacia Parkway
   Garden Grove, California 92840
   Phone: (714) 741-5179

4. Project location: The Harbor Boulevard Improvements Project is located in the northwestern portion of Orange County within the City of Garden Grove. The project site is along Harbor Boulevard from Garden Grove Boulevard north to Chapman Avenue and extends south from the intersection of Harbor Boulevard and Twintree Lane to include portions of Twintree Lane, Choisser Road, Greentree Avenue, and Bangor Street.

5. Project sponsor's name and address:

   Garden Grove Department of Public Works, Engineering Division
   11222 Acacia Parkway
   Garden Grove, California 92840

6. General Plan designation: International West Resort Area

7. Zoning: Harbor Corridor Specific Plan (HCSP)

8. Description of project: (Describe the whole action involved, including but not limited to later phases of the project, and any secondary, support, or off-site features necessary for its implementation. Attach additional sheets if necessary.)

   The proposed project consists of two components: (1) street improvements, and (2) storm drain improvements. Generally, the improvements to be constructed in the designated project areas include, but are not limited to, new median curb, minor curb and gutters, asphalt, cold plane and overlay work, bus stop replacements, landscaped parkway, street trees, decorative sidewalk, landscaped medians, water services, storm drain piping with catch drain inlets, and walkway and tree lighting. The street improvements portion of the project would occur entirely within the existing right-of-way. The right-of-way averages between 100 feet and 120 feet in width along Harbor Boulevard. The proposed project improvements will be designed and constructed to meet current planning and engineering design standards for basic public health and safety. The project includes seven primary project elements or project areas, which are designated as Project Area 1 (PA-1) through Project Area 7 (PA-7).

9. Surrounding land uses and setting: Briefly describe the project's surroundings: The land uses adjacent to the Harbor Boulevard portion of the project are varied and include vacant lots, single-family

residential, hotels, and varying-sized commercial developments. The storm drain component of the project is completely surrounded by single-family residential land uses. The project area for the street improvement component includes the existing right-of-way and the area within the existing curb widths along Harbor Boulevard from Garden Grove Boulevard north to Chapman Avenue, approximately 1.1 miles. The storm drain improvements component extends east from the intersection of Harbor Boulevard and Twintree Lane to include portions of Twintree Lane, Choisser Road, Greentree Avenue, and Bangor Street.

10. Other public agencies whose approval is required (e.g., permits, financing approval, or participation agreement): U.S. Department of Commerce - Economic Development Administration (EDA).

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" prior to implementation of mitigation as indicated by the checklist on the following pages.

☐ Aesthetics	☐ Agriculture Resources	☐ Air Quality
☐ Biological Resources	☐ Cultural Resources	☐ Geology/Soils
☐ Greenhouse Gas Emissions	☐ Hazards & Hazardous Materials	☐ Hydrology/Water Quality
☐ Land Use/Planning	☐ Mineral Resources	☐ Noise
☐ Population/Housing	☐ Public Services	☐ Recreation
☐ Transportation/Traffic	☐ Utilities/Service Systems	☐ Mandatory Findings of Significance

DETERMINATION (to be completed by the Lead Agency):

On the basis of this initial evaluation:

☒ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☐ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION (MND) will be prepared.

☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT (EIR) is required.

☐ I find that the proposed project MAY have a "potentially significant" or "potentially significant unless mitigated" impact on the environment, but at least one effect (1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and (2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

DAP delos Reyes — MAY 7, 2014

Signature — Date

DIGNA DE LOS REYES

Printed Name — For

EVALUATION OF ENVIRONMENTAL IMPACTS:

1) A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).
2) All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.
3) Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.
4) "Negative Declaration: Less than Significant With Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from Section XVII, "Earlier Analyses," may be cross-referenced).
5) Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:
    a) Earlier Analysis Used. Identify and state where they are available for review.
    b) Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.
    c) Mitigation Measures. For effects that are "Less than Significant with Mitigation Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.
6) Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.
7) Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.
8) This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.
9) The explanation of each issue should identify:
    a) The significance criteria or threshold, if any, used to evaluate each question; and
    b) The mitigation measure identified, if any, to reduce the impact to less than significant.

4.0 ENVIRONMENTAL CHECKLIST AND ANALYSIS

4.1 AESTHETICS

Would the project:

		Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
a)	Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒
b)	Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒
c)	Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☒	☐
d)	Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐

a) and b) No Impact. A scenic vista is defined as a viewpoint that provides expansive views of a highly valued landscape for the benefit of the general public. Aesthetic components of a scenic vista generally include (1) scenic quality, (2) sensitivity level, and (3) view access. Although the City of Garden Grove (City) does not provide a definition of scenic vistas, potential scenic vistas can include areas with views of the coastline, mountains, or other prominent scenic features in a region that is considered significant for visual resources for residents and businesses. General Plan policy CON-IMP-7H of the Garden Grove General Plan, Conservation Element, states that the City should "Preserve significant trees such as the Stone Pines that were saved as part of the hotel development on the south side of Chapman, west of Harbor Boulevard." Several trees are anticipated to be removed as part of the streetscape improvements for this project. Included in the tree removal for this project would be several Eucalyptus trees (*Eucalyptus* sp.), Pine trees (*Pinus* sp.), and one ficus tree (*Ficus Benjamina*). These trees are located in the median of Harbor Boulevard throughout the length of the project area. According to the City, due to the lack of historical significance and because they are not included in the City's Landscape Master Plan, none of the trees proposed for removal have been identified as having "significant" value. In addition, due to the trees' potential to cause damage to the proposed streetscape improvements, removal is recommended. As such, there are no aesthetic or visual resources located on the project site or in the surrounding vicinity, including trees, rock outcroppings, historic buildings, or a State scenic highway that have been designated in any City or other agency policy or plan that would be visually impacted by a street and storm drain improvements project. Therefore, the proposed project would have no impact related to a scenic vista or other scenic resources, and no mitigation is required.

c) Less than Significant Impact. The visual character of a project site is defined by the quality of streetscape, buildings, and other humanmade and natural features within the project area. The project site itself includes the right-of-way along Harbor Boulevard and portions of Twintree Lane, Choisser Road, Greentree Avenue, and Bangor Street. Some mature landscaped vegetation is present on the site along the sidewalks and medians. As the proposed project would result in the redevelopment of new median curbs, minor curb and gutters, bus stop replacements, landscaped parkways, street trees, decorative sidewalk, landscaped medians, and walkway and tree lighting, it would enhance the visual character of the site and the surrounding community. Therefore, because the proposed project would not substantially degrade the visual quality of the site or surrounding areas, impacts are considered less than significant, and no mitigation is required.

d) Less than Significant Impact. The project site is located in an urban area surrounded by a mix of residential and commercial uses. These land uses include existing interior and exterior building lighting,

residential lighting, street lighting, parking lot lighting, and landscape lighting. The proposed project would include lighting for various trees within the newly landscaped areas. On-site lighting would replace existing lighting features of the project site and would increase landscape lighting; however, any increases are anticipated to be nominal in relation to the existing lighting contained in the surrounding urbanized areas.

Typical construction hours would take place from 8:00 a.m. to 4:00 p.m., Monday through Friday. Construction for this project will not occur during nighttime hours. Therefore, because the proposed project would not create new sources of substantial light or glare that would adversely affect day or nighttime views in the area, impacts are considered less than significant, and no mitigation is required.

4.2 AGRICULTURE & FOREST RESOURCES

Would the project:

		Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
a)	Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b)	Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
c)	Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒
d)	Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e)	Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?	☐	☐	☐	☒

a–e) No Impact. The project site is in a highly urbanized area and only includes the right-of-way of Harbor Boulevard and portions of Twintree Lane, Choisser Road, Greentree Avenue, and Bangor Street. Since the project site is only within the street rights-of-way, it is not used for agricultural production and is not designated Prime Farmland, Unique Farmland, or Farmland of Statewide Importance on maps prepared as part of the Farmland Mapping and Monitoring Program of the California Resources Agency. The proposed project would not convert farmland to a nonagricultural use or result in the conversion of farmland to a nonagricultural use. Additionally, it would not conflict with existing zoning for agricultural uses or a Williamson Act contract or contribute to environmental changes that would result in the conversion of farmland to a nonagricultural use and does not contain forest land or timberland. Therefore, no impacts to agricultural resources would occur, and no mitigation is required.

4.3 AIR QUALITY

Would the project:		Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
a)	Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐
b)	Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☐	☒	☐
c)	Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	☐	☐	☒	☐
d)	Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
e)	Create objectionable odors affecting a substantial number of people?	☐	☐	☒	☐

a) Less than Significant Impact. The South Coast Air Quality Management District (SCAQMD) and California Air Resources Board (ARB) monitor air quality within the project area and the South Coast Air Basin (Basin), which includes Orange County and non-desert portions of Los Angeles, Riverside, and San Bernardino Counties. The Basin is bounded by the Pacific Ocean to the west; the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east; and the San Diego County line to the south.

Air quality plans describe air pollution control strategies and measures to be implemented by a city, county, region, and/or air district. The primary purpose of an air quality plan is to bring an area that does not attain federal and State air quality standards into compliance with the requirements of the Federal Clean Air Act and the California Clean Air Act. In addition, air quality plans are developed to ensure that an area maintains a healthful level of air quality based on the National Ambient Air Quality Standards (NAAQS) and the California Ambient Air Quality Standards (CAAQS). The Air Quality Management Plan (AQMP) is prepared by SCAQMD and the Southern California Association of Governments (SCAG). The AQMP provides policies and control measures that reduce emissions to attain both State and federal ambient air quality standards.

Every 3 years, the SCAQMD prepares a new AQMP, updating the previous plan and having a 20-year horizon. The SCAQMD adopted the 2012 AQMP in December 2012 and forwarded it to ARB for review and approval. The 2012 AQMP incorporated the latest scientific and technological information and planning assumptions, including the 2012 Regional Transportation Plan/Sustainable Communities Strategy and updated emission inventory methodologies for various source categories. The 2012 AQMP included the new and changing federal requirements, implementation of new technology measures, and the continued development of economically sound, flexible compliance approaches.

The City's General Plan is consistent with the 2012 Final AQMP. Because the project does not require a General Plan Amendment and is considered to be generally consistent with the intent of the General Plan, the proposed project would not conflict with the AQMP. Impacts conflicting with applicable air quality plans are, therefore, considered less than significant, and no mitigation is required.

b) Less than Significant Impact. The SCAQMD's California Environmental Quality Act (CEQA) Air Quality Handbook provides guidance for analyzing the air quality impacts of proposed projects within its jurisdiction (SCAQMD 1993). Both the State of California (State) and the federal government have established health-based ambient air quality standards (AAQS) for seven air pollutants. As shown in Table 4.3-1, these pollutants include ozone (O_3), carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), particulate matter less than 10 microns in size (PM_{10}), particulate matter less than 2.5 microns in size ($PM_{2.5}$), and lead. In addition, the State has set standards for sulfates, hydrogen sulfide (H_2S), vinyl chloride, and visibility-reducing particles. These standards are designed to protect the health and welfare of the populace with a reasonable margin of safety.

Table 4.3-1: SCAQMD Significance Thresholds

Air Pollutant	Construction Phase	Operational Phase
ROCs	75 lbs/day	55 lbs/day
CO	550 lbs/day	550 lbs/day
NO_X	100 lbs/day	55 lbs/day
SO_X	150 lbs/day	150 lbs/day
PM_{10}	150 lbs/day	150 lbs/day
$PM_{2.5}$	55 lbs/day	55 lbs/day
Toxic Air Contaminants (TACs) and Odor Thresholds		
TACs (including carcinogens and non-carcinogens)	Maximum Incremental Cancer Risk ≥ 10 in 1 million Hazard Index ≥ 1.0 (project increment) Hazard Index ≥ 3.0 (facility-wide)	
Odor	Project creates an odor nuisance pursuant to SCAQMD Rule 402	
Ambient Air Quality for Criteria Pollutants[a]		
NO_2 1-hour average annual average	SCAQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards: 0.18 ppm (State) 0.053 ppm (federal)	
$PM_{2.5}$ 24-hour average annual arithmetic mean	10.4 µg/m^3 (recommended for construction)[b] 2.5 µg/m^3 (operation) 12 µg/m^3	
PM_{10} 24-hour average annual arithmetic mean	10.4 µg/m^3 (recommended for construction) 2.5 µg/m^3 (operation) 20 µg/m^3	
Sulfate 24-hour average	25 µg/m^3	
CO 1-hour average 8-hour average	SCAQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards: 20 ppm (State) 9.0 ppm (State/federal)	

Source: SCAQMD (2013).

[a] Ambient air quality thresholds for criteria pollutants based on SCAQMD Rule 1303, Table A-2, unless otherwise stated.

[b] Ambient air quality thresholds based on SCAQMD Rule 403.

CO = carbon monoxide
lbs = pounds
lbs/day = pounds per day
NO_2 = nitrogen dioxide
NO_X = nitrogen oxides
$PM_{2.5}$ = particular matter less than 2.5 microns in size
PM_{10} = particular matter less than 10 microns in size
ppm = parts per million
ROCs = reactive organic compounds
SCAQMD = South Coast Air Quality Management District
SO_X = sulfur oxides
µg/m^3 = micrograms per cubic meter of air

The emissions thresholds in the SCAQMD CEQA Air Quality Handbook were established based on the attainment status of the air basin in regard to air quality standards for specific criteria pollutants. Because the concentration standards were set at a level that protects public health with an adequate margin of safety (United States Environmental Protection Agency [EPA]), these emission thresholds are regarded as conservative and would overstate an individual project's contribution to health risks.

Thresholds for Construction and Operational Emissions that have Regional Effects

Table 4.3-1 shows the CEQA significance thresholds that have been established for the Basin.

Projects in the Basin with construction- or operation-related emissions that exceed any of the emission thresholds should be considered to be significant under CEQA.

Construction. Construction emissions are described as "short-term" or temporary, and have the potential to represent a significant impact with respect to air quality, especially fugitive dust emissions. Fugitive dust emissions are primarily associated with site preparation and vary as a function of such parameters as soil silt content, soil moisture, wind speed, acreage of disturbance area, and miles traveled by construction vehicles on- and off-site. Reactive organic gases (ROGs), which are assumed to be equivalent to volatile organic compounds (VOC) for the purposes of this analysis, and nitrogen oxides (NO_X) emissions are primarily associated with mobile equipment exhaust.

Construction of the proposed project would result in the temporary generation of ROG, NO_X, PM_{10}, and $PM_{2.5}$ emissions from site preparation, material transport, roadway and sidewalk improvements, and paving. The roadway and infrastructure improvements, including master planned storm water and drainage facilities, proposed for this project will benefit pedestrian and high capacity transportation accessibility in each direction. It will also free up more roadway lanes by reducing storm water flow in the street should the need arise for emergency ingress and egress within the area during a major storm event. Improvements to the drainage systems will enhance their ability to handle the increase in runoff due to the loss of infiltration area and anticipated larger, more intensive and prolonged storm events due to climate change. The enhanced turning movement controls and access improvements will reduce congestion and travel time, and contribute to the improvement of air quality within the project area. New utility infrastructure and other project-consistent improvements are being constructed at this time within the City's existing right-of-way.

The existing right-of-way averages between 100 feet and 120 feet in width along Harbor Boulevard. The intersecting streets feed traffic to and from adjacent neighborhoods and land uses. The project includes seven primary project elements or project areas, which are designated as "Project Area 1" or "PA-1" through "Project Area 7" or "PA-7." All seven project areas are anticipated to be implemented as one, or possibly two, contract bid packages. The improvements to be constructed in the designated project areas include, but are not limited to, minor curb and gutter improvements, bus stop replacements, landscaped parkway, street trees, decorative sidewalk, landscaped medians, water services, storm drain piping with catch basin inlets and walkway and tree lighting.

It is anticipated that all components of the project will be constructed and installed as part of a single construction schedule. Construction is anticipated to start in 2014 and last for approximately 6 to 7 months. Construction activities are proposed to occur primarily in the daytime, but may include limited nighttime activities. Construction activities would occur primarily during normal weekday hours between 7 a.m. and 10 p.m., in accordance with Garden Grove Municipal Code requirements.

Construction emissions can substantially vary from day to day, depending on the level of activity, the specific type of operation, and the prevailing weather conditions.

The most recent version of the CalEEMod model (Version 2013.2.2) was used to calculate the construction emissions, as shown in Table 4.3-2. The emissions rates shown are from the CalEEMod output tables listed as "Mitigated Construction," even though the only measures that have been applied to the analysis are the required construction emissions control measures or standard conditions. They are also the combination of the on- and off-site emissions.

Table 4.3-2: Short-Term Regional Construction Emissions

	Total Regional Pollutant Emissions (lbs/day)								
Construction Phase	**ROG**	**NO_X**	**CO**	**SO_2**	**Fugitive PM_{10}**	**Exhaust PM_{10}**	**Fugitive $PM_{2.5}$**	**Exhaust $PM_{2.5}$**	**CO_2e**
Site Preparation	5.4	58	44	0.042	18	3.1	10	2.9	4,400
Trenching	2.5	24	15	0.02	0.11	1.5	0.03	1.4	2,100
Paving	3.4	26	16	0.024	0.17	1.5	0.045	1.3	2,600
SCAQMD Thresholds	**75**	**100**	**550**	**150**	**150**		**55**		**No Threshold**
Significant Emissions?	**No**	**No**	**No**	**No**	**No**		**No**		

Source: LSA Associates, Inc. (January 2014).

CO = carbon monoxide
CO_2e = carbon dioxide equivalent
lbs/day = pounds per day
NO_X = nitrogen oxides
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
PM_{10} = particulate matter less than 10 microns in size
ROG = reactive organic compounds
SCAQMD = South Coast Air Quality Management District
SO_2 = sulfur dioxide

It is mandatory for all construction projects in the Basin to comply with SCAQMD Rule 403 for fugitive dust (SCAQMD 2005). Rule 403 fugitive dust control requirements include applying water in sufficient quantities to prevent the generation of visible dust plumes, applying soil binders to uncovered areas, re-establishing ground cover as quickly as possible, using a wheel washing system to remove bulk material from tires and vehicle undercarriages before vehicles exit the project site, and maintaining effective cover over exposed areas. Implementing these measures throughout construction activities would minimize fugitive dust emissions from all possible sources (e.g., demolition, grading, and excavation). As indicated in Table 4.3-2, construction-generated emissions would not exceed applicable emissions thresholds established by SCAQMD. Therefore, construction air quality impacts would be less than significant. No mitigation is required.

Operation. The proposed project would not generate new vehicle trips and would not generate any additional activities related to maintenance or operations that would increase vehicle trips from existing levels. The purpose and need of the proposed project are to reduce congestion during storm events, improve safety and drainage, enhance pedestrian connectivity, and enhance streetscapes. Therefore, the proposed project would not result in an increase in vehicle operations thereby substantially contributing to an existing or projected air quality violation. Operational impacts would be less than significant with no mitigation required.

c) Less than Significant Impact. NAAQS and CAAQS have been established for the following criteria pollutants: CO, O_3, SO_2, NO_2, PM_{10}, $PM_{2.5}$, and lead. Areas are classified under the federal Clean Air Act as attainment, nonattainment, or maintenance (previously non-attainment and currently attainment) for each criteria pollutant based on whether the NAAQS have been achieved. Attainment relative to the California Clean Air Act and State standards is determined by the ARB based on air monitoring data within the region. Table 4.3-3 lists the attainment status for the criteria pollutants in the Basin.

Table 4.3-3: Attainment Status of Criteria Pollutants in the South Coast Air Basin

Pollutant	State	Federal
O_3 1-hour	Nonattainment	N/A
O_3 8-hour	Nonattainment	Extreme Nonattainment
PM_{10}	Nonattainment	Attainment/Maintenance
$PM_{2.5}$	Nonattainment	Nonattainment
CO	Attainment	Attainment/Maintenance
NO_2	Nonattainment	Attainment/Maintenance
SO_2	Attainment	Attainment
Lead	Attainment[1]	Attainment[1]
All others	Attainment/Unclassified	Attainment/Unclassified

Source: California ARB, http://www.arb.ca.gov/desig/desig.htm (2013).
[1] Except in Los Angeles County.
ARB = California Air Resources Board
CO = carbon monoxide
N/A = not applicable
NO_2 = nitrogen dioxide
O_3 = ozone
PM_{10} = particulate matter less than 10 microns in diameter
$PM_{2.5}$ = particulate matter less than 2.5 microns in diameter
SO_2 = sulfur dioxide

The SCAQMD-recommended analysis of cumulative impacts focuses on whether a specific project would result in cumulatively considerable emissions. Per CEQA Guidelines Section 15064(h)(4), the existence of significant cumulative impacts caused by other projects alone shall not constitute substantial evidence that the proposed project's incremental effects are cumulatively considerable. In other words, the project's contribution to a cumulative impact should be evaluated with respect to the total cumulative impact from all projects to determine if the project's contribution is considerable.

Construction of the proposed project would last up to 7 months, and the worst-case scenario would not exceed the SCAQMD's significance thresholds for construction emissions. Therefore, the proposed project's construction emissions would not exceed its allowable emissions budget, and the proposed project would conform to the State Implementation Plan. Accordingly, the proposed project's temporary and short-term construction emissions would not result in a cumulatively significant impact. Moreover, required fugitive dust control measures required by Rule 403 would ensure that all PM emissions from proposed construction and operational activities within the Basin project region, in combination with any reasonably foreseeable future emissions source, would produce less than significant cumulative effects. With these measures, temporary dust associated with construction would be confined to the site area and would not cumulatively interact with dust generated from other projects.

As discussed earlier, the proposed project would improve projected future traffic operations and is not anticipated to increase regional emissions over existing levels. The operational activities of the proposed project would conform to CEQA thresholds, would not create a CO or PM hot-spot, and would not result in a cumulatively considerable net increase of criteria pollutants. Therefore, the proposed project would not contribute to cumulative air quality impacts and is considered to be less than significant, and no mitigation is required.

d) Less than Significant Impact. Some members of the population are especially sensitive to air pollutant emissions and should be given special consideration when evaluating air quality impacts from projects. These people include children, older adults, and persons with preexisting respiratory or cardiovascular illness, and athletes and others who engage in frequent exercise. Structures that house

these persons or places where they gather are defined as sensitive receptors by SCAQMD. According to SCAQMD, sensitive receptors include residences, schools, playgrounds, child care centers, athletic facilities, long-term health care facilities, rehabilitation centers, convalescent centers, and retirement homes.

Properties fronting Harbor Boulevard in the project area include commercial and residential land uses. The nearest residences are approximately 50 feet from the Harbor Boulevard right-of-way. The residential and commercial sensitive receptors represent the nearest land uses with the potential to be impacted as a result of the proposed project. The proposed project was evaluated for any localized toxic air contaminant (TAC), CO, and/or PM impacts.

Construction. The greatest potential for TAC emissions would be related to diesel particulate emissions associated with heavy equipment operations during grading and excavation activities. According to SCAQMD methodology, health effects from carcinogenic TACs are usually described in terms of individual cancer risk, which is based on a 70-year lifetime exposure to TACs. Given the construction schedule of up to 7 months, and considering that construction would occur over a 2.5-mile distance during that time-frame, the proposed project would not result in a long-term (i.e., 70 years) substantial source of TAC emissions in the immediate vicinity of sensitive receptors, with no residual emissions or corresponding individual cancer risk occurring after construction. Thus, if the duration of potentially harmful construction activities near a sensitive receptor is 7 months, then the exposure would be approximately 0.8 percent of the total exposure period used for typical health risk calculations (i.e., 70 years). In addition, as shown in response 4.3(b) above, construction of the proposed project would not exceed the SCAQMD significance thresholds. Therefore, the proposed project would not expose sensitive receptors to substantial construction pollutant concentrations. The impact would be less than significant, and no mitigation is required.

Operation. As discussed earlier, the proposed project is not anticipated to increase vehicle emissions over existing levels. Therefore, the proposed project would not expose sensitive receptors to new substantial pollutant concentrations. Operational-impacts-related emissions would, therefore, be less than significant, and no mitigation is required.

e) Less than Significant Impact. Potential sources that may emit odors during construction activities include exhaust from diesel construction equipment. However, because of the temporary nature of these emissions and the highly diffusive properties of diesel exhaust, nearby receptors would not be affected by diesel exhaust odors associated with project construction. Odors from these sources would be localized and generally confined to the immediate area surrounding the proposed project site. The proposed project would use typical construction techniques, and the odors would be typical of most construction sites and be temporary. Operation of the proposed project would not add any new odor sources. As a result, the proposed project would not create objectionable odors affecting a substantial number of people. The impact would be less than significant, and no mitigation is required.

4.4 BIOLOGICAL RESOURCES

Would the project:

	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☐	☒	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☐	☐	☒
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☒
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☐	☒
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☒	☐
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

a) Less than Significant Impact. The proposed project includes the removal of sidewalks, medians and the associated landscaping to be replaced by new drought-tolerant landscaping. The project site and surrounding area are fully urbanized and are devoid of any native habitat, and no known rare or endangered plant or animal species have been identified within the City (City of Garden Grove, 2008). There are several nonnative tree species present along the medians and sidewalks throughout the project site that are proposed for removal. Although these trees are nonnative, they may serve as nesting habitat for a variety of birds that are protected under the MBTA, which implements the United States' commitment to four treaties with Canada, Japan, Mexico, and Russia for the protection of shared migratory bird resources. The MBTA governs the taking, killing, possession, transportation, and importation of migratory birds, their eggs, parts, and nests. The United States Fish and Wildlife Service (USFWS) administers permits to take migratory birds in accordance with the MBTA. However, PDF No. 1, described in Section 2.2.1, would ensure that the proposed project would comply with the MBTA by conducting a survey for nesting birds within 3 days prior to commencement of any demolition or construction activities during the peak bird nesting season (February 15 to August 15). Adherence to the MBTA regulations would ensure that if construction occurs during the breeding and nesting season, appropriate measures would be taken to avoid impacts to nesting birds, if any are found. With adherence to the existing MBTA requirements and incorporation of PDF No. 1, less than significant impacts would result from project implementation.

b–d) No Impact. The project site is located within an urban area and does not contain riparian habitat or other sensitive natural communities identified in local or regional plans, policies, or regulations or by the California Department of Fish and Wildlife Service (CDFW). The project site does not contain jurisdictional waters, wetlands, or wildlife movement corridors. Therefore, no direct removal, filling, or hydrological interruption of a wetland area would occur with development of the proposed project.

Therefore, no significant impacts related to riparian habitat, other sensitive natural communities identified in local or regional plans, or wildlife movement would occur as a result of project implementation.

e) Less than Significant Impact. Although no native or sensitive habitats or species were identified in the project site, there are several nonnative tree species present along the medians and sidewalks throughout the project site that are proposed for removal. Chapter 32: Trees, of the City's Municipal Code (Title 11.32.020: Permits) forbids the removal of any trees on City property without a permit from the City Manager. However, as described in PDF No. 2, outlined in Section 2.2 of this document, the contractor will obtain a permit for removal of any the trees located within the project site in order to be compliant with the City's Municipal Code. Therefore, there would be no conflicts with local policies or ordinances protecting biological resources that would be less than significant, and no mitigation is required.

f) No Impact. The project site is located within a public right-of-way and is not located within the boundaries of an adopted Habitat Conservation Plan (HCP), Natural Community Conservation Plan (NCCP), or any other local or regional conservation plan. Therefore, the proposed project would not result in an impact related to an adopted HCP, or NCCP, and no mitigation is required.

4.5 CULTURAL RESOURCES

Would the project:

	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	☐	☐	☒	☐
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☐	☒	☐
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☒	☐
d) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☒	☐

Discussion:

On January 21, 2014, an archaeological and historical resource record search was conducted at the South Central Coastal Information Center (SCCIC) for the proposed project area. The search included a review of all recorded cultural resource sites within a 0.25-mile radius of the project, as well as a review of cultural resource studies on file at the SCCIC. The following Cultural Resources section is based on the information and findings of the *Cultural Resources Assessment* (LSA Associates, Inc. [LSA], January 2014) and the *Paleontological Assessment* (LSA, January 2014), which are included in Appendix A and B, respectively.

a) Less than Significant Impact. The record search indicates that two prior cultural resource studies encompass the project area, and another six studies are within 0.25 mile of the project. As indicated in the *Cultural Resources Assessment*, the record search shows that no previously recorded prehistoric or historic sites exist within either segment of the project area. However, 36 historic sites have been recorded within 0.25 mile of the project area. One property (P-30-157313), a residence south of Lampson Avenue and nearly 0.25 mile west of the project area, is eligible for local listing or designation. The remaining historic sites have been determined ineligible for listing on the National Register of Historic Places (National Register), although they were not evaluated for the California Register of Historical Resources (California Register) or for local listing. Because none of the sites are located within the project area and will not be impacted by the work proposed for this project, potential impacts to these sites are considered less than significant and no mitigation is required.

b) Less than Significant Impact. Historic maps provided by the SCCIC include the 1896 and 1942 versions of the *Anaheim, California* 15-minute United States Geological Survey (USGS) maps (USGS 1896, 1942). Additional historic maps and aerial photographs were reviewed online. Review and analysis of the historic maps indicate that a gradual but complete transformation from agricultural land uses to a suburban and urban environment took place from 1896 through 1972. By 1972, an aerial photograph indicates that the entire area surrounding the current project area consists of built environment with almost no remaining open areas. Little change is evident between 1972 and subsequent aerial photographs taken in 2003, 2004, and 2005.

The record search indicates that two prior cultural resource studies encompass the project area, and another six studies are within 0.25 mile of the project. As indicated in the *Cultural Resources Assessment*, the record search shows that no previously recorded cultural resources exist within either segment of the project area. However, the project would include earthmoving and excavation of soil. Therefore, the project has included PDF No. 3 which addresses compliance with Public Resources Code Section 21083.2 in the unanticipated event that archaeological resources are encountered during construction. Due to the lack of potential for archaeological resources within the project area, implementation of PDF No. 3,

and the entire project area being paved with no natural ground surface visible, project impacts to historic and archaeological resources are considered to be less than significant, and no mitigation is required.

c) Less than Significant Impact. A *Paleontological Assessment* was prepared for this project and is included as Appendix B. As a part of the assessment, a paleontological literature search and locality review were conducted to determine the geology of the project and whether there were any known paleontological localities within or immediately adjacent to the project site.

The project area is located at the northern end of the Peninsular Ranges Geomorphic Province, a 900-mile northwest-southeast trending structural block that extends from the tip of Baja California to the Transverse Ranges and includes the Los Angeles Basin (Norris and Webb, 1976). Specifically, the project is located within the Los Angeles Basin. The Los Angeles Basin is a broad, almost level alluvial plain (gradient of 0.5 to 1 percent). It is bounded on the north and northeast by hills and mountains of the Northern Peninsular and Transverse Ranges and on the south and west by the Pacific Ocean. The marine and nonmarine sediments within the Los Angeles Basin are up to 6 miles deep. The basin began to form approximately 15 million years ago (mya) due to crustal stretching from movement along various faults. The crustal stretching resulted in the formation of a large, bowl-like basin.

Mapping included in the *Paleontological Assessment* indicate Young Alluvial Fan Deposits as occurring on the surface of the project area. Artificial Fill is also likely present in some areas based on the developed nature of the project area and the surrounding area. Artificial Fill can contain fossils, but these fossils would have been removed from their original location and are thus, out of context. They are not considered to be important for scientific study. Young Alluvial Fan Deposits were deposited during the Late Pleistocene and the Holocene and have a low potential to contain paleontological resources as long as no excavation work extends deeper than 15 feet below the surface, where Pleistocene sediments with a high paleontological sensitivity may begin to be encountered. The proposed project will require excavations related to piping and storm drain installation; however, the project would only require excavation depths to be 7.5 feet or less. Additionally, specific actions to be taken in the unlikely event paleontological resources are discovered are included as a PDF No. 4, to be included as contractor specifications.

Therefore, because the proposed project area contains a low potential for paleontological resources to exist, does not require significant excavation, and includes provisions to protect paleontological resources within the project specifications, impacts related to a unique paleontological resource or geologic feature would be less than significant, and no mitigation is required.

d) Less than Significant Impact. No prehistoric or historic resources were identified by the records search as being present within the project area boundaries. However, as a PDF No. 5, the City has included a specification that clearly indicates the actions to be taken in the unlikely case that human remains are encountered during construction activities. Therefore, with the implementation of PDF No. 5 and due to the entire project area being paved with no natural ground surface visible, project impacts to the potential disturbance of human remains are considered to be less than significant, and no mitigation is required.

4.6 GEOLOGY AND SOILS

Would the project:

	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☒	☐
ii) Strong seismic ground shaking?	☐	☐	☒	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
iv) Landslides?	☐	☐	☐	☒
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☒	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☒	☐
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	☒

a)i–ii) Less than Significant Impact. The City, like the rest of Southern California, is located in a seismically active area. As shown in the City's General Plan Environmental Impact Report (EIR) (Garden Grove, 2008a), there are no Alquist-Priolo Earthquake Fault Zones located within the City of Garden Grove. However, two fault splays associated with the inactive Pelican Hills Fault Zone traverse the central and western portions of the City in a northwest-to-southeast trending direction. Additionally, there are several potentially active faults within proximity to the City. However, the proposed project includes the replacement and upgrading of street and storm drain improvements and does not propose construction of habitable structures of any kind. Therefore, a less than significant impact related to the exposure of people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault and ground shaking, would occur. No mitigation is required.

iii) Less than Significant Impact. Based on the City's General Plan EIR (Garden Grove, 2008b), the portion of the project site south of Chapman Avenue is in an area with potential for liquefaction. However, the proposed project would include the replacement and upgrading of street and storm drain improvements and does not propose construction of habitable structures of any kind. Additionally, the proposed project would comply with standard building practices as set forth in the 2013 California Building Code. Therefore, potential impacts related to seismic-related ground failure including liquefaction are considered less than significant, and no mitigation is required.

iv) No Impact. The project site is relatively flat and would not be subject to earthquake-induced landslides. Additionally, since the project area is almost completely paved with storm drain and other street infrastructure already in place, new road pavement and related infrastructure would be installed in accordance with standard construction practices and code requirements. Therefore, no impacts related to landslides would occur, and no mitigation is required.

b) Less than Significant Impact. The proposed project site is within existing roadways on relatively flat land that is fully paved. Therefore, minimal soil disturbance is anticipated during construction of the improvements. Additionally, as described in Section 4.9, Hydrology and Water Quality, construction activities would be performed pursuant to the current National Pollutant Discharge Elimination System (NPDES) permit requirements, which limit sediment-laden runoff from the project site. Therefore, impacts related to the erosion or loss of substantial topsoil are considered to be less than significant, and no mitigation is required.

c) Less than Significant Impact. See Response a) iii) for discussion regarding liquefaction, and Response a) iv) above for discussion regarding landslides. As shown in the General Plan EIR (Garden Grove, 2008d [pg. 5.7-13]) the project site is located within an area considered to have "Moderate Dynamic Settlement Potential." However, the proposed project includes the replacement and upgrade of several street and storm drain improvements in a relatively flat and currently developed area. Additionally, all construction would be performed pursuant to the current California Building Codes. Therefore, impacts related to unstable soils are considered to be less than significant, and no mitigation is required.

d) Less than Significant Impact. Expansion and contraction of volume can occur when expansive soils undergo alternating cycles of wetting (swelling) and drying (shrinking). Topsoil, recent alluvium, and weathered bedrock are typically porous and may be subject to hydrocollapse; therefore, these materials can be considered unsuitable for the support of engineered fills and structures. Alluvial sediments, deposited by an ancestral Santa Ana River, underlie the City. These soils are considered potentially expansive. However, the proposed project includes the replacement and upgrade of several street and storm drain improvements in a relatively flat and currently developed area. Additionally, all construction would be performed pursuant to the current California Building Codes. Therefore, impacts related to unstable soils are considered to be less than significant, and no mitigation is required.

e) No Impact. The proposed project does not include construction of, or connection to, septic tanks or alternative wastewater disposal systems. Therefore, the proposed project would not result in any impacts related to the capability of the soils to adequately support the use of septic tanks or alternative wastewater disposal systems, and no mitigation is required.

4.7 GREENHOUSE GAS EMISSIONS

Would the project:

		Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
a)	Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b)	Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐

a) Less than Significant Impact. Certain gases in Earth's atmosphere, classified as greenhouse gases (GHGs), play a critical role in determining Earth's surface temperature. A portion of the solar radiation that enters Earth's atmosphere is absorbed by the Earth's surface, and a smaller portion of this radiation is reflected back toward space. Infrared radiation is absorbed by GHGs; as a result, infrared radiation released from Earth that otherwise would have escaped back into space is instead "trapped," resulting in a warming of the atmosphere. This phenomenon, known as the "greenhouse effect," is responsible for maintaining a habitable climate on Earth. Without the naturally occurring greenhouse effect, Earth would not be able to support life as we know it.

GHGs are present in the atmosphere naturally, are released by natural sources, or are formed from secondary reactions taking place in the atmosphere. The following are the gases that are widely seen as the principal contributors to human-induced global climate change:

- Carbon dioxide (CO_2)
- Methane (CH_4)
- Nitrous oxide (N_2O)
- Hydrofluorocarbons (HFCs)
- Perfluorocarbons (PFCs)
- Sulfur hexafluoride (SF_6)

GHG emissions related to human activities are responsible for intensifying the greenhouse effect and have led to a trend of unnatural warming of Earth's atmosphere and oceans, with corresponding effects on global circulation patterns and climate (Intergovernmental Panel on Climate Change [IPCC] 2007).

Global warming potential (GWP) is a concept developed to compare the ability of each GHG to trap heat in the atmosphere relative to another gas; the GWP is based on several factors, including the relative effectiveness of a gas to absorb infrared radiation and the length of time that the gas remains in the atmosphere ("atmospheric lifetime"). The GWP of each gas is measured relative to CO_2, the most abundant GHG. GHGs with lower emissions rates than CO_2 may still contribute to climate change because they are more effective at absorbing outgoing infrared radiation than CO_2. The concept of CO_2-equivalents (CO_2e) is used to account for the different GWPs of GHGs to absorb infrared radiation.

Heavy-duty off-road equipment, materials transport, and worker commutes during construction of the proposed project would result in exhaust emissions of GHGs. GHG emissions generated by construction would primarily be in the form of CO_2. Although emissions of other GHGs, such as CH_4 and N_2O, are important with respect to global climate change, the emissions levels of these other GHGs from on- and off-road vehicles used during construction are relatively small compared with CO_2 emissions, even when factoring in the relatively larger GWP of CH_4 and N_2O.

Total construction-related GHG emissions were estimated using the methodology discussed earlier under Section 4.3, Air Quality (see Table 4.3-2). Total project construction emissions would be approximately 215 metric tons of CO_2e. This assumes that maximum daily emissions would continue for 7 months during project construction; this is a conservative estimate of GHG emissions. No federal, State, regional, or local air quality regulatory agency has adopted a quantitative threshold of significance for construction-related GHG emissions.

On December 5, 2008 the South Coast Air Quality Management District (SCAQMD) Governing Board adopted an interim quantitative GHG Significance Threshold for industrial projects where the SCAQMD is the lead agency (e.g., stationary source permit projects, rules, plans, etc.) of 10,000 tons per year (tpy) of CO_2e. The threshold applies primarily to industrial facilities. No threshold for a landscape improvement-type of project has been promulgated. In the absence of any adopted thresholds for this project, this analysis uses the 10,000 tpy of CO_2e threshold recommendation as a guideline for this impact analysis.

One of the main strategies in the Climate Action Program at the California Department of Transportation (Caltrans) to reduce GHG emissions is to make California's transportation system more efficient. The highest levels of CO_2 from mobile sources, such as automobiles, occur at stop-and-go speeds (0 to 25 miles per hour) and speeds faster than 55 miles per hour; the most severe emissions occur from 0 to 25 miles per hour. To the extent that a project relieves congestion by enhancing operations and improving travel times in high-congestion travel corridors, GHG emissions, particularly CO_2, may be reduced. The proposed project is not anticipated to result in any increase in traffic volumes, vehicle miles traveled (VMT), or other sources of GHG emissions. Therefore, the proposed project would not generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment. As the total construction emission of GHG would be 215 metric tons of CO_2e and the operational emissions would be less that the existing GHG emissions level, the annual GHG emissions from the project would be less than the SCAQMD 10,000 tpy threshold, the impact would be less than significant, and no mitigation is required.

b) Less than Significant Impact. In September 2006, then-Governor Arnold Schwarzenegger signed Assembly Bill (AB) 32, the California Global Warming Solutions Act of 2006. AB 32 establishes regulatory, reporting, and market mechanisms to achieve quantifiable reductions in GHG emissions, and establishes a cap on statewide GHG emissions. It requires that statewide GHG emissions be reduced to 1990 levels by 2020. In October 2008, ARB published its Climate Change AB 32 Scoping Plan, which is the State's plan to achieve the GHG reductions in California required by AB 32. The Scoping Plan was approved by ARB on December 11, 2008.

ARB's Scoping Plan includes measures that would indirectly address GHG emissions levels associated with construction activity, including the phasing in of cleaner technology for diesel engine fleets (including construction equipment) and the development of a Low Carbon Fuel Standard. Policies formulated under the mandate of AB 32 that are applicable to construction-related activity, either directly or indirectly, are assumed to be implemented during construction of the proposed project if those policies and laws are developed before construction begins. As all construction equipment in use in California incorporates cleaner diesel engine measures, this construction project will use such construction equipment and all fuel available complies with the Low Carbon Fuel Standard, the project construction would not conflict with the Scoping Plan.

Transportation sources (passenger cars, light-duty trucks, other trucks, buses, and motorcycles) in California make up the largest source (second to electricity generation) of GHG sources. There are four primary strategies for reducing GHG emissions from transportation sources: (1) improve system and

operation efficiencies, (2) reduce growth of VMT, (3) transition to lower GHG fuels, and (4) improve vehicle technologies. To be most effective, all four goals should be pursued collectively.

The proposed project would improve system and operational efficiencies by reducing congestion on the project segment of Harbor Boulevard, thereby providing relief to existing and forecasted congested arterial roadways. The amount of GHG emissions emitted by the proposed project would be based on the change in traffic volumes, or the net VMT for the "build" and "no build" scenarios, assuming that other variables such as fleet mix are the same. The proposed project is a median and storm drain improvement project and not a development project. Therefore, the proposed project would not cause an increase in traffic.

The measure of success of the goals in the ARB's Scoping Plan is if the GHG emissions in California in the year 2020 are at least 16 percent less than "business-as-usual", as defined in the Scoping Plan. As described above, emissions from construction of the proposed project would be less than if the project didn't comply with the cleaner diesel engine measures and Low Carbon Fuel Standard and the project will result in lower GHG emissions from traffic operating on Harbor Boulevard. Thus, the GHG emissions from the proposed project will be at least 16 percent less than the "business-as-usual" emissions.

As discussed earlier, the proposed project would not generate GHG emissions that would have a significant impact on the environment, and would not be expected to substantially conflict with existing California legislation adopted to reduce statewide GHG emissions. The proposed project would not conflict with any applicable plan, policy, or regulation for the purpose of reducing GHG emissions. Neither the City nor any other agency with jurisdiction over this project has adopted climate change or GHG reduction measures with which the proposed project would conflict. Therefore, impacts would be less than significant, and no mitigation is required.

4.8 HAZARDS AND HAZARDOUS MATERIALS

Would the project:

	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
a) Create a significant hazard to the public or the environment through the routine transport, use or disposal of hazardous materials?	☐	☐	☒	☐
b) Create a significant hazard to the public or the environment through reasonable foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☒	☐
d) Be located on a site which is included on a list of hazardous materials sites complied pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☒	☐
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☐	☒

a) Less than Significant Impact. The proposed project is located along Harbor Boulevard between Garden Grove Boulevard and Chapman Avenue. This roadway has the potential to be used to transport hazardous materials. However, the proposed project would replace and upgrade street improvements and storm drains and would not increase the frequency of hazardous materials transport, nor would it directly result in the release of hazardous materials. Impacts related to the transport, use, or disposal of hazardous materials are considered less than significant, and no mitigation would be required.

b) Less than Significant Impact. Construction of the proposed project would involve the use of chemical agents, solvents, paints, and other hazardous materials that are associated with construction activities. The amount of hazardous chemicals present during construction would be limited and handled in compliance with existing government regulations. The potential for a release of hazardous chemicals during project construction is low; however, if a release did occur, it would not result in a significant hazard to the public, surrounding land uses, or environment due to the small quantities of these materials used during construction. Therefore, the proposed project would not create a significant hazard to the public or the surrounding environment through foreseeable upset and accident conditions involving the likely release of hazardous materials into the environment. Impacts are considered less than significant, and no mitigation is required.

c) Less than Significant Impact. Walton Intermediate School, located at 12181 Buaro Street, is located approximately 0.25 mile to the west of the northern portion of the project site. The proposed project includes the replacement of street improvements and upgrades to the storm drains along Harbor Boulevard. Given the nature of the proposed project, no significant amount of hazardous materials or emissions would be produced. Therefore, impacts related to hazardous materials, substances, or waste would be less than significant, and no mitigation would be required.

d) Less than Significant Impact. A Phase I Environmental Site Assessment (Phase I ESA) for Harbor Boulevard Site – Water Park located at 12581, 12591, 12625, and 12721 Harbor Boulevard, and 12601 and 12602 Leda Lane dated December 2012 was reviewed; the Phase I ESA is included in Appendix C.

The Phase I ESA indicated that the proposed project site is adjacent to a recorded hazardous waste site (Arco Products Company) listed on the Hazardous Waste Information System (HWIS-CA), which is maintained by the California Department of Toxic Substance Control (DTSC), and a Leaking Underground Storage Tank (LUST), which is maintained by State Water Resource Control Board (SWRCB) databases.

The Arco Products Company is listed with an open LUST case; the Lead Agency is the Orange County Local Oversight Program. Groundwater was reported to be affected by gasoline. Groundwater depth was reported at approximately 23-28 feet below ground surface (bgs). Excavation for the proposed project would not exceed a depth of 7 feet bgs. Based on depth to groundwater information within the project area, it is unlikely that groundwater will be encountered during excavation activities. Compliance with federal, State, and local hazardous materials laws and regulations would minimize the risk to the public presented by any unknown potential hazards during construction of the proposed project. Therefore, construction of the proposed project would result in less than significant impacts associated with hazardous materials, and no mitigation is required.

e–f) No Impact. The Los Alamitos Army Airfield is located approximately 7 miles to the west of the project site, and the closest public airport to the project site is the Fullerton Municipal Airport, located approximately 6.75 miles to the northwest. Therefore, the proposed project is not located within 2 miles of an airport or within an airport land use plan. Additionally, as a street and storm drain improvements project, the proposed project would not result in an airport-related safety hazard for people residing or working in the project area. Therefore, no impacts are anticipated, and no mitigation is required.

g) No Impact. The proposed project would not interfere with an adopted emergency response plan or emergency evacuation plan. A Traffic Control Plan (TCP) will be prepared for the project and will regulate the access to and from the project site. The TCP would be reviewed and approved by the Garden Grove Fire Department (GGFD) as part of the project approval process to ensure the proposed project is compliant with all applicable codes and ordinances for emergency vehicle access. The proposed project would not interfere with an adopted emergency response plan or emergency evacuation plan. No impacts are anticipated as a result of project implementation, and no mitigation is required.

h) No Impact. The area surrounding the project site is urban and built out. No wildlands exist in the project vicinity, and the project site is not designated as a Special Fire Protection Area or a Fire Hazard Severity Zone on the Statewide California Department of Forestry and Fire Protection (CalFire) Map. Therefore, no impacts related to wildland fires are anticipated, and no mitigation is required.

4.9 HYDROLOGY AND WATER QUALITY

Would the project:

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements?	☐	☐	☒	☐
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☐	☒
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	☐	☐	☒	☐
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	☐	☐	☒	☐
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☒	☐
f) Otherwise substantially degrade water quality?	☐	☐	☒	☐
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	☒
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	☐	☐	☐	☒
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☐	☒
j) Inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☒

a) Less than Significant Impact. Pollutants of concern during construction include sediments, trash, petroleum products, concrete waste (dry and wet), sanitary waste, and chemicals. Each of these pollutants on its own or in combination with other pollutants can have a detrimental effect on water quality. During construction activities, excavated soil would be exposed, and there would be an increased potential for soil erosion and sedimentation compared to existing conditions. In addition, chemicals, liquid products, petroleum products (such as paints, solvents, and fuels), and concrete-related waste may be spilled or leaked and have the potential to be transported via storm runoff into receiving waters.

Numerous federal and State statutes, regulations, and programs are designed to protect and enhance water quality including the Federal Water Pollution Control Act and its amendments (Federal Clean Water Act), the California Porter-Cologne Water Quality Control Act (Porter-Cologne Act), the National Pollution Discharge Elimination Program, the Municipal Stormwater Permitting Program, and the Water Quality Control Plan for the Santa Ana River Basin. The project must comply with these requirements, in addition to the water quality requirements of the Garden Grove Municipal Code, the Garden Grove Sanitary District, and the Garden Grove Public Works Water Service Division. Pursuant to the federal Clean Water Act, the discharge of pollutants to waters of the United States from any point source is unlawful, unless the discharge is in compliance with a National Pollutant Discharge Elimination System (NPDES) permit. Municipal and industrial stormwater discharges are also regulated under the NPDES program. The California SWRCB maintains the California NPDES program through the Regional Water Quality Control Boards.

Construction activities that disturb one acre of land or more must apply for coverage under the SWRCB General Construction Activity Stormwater Permit. To obtain coverage, a Storm Water Pollution Prevention Plan (SWPPP) must be prepared describing best management practices (BMPs) for erosion

and sediment controls, runoff water quality monitoring, waste disposal requirements, post-construction control measures and non-stormwater management controls. The project will be required to obtain coverage under the General Construction Activity Stormwater Permit, and a SWPPP will be required. Construction activities for the project will include activities such as clearing and grading that will expose surface soils and could result in sediment and runoff in downstream receiving waters along with other miscellaneous waste. The control of construction-related pollutants, however, will be achieved through the implementation of BMPs identified in the SWPPP.

The incorporation of BMPs prescribed in the Water Quality Management Plan (WQMP) will reduce potential pollutants that enter the surface flows as a result of project implementation, to the maximum extent practicable as required by the Regional Water Quality Control Board. With the SWPPP, WQMP, and BMPs, the project will not violate any water quality standards or waste discharge requirements, provide substantial additional sources of polluted runoff or otherwise substantially degrade water quality. Therefore, impacts are considered less than significant, and no mitigation is required.

b) No Impact. No on-site groundwater resources will be used for the construction and operation of the project. The project site is currently mostly paved and, as a result of the implementation of the street and storm drain improvements, the project would lead to a decrease of impervious surfaces from the existing condition by approximately 3,600 square feet. In addition, groundwater is not anticipated to be encountered during construction; therefore, groundwater dewatering during construction would not be required. Consequently, no impacts would occur because site development would not substantially deplete groundwater supplies or substantially interfere with groundwater recharge. No mitigation is required.

c) Less than Significant Impact. Roadway surfaces within the project area do not include sufficient street drainage infrastructure and do not meet the current and future land use needs and have led to flood events in the past. As a result, the existing roadway surfaces have incurred damage from surface erosion and degradation, with potential for downstream water quality impacts. Infiltration of water into the roadway sections have led to the weakening of the base material, thereby requiring more frequent maintenance and increased costs to the community. As this existing infrastructure is reaching the end of its anticipated lifespan, the proposed project would improve the infrastructure to the City's new and future modified land use projections as adopted by the General Plan. The proposed project improvements would be designed and constructed to meet current planning and engineering design standards for basic public health and safety and would not result in additional erosion on or off the site. Impacts are considered less than significant, and no mitigation is required.

d) Less than Significant Impact. The project area would be contained entirely within the existing right-of-way of Harbor Boulevard and portions of Twintree Lane, Choisser Road, Greentree Avenue, and Bangor Street. The project area is almost entirely impervious except for portions of landscaping in the medians and along sidewalks. Although the on-site drainage pattern would be temporarily altered during construction, construction activities would not substantially change the volume or velocity of runoff from the site. Generally, the improvements to be constructed in the designated project areas include, but are not limited to, minor curb and gutter improvements, bus stop replacements, landscaped parkway, street trees, decorative sidewalk, landscaped medians, water services, storm drain piping with catch drain inlets, and walkway and tree lighting. All improvements would occur in existing street areas and would not expand the street or substantially alter the amount of on-site pervious and impervious surfaces. Therefore, the proposed improvements would not substantially change the volume and velocity of runoff from the project site. Additionally, the proposed project is being implemented to alleviate existing flooding problems that occur along the project area. The replacement of storm drains with improved technologies would reduce the existing flooding issues and, therefore, would not result in on-site or off-site flooding. Impacts are considered less than significant, and no mitigation is required.

e) Less than Significant Impact. As discussed above in Responses 4.9.c and 4.9.d, the proposed project would include storm drain improvements to alleviate an existing flooding issue, thereby improving capacity. Additionally, the proposed project would not increase impervious surfaces or include a use that would provide an additional source of polluted runoff. Impacts to storm drainage systems and additional polluted runoff are considered less than significant, and no mitigation is required.

f) Less than Significant Impact. Refer to Response 4.9.a.

g–i) No Impact. The proposed project is located within a Flood Zone "A", an area subject to inundation by the one percent annual chance of a flood event. Additionally, the project site is not located in an area subject to flooding as a result of dam or levee failure. The proposed project is a street, landscaping, and storm drain improvements project and does not include housing or structures. Therefore, the proposed project would not place housing or structures within a 100-year flood hazard area or expose people or structures to a significant risk of loss, injury, or death involving flooding, and no impacts would occur. No mitigation is required.

j) No Impact. There are no water retention facilities located in close proximity to the project site, the project site is not within the tsunami inundation area, and the project site is located within relatively flat areas that would not be subject to mudslides. Therefore, the project site would not be subject to seiche, tsunami, or mudflow hazards, and no impacts would result. No mitigation is required.

4.10 LAND USE/PLANNING

Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
a) Physically divide an established community?	☐	☐	☐	☒
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☒

a) No Impact. Implementation of the proposed project will not divide an established community due to the fact that the proposed project would be a replacement of existing street, landscaping, and storm drain improvements. During construction, access to businesses will be maintained at all times. The contractor is required to implement the construction phases in a way that does not impede pedestrians from accessing businesses. Additionally, construction activities are temporary in nature and would not permanently divide the community in a physical manner. All development will be contained within the street right-of-way without dividing or altering any community boundary. Therefore, implementation of the proposed project would not result in impacts due to the physical division of any established community, and no mitigation is required.

b) No Impact. The proposed project does not require any modifications to zoning or land use designations as it would include the replacement of street, landscaping, and storm drain improvements. Therefore, since the project would upgrade and improve existing infrastructure, the project would not conflict with any land use plans, and no impact would occur. No mitigation is required.

c) No Impact. The proposed project is not located within the boundaries of any applicable HCP or NCCP. Therefore, the proposed project would not result in an impact related to any applicable HCP or NCCP, and no mitigation is required.

4.11 MINERAL RESOURCES

Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒

a–b) No Impact. According to the City's General Plan Update EIR (2008), the proposed project site is not located in an area known to contain locally important mineral resources. In addition, implementation of the proposed project is not anticipated to interfere with resource recovery from other sites that are identified in any general, specific, or land use plan. Therefore, the proposed project would have no impact on mineral resources, and no mitigation is required.

4.12 NOISE

Would the project result in:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
a) Exposure of persons to or generation of noise levels in excess of standards established in the local General Plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒	☐
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

Discussion:

By definition, "noise" is sound that is considered unpleasant and unwanted. Whether a sound is considered unpleasant depends on the individual who hears the sound and the setting and circumstance under which the sound is heard. While performing certain tasks, people expect and, as such, accept certain sounds that are considered unpleasant under other circumstances. By comparison, when resting or relaxing, these same sounds may be intolerable. Because individuals' tolerance for noise varies by setting, some land uses are more sensitive to changes in the ambient noise environment. Noise-sensitive receptors include schools, hospitals, rest homes, long-term care facilities, mental care facilities, residential uses, places of worship, libraries, and passive recreation areas.

Decibel (dB) is the unit of measure used to describe the loudness of sound. Because the range of sound that humans can hear is quite large, the dB scale is logarithmic, making calculations more manageable. Factors that affect people's perception of sound include the actual sound level, frequencies of the sound, the period of exposure to the sound, and changes or fluctuations in the sound level during exposure. To measure sound in a manner that accurately reflects human perception, several measuring systems, or scales, have been developed. The A-weighted scale reflects that the human ear does not perceive all pitches or frequencies equally; therefore, decibel measurements are adjusted (or weighted) to compensate for the human lack of sensitivity to low-pitched and high-pitched sounds. The adjusted unit is known as the A-weighted decibel (dBA).

Generally, a 3 dBA increase in ambient noise levels is considered the minimum threshold at which most people can detect a change in the noise environment; an increase of 10 dBA is perceived as a doubling of the ambient noise level. As a point of reference, a conversation between two people would typically measure about 60 dBA, and noise above 80 dBA can cause hearing loss if prolonged.

To reflect that ambient noise levels vary over time, they are generally expressed as an equivalent noise level (L_{eq}). L_{eq} values are commonly expressed for 1-hour periods, but different averaging times may be specified.

For the evaluation of community noise effects, Community Noise Equivalent Level (CNEL) is often used. CNEL represents the average A-weighted noise level during a 24-hour period, with a 5 dB addition to ambient noise from 7 p.m. to 10 p.m. and a 10 dB addition from 10 p.m. to 7 a.m. General Noise and Land Use guidelines are shown in Table 4.12-1.

Table 4.12-1: Noise and Land Use Compatibility Matrix

Land Use Category	Community Noise Exposure (L_{dn} or CNEL, dBA)			
	Normally	Conditionally	Normally	Clearly
Residential - Low Density, Single-Family, Duplex, Mobile Homes	50–60	55–70	70–75	75–85
Residential - Multiple Family	50–65	60–70	70–75	70–85
Transient Lodging - Motel, Hotels	50–65	60–70	70–80	80–85
Schools, Libraries, Churches, Hospitals, Nursing Homes	50–70	60–70	70–80	80–85
Auditoriums, Concert Halls, Amphitheaters	N/A	50–70	N/A	65–85
Sports Arenas, Outdoor Spectator Sports	N/A	50–75	N/A	70–85
Playgrounds, Neighborhood Parks	50–70	N/A	67.5–75	72.5–85
Golf Courses, Riding Stables, Water Recreation,	50–70	N/A	70–80	80–85
Office Buildings, Business Commercial and Professional	50–70	67.5–77.5	75–85	N/A
Industrial, Manufacturing, Utilities, Agriculture	50–75	70–80	75–85	N/A

Source: Office of Planning and Research, California, General Plan Guidelines (October 2003).
Normally Acceptable – Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.
Conditionally Acceptable – New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning, will normally suffice.
Normally Unacceptable – New construction or development should be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.
Clearly Unacceptable – New construction or development should generally not be undertaken.
CNEL =
dBA = A-weighted decibels
L_{dn} = day-night average noise level
N/A = Not Applicable

The City of Garden Grove General Plan, Noise Element, lists the following noise compatibility levels and noise ordinance standards as shown in Table 4.12-2.

Table 4.12-2: Garden Grove Noise Ordinance Standards

Land Use Designation		Ambient Base Noise Level	Time of Day
Sensitive Uses	Residential Use	55 dBA	7:00 a.m.–10:00 p.m.
		50 dBA	10:00 p.m.–7:00 a.m.
Conditionally Sensitive Uses	Institutional Use	65 dBA	Anytime
	Office Professional Use	65 dBA	Anytime
	Hotels and Motels	65 dBA	Anytime
Non-Sensitive Users	Commercial Uses	70 dBA	Anytime
	Commercial/Industrial Uses within 150 feet of Residential Uses	65 dBA	7:00 a.m.–10:00 p.m.
		50 dBA	10:00 p.m.–7:00 a.m.
	Industrial Uses	70 dBA	Anytime

Source: City of Garden Grove, *Municipal Code, Section 8.47, Noise Control* (2005).
dBA = A-weighted decibels

The City of Garden Grove Municipal Code, Chapter 47 Noise Control, Section 8.47.060 Special Noise Sources, regulates the acceptable hours of construction:

> "It shall be unlawful for any person within a residential area, or within a radius of five hundred (500) feet therefrom, to operate equipment or perform any outside construction or repair work on buildings, structures, or projects, or to operate any pile driver, power shovel, pneumatic hammer, derrick, power hoist, or any other construction type device between the hours of 10:00 p.m. of one day and 7:00 a.m. of the next day in such a manner that a person of normal sensitiveness, as determined utilizing the criteria established in Section 8.47.050(B), is caused discomfort or annoyance unless such operations are of an emergency nature."

a) Less than Significant Impact.

Construction. Properties fronting Harbor Boulevard in the project area include commercial and residential land uses. The nearest residences are approximately 50 feet from the Harbor Boulevard right-of-way. In compliance with the City's Municipal Code, construction of the proposed project would not occur before 7 a.m. or after 10 p.m. The improvements to be constructed in the designated project areas include, but are not limited to, curb and gutter improvements, bus stop replacements, landscaped parkway, street trees, decorative sidewalk, landscaped medians, water services, storm drain piping with catch basin inlets, and walkway and tree lighting. Table 4.12-3 lists construction noise levels (maximum instantaneous noise level [L_{max}]) included in the Federal Highway Administration (FHWA) Highway Construction Noise Handbook (FHWA-HEP-06-015, DOT-VNTSC-FHWA-06-02, NTIS No. PB2006-109012, August 2006), based on a distance of 50 feet between the equipment and a noise receptor.

Table 4.12-3: RCNM Default Noise Emission Reference Levels and Usage Factors

Equipment Description	Impact Device?	Acoustical Usage Factor	Spec. 721.560 L_{max} at 50 ft (dBA, slow)	Actual Measured L_{max} at 50 ft (dBA, slow)	Number of Actual Data Samples (Count)
Backhoe	No	40	80	78	372
Compressor (air)	No	40	80	78	18
Dump Truck	No	40	84	76	31
Flat Bed Truck	No	40	84	74	4
Front End Loader	No	40	80	79	96
Generator	No	50	82	81	19
Jackhammer	Yes	20	85	89	133
Pneumatic Tools	No	50	85	85	90
Pumps	No	50	77	81	17
Tractor	No	40	84	N/A	0
Warning Horn	No	5	85	83	12

Source: FHWA Highway Construction Noise Handbook (August 2006).
dBA = A-weighted decibels
FHWA = Federal Highway Administration
ft = foot/feet
L_{max} = maximum instantaneous noise level
N/A = Not Applicable
RCNM = Roadway Construction Noise Model

Typical noise levels at 50 feet from an active construction area range up to 90 dBA L_{max} during the noisiest construction phases. The site preparation phase, which includes grading and paving, tends to generate the highest noise levels, since the noisiest construction equipment is earthmoving equipment. Earthmoving equipment includes excavating machinery such as backhoes, bulldozers, and front loaders. Earthmoving and compacting equipment includes compactors, scrapers, and graders. Typical operating cycles for these types of construction equipment may involve 1 or 2 minutes of full power operation followed by 3 to 4 minutes at lower power settings.

As seen in Table 4.12-3, the maximum noise level generated by each jackhammer is assumed to be approximately 85 dBA L_{max} at 50 feet from the jackhammer in operation. Each warning horn would also generate approximately 85 dBA L_{max} at 50 feet. The maximum noise level generated by the sound sources with equal strength increases the noise level by 3 dBA. Each piece of construction equipment operates as an individual point source. The worst-case composite noise level during this phase of construction would be up to two of the sound sources operating close enough to together to achieve a 3 dBA increase plus other sound sources at greater distances making smaller contributions, resulting in approximately 90 dBA L_{max} at a distance of 50 feet from an active construction area. The closest sensitive receptors to the project's construction area are located at a distance of 50 feet. At this distance, the nearest receptor location would be exposed to construction noise levels of up to 90 dBA L_{max}. Construction of the proposed project would occur only within the permitted hours to comply with the City's requirements identified in City Code, and no further mitigation is required.

Construction noise for the proposed project would exceed the City's established Base Ambient Noise Level of 55 dBA during daytime hours for residential land use zones. However, construction activities would be limited to between 7 a.m. and 10 p.m. on weekdays when construction noise is exempt, and no construction would occur on weekends, in accordance with City Municipal Code construction noise requirements.

Operation. The proposed project would not generate new vehicle trips and would not generate any additional activities related to maintenance or operations that would increase vehicle trips from existing levels. The purpose and need of the proposed project are to reduce congestion, improve safety and drainage, enhance pedestrian connectivity, and enhance streetscapes. The proposed project would not result in an increase in vehicle operations.

The proposed improvements to Harbor Boulevard are anticipated to reduce congestion and improve projected future traffic operations. Thus, vehicle speeds could increase along Harbor Boulevard, resulting in increased vehicle noise levels. However, the anticipated change in average vehicle speeds are insufficient to result in a traffic noise level increase that would be noticeable. Thus, the proposed improvements to Harbor Boulevard would not result in the exposure of persons to, or generation of, noise levels in excess of applicable standards or create a substantial permanent increase in ambient noise levels in the project vicinity. As a result, this impact would be less than significant, and no mitigation is required.

b) Less than Significant Impact. Construction would result in varying degrees of temporary ground vibration, depending on the specific construction equipment used. Ground vibration generated by construction equipment spreads through the ground and diminishes in magnitude with increases in distance similar to sound in air, which is approximately 6 dBA with every doubling of distance. The effects of ground vibration may be imperceptible at the lowest levels, have low rumbling sounds detectable at moderate levels, and cause possible damage to nearby structures at the highest levels. While ground vibrations from typical construction activities rarely reach levels high enough to cause damage to structures, special consideration must be made when sensitive or historic land uses are near the construction site. The construction activities that typically generate the highest levels of vibration are blasting and impact pile driving, which are not required for this project.

Vibration-sensitive land uses include fragile/historic buildings, commercial buildings where low ambient vibration is essential for operations within the buildings (e.g., computer chip manufacturers and hospitals), and buildings where people sleep. Vibration-sensitive receptors near the project site are identical to the noise-sensitive receptors.

Vibration attenuates as it radiates from the source. The Federal Transit Authority (FTA) published standard vibration levels in decibels (VdB) for construction equipment operations (FTA 2006). The equipment's VdB at 25 feet is identified in Table 4.12-4.

Table 4.12-4: Vibration Levels for Construction Equipment Operation

Equipment	Approximate Velocity Level (VdB) at 25 feet
Large Bulldozers	87
Loaded Trucks	86

VdB = vibration levels in decibels

The background vibration velocity level in residential areas is typically 50 VdB or lower, which is below the threshold of perception by humans of approximately 65 VdB (FTA 2006). The vibration from construction equipment would be approximately 80 - 81VdB at the nearest residence 50 feet from the Harbor Boulevard right-of-way. The groundborne vibration level of 81 VdB is equivalent to 0.03 inch per second (in/sec) when converted to peak ground velocity. The threshold level for groundborne vibration considered safe for buildings is 0.2 in/sec. Therefore, the groundborne vibration due to the construction of the proposed project is well below the threshold and will not result in any significant groundborne vibration or groundborne noise to nearby residential structures. Thus, this impact would be less than significant, and no mitigation is required.

c) Less than Significant Impact. As discussed for Question 4.12(a), operation of the project would not result in a noticeable change in the traffic noise of area roadways and, therefore, would not result in the exposure of persons to or generation of noise levels in excess of applicable standards or create a substantial permanent increase in ambient noise levels in the project vicinity. As a result, this impact would be less than significant, and no mitigation is required.

d) Less than Significant Impact. As discussed in the response for Question 4.12(a), calculated construction noise levels attributable to the project would exceed the City's established Base Ambient Noise Level of 55 dBA during daytime hours for residential land use zones.. While construction noise for the proposed project would be audible and may be annoying for short periods, the identified noise level is typically considered an acceptable level for construction noise conducted within permitted construction hours. Impacts would be less than significant, and no mitigation is required.

e) No Impact. As discussed in response to Question 4.8(e-f), the project site is not located 2 miles from an airport. Therefore, no impact related to airport uses would occur, and no mitigation is required.

f) No Impact. As discussed in response to Question 4.8(e-f), the project site is not located 2 miles from a private airstrip. Therefore, no impact related to private airstrip uses would occur, and no mitigation is required.

4.13 POPULATION AND HOUSING

Would the project:

	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☒
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

a) No Impact. The proposed project will construct street, landscaping, and storm drain improvements. The proposed project does not propose the construction of any new residences or businesses and is intended to serve the existing population. Therefore, the proposed project will not impact the location, distribution, density, or growth rate of populations within the vicinity of the project site. Additionally, the proposed project would not create permanent employment opportunities that could increase the City's population. Therefore, no impacts related to population growth are anticipated, and no mitigation is required.

b–c) No Impact. The proposed project will be located entirely within the right-of-way on Harbor Boulevard and a few ancillary streets. There is no housing currently existing on the project site, and housing displacement would not occur as a result of project implementation. Therefore, the proposed project would not result in an impact related to the displacement of housing or people, and no mitigation is required.

4.14 PUBLIC SERVICES

Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
a) Would the project result in substantial adverse physical impacts associated with the provision of or need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
i) Fire Protection?	☐	☐	☒	☐
ii) Police Protection?	☐	☐	☒	☐
iii) Schools?	☐	☐	☐	☒
iv) Parks?	☐	☐	☐	☒
v) Other public facilities?	☐	☐	☐	☒

a) i–ii) Less than Significant Impact. The proposed project includes streetscape improvements and the replacements of existing street storm drain improvements and would not expand upon the existing infrastructure or create new development that would interfere with fire or police services. Additionally, PDF No. 6 would require the contractor to prepare a TCP to include the construction schedule, hours of work, and traffic control actions such as temporary lane closures, speed limit reductions, and pedestrian detours to be implemented in order to ensure adequate access for emergency vehicles through the project area. The TCP would be approved by the Garden Grove Fire Department and the Garden Grove Police Department prior to construction and, therefore, impacts to fire and polices services would be less than significant, and no mitigation is required.

iii) No Impact. The proposed project includes streetscape improvements and the replacement of existing street storm drain improvements and does not include any residential uses and would not increase population growth, generate an increased demand for school facilities, or require the construction of school facilities. Therefore, there would be no impact on school services and facilities as a result of project implementation, and no mitigation is required.

iv–v) No Impact. Because the proposed project is a streetscape and storm drain improvement project, it would not induce population growth that would generate an increased need for parks or additional public facilities (e.g., libraries or City storage). Therefore, the proposed project would not impact parks or other public facilities in the City, and no mitigation is required.

4.15 RECREATION

Would the project:

	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	☒

a–b) No Impact. The proposed project includes streetscape improvements and the replacement of existing street storm drain improvements and would not include recreational facilities or induce population growth that would generate an increased use or need for parks. Therefore, the proposed project would not impact recreational facilities, and no mitigation is required.

4.16 TRANSPORTATION/TRAFFIC

Would the project:

	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	☐	☐	☒	☐
b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	☐	☐	☐	☒
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	☒
d) Substantially increase hazards due to a design feature (e. g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☒
e) Result in inadequate emergency access?	☐	☐	☒	☐
f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	☐	☐	☒	☐

a) Less than Significant Impact. During construction, increased vehicle trips from the construction personnel or traffic congestion-related construction activity within the Harbor Boulevard right-of-way may occur. However, the project is temporary in nature and would not require the complete closure of any streets. Additionally, it is anticipated that the project would be constructed in phases and not occur through the entire project area at the same time. Included as a design feature of the project, the contractor will be required to submit a TCP, in accordance with requirements set forth in the most current version of the Garden Grove Public Works Department Standard Plans and Specifications, to be approved by the City Traffic Engineer and other City Departments (i.e., Fire and Police Departments), in order to alleviate construction-related traffic congestion. Traffic, transit, and pedestrian control shall comply with the latest edition of the Uniform Manual on Traffic Control Devices, the Work Area Traffic Control Handbook (WATCH), and the requirements of the City Traffic Engineer. Therefore, construction of the project is considered to have less than significant traffic impacts, and no mitigation is required.

Once the project construction is completed, vehicles would continue to use public streets within the project area. No long-term adverse impacts to the circulation system, including roadways or intersections, would occur as a result of the proposed project. Since the proposed project does not include the development of any new structures or land uses that would generate operational traffic, there would not be any changes to the existing capacity of the project area roadway system that would contribute to, or result in, conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system. Impacts are considered less than significant, and no mitigation is required.

b) No Impact. The Orange County Transportation Authority (OCTA) adopted the Congestion Management Program (CMP) in 2010. This CMP establishes a standard of Level of Service (LOS) E for signalized roadway intersections in the County. Although Harbor Boulevard is listed as part of the CMP highway system, the proposed project is a streetscape and storm drain improvements project that would not generate permanent vehicle trips that would have the potential to conflict with the CMP. Therefore, no impacts would occur, and no mitigation is required.

c) No Impact. The Los Alamitos Army Airfield is located approximately 7 miles to the west of the project site, and the closest public airport to the project site is the Fullerton Municipal Airport, located

approximately 6.75 miles to the northwest. The proposed project does not include the development of structures that would be of sufficient height that would potentially change air traffic patterns. Therefore, the project site is not located within the immediate vicinity of airfields or airports and would not impact air traffic patterns. Therefore, no impacts would occur, and no mitigation is required.

d) No Impact. The proposed project does not include or involve any sharp curves, dangerous intersections, or incompatible uses. Therefore, the proposed project would not result in any potential hazards associated with a project design feature, and no mitigation is required.

e) Less than Significant Impact. The proposed project includes streetscape and storm drain improvements that would not alter the street design or traffic flows. Temporary construction conducted in the street right-of-way would be conducted in accordance with the TCP. As part of the proposed project's approval process, the Garden Grove Police Department and the Garden Grove Fire Department would review and approve the final site plan to ensure that adequate emergency access would be provided. Therefore, impacts are considered less than significant, and no mitigation is required.

f) Less than Significant Impact. The proposed project includes sidewalk improvements and bus stop replacements. In accordance with approval of the TCP, the contractor would be required to provide pedestrian detours and alternate or temporary bus stops while enhancements are being installed to prevent loss of service. However, any disruptions in pedestrian circulation and bus service would be temporary and would, therefore, not conflict with policies, plans, or programs of the City and other applicable agencies supporting alternative modes of transportation. Impacts are considered less than significant, and no mitigation is required.

4.17 UTILITIES/SERVICE SYSTEMS

Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☐	☒
b) Require or result in the construction of new water or wastewater treatment or collection facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☒	☐
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☐	☒
e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒
f) Be served by a landfill with insufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☒	☐
g) Comply with federal, state, and local statutes and regulations related to solid wastes?	☐	☐	☒	☐

a–b) No Impact. The proposed project includes the replacement of existing street storm drain improvements and would not expand upon the existing infrastructure or create new development that would generate a new demand for water or wastewater treatment. Therefore, the proposed project would have no impacts on wastewater treatment requirements, and no mitigation is required.

c) Less than Significant Impact. Development of the proposed project would include the installation of new storm drain facilities to resolve a reoccurring flooding problem with the existing storm drains. The street improvements portion of the project would also replace existing improvements and not increase impervious surfaces. Due to the fact that the volume of runoff from the project site would not significantly increase as a result of project implementation, impacts to the existing storm drain are anticipated to be less than significant. Therefore, the proposed project would not cause the expansion of new storm water drainage facilities or the expansion of existing facilities, and no mitigation is required.

d–e) No Impact. As previously stated, the proposed project would not expand upon the existing infrastructure or create new development that would create a new demand for water or wastewater treatment. Therefore, the proposed project would not require new or expanded facilities, and no impacts related to water supplies and wastewater generation are anticipated. No mitigation is required.

f–g) Less than Significant Impact. As discussed in Section 4.13, Population and Housing, the proposed project would not result in any increase in population. Therefore, the proposed project is not anticipated to generate waste that would exceed the capacity of landfills; however, solid waste generated during construction activities and project operation would be taken to one of the three active Orange County Landfills: Olinda Alpha Landfill, Frank R. Bowerman Landfill, or Prima Deshecha Landfill (City of Garden Grove 2012). In addition, the proposed project would comply with existing and future statutes and regulations mandated by the City, State, or federal law. Because the proposed project is not anticipated to result in a significant production of solid waste that would exceed the capacity of the landfill serving the project site, the proposed project would result in less than significant impacts related to City, State, or federal statutes and regulations related to solid wastes, and no mitigation is required.

4.18 MANDATORY FINDINGS OF SIGNIFICANCE	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☐	☒	☐
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects?)	☐	☐	☒	☐
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☒	☐

a) Less than Significant Impact. The proposed project includes the replacement of existing street, landscaping, and storm drain improvements with new improvements to improve the streetscape and reduce the chance of flooding in the project area. With the incorporation of the PDFs identified in Section 2.2, implementation of the proposed project would not degrade the quality of the environment; substantially reduce the habitats of fish or wildlife species; cause a fish or wildlife population to drop below self-sustaining levels; threaten to eliminate a plant or animal; or eliminate important examples of major periods of California history or prehistory. As discussed in the analysis above, all impacts resulting from the implementation of the proposed project would be less than significant.

b) Less than Significant Impact. As discussed in the analysis above, all impacts resulting from the implementation of the proposed project would be less than significant. Therefore, the proposed project's contribution to any significant cumulative impacts would be less than cumulatively considerable.

c) Less than Significant Impact. Development of the proposed project would not cause substantial adverse effects on human beings because all impacts resulting from the implementation of the proposed project would be less than significant. Therefore, potential impacts to human beings as a result of project implementation are considered less than significant.

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APPENDIX A

CULTURAL RESOURCE RECORD SEARCH RESULTS

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M E M O R A N D U M

DATE: January 30, 2014

TO: Patrick Zabrocki, LSA Associates, Inc.

FROM: Ivan H. Strudwick, LSA Associates, Inc.

SUBJECT: Cultural Resource Record Search Results for the Harbor Boulevard Improvement Project, City of Garden Grove, Orange County, California
(LSA Project No. CGG1301)

INTRODUCTION

LSA Associates, Inc. (LSA) has completed an archaeological and historical resource record search for the proposed Harbor Boulevard Improvement Project located in the City of Garden Grove (City), Orange County (County), California. This record search was conducted to address the requirements of the California Environmental Quality Act ([CEQA]; as amended January 1, 2013): Public Resources Code (PRC), Division 13 (Environmental Quality), Chapter 2.6, Section 21083.2 (Archaeological Resources) and Section 21084.1 (Historical Resources); and the Guidelines for CEQA (as amended December 1, 2012), California Code of Regulations Title 14, Chapter 3, Article 5, Section 15064.5 (Determining the Significance of Impacts on Historical and Unique Archaeological Resources).

LOCATION

The linear, 1.53-mile-long project area is composed of two segments: (1) a 1.125-mile-long Street Improvement segment located along Harbor Boulevard from Chapman Avenue south to Garden Grove Boulevard; and (2) a 0.4-mile-long Storm Drain Improvement segment leading east from Harbor Boulevard along Twintree Lane, north on Choisser Road, east on Greentree Avenue, and north along Bangor Street to where the pavement ends north of Falcon Lane (Figure 1, attached). The project area appears on the United States Geological Survey (USGS) *Anaheim, California* 7.5-minute topographic quadrangle map (USGS 1981) in Township 4 South, Range 10 West, along the central, north-south alignment of Section 34, as well as in the southwest and northeast quarters of the section (Figure 1). The project is located at an elevation of approximately 100–122 feet above mean sea level, with drainage in a southwesterly direction.

METHODS

On January 21, 2014, an archaeological and historical resource record search was conducted by Lindsey Noyes at the South Central Coastal Information Center (SCCIC; attached). The search included a review of all recorded cultural resource sites within a 0.25-mile radius of the project, as well as a review of cultural resource studies on file at the SCCIC. In addition, the California Points of Historical Interest (SHPI), the California Historical Landmarks (SHL), the California Register of Historical Resources (California Register), the National Register of Historic Places (National

Register), the California Historic Resources Inventory (HRI), and the City of Los Angeles Historic-Cultural Monuments (LAHCM) were reviewed for the project.

RESULTS

Results indicate that the Street Improvement segment of the project area along Harbor Boulevard has been surveyed in its entirety and has been the focus of a cultural resource overview; however, the Storm Drain Improvement segment has not been surveyed. The record search also shows that no previously recorded cultural resources exist within either segment of the project area. Specifics of the record search are discussed next.

Previously Conducted Surveys

The record search indicates that two prior cultural resource studies encompass the project area and another six studies are within 0.25 mile of the project. Studies within the project area include an overview of cultural resources within the City (Padon et al. 1995) and a survey of the Street Improvement segment of this project (Padon 2000).

Six studies have been completed within 0.25 mile of the project area, two of which are directly adjacent to the current project. Adjacent studies include a brief development description (Corbin 1996) and a monitoring report (Arrington and Sikes 2006). The remaining four studies are surveys (Carrico 1978; Padon 1996; Kyle 2002; Dice 2003).

Previously Recorded Resources

The record search identified no previously recorded prehistoric or historic sites within the current project area. However, 36 historic sites have been recorded within 0.25 mile of the project area. One property, the Belisle Restaurant (P-30-162556), located at the intersection of Harbor Boulevard and Chapman Avenue, is designated as a State Point of Interest. A second property (P-30-157313), a residence south of Lampson Avenue and nearly 0.25 mile west of the project area, is eligible for local listing or designation. The remaining historic sites have been determined ineligible for listing on the National Register, although they were not evaluated for the California Register or for local listing. None of the sites will be impacted by the work proposed for this project.

Historic maps provided by the SCCIC include the 1896 and 1942 versions of the *Anaheim, California* 15-minute USGS maps (USGS 1896, 1942). Additional historic maps and aerial photographs were reviewed online. The 1896 map clearly shows Garden Grove, which is centered west of the current project area at what is now Garden Grove Boulevard and Euclid Avenue. Harbor Boulevard does not exhibit its characteristic curve north of Garden Grove Boulevard, and several buildings exist at intervals along the dirt roads in the area. By 1942, the USGS map shows approximately 10 buildings along Harbor Boulevard between Chapman Avenue and Garden Grove Boulevard. All major streets are named on the 1946 map, and Harbor Boulevard now curves to the east as one proceeds north past Garden Grove Boulevard.

Early maps do not identify land use, but a 1950 online map shows nearly all of the land near the current project area to be agricultural and that the buildings along Harbor Boulevard are farmhouses,

each with their own farmland and orchards. A 1953 aerial photo substantiates this agricultural land use. A 1967 USGS map shows that by the mid-1960s the project area had changed to tract residences, with many smaller paved roads between the main roads (Harbor Boulevard, Garden Grove Boulevard, and Chapman Avenue). By 1972, an aerial photograph indicates that the entire area surrounding the current project area consists of built environment with almost no remaining open areas. Little change is evident between 1972 and subsequent aerial photographs taken in 2003, 2004, and 2005.

RESULTS AND RECOMMENDATIONS

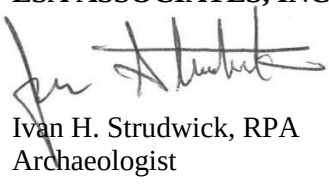
No prehistoric or historic resources were identified by the records search as being present within the project area boundaries. Due to the entire project area being paved with no natural ground surface visible, a survey is not warranted. No further cultural resources work is recommended unless project plans change to include land beyond the current project boundaries. In the event cultural resources are encountered during the course of the project, a County-certified archaeologist should be contacted to assess the nature and potential significance of the find.

If human remains are encountered during construction activities, State Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to PRC Section 5097.98. The County Coroner must be notified of the find immediately. If the remains are determined to be Native American, the County Coroner will notify the Native American Heritage Commission (NAHC), which will determine and notify a Most Likely Descendant (MLD). With the permission of the landowner or his/her authorized representative, the MLD may inspect the site of the discovery. The MLD shall complete the inspection within 48 hours of notification by the NAHC. The MLD may recommend scientific removal and nondestructive analysis of human remains and items associated with Native American burials.

Please contact me at (949) 553-0666 or email me at ivan.strudwick@lsa-assoc.com if I can be of any further assistance.

Sincerely,

LSA ASSOCIATES, INC.



Ivan H. Strudwick, RPA
Archaeologist

Attachments: References
Figure 1
Record Search Results Letter

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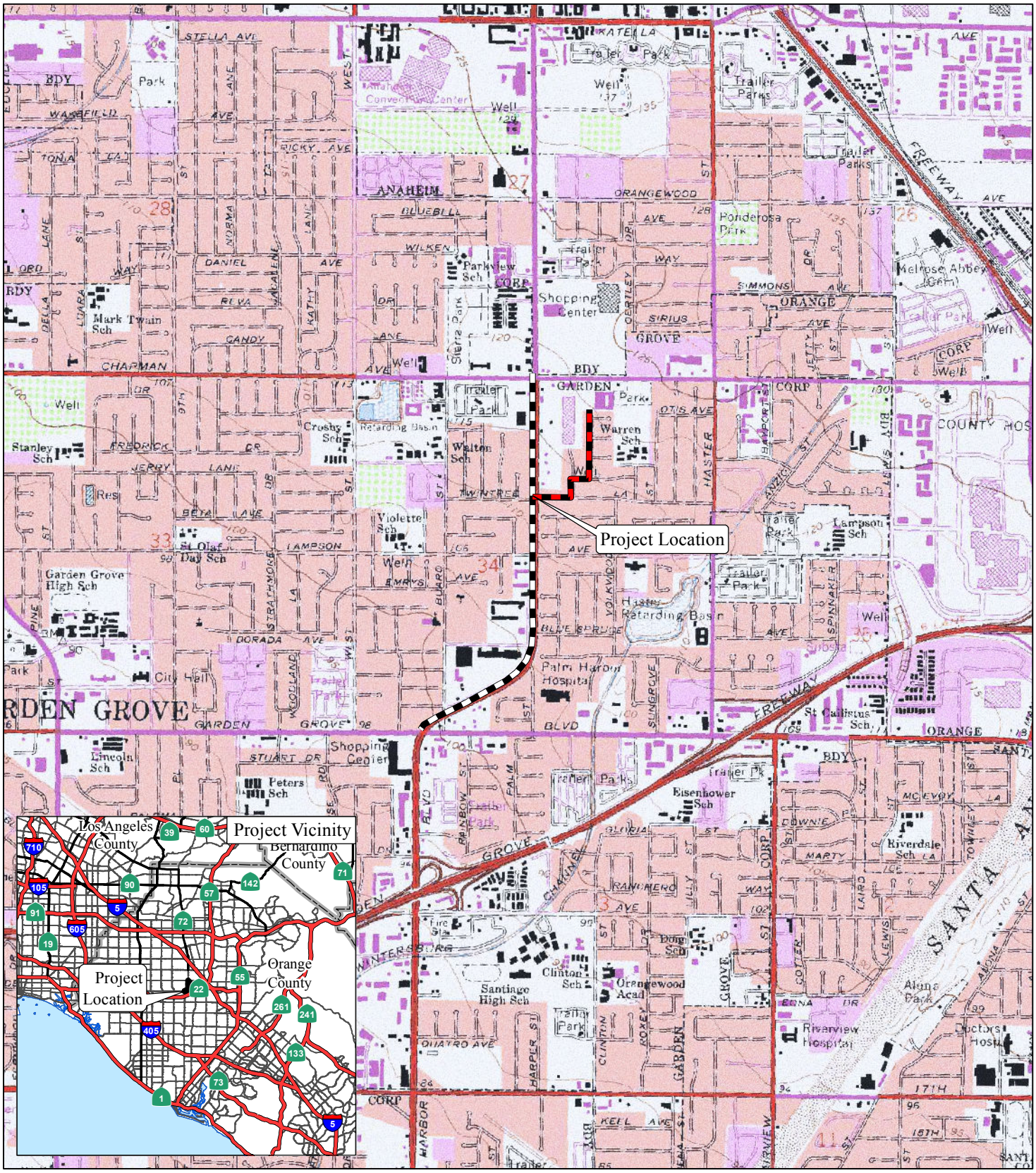

LSA

FIGURE 1

Harbor Blvd Improvement Project

Project Location Map

SOURCE: USGS 7.5' QUAD - Anaheim, CA ('81)

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South Central Coastal Information Center
California State University, Fullerton
Department of Anthropology MH-426
800 North State College Boulevard
Fullerton, CA 92834-6846
657.278.5395 / FAX 657.278.5542
anthro.fullerton.edu/sccic.html - sccic@fullerton.edu
California Historical Resources Information System
Orange, Los Angeles, and Ventura Counties

January 21, 2014 SCCIC #13649.0314

Ms. Terri Fulton
LSA Associates
20 Executive Park, Ste.200
Irvine, CA 92614
(994) 553-0666

RE: Records Search for the Harbor Boulevard Improvement Project, City of Garden Grove. LSA Job no. CGG1301

Dear Ms. Fulton,

As per your request received on January 13, 2014, a records search was conducted for the above referenced project. The search includes a review of all recorded archaeological sites within a ¼-mile radius of the project site as well as a review of cultural resource reports on file. In addition, the California Points of Historical Interest (SPHI), the California Historical Landmarks (SHL), the California Register of Historical Resources (CAL REG), the National Register of Historic Places (NRHP), and the California State Historic Resources Inventory (HRI) listings were reviewed for the above referenced project. The following is a discussion of the findings.

Anaheim, CA USGS 7.5' Quadrangle

MAPPED ARCHAEOLOGICAL RESOURCES:

No archaeological sites have been identified on our maps within a ¼-mile radius of the project site. No archaeological sites are located within the project site. No sites are listed on the Archaeological Determination of Eligibility (DOE) list. No isolates have been identified within a ¼-mile radius of the project site. No isolates are located within the project site.

MAPPED HISTORIC BUILT-ENVIRONMENT RESOURCES:

Thirty-six above-ground historic resources (30-157376, 30-176876, 30-176877, 30-176878, 30-176879, 30-176880, 30-176881, 30-176882, 30-176883, 30-176884, 30-176885, 30-176886, 30-176887, 30-176888, 30-176889, 30-176890, 30-176891, 30-176892, 30-176893, 30-176894, 30-176895, 30-176896, 30-176897, 30-176898, 30-176899, 30-176900, 30-176901, 30-176902, 30-176903, 30-176904, 30-176905, 30-176906, 30-176907, 30-176908, 30-176909, 30-176910) have been identified on our maps within a ¼-mile radius of the project site. No above-ground historic resources are located within the project site.
(= Located within the project site)*

ADDITIONAL CULTURAL RESOURCES (all other listings)

The **California Historic Resources Inventory (HRI)** lists thirty-three properties that have been evaluated for historical significance within a ¼-mile radius of the project site **(see enclosed list)**. These are additional resources that are listed in the Historic Property Data File and are located either within the project site or within the search radius.

The **California Point of Historical Interest (SPHI)** of the Office of Historic Preservation, Department of Parks and Recreation, lists no properties within a ¼-mile radius of the project site.

The **California Historical Landmarks (SHL)** of the Office of Historic Preservation, Department of Parks and Recreation, lists no properties within a ¼-mile radius of the project site.

The **California Register of Historical Resources (CAL REG)** lists no properties within a ¼-mile radius of the project site. These are properties determined to have a National Register of Historic Places Status of 1 or 2, a California Historical Landmark numbering 770 and higher, or a Point of Historical Interest listed after 1/1/1998.

The **National Register of Historic Places (NRHP)** lists no properties within a ¼-mile radius of the project site.

The **City of Los Angeles Historic-Cultural Monuments (LAHCM)** lists no properties within the project site.

HISTORIC MAPS:

Copies of our historic maps – Anaheim, CA (1896 & 1942) 15′ USGS - are enclosed for your review.

PREVIOUS CULTURAL RESOURCES INVESTIGATIONS:

Eight studies (OR280, OR1638, OR1949*, OR1954, OR2849, OR2905, OR3373, OR3776*) have been conducted within a ¼-mile radius of the project site. Of these, two are located within the project site. There are six additional investigations located on the Anaheim, CA 7.5′ USGS Quadrangle that are potentially within a ¼-mile radius of the project site. These reports are not mapped due to insufficient locational information.
(= Located within the project site)*

Please forward a copy of any resulting reports from this project to the office as soon as possible. Due to the sensitive nature of archaeological site location data, we ask that you **do not include** resource location maps and resource location descriptions in your report if the report is for public distribution. If you have any questions regarding the results presented herein, please contact the office at 657.278.5395 Monday through Thursday 9:00 am to 3:30 pm.

Should you require any additional information for the above referenced project, reference the SCCIC number listed above when making inquiries. Requests made after initial invoicing will result in the preparation of a separate invoice.

Sincerely,
SCCIC

Lindsey Noyes
Lead Staff Researcher

Enclosures:

(X) Maps – Anaheim, CA 7.5' USGS Quadrangle, Anaheim, CA (1896 & 1942) 15' USGS Quadrangle – 9 pages
(X) Bibliography – 4 pages
(X) HRI – 6 pages
(X) National Register Status Codes – 1 page
(X) Site Records – (30-157376, 30-176876, 30-176877, 30-176878, 30-176879, 30-176880, 30-176881, 30-176882, 30-176883, 30-176884, 30-176885, 30-176886, 30-176887, 30-176888, 30-176889, 30-176890, 30-176891, 30-176892, 30-176893, 30-176894, 30-176895, 30-176896, 30-176897, 30-176898, 30-176899, 30-176900, 30-176901, 30-176902, 30-176903, 30-176904, 30-176905, 30-176906, 30-176907, 30-176908, 30-176909, 30-176910) – 38 pages
(X) Invoice #13649.0314

APPENDIX B

PALEONTOLOGICAL ASSESSMENT

LSA ASSOCIATES, INC.
20 EXECUTIVE PARK, SUITE 200
IRVINE, CALIFORNIA 92614
949.553.0666 TEL
949.553.8076 FAX
BERKELEY CARLSBAD FORT COLLINS FRESNO PALM SPRINGS PT. RICHMOND RIVERSIDE ROCKLIN SAN LUIS OBISPO

January 30, 2014

Digna de los Reyes
Assistant Engineer
City of Garden Grove
11222 Acacia Parkway
Garden Grove, CA 92840

Subject: Paleontological Assessment for the Harbor Boulevard Improvements Project, City of Garden Grove, California

Dear Ms. de los Reyes:

LSA Associates, Inc. (LSA) conducted a Paleontological Assessment for the Harbor Boulevard Improvements Project (project) (United States Department of Commerce Economic Development Administration [EDA] Grant Award # 07-79-06911), located in the City of Garden Grove (City), Orange County (County), California (Figure 1; see Attachment A). The proposed project includes street improvements and storm drain improvements. This assessment was conducted pursuant to the California Environmental Quality Act (CEQA).

PROJECT LOCATION AND DESCRIPTION

The proposed project comprises two components: (1) street improvements, and (2) storm drain improvements. The project area for the street improvement component includes the existing right-of-way and within the existing curb widths along Harbor Boulevard from Palm Street north to Chapman Avenue (approximately 1.1 miles). The land uses adjacent to this stretch of Harbor Boulevard are varied and include vacant lots, single-family residential, hotels, and commercial developments of various sizes. The storm drain improvements component extends south from the intersection of Harbor Boulevard and Twintree Lane to include portions of Twintree Lane, Choisser Road, Greentree Avenue, and Bangor Street. This component is approximately 0.4 mile in length and is completely surrounded by single-family residential uses. Maximum depth for ground disturbance will be on the order of 7.5 feet and will be associated with the installation of the storm drain component.

The overall project area extends the entire length of the City's proposed Grove District development area. The Grove District development area is a master plan of 560 acres of new resort, commercial, hospitality, and entertainment land uses, including 5,000 new hotel rooms and hundreds of thousands of square feet of new retail, dining, and entertainment facilities.

Regional access to the project site is provided by State Route 22 (SR-22), which is located south of the project site. Local access to the project site is provided from Chapman Avenue (north) and Garden Grove Boulevard (south). It is located within Section 34, Township 4 South, Range 10 West, San Bernardino Baseline and Meridian, as shown on the *Anaheim* 7.5-minute topographic quadrangle (United States Geological Survey [USGS] 1965; photorevised 1981) (Figure 1, see Attachment A).

PROJECT CHARACTERISTICS

The project includes seven primary project elements or project areas, which are designated as Project Area 1 (PA-1) through Project Area 7 (PA-7).

Generally, the improvements to be constructed in the designated project areas include, but are not limited to, new median curb, minor curb and gutters, asphalt, cold plane and overlay work, bus stop enhancements, landscaped parkway, street trees, decorative sidewalk, landscaped medians, water services, storm drain piping with catch drain inlets, and walkway and tree lighting. The street improvements portion of the project would mostly occur within existing right-of-way. The right-of-way averages between 100 feet and 120 feet in width along Harbor Boulevard. The proposed project improvements will be designed and constructed to meet current planning and engineering design standards for basic public health and safety. It is anticipated that construction will take approximately 6 to 7 months to complete. A description of each project area is presented below.

- **Project Area 1:**
    - **Segment 1:** This segment of PA-1 includes approximately 860 linear feet in length along the western side of Harbor Boulevard. It includes removal of existing sidewalk; landscaping with irrigation, trees, and uplighting; construction of decorative sidewalk; and related parkway improvements to complement existing and future proposed developments. A new water main will be installed in the public right-of-way to provide the needed fire and domestic water flows for this area.
    - **Segment 2:** This segment of PA-1 includes approximately 1,300 linear feet in length along the western side of Harbor Boulevard. The segment would include the removal of all parkway improvements within the existing public right-of-way, including sidewalk, fencing, and tree wells, and replacement with a new decorative sidewalk, landscaping, palm trees, uplighting for trees, walkway lighting, and irrigation services. It will also adjust existing utility boxes to grade. New driveways, accessible pathways and ramps, concrete gutters, and transitions will be constructed at the anticipated locations of driveways and entries to the parcels along this segment.
- **Project Area 2:** PA-2 includes approximately 6,050 linear feet and is confined to the median area in the center of Harbor Boulevard from Garden Grove Boulevard to Chapman Avenue. The proposed improvements include removal of existing median improvements within the existing median curbs, including landscaping, irrigation, and hardscape, and replacement with new drought-tolerant landscaping, palm trees, uplighting for the trees, irrigation services, local drainage devices, and stamped concrete. Existing utility boxes and vaults will also be adjusted to grade.
- **Project Area 3:** PA-3 includes approximately 975 linear feet along the east side of Harbor Boulevard from the southerly property line of the existing 7-11 store to the southerly corner of Twintree Lane. The proposed improvements will remove all existing parkway improvements, including sidewalk, fencing, and tree wells, and replace them with new decorative sidewalk, tree lighting, enhancements to existing block walls with decorative and/or screening features, and adjustments to existing utility boxes to bring them to grade.
- **Project Area 4:** PA-4 includes approximately 990 linear feet along the east side of Harbor Boulevard stretching northward from the intersection of Harbor Boulevard and Palm Avenue.

The proposed improvements will remove the existing parkway improvements, including sidewalk, tree wells, and other appurtenances, as appropriate, and replace them with new landscaping and irrigation for part of the project area and standard sidewalk along the northerly portion of the project area. Existing utility boxes and vaults will be adjusted to grade as needed to accommodate the finished improvements.

- **Project Area 5:** PA-5 includes approximately 1,650 linear feet, confined to the median area in the center of Harbor Boulevard from Chapman Avenue to West Wilken Way. The proposed improvements in this project area include removal of all existing roadway improvements within the limits of the proposed median curbs and construction of new median curbs, drainage, drought-tolerant landscaping, palm trees, uplighting for the trees, irrigation services, local drainage devices, and stamped concrete. Existing utility boxes and vaults will be adjusted to grade as needed to accommodate the finished improvements.
- **Project Area 6:** PA-6 includes storm drain improvements from the intersection of Harbor Boulevard and Twintree Lane east to the intersection of Twintree Lane and Choisser Road. The storm drain improvements continue to the north along Choisser Road to Greentree Avenue and then to the east along Greentree Avenue until the intersection with Bangor Street. This segment includes installation of the storm drain line called "H4" in the City's Master Plan of Drainage to connect to the storm drain system in Harbor Boulevard. This line upgrade is considered critical to reduce exposure to property loss and damage due to flooding from major storm events. Maximum excavation during the installation of the storm drain will be on the order of 7.5 feet.
- **Project Area 7:** PA-7 includes approximately 990 linear feet along the east side of Harbor Boulevard from across the street of the Sheraton Hotel northward to the intersection of Harbor Boulevard and Chapman Avenue. The improvements in this project area will remove all existing parkway improvements, including sidewalk and tree wells, and replace them with new decorative sidewalk, palm trees, landscaping, irrigation, walkway lighting, and adjustments to existing utility boxes and vaults as needed to accommodate the finished improvements.

METHODOLOGY

Literature and Locality Review

LSA conducted a paleontological literature search and locality review of its own to obtain geological and paleontological locality information pertinent to the project and the area immediately surrounding the project.

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

Pedestrian Survey

Based on the developed nature of the project, a pedestrian survey was not conducted as part of the assessment. Much, if not all of the surface of the project area has been disturbed by prior construction

in the area. In addition, much of the ground surface area within the project has been obscured with paving and landscaping.

FINDINGS

Geology

The project area is located at the northern end of the Peninsular Ranges geomorphic province, a 900-mile northwest-southeast trending structural block that extends from the tip of Baja California to the Transverse Ranges and includes the Los Angeles Basin (Norris and Webb, 1976). The total width of the province is approximately 225 miles, with a maximum landbound width of 65 miles (Sharp, 1976). The Peninsular Ranges contain extensive Cretaceous (more than 65 million years ago [mya]) and pre-Cretaceous igneous and metamorphic rock covered by limited exposures of post-Cretaceous sedimentary deposits.

Specifically, the project is located within the Los Angeles Basin. The Los Angeles Basin is a broad, almost level alluvial plain (gradient of 0.5 to 1 percent). It is bounded on the north and northeast by hills and mountains of the Northern Peninsular and Transverse Ranges and on the south and west by the Pacific Ocean. The Los Angeles Basin is divided into several areas. The Downey Plain, in which the project lies, is the largest section and is located in the central portion of the Los Angeles Basin. The Tustin Plain is located to the east and separated from the Los Angeles Basin by the Santa Ana River. The Torrance Plain and the El Segundo Sand Hills are located on the western margin. Smaller plains, such as the Santa Monica and La Brea Plains, are located on the northern margin.

The marine and nonmarine sediments within the Los Angeles Basin are up to 6 miles deep. The Basin began to form approximately 15 mya due to crustal stretching from movement along various faults. The crustal stretching resulted in the formation of a large, bowl-like basin. Thick layers of sediment from both the ocean and rivers accumulated in this bowl. Approximately 5 mya, the crustal stretching subsided, and the ocean floor of the Basin was uplifted to the surface. Additional sediment accumulated during and after the uplifting, resulting in the shallow gradient of the Basin as it exists today.

Currently, the main sediment sources for the Los Angeles Basin are several rivers that flow into it. These include the Santa Ana, San Gabriel, and Los Angeles Rivers. The current path of the Santa Ana River is located approximately 2 miles to the east of the current project, the current path of the San Gabriel River is located approximately 10 miles to the west, and the current path of the Los Angeles River is located approximately 16.5 miles to the west. Because the gradient of the Los Angeles Basin is quite shallow, these rivers have not always flowed in their current channels; rather, they have flowed across the entire Los Angeles Basin, evenly depositing sediment. In fact, prior to the flood of 1825, the Los Angeles River ran west and emptied into the Pacific Ocean in the area of Marina Del Rey, north of the Palos Verdes Peninsula, following the current path of Ballona Creek. This is 20 miles north of where the Los Angeles River currently enters the Pacific Ocean at Wilmington.

Specifically, Morton and Miller (2006) have mapped Young Alluvial Fan Deposits as occurring on the surface of the project area (Figure 2; see Attachment B). Artificial Fill is also likely present in some areas based on the developed nature of the project area and the surrounding area. Each unit is described in more detail below.

Artificial Fill. Artificial Fill is not mapped within the project area on the geologic map by Morton and Miller (2006), but it is likely present based on the developed nature of the project footprint and surrounding area. Artificial Fill consists of sediments that have been removed from one location and transported to another by humans. The transportation distance can range from a few feet to dozens of miles. Composition is dependent on the source. When Artificial Fill is compacted and dense, it is known as "engineered fill," but it can be unconsolidated and loosely compacted. Artificial Fill will sometimes contain modern debris such as asphalt, wood, bricks, concrete, metal, glass, plastic, and even plant material. Depending on the area, thickness can be less than 1 foot or several hundred feet.

Young Alluvial Fan Deposits. Young Alluvial Fan Deposits were deposited during the Holocene to the late Pleistocene (Morton and Miller, 2006). These sediments are less than 126,000 years old; however, the upper 10 to 15 feet of these deposits are generally from the Holocene and are less than 11,700 years old. These deposits are composed of mixtures of gravel, sand, silt, or mud that were deposited by flowing water in a stream or river. The color is often dependent on upstream geology, but it is usually shades of light grey, light brown, or yellow-brown. Sand grains range from angular to rounded, while the gravels and pebbles are usually more rounded than the sand grains.

Although Very Young Alluvial Wash Deposits can contain remains of plants and animals, generally not enough time has passed for the remains to become fossilized; in addition, the remains are contemporaneous with modern species and are usually not considered to be significant. It should be noted that although an area may be mapped Holocene alluvium on the surface, deposits of Pleistocene alluvium are often encountered at shallow depths below the surface, and these older sediments can and do contain fossils (Jefferson, 1991a and 1991b; Reynolds and Reynolds, 1991; and Miller, 1971). For the current project, these Pleistocene sediments will likely not be encountered until a depth of 15 feet is reached.

Results of the Locality Search

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

Young Alluvial Fan Deposits. Young Alluvial Fan Deposits were deposited during the Late Pleistocene and the Holocene. Within the project area, it is anticipated that only sediments from the Holocene will be encountered as sediments from the Pleistocene are in excess of 15 feet below the surface; however, Pleistocene sediments are discussed below to ensure thoroughness.

Holocene Young Alluvial Fan Deposits. Although Holocene alluvium can contain remains of plants and animals, generally not enough time has passed for the remains to become fossilized; in addition, the remains are contemporaneous with modern species and are usually not considered to be significant. Depending on the area, these Holocene sediments can be 10 to 15 feet or more in thickness.

Late Pleistocene Young Alluvial Fan Deposits. Fossils are known in similar deposits from excavations for roads, housing developments, and quarries in the Southern California area (Jefferson, 1991a and 1991b; Miller, 1971; and Reynolds and Reynolds, 1991). Mammoths are the indicator

fossil for the Pleistocene Epoch, which is divided into the older Irvingtonian North American Land Mammal Age (NALMA) that spans the period between 2.54 million and 300,000 years ago, and the Rancholabrean NALMA, which spans the last 300,000 years of the Pleistocene. Within the project area, these sediments will be from the Rancholabrean NALMA. The indicator fossil for the Rancholabrean NALMA is *Bison* sp. Other fossils that may be present include camels, antelopes, saber-toothed cats, dire-wolves, bears, deer, sloths, rodents, birds, reptiles, and fish (Jefferson, 1991a, 1991b, and 1987; Reynolds and Reynolds, 1991; and Miller, 1971). These fossils help describe climatic and habitat conditions during the Pleistocene. There is potential for these types of fossils whenever Pleistocene alluvial sediments are exposed.

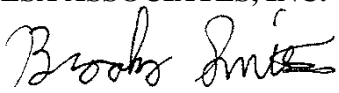
RECOMMENDATIONS

Based on the project description, the results of an examination of the area geology, and the results of a locality search, the two geologic units that are likely present within the project—Artificial Fill and Young Alluvial Fan Deposits—have a low potential to contain paleontological resources as long as no excavation work extends deeper than 15 feet below the surface, where Pleistocene sediments with a high paleontological sensitivity may begin to be encountered. As such, no additional paleontological work is recommended. However, in the unlikely event paleontological resources are discovered during excavation associated with this project, work in the immediate vicinity of the find should be diverted and a Professional Paleontologist contacted to examine the discovery to assess the find for significance and, if needed, collect the find and make recommendations for the need for further paleontological mitigation.

If excavation work extends deeper than 15 feet below the surface, or if paleontological resources are discovered at a shallower depth, it is recommended that paleontological monitoring occur in those areas under the direction and supervision of a Professional Paleontologist to mitigate impacts to significant paleontological resources that may exist in that portion of the project. This may require preparation of a Paleontological Resources Impact Mitigation Program (PRIMP). If any fossils are collected during monitoring, they should be prepared to the point of identification, identified to the lowest taxonomic level, and curated into an accredited institutional repository. If paleontological monitoring occurs, a report of findings shall be prepared by the Professional Paleontologist to document the results of the monitoring at the conclusion of the monitoring effort.

Sincerely,

LSA ASSOCIATES, INC.



Brooks Smith
Associate, Cultural and Paleontological Resources Group

Attachments: A. Figures
B. Figure 2: Geology Map

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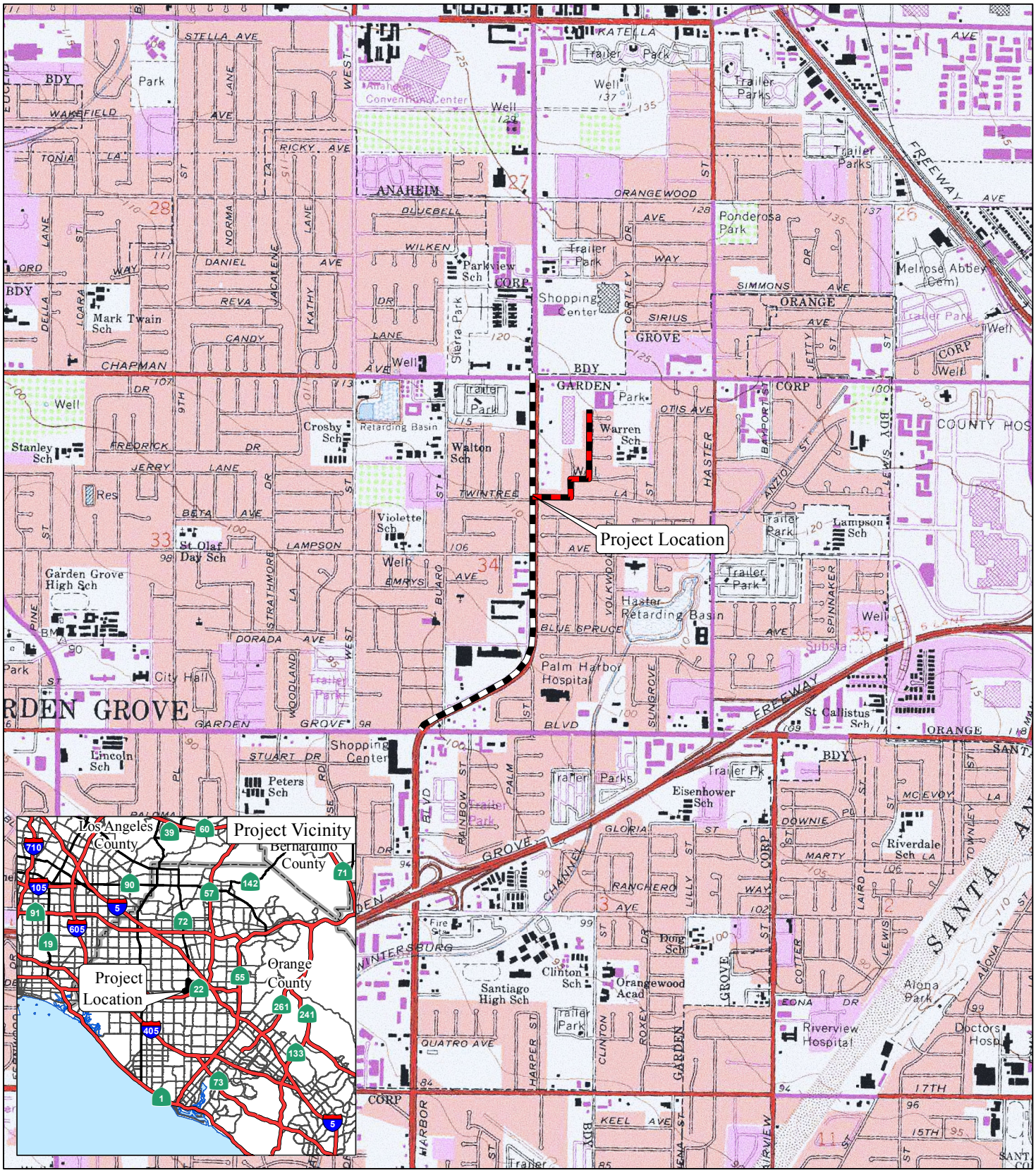
ATTACHMENT A

FIGURE 1: PROJECT LOCATION AND VICINITY MAP



LSA

LEGEND

Project Location - Street Improvements

Project Location - Storm Drain Improvements

FIGURE 1

N

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FEET

SOURCE: USGS 7.5' QUAD - Anaheim, CA ('81)

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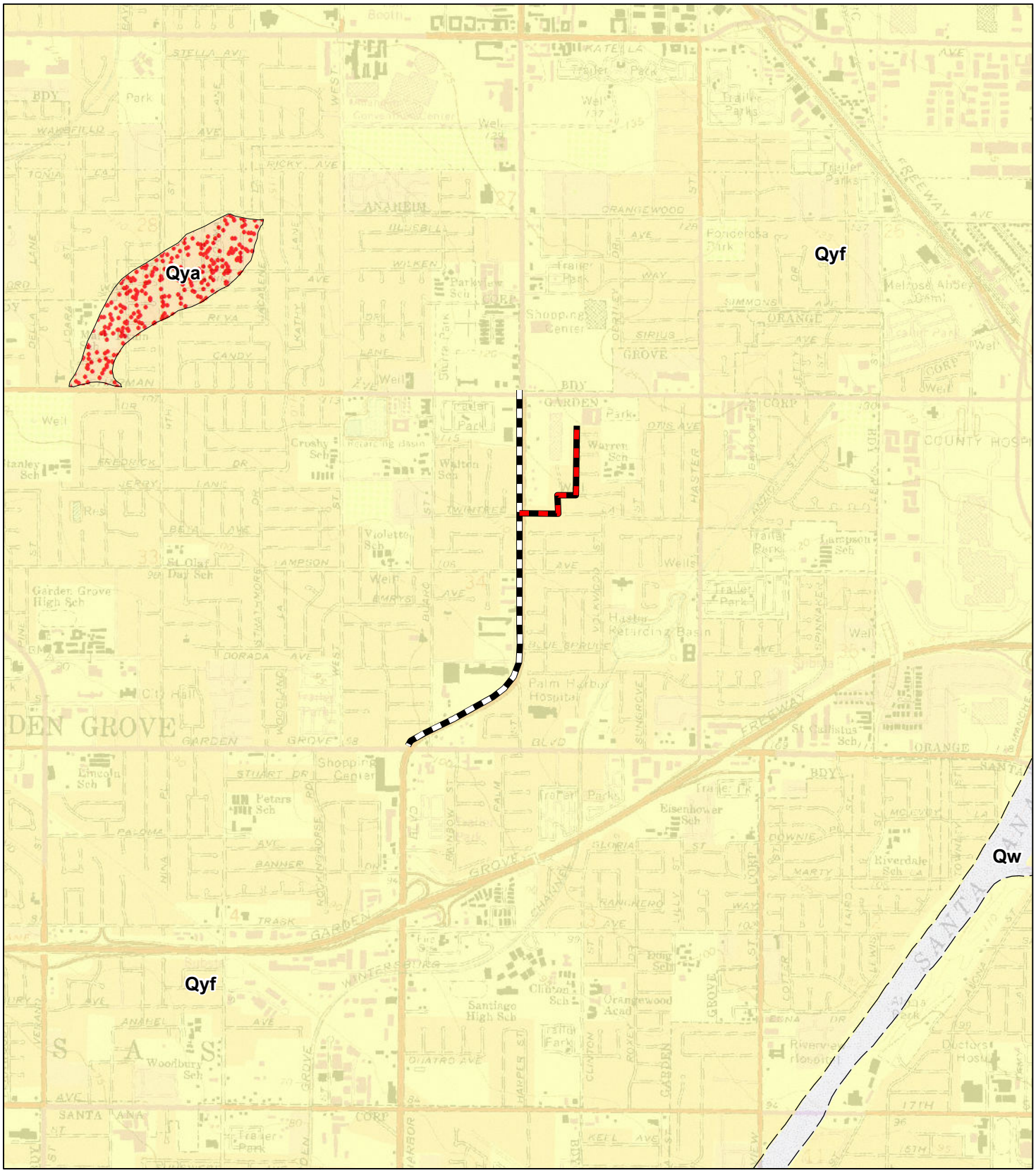
Harbor Blvd Improvement Project

Project Location Map

ATTACHMENT B

FIGURE 2: GEOLOGY MAP



LSA

LEGEND

Project Location - Street Improvements

Project Location - Storm Drain Improvements

Geology

Qw - Very young wash deposits

Qya - Young axial-channel deposits

Qyf - Young alluvial-fan deposits

Contact, approx. located

Contact, certain

FIGURE 2

0 1000 2000

FEET

Harbor Blvd Improvement Project

Project Location Map

SOURCE: USGS 7.5' QUAD - Anaheim, CA ('81); Morton and Miller (2006)

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APPENDIX C

PHASE I ENVIRONMENTAL SITE ASSESSMENT FOR HARBOR BOULEVARD SITE – WATER PARK

PHASE I ENVIRONMENTAL SITE ASSESSMENT

FOR
CITY OF GARDEN GROVE,
AS SUCCESSOR AGENCY TO THE GARDEN GROVE AGENCY FOR COMMUNITY DEVELOPMENT

HARBOR BOULEVARD SITE – WATER PARK
12581, 12591, 12625 AND 12721 HARBOR BOULEVARD
12601 AND12602 LEDA LANE
GARDEN GROVE, CALIFORNIA 92840

REPORT DATE: JUNE 2012
REVISED: DECEMBER 2012

PHASE ONE **INC.**

THE NATIONWIDE ENVIRONMENTAL SPECIALISTS

"Setting the Due Diligence Industry Standard"

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***PHASE ONE* INC.**
ENVIRONMENTAL ASSESSMENT SPECIALISTS

June 27, 2012

Carlos Marquez
City of Garden Grove,
As Successor Agency to the Garden Grove Agency for Community Development
11222 Acacia Parkway, 3rd Floor
Garden Grove, California 92840

RE: Phase I Environmental Site Assessment Report
Subject Site Location: Harbor Boulevard Site – Water Park
12581, 12591, 12625, 12721 Harbor Boulevard
12601, 12602 Leda Lane, Garden Grove, California 92840
***PHASE ONE* INC.** Project No. 7282

Dear Mr. Marquez:

Enclosed with this letter are copies of the Phase I Environmental Site Assessment Report completed by ***PHASE ONE* INC.** for the site referenced above. As you will note in the report, our conclusions regarding the environmental condition of the site are summarized both in Section 1.0, ***Executive Summary***, and Section 6.0, ***Conclusions and Recommendations***.

Please don't hesitate to contact us should you have any questions regarding the environmental assessment, or if we can be of additional assistance. We look forward to working with you again in the future.

Sincerely,

Eric Kieselbach
President

Enclosure

23282 Mill Creek Drive, Suite 160 Laguna Hills CA 92653 **Tel: (714) 669-8055 • Fax: (714) 669-8025**

PHASE I ENVIRONMENTAL SITE ASSESSMENT REPORT

HARBOR BOULEVARD SITE – WATER PARK
12581, 12951, 12625, AND 12721 HARBOR BOULEVARD
12601 AND 12602 LEDA LANE
GARDEN GROVE, CALIFORNIA 92840

PROJECT NO. 7282

BY

PHASE ONE **INC.**
23282 MILLCREEK DRIVE, SUITE 160
LAGUNA HILLS, CA 92653
(800) 524-8877

THIS REPORT WAS PREPARED FOR THE SOLE USE AND BENEFIT OF OUR CLIENT, GARDEN GROVE AGENCY FOR COMMUNITY DEVELOPMENT, AND IS BASED, IN PART, UPON DOCUMENTS, WRITINGS, AND INFORMATION OWNED AND POSSESSED BY OUR CLIENT. NEITHER THIS REPORT, NOR ANY OF THE INFORMATION CONTAINED HEREIN, SHALL BE USED OR RELIED UPON FOR ANY PURPOSE BY ANY PERSON OR ENTITY OTHER THAN OUR CLIENT. ALL STANDARD TERMS, CONDITIONS, AND LIMITATIONS BY ***PHASE ONE*** **INC.** APPLY AT ALL TIMES AND FOR THIS REPORT AND ALL REPORTS ISSUED BY ***PHASE ONE*** **INC.**

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SECTION 1.0

EXECUTIVE SUMMARY: FINDINGS AND CONCLUSIONS

1.1 FINDINGS

This report presents the results of the Phase I Environmental Site Assessment conducted by ***PHASE ONE* INC.** at the Harbor Boulevard Site – Water Park, 12581, 12591, 12625, 12721 Harbor Boulevard; 12601 and 12602 Leda Lane, Garden Grove, California 92840 (see Figure 1, ***Site Location Map***). The Phase I assessment was undertaken at the request of Carlos Marquez, City of Garden Grove, As Successor Agency to the Garden Grove Agency for Community Development, in accordance with ***PHASE ONE* INC.**'s ***Standard Terms and Conditions***, as outlined in ***PHASE ONE* INC.**'s ***Letter of Intent/Authorization*** for Project **Nº** 7282. The findings and conclusions of this investigation are based upon a review of historic site-use activities, contact with and records from governmental regulatory agencies, regulatory database searches, as well as a site reconnaissance and interviews with the client, site personnel, and possibly others who may have knowledge of various aspects of the subject site.

At the time of this assessment, the site consisted of approximately 12.07 acres of vacant, undeveloped land formerly occupied by two residences (12601, 12602 Leda Lane), two commercial buildings (Humdinger Bar, and a vacant building, 12581 and 12591 Harbor Boulevard) on the northern portion of the subject site, a motel with restaurant (12625 Harbor), and an RV Park (12721 Harbor Boulevard) on the central and southern portion of the subject site. Information gathered in the course of this assessment indicates that the subject site is currently owned by Garden Grove Agency for Community Development.

The principal findings of ***PHASE ONE* INC.**'s Phase I Environmental Site Assessment for this site are as follows:

The subject site is currently affected by

- No recognized environmental condition(s) (REC); and
- Two *de minimis,* or historical recognized environmental condition(s).
- The potential for soil or groundwater contamination of the subject property from either on or off-site sources appears to be low.
- Given the findings and conclusions of ***PHASE ONE* INC.**'s Phase I Environmental Site Assessment, further investigation is not recommended at this time.
- ***PHASE ONE* INC.** has performed this Phase I Environmental Site Assessment of the subject site in conformance with the scope and limitations of the Environmental Protection Agency, Standards and Practices for All Appropriate Inquiries, 40 CFR Part 312 and the standard practice set forth in the American Society for Testing and Materials (ASTM) Designation: E1527-05, "Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process." Any exceptions to, or deletions from, these practices are described in Section 1.4 of this report.

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- This assessment has revealed no evidence of recognized environmental conditions in connection with the property except for those listed in Section 1.2.

1.2 CONCLUSIONS SUMMARY

Based on the findings of this Phase I Environmental Site Assessment, ***PHASE ONE* INC.** has identified the following recognized environmental condition(s):

RECOGNIZED ENVIRONMENTAL CONDITION(S)

Condition #	Location	Description of Condition
None	N/A	No evidence of recognized environmental conditions was found during this investigation.

Note: Descriptions of conditions are given again in further detail in Section 6.0, ***Conclusions and Recommendations***, along with recommendations as to how to address the conditions and the estimated costs of completing any recommended next-step action. ***PHASE ONE* INC.** classifies a recognized environmental condition, per the ASTM Standard E 1527-00 definition, as the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater or surface water of the subject property.

Based on the findings of this Phase I Environmental Site Assessment, ***PHASE ONE* INC.** has identified the following *de minimis* or historical recognized environmental conditions:

***DE MINIMIS*, OR HISTORICAL RECOGNIZED ENVIRONMENTAL CONDITION(S)**

Condition #	Location	Description of Condition	Condition
1	West and South Sides of Subject Site	Pole-mounted transformers were observed near the southern and western boundaries of the subject site. They area located on the adjacent sites; however, they are near the property boundaries of the subject site. Given the pre-1979 date of development of the subject site vicinity, the presence of fluids containing polychlorinated biphenyls (PCBs) in the transformers is possible. No leakage or staining was visible on or around the transformers.	*De minimis*
2	Nearby Site (12502 Harbor Blvd.)	This nearby site, a gas station, is identified in the environmental records search document. It has been reported as having an environmental condition associated with it that has lead to the contamination of the area groundwater. The possibility exists that groundwater contamination generated by this nearby site extends beneath the subject property. See subsurface sampling results in Appendix G.	*De minimis*

Note: Descriptions of conditions are given again in further detail in Section 6.0, *Conclusions and Recommendations*, along with recommendations as to how to address the conditions. *PHASE ONE* INC. classifies an environmental condition as a *de minimis* (potential or possible) condition when it appears to pose no immediate threat to the subject site and/or requires no immediate action given the current knowledge of site conditions. This condition with time, groundwater movement, demolition or other disturbances, or sometimes with the acquisition of further information, may come to pose a long-

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term, immediate or chronic environmental risk; and/or this condition may appear to have a negligible monetary/physical impact on the subject property, and therefore, does not require additional investigation at this time. *PHASE ONE* INC. classifies a historical recognized environmental condition as an issue which was considered a recognized environmental condition in the past, but is no longer considered a recognized environmental condition as a result of prior investigation and/or mitigation.

1.3 SITE FACTS

Current Owner(s): City of Garden Grove,
As Successor Agency to the Garden Grove Agency for Community Development

Current Use: Vacant undeveloped land

The subject site will obtain its potable water from municipal sources.

The subject site will dispose of its sewage through use of the local municipal sewage system.

Site Contact: Carlos Marquez, City of Garden Grove Agency for Community Development

Field Assessor: Adam Furman

Report Writer: Nadine Kieselbach

Parcel #s: 12581 Harbor Blvd., 231-441-39; 12591 Harbor Blvd., 231-441-40; 12625 and 12721 Harbor Blvd., 231-431-02, 231-431-03; 12601 Leda Lane, 231-441-27; 12602 Leda Lane, 231-441-29; 231-441-28 (APN 231-441-28, no address/former water well location)

Address(es) Provided by Client: Harbor Boulevard Site – Water Park, Garden Grove, California 92840

Additional/Previous Address(es): Harbor Blvd: 12581, 12591, 12625, 12691, 12721
Leda Lane: 12601, 12602

Total Acreage of Land: 12.07

Date of Site Reconnaissance: May 25, 2012

Total # of Wells (water, oil, gas, other) identified onsite: None; one former well on APN 231-441-28 (According to Mr. Carlos Marquez, City of Garden Grove, As Successor Agency to the Garden Grove Agency for Community Development, this well has been closed/abandoned in accordance with regulatory agency guidelines.)

Areas/Units that were inaccessible to the ***PHASE ONE*** **INC.** field assessor: None

Were enough (units/offices/buildings/acres) inspected to ensure that the inspection was homogenous? Yes

Did the field assessor notice any unusual odors on or from the subject site or adjoining sites during the site reconnaissance? No

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1.4 EXCEPTIONS AND/OR DELETIONS TO ASTM E 1527

There are exceptions to ASTM E 1527. The exceptions are as follows:

At the oldest research interval in this report (1953), the subject property use was for agricultural purposes and as a residence at 12601 Leda Lane. Although it is not known how far back in time this use was present prior to this date, it is likely that agriculture and the residence are the first use of the subject site based on the information reviewed. Therefore, it is our opinion that this data gap (1940 to 1952) will not materially affect the conclusions of this report.

1.5 NON-SCOPE ISSUES

According to client request, no other environmental issues that are "non-scope considerations" under ASTM E 1527-00 / ASTM E 1527-05, such as asbestos-containing materials, radon, lead-based paint, and lead in drinking water, were assessed.

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SECTION 2.0

INTRODUCTION

2.1 PURPOSE OF A PHASE I ESA

The purpose of this Phase I Environmental Site Assessment is to assess (1) the likelihood of contamination of the subject site as a result of either past or present land-use practices; and (2) the potential for future environmental contamination which may occur as a result of current conditions or operations and maintenance activities at either the subject site or properties adjoining the subject site, thereby identifying real or potential environmental or economic impact to the subject site. In this way, the client may satisfy a requirement to qualify for the innocent landowner defense to the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) liability by completing "all appropriate inquiry into the previous ownership and uses of the property consistent with good commercial and customary practice." To meet these objectives, ***PHASE ONE*** **INC.** attempted to complete the tasks outlined in this section except as noted in Section 1.4.

2.2 SCOPE OF WORK

The Scope of Work that has been followed for this assessment is identified in Section 1.1, Page 1-1.

2.2.1 Site Description

Site photographs were taken during the site reconnaissance. The photographs and their summary descriptions can be found in **Appendix A.**

PHASE ONE **INC.** reviewed pertinent, reasonably ascertainable information on the soil types and groundwater conditions in the vicinity of the subject site. For the purposes of this assessment, the depth from the ground surface and the direction (or gradient) of the groundwater flow are of particular significance. Such findings are used by ***PHASE ONE*** **INC.** report writers, in conjunction with additional information about environmental conditions on nearby sites, to assess the risk that is faced by the subject site from off-site sources of contamination.

It should be noted that ***PHASE ONE*** **INC.**'s geological and hydrological research does not include investigation of seismological concerns (i.e., fault lines) that may affect the area of the subject site. Although the existence of faults in an area may be of concern to property owners and residents in that area, it is not considered to be an environmental concern, and so is not usually a component of a Phase I Environmental Site Assessment. (However, in the event that it is required, ***PHASE ONE*** **INC.** can assist the client in completing a seismological investigation.)

2.2.2 Site Reconnaissance

A ***PHASE ONE*** **INC.** field assessor conducted a visual reconnaissance of the subject property to identify observable signs of environmental impairments, including on-site operations and

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maintenance activities which may lead to possible environmental impairment. As a part of the site reconnaissance, ***PHASE ONE*** **INC.** visually inspected the site for obvious indications of:

- Existing and previously existing storage tanks (aboveground and underground)
- Hazardous substances storage and handling
- Clarifiers, sumps, trenches, and industrial discharge sources
- Equipment which may contain polychlorinated biphenyls (PCB) (fluorescent light ballasts are not inspected)
- Indications of spillage of hazardous substances, and the general condition of concrete, asphalt, soil, and other surfaces
- Indications of stressed vegetation as a result of on-site contamination

During the site reconnaissance, ***PHASE ONE*** **INC.** field assessors may make note of basic compliance issues which, may be environmental in nature, however are not issues directly associated with the potential for site contamination (i.e., the specific objective of our assessment). However, as a service to our clients, and because these compliance issues may contribute to our overall understanding of site operations, ***PHASE ONE*** **INC.** may comment on the site's basic compliance status. The review of the site's compliance status is not intended to be complete or comprehensive and may or may not include all items identified during the site reconnaissance.

Again, the compliance review is not intended as a comprehensive compliance audit. Rather, the compliance review is only intended to aid ***PHASE ONE*** **INC.** in determining the likelihood that the subject site may have been impacted by releases of hazardous substances.

When the storage or use of hazardous substances are encountered on a site, the ***PHASE ONE*** **INC.** field assessor will look for or inquire about the on-site presence of Material Safety Data Sheets (MSDSs). MSDSs are prepared by the manufacturers of hazardous substances (pursuant to OSHA's Hazard Communication Standard), and they detail the components, dangers, and proper handling procedures for the hazardous substance for which they have been prepared. The presence or absence of MSDSs for on-site hazardous substances will be noted in 3.5, ***Hazardous Substances Storage and Handling***. However, some sites may use or store hundreds of various chemical compounds. In such cases, it is practically impossible for the field assessor to match-up each substance with its corresponding MSDS. Still, the field assessor will inquire about MSDSs and copies of representative MSDSs that were made available will be included in Appendix G.

PHASE ONE **INC.** may have (based on contract) inspected and reviewed information for the subject site regarding the presence of specific hazardous substances which are relatively common sources of environmental concern. The substances in question include:

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- Common building materials that may contain or are suspected of containing asbestos
- Radon (at elevated levels)
- Lead-contaminated drinking water
- Lead-based paints

Based on ASTM E1527, federal, state, and other regulatory agency guidelines, the following presumptions were in force if and when ***PHASE ONE*** **INC.** inspected the subject site for specific hazardous substances:

- Structures built after 1980 are considered asbestos-free.
- Structures built after 1979 are considered lead-free (with respect to both water and painted surfaces).
- Fluorescent light ballasts will be considered PCB-free and will not be noted in the report regardless of their date of manufacture, unless ***PHASE ONE*** **INC.** is instructed to do otherwise in writing by the client.

PHASE ONE **INC.** also inspected the properties that adjoin the subject site. In general, this inspection included a "drive-by" survey to note the operations which may pose an imminent or potential environmental threat to the subject site.

2.2.3 Review of Historical Information

For this assessment, ***PHASE ONE*** **INC.** may have reviewed reasonably ascertainable historical aerial photographs and United States Geologic Survey (U.S.G.S.) topographic maps of the subject site and vicinity. This review consisted of examining the reasonably ascertainable available photographs and topographic maps for evidence of activities on or development of the subject site and adjoining sites that may show an environmental condition or concern which may currently affect the subject site. The specific aerial photographs and U.S.G.S. maps that were reviewed for this assessment are identified and their environmentally relevant features are described in Section 4.1.

PHASE ONE **INC.** may have also reviewed any reasonably ascertainable Historic Maps of the subject site and vicinity. Such maps have been prepared by fire insurance companies in order to determine the potential risk of fire damage to buildings in metropolitan areas. These maps have been produced since the mid-1850s and, for some areas, they are still produced today. For the purposes of a Phase I Environmental Site Assessment, these maps may contain helpful information on the ages and past uses of buildings, as well as information about on the storage of hazardous and flammable substances. However, because it was only worthwhile for fire insurance companies to map metropolitan areas, the scope of coverage of these maps is somewhat limited. If Historic Maps have provided coverage of the subject site, and if the specific maps were reasonably ascertainable,

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then the specific maps that were reviewed for this assessment are identified, and their environmentally relevant features described, in Section 4.2.

One of the least known yet most complete and comprehensive historical sources are historical city or street directories. These texts may have been reviewed by ***PHASE ONE* INC.** to the extent that they have provided coverage of the subject site and were reasonably ascertainable. ***PHASE ONE* INC.** reviews historical city or street directories (also known as criss cross or reverse indexed directories) for information on the past occupants of and activities on the subject site and adjoining sites. These directories were prepared by companies that catered to the needs of salespeople by providing the names of the occupants at a given address (that is, unlike a traditional telephone book, the entries of a reverse directory are arranged by address, not by name). However, like Historical Maps, the scope of coverage of these directories is limited to mostly metropolitan areas. If they were reasonably ascertainable, they were reviewed and Section 4.3 contains listings of the current or past occupants of the subject site that were found by researching historical city or street directories.

***PHASE ONE* INC.** has contacted various state, county, and municipal agencies having current or past jurisdiction over the subject site, in an attempt to review reasonably ascertainable records that contain specific information about environmental conditions on the subject site that these agencies may have on file, or to establish that no environmentally relevant records are on file for the subject site. The client should be aware that most regulatory agencies file their records by address or corporate name (as opposed to parcel number or site name). If no specific address has been assigned to a site, then, typically, no environmental records related to the site will be forthcoming from the state, county, or municipal regulatory agencies.

The findings of this records search are reported in Section 4.4, ***Agency Contacts***. The addresses, phone numbers, names of the persons contacted within the various agencies are listed on the Regulatory Contacts Sheet, which is included in Appendix B. Copies of any records obtained from regulatory agencies can be found in Appendix C. In some instances, ***PHASE ONE* INC.** may not yet have received a reply from one or more of the agencies that were contacted. (Some agencies will take six weeks or longer to reply to a verbal or written request.) In the event of such delays in response, rather than delaying the issuance of the report, ***PHASE ONE* INC.** has indicated in the report that a response to the request for records is pending, and a copy of the regulatory request form has been included in Appendix B. Any pertinent information that is subsequently received from the pending agency will be addressed and forwarded to the client in the form of an addendum to this report.

***PHASE ONE* INC.** has also reviewed a vendor-supplied, computer-generated federal, state, and regional one-mile regulatory database search in an effort to determine whether the subject site is listed on an agency environmental database and to identify possible regulatory-listed sites of concern within a one-mile radius of the subject site. In general, these documents list known or suspected hazardous-waste generators, release sites, landfills, unauthorized disposal sites, sites with registered underground storage tanks, and sites currently under investigation for known or suspected environmental violations or releases. In conjunction with the findings on the geological and hydrological conditions, information obtained from the database search can be used to assess the environmental risk faced by the subject site from past or present off-site sources of contamination. Additionally, the database search may provide information about on-site sources of contamination. The regulatory database review can be found in Section 4.5; a copy of the complete database search

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document and a detailed description of the databases that were searched are included in Appendix D.

When requested, ***PHASE ONE*** **INC.** will compile and review a chain-of-title abstract for the subject property. The chain-of-title abstract can help the client and ***PHASE ONE*** **INC.** to better understand the history of the use of the subject site. The chain-of-title abstract is typically compiled from documents obtained from the County Recorder's Office or Tax Assessor's Office. The chain-of-title abstract review, if completed for this report, can be found in Section 4.6. The County Assessor also may be contacted to determine whether the subject site has been assigned addresses in the past which are different from its current address. It is the client's responsibility to supply ***PHASE ONE*** **INC.** with any records of environmental liens or other such documents.

On occasion, the client, the client's representatives, or on-site personnel will make available environmental documents pertaining to the subject site. These documents may be prior Phase I Reports, environmental site remediation reports, foundation soil reports, or occupancy records, among others. If these are made available prior to the issuance of the report, ***PHASE ONE*** **INC.** will review the conclusions of these documents, which may help to confirm or disprove any tentative findings that ***PHASE ONE*** **INC.** has developed independently. If the client has supplied environmental documents for review as part of this assessment, the findings are included in Section 4.7.

After the above information from existing historical records, regulatory agencies, interviews, and other additional environmental documents has been reviewed and evaluated, ***PHASE ONE*** **INC.** presents the site uses for the subject property as well as adjoining site uses in a chronological table. This historic site use summary assists the client, as well as the field assessors and reviewers to have a perspective of the historical uses of the subject site. The ***Historical Site Use*** is presented in Section 4.8.

2.2.4 Interviews

PHASE ONE **INC.** attempts to interview various individuals who may have knowledge of various aspects of the subject site. Typically, the interviewees might include:

- Current and previous owners
- Site and operations managers
- Tenants
- Local regulatory personnel

The interviews are summarized in Section 5.0 and interview notes are included in Appendix F.

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2.2.5 Conclusions and Recommendations

Section 6.0, ***Conclusions and Recommendations***, provides detailed descriptions of the recognized environmental conditions and the *de minimis* or historical environmental conditions that, in the professional opinion of ***PHASE ONE*** **INC.**, currently affect the subject site. Section 6.0 also recommends or suggests the next-step actions that may be required to begin addressing the conditions.

The essential information on a condition at a given location is contained in the "Description of Condition" and the "Action Suggested" boxes of the table for that location. The section numbers refer to those sections in the report that describe the research tasks and findings behind the conclusions. This reporting method allows the reader to quickly go to those sections that are pertinent to the condition.

2.3 INTERPRETATION OF THE REPORT

Following the completion of the tasks outlined above, ***PHASE ONE*** **INC.** prepared this report to present our findings and conclusions clearly and consistently. In an attempt to aid the reader and bring organization to pieces of seemingly unrelated information, ***PHASE ONE*** **INC.** has developed a report format that is both innovative and concise. Each piece of information is described in the context of the research or assessment task under which it was found. Typically, an environmental condition will incorporate a number of specific findings. So, in Section 6.0, ***Conclusions and Recommendations***, the various particular findings are grouped together and collectively presented with the description of the environmental condition that is corroborated by those findings.

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SECTION 3.0

SITE DESCRIPTION AND RECONNAISSANCE

The subject site is surrounded by an area of predominantly residential and commercial properties. On the date of the site reconnaissance the subject site consisted of 12.07 acres of vacant, undeveloped land formerly occupied by residences, commercial buildings, a motel, and an RV park. The following subsections describe the physical characteristics of the subject site and are a compilation of the observations made during the visual site inspection.

3.1 SITE PHOTOGRAPHS

A ***PHASE ONE*** **INC.** field assessor completed a reconnaissance of the subject site, at which time a number of photographs were taken to document the current condition and use of the site. Please see Figure 2, ***Site Plan***, for photograph locations. The photographs with their descriptions can be found in **Appendix A.**

3.2 GEOLOGIC AND HYDROGEOLOGIC CONDITIONS

According to United States Geological Survey (U.S.G.S.) STATSGO data, the most common native soil type in the vicinity of the subject site is Urban Land. It is not known whether imported fill materials were used during the grading or development of the site; therefore, it is unknown if fill materials is a concern for the subject site. The elevation of the subject site appears to be 107 feet above mean sea level.

Groundwater in the site vicinity is reported by a *Fourth Quarter 2011 Groundwater Monitoring Report* for 12502 Harbor Boulevard, Garden Grove Boulevard, Garden Grove, CA to occur at a depth of approximately 23-28 feet below ground surface and tends to flow towards the northwest. It should be noted that the flow direction and depth of groundwater may be influenced by rainfall, tidal activity (shore properties), and local groundwater pumping operations. It should also be noted that shallower, unreported, perched groundwater zones may occur in the immediate site vicinity.

During the site reconnaissance and the review of historical maps and photographs, the following was determined to exist or not to exist on the subject site:

- No waterways
- No wetlands
- No pits
- No lagoons
- No ponds

In-addition, the following was determined to exist or not to exist immediately adjacent to the subject site:

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- No waterways
- No wetlands
- No pits
- No lagoons
- No ponds

According to FEMA Q3 Data, the site is located within a less than 100-year flood zone. Storm water discharge across the site appears to flow multidirectionally. The storm water runoff appears to discharge to no known facility other than the street gutters. The direction and destination of storm water discharge does not appear to be a source of environmental concern to the subject site.

3.3 EXISTING STORAGE TANKS

No evidence of any existing aboveground or underground storage tanks was observed on the subject site during the site reconnaissance nor noted in the research conducted for this assessment.

3.4 PREVIOUSLY EXISTING STORAGE TANKS

No evidence of previously existing aboveground or underground storage tanks was observed on the subject site during the site reconnaissance nor noted in the research conducted for this assessment.

3.5 HAZARDOUS SUBSTANCE STORAGE AND HANDLING

No storage or handling of hazardous substances were observed in the areas inspected during the site reconnaissance.

3.6 SPECIFIC HAZARDOUS SUBSTANCES RECONNAISSANCE

3.6.1 Summary of Specific Hazardous Substances Reconnaissance (Beyond ASTM Scope)

At the request of the client, non-scope items, as defined in the ASTM Standard were not addressed. These non-scope items are asbestos, radon, lead water and lead paint.

3.7 POLYCHLORINATED BIPHENYLS (PCBS)

The ***PHASE ONE*** **INC.** site reconnaissance does not include checking on-site fluorescent light fixtures for potential PCB content. Although fluorescent light ballasts may contain PCBs, the amount contained is considered to be so inconsequential that the ASTM (*Standard Practice*, E 1527) has stated:

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"Fluorescent light ballast likely to contain PCBs does not need to be noted." in a Phase I Environmental Site Assessment Report.

During the site reconnaissance, equipment or materials known or suspected of containing PCBs were observed on-site. The following table details the identified equipment or materials.

POLYCHLORINATED BIPHENYLS (PCB) SUSPECTED EQUIPMENT

ID #	I/O	Location and Photo #	Equipment Type	Ownership (Public Utility, Site)	Condition
1	O	Perimeter of Southern and Western Sides of Subject Site (Adjacent Sites) (OP04, OP08)	Pole-mounted Transformers	Utility	*De minimis*

Note: Each piece of equipment or material noted above is marked on Figure 2, *Site Plan*, by the ID number given above.
I/O = Inside/Outside

3.8 CLARIFIERS, SUMPS, TRENCHES, AND INDUSTRIAL DISCHARGE SOURCES

No clarifiers, sumps, trenches, industrial floor drains, or industrial discharge points were noted during the site reconnaissance, historical and/or regulatory research.

3.9 SURFACE CONDITIONS

No significant areas of staining or other unusual surface conditions were observed during the site reconnaissance.

3.10 STRESSED VEGETATION

No disfigured, discolored, dying, or otherwise stressed vegetation was observed on-site during the site reconnaissance.

3.11 PRIOR OR CURRENT AGRICULTURAL LAND USE

On the basis of a review of aerial photographs, ***PHASE ONE*** **INC.** has concluded that the site was used for agricultural purposes. This information is detailed in the following table.

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PRIOR OR CURRENT AGRICULTURAL LAND USE

ID #	Approx. Date Range	Description	Condition
1	1953	The subject site and vicinity was used for agriculture (orchards) during this period of time. A Phase II Environmental Site Assessment (See Section 4.7) was conducted in April 2012, and concluded that the presence of agricultural chemicals to be low and not a concern.	None

3.12 OTHER ENVIRONMENTAL CONDITIONS

No evidence of further environmental conditions, and/or impairments was observed during the site reconnaissance, beyond that evidence that has already been noted in this section.

3.13 VISUAL OBSERVATIONS, ADJOINING SITES

During the site reconnaissance, the ***PHASE ONE*** **INC.** field assessor also visually inspected and documented the use of those properties which immediately adjoin the subject property. The observations of the adjoining properties were made by the ***PHASE ONE*** **INC.** field assessor on the date of the site reconnaissance.

VISUAL OBSERVATIONS, ADJOINING SITES

Description		Condition
Northerly View:		None
Address:	12547-12531 Harbor Boulevard	
Company Name:	American European Center (multiple tenants), Residential	
Apparent Current Use of Property:	Commercial, Residential	
Visual Concerns:	None	
Easterly View:		None
Address:	Multiple Addresses on Harbor Boulevard	
Company Name:	N/A	
Apparent Current Use of Property:	Residential	
Visual Concerns:	No	
Southerly View:		None
Address:	12751-12901 Harbor Boulevard	
Company Name:	Harbor Town and Country (multiple tenants)	
Apparent Current Use of Property:	Commercial	
Visual Concerns:	No	
Westerly View:		None
Address:	12612 Buaro Street, Unknown	
Company Name:	Young Nak Presbyterian Church of Orange County, N/A	
Apparent Current Use of Property:	Church, Residential	
Visual Concerns:	No	

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SECTION 4.0

REVIEW OF HISTORICAL INFORMATION AND REGULATORY AGENCY RECORDS

4.1 HISTORICAL AERIAL PHOTOGRAPH AND U.S.G.S. TOPOGRAPHIC MAP REVIEW

***PHASE ONE* INC.** reviewed readily available and reasonably ascertainable aerial photographs and U.S.G.S. topographic maps of the area of the subject site. (A copy of a U.S.G.S. map, if available, has been included as Figure 1.) These aerial photographs and maps may have been obtained from ***PHASE ONE* INC.**'s library and/or another source (all sources identified in Appendix B). Each aerial photograph was reviewed for the subject property and, where applicable, adjacent property use. In addition, each photograph was reviewed to identify the presence of areas of dumping, staining, buildings, and/or aboveground storage tanks.

Aerial photographs for the years of 1953, 1972, 1995, 2003, 2004, 2005, 2011, and a U.S.G.S. topographic map for the year of 1983 were reviewed and no recognized environmental conditions or *de minimis* environmental conditions were identified in the following aerial photographs and/or topographic maps and are discussed in the table below.

HISTORICAL AERIAL PHOTOGRAPH/U.S.G.S. TOPOGRAPHIC MAP

Collection Reference #	Date of Document	Description of Condition	Condition
ERS	1953	The northern area (Leda Lane) has a residence and other small structures; the remainder of the site and surrounding areas are orchards. Harbor Boulevard is present.	None
ERS	1972	The subject site is developed with two residences and two commercial buildings on the northern portion of the subject site, a motel to the south of the residences and RV park to the south of the motel. All adjacent sites are in their present-day configurations.	None
ERS	1995	No significant changes from the 1972 aerial.	None
ERS	2003	No significant changes from the 1995 aerial.	None
ERS	2004	No significant changes from the 2003 aerial except that the area developed with the motel is now vacant, undeveloped land. The motel has been demolished; the surrounding area is in its present day configuration.	None
ERS	2005	No significant changes from the 2004 aerial.	None
Google Earth	March 2011	No significant changes from the 2004 aerial.	None

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4.2 HISTORICAL MAP REVIEW

PHASE ONE **INC.** contacted the source(s) identified in Appendix B in an effort to review readily available historical and fire insurance maps with coverage of the subject site and vicinity that might be included in their collections. However, a search of the reasonably ascertainable historical and fire insurance maps found that none provided coverage of the area of the subject site.

4.3 HISTORICAL CITY OR STREET DIRECTORY REVIEW

PHASE ONE **INC.** did not review historical city or street directories for one or more of the following reasons:

1. Based on a reasonable amount of research, the information was not readily available, as defined in the ASTM Standard.
2. Sufficient historical information was available from other sources to identify the past property uses.

4.4 AGENCY CONTACTS (RECORDS SEARCH)

4.4.1 Building Department Records

PHASE ONE **INC.** submitted a request to the local Building agency for the purpose of reviewing reasonably ascertainable, relevant building permits, original plumbing and finish schedules, building plans, or other readily available, relevant documents pertaining to the subject site that are on file with this agency (all sources are identified in Appendix B). The following table presents the results of this review. (Copies of the reviewed documents, when available and/or necessary are included in Appendix C.)

SUMMARY OF BUILDING DEPARTMENT RECORDS

Date Range of Documents	Description of Permit/Plan	Condition
1967-1981	12625 Harbor Boulevard Permit for alteration of dining room (site use restaurant) in 1966, Certificate of Occupancy for a nightclub in 1967, a permit for a fire repair to the motel in 1977, and a permit for a repair at the motel in 1981.	None
1959-1963	12691 Harbor Boulevard Permit for remodel (repair to fire damage, site use restaurant) in 1959, permit for the new building, a furniture store in 1959, permit for a pool in 1960/1961, and a permit for an addition of a sales office in 1963.	None
1965	12601 Leda Lane Permit for a private pool in 1965.	None

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Date Range of Documents	Description of Permit/Plan	Condition
1987	12602 Leda Lane Permit for a patio cover in 1987.	None

4.4.2 Water Quality Agency Records

PHASE ONE **INC.** submitted a request to the Water Quality Agency for the purpose of determining if past and present businesses at the subject site are listed on regulatory lists (such as leaking underground tank lists, site cleanup lists, etc.). However, ***PHASE ONE*** **INC.** was informed that no records for the subject site are on file with this agency (all sources identified in Appendix B).

4.4.3 Oil and Gas Agency Records or Maps

PHASE ONE **INC.** submitted a request to the local Oil and Gas Agency for copies of readily available oil and gas related records pertaining to environmental issues on the subject site. However, ***PHASE ONE*** **INC.** was informed that no records for the subject site are on file with this agency (all sources are identified in Appendix B).

4.4.4 Other Pertinent Records

There are no additional regulatory agencies known to ***PHASE ONE*** **INC.** that are likely to have further relevant environmental information pertaining to the subject site.

4.5 REVIEW OF ENVIRONMENTAL RECORDS SEARCH

The ***PHASE ONE*** **INC.** review of the computer-generated, environmental records search document (the complete environmental records search document is included in Appendix D) found the subject site is not a regulatory-listed site. The environmental records search occurrence summary table below identifies the number of sites listed in each database included in the record search document (the complete environmental records search document is included in Appendix D). No sites of environmental concern to the subject site were identified.

LISTED OCCURRENCE SUMMARY

LIST SEARCHED	DISTANCE SEARCHED (MILES)	0.195	0.32	0.57	1.07	TOTAL SITES LISTED
NPL	1.07	0	0	0	0	0
CERCLIS	0.57	0	0	-	-	0

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LIST SEARCHED	DISTANCE SEARCHED (MILES)	0.195	0.32	0.57	1.07	TOTAL SITES LISTED
Cal State Response Active	1.07	0	0	0	0	0
Cal Superfund Active	1.07	0	0	0	0	0
Cal Eval-Hist	0.57	0	0	-	-	0
Cal Military Active	1.07	0	0	0	0	0
Cal School Active	0.57	0	0	-	-	0
Cal VCP Active	0.57	0	0	-	-	0
LUST-Open	0.57	1	0	-	-	2
Tribal-LUST-Open	0.57	0	0	-	-	0
ROD-ZZ	0.57	0	0	-	-	0
SLIC-Open	0.57	0	0	-	-	0
WIP-Active	0.57	0	0	-	-	0
RESPONSE-CA	0.195	0	-	-	-	0
RCRA-COR	1.07	0	0	0	0	0
RCRA-TSD	0.57	0	0	-	-	0
ERNS	0.195	0	-	-	-	0
Cal State Response Other	0.57	0	0	-	-	0
Cal Superfund Other	1.07	0	0	0	0	0
Cal Military Other	1.07	0	0	0	0	0
Cal School Other	0.57	0	0	-	-	0
Cal VCP Other	0.57	0	0	-	-	0
SWIS	0.57	0	0	-	-	0
Land Disposal-CA	0.57	0	0	-	-	0
County-Landfills	0.57	0	0	-	-	0
US-BF	0.57	0	0	-	-	0
Hist-Controls-CA	0.57	0	0	-	-	0
Controls-ZZ	0.57	0	0	-	-	0
Hist-US-IC	0.57	0	0	-	-	0
Hist-US-EC	0.57	0	0	-	-	0
Controls-CA	0.57	0	0	-	-	0
PADS	0.195	0	-	-	-	0
PCB	0.195	0	-	-	-	0
Hist-Trucking	0.32	0	0	-	-	0
FUDS-ZZ	1.07	0	0	0	0	0
FRS-ZZ	0.195	1	-	-	-	1
TRIS-ZZ	0.195	0	-	-	-	0
SSTS-ZZ	0.32	0	0	-	-	0
Hist-FIFRA-ZZ	0.195	1	-	-	-	1
MINES	0.32	0	0	-	-	0
AFS	0.195	0	-	-	-	0
HMIS-ZZ	0.195	0	-	-	-	0
RFG-Lab-ZZ	0.195	0	-	-	-	0
WIP-Backlog	0.57	0	0	-	-	0
CHWF-CA	0.57	0	0	-	-	0
HWT-CA	0.195	0	-	-	-	0
CORTESE-CA	0.195	0	-	-	-	0

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LIST SEARCHED	DISTANCE SEARCHED (MILES)	0.195	0.32	0.57	1.07	TOTAL SITES LISTED
Emissions-CA	0.57	0	0	-	-	0
SWRCY-CA	0.195	1	-	-	-	1
HAULERS-CA	0.195	0	-	-	-	0
OGW	0.32	0	0	-	-	0
CDL-CA	0.195	0	-	-	-	0
CUPA-CA	0.32	0	0	-	-	0
BioFuel-ZZ	0.32	0	0	-	-	0
Hist-Auto Dealers	0.195	0	-	-	-	0
Hist-RV-Dealers	0.195	0	-	-	-	0
Hist-Mortuaries	0.195	0	-	-	-	0
Hist-Printers	0.195	0	-	-	-	0
Hist-Chemical Manufacturing	0.195	0	-	-	-	0
Hist-Service Stations	0.195	0	-	-	-	0
Hist-Vehicle-Parts	0.195	0	-	-	-	0
Hist-Petroleum	0.195	0	-	-	-	0
Hist-Tire Dealers	0.195	0	-	-	-	0
Hist-Cleaners	0.195	0	-	-	-	0
Hist-Agriculture	0.195	0	-	-	-	0
Hist-Salvage	0.195	0	-	-	-	0
Cerclis-Archived	0.57	0	0	-	-	0
RCRA	0.195	0	-	-	-	0
Cal Superfund NFA	1.07	0	0	0	0	0
Cal State Response NFA	0.57	0	0	-	-	0
Cal VCP NFA	0.57	0	0	-	-	0
Cal School NFA	0.57	0	0	-	-	0
Cal Military NFA	0.57	0	0	-	-	0
Cal Eval-Hist NFA	0.57	0	0	-	-	0
LUST-Closed	0.57	0	0	-	-	0
Tribal-LUST-Closed	0.57	0	0	-	-	0
Hist-UST	0.195	0	-	-	-	0
Tribal-UST	0.195	0	-	-	-	0
UST	0.195	0	-	-	-	0
HWIS-CA	0.195	7	-	-	-	7
ICIS-FEC	0.57	0	0	-	-	0
USGS-WaterWells	1.07	0	0	0	0	0
SLIC-Closed	0.57	0	0	-	-	0
PCS	0.195	0	-	-	-	0
WIP-Historical	0.57	0	0	-	-	0
RADINFO	0.57	0	0	-	-	0
Historical-CA	0.57	0	0	-	-	0
EGRID	0.57	0	0	-	-	0

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The following table identifies the subject site, the adjacent sites, and sites that are either a recognized environmental condition, a *de minimis* environmental condition, or a historical recognized environmental condition.

ENVIRONMENTAL RECORDS SEARCH SITES OF CONCERN

Map Location #	Site Name and Location	Distance from Site (Miles)	Listing Agencies	Site Status	Condition
1	UNIVERSAL CARE MEDICAL GROUP 12751 HARBOR BOULEVARD	South Adjacent Site	HWIS-CA	Listed: This site address is listed as a generator of hazardous waste photochemicals/photoprocessing waste/metal sludge) from 1998 to 1993; no violations noted, and not open regulatory agency case.	None
2	HARVEST CHRISTIAN ACADEMY 12612 BUARO ST	West Adjacent Site	Hist-FIFRA-ZZ	Listed: This site address is listed as a case with the Case Administration Data from National Compliance Database (Federal Insecticide, Fungicide, and Rodenticide Act); case closed in November 1990.	None
3	BATUTA PHOTO LAB 12531 HARBOR BLVD, STE H	North West Adjacent Site	HWIS-CA	Listed: This site address is listed as a generator of hazardous waste photochemicals/photoprocessing waste) in 1998; no violations noted, and not open regulatory agency case.	None
4, 8	ARCO PRODUCTS COMPANY 12502 HARBOR BLVD BP WEST COAST PRODUCTS LLC 05202	0.17 Northeast	HWIS-CA LUST-Open	Listed: This gas station site is listed with an open Leaking Underground Storage Tank case. Lead agency is the Orange County LOP. Groundwater is affected. This site is proximal to the northern portion of the subject site.	*De minimis*

Note: Map Location #s match the Map ID numbers of the sites used in the document located in Appendix D. Listings of unmapped sites were reviewed to identify the subject site or any sites that are obviously adjacent to the subject property. Other unmapped sites are listed only in Appendix D.

4.6 CHAIN-OF-TITLE ABSTRACT AND/OR REVIEW

At the request of the client, a chain-of-title abstract was not requested or completed for this project.

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4.7 ADDITIONAL ENVIRONMENTAL DOCUMENTS

During the course of this assessment, ***PHASE ONE* INC.** was provided with additional documents regarding the environmental condition of the subject site by others. The conclusions of these materials were reviewed only. ***PHASE ONE* INC.** relies upon the author/and corresponding companies' conclusions and expertise. ***PHASE ONE* INC.** does not evaluate the methodology, interpretation of results, analysis type or results, or verify in any way the completeness or correctness of the conclusions or procedures. ***PHASE ONE* INC.** relies upon the report and associated conclusions of the reports provided to ***PHASE ONE* INC.** The conclusions of these materials are described in the following table.

SUMMARY OF ADDITIONAL ENVIRONMENTAL DOCUMENTS

Company Document Type Date of Document	Relevant Information	Condition
***PHASE ONE* INC.** Phase I Environmental Assessment Project No. 5406 April 8, 2003	A Phase I ESA was completed for 12625 and 12721 Harbor Boulevard in Garden Grove. The site was occupied by Fire Station Hotel and Town & Country RV Park. One potential environmental concern was identified: Eight pole-mounted transformers (located throughout the property) and a pad-mounted transformer (located near the north wall of the motel) were observed on the subject site. Given the pre-1979 date of development of the subject site, the presence of polychlorinated biphenyls (PCB) containing fluids in the transformers is suspected. No leakage or staining is visible on or around the transformers. No action is suggested or recommended at this time. If leaks should develop, contact the utility to sample the fluids for the presence of PCBs. If the analysis results indicate that the transformers contain PCBs, the utility would be responsible for remediating any leakage and staining, and for changing the fluids in the transformers. No further investigation is recommended.	*De minimis*

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Company Document Type Date of Document	Relevant Information	Condition
***PHASE ONE* INC.** Phase I Environmental Assessment Project No. 6907 March 27, 2009	A Phase I ESA was completed for 12591 Harbor Boulevard in Garden Grove. The site was occupied by a 7,920 sq. ft. vacant building on .61 acres of land. The building had been constructed circa 1960. No evidence of recognized environmental conditions. Five *de minimis* conditions were identified: **Condition #1, South Area of Parking Lot**: Several unlabeled five-gallon containers of unknown substances were observed in the south parking area of the property. Action Suggested: Identify the contents in the five-gallon containers; these materials should be disposed of in accordance with regulatory agency guidance, and not in municipal trash containers. **Condition #2, Subject Site**: Although the site was used for agricultural purposes in the past, the subsequent commercial development of the site minimizes the probability of occupants to come in contact with possible residual agricultural chemicals in the soil or groundwater. Action Suggested: No action is suggested, recommended and/or warranted at this time. However, if the property were to be redeveloped (especially for use by a sensitive receptor like residential, day care, medical, etc.); or if workers would come in contact with the soil during trenching, excavation, or similar activities; or if the groundwater beneath the site were to be used for domestic use or irrigation, then subsurface sampling would be recommended at that time to determine whether significant levels of agricultural chemicals exist at the site. **Condition #3, Subject Structure**: Given the pre-1981 construction date of the subject structure, during the site reconnaissance, materials were identified that are suspected of containing asbestos. At the time of the inspection, all of the materials appeared to be intact and undisturbed (that is, they appeared to be in a non-friable condition) and, thus, do not pose an immediate environmental concern. Still, these materials may become hazardous if they in fact contain asbestos and are subsequently damaged or disturbed, as, for example, in the course of remodeling. Asbestos-containing materials are considered to be hazardous materials, and their eventual disposal and handling are subject to federal and state regulatory guidelines. Action Suggested: Prior to disturbing the suspected asbestos-containing materials, such as during remodeling or demolition, contact ***PHASE ONE* INC.**'s or another consultant for sampling and analysis of the suspect materials. If samples test positive, develop an Operations and Maintenance (O&M) Plan detailing the material-handling procedures to be implemented. **Condition #4, Subject Structure**: Given the pre-1979 construction date of the subject structure, the past use of lead-based paints and leaded piping and/or fixtures is suspected. Deteriorating paint may pose a significant health hazard if ingested or inhaled, particularly for children. Due to the nature of the site use, the possibility of children being affected is low. Lead-containing paint is considered hazardous waste, and the eventual disposal of lead-containing paint may be subject to regulatory restrictions. Lead-containing water is considered hazardous to health at certain levels. Action Suggested: Prior to remodeling, disturbing or demolishing of painted surfaces, precautionary steps are recommended to reduce exposure in accordance with the occupational health standards. To further investigate for the presence of lead, contact ***PHASE ONE* INC.** or another consultant to sample and analyze the suspect paint or plumbing. **Condition #5, Nearby Site**: A site was identified in the environmental records search document that appears to be within ¼-mile of the subject site. This nearby site has been reported as having an environmental condition associated with it that may have led to the contamination of the area groundwater. The possibility exists that groundwater contamination generated by this nearby site extends beneath the subject property. Based on the hydrological research conducted by ***PHASE ONE* INC.** for this assessment, groundwater flow direction in the vicinity of the subject site flows toward the subject site from the site of concern. Action Suggested: No action is suggested, recommended and/or warranted at this time. It does not appear that groundwater contamination, if it exists below the subject site, constitutes a health hazard to the site's occupants unless the occupants have or will come into contact with the groundwater. Only subsurface sampling, which is not recommended at this time, can determine conclusively whether the groundwater beneath the site has been impacted by off-site sources. No evidence was uncovered in the course of the research conducted for this assessment that would indicate that the current or past activities on the subject site might have contributed to the area groundwater contamination. No further investigation was recommended.	*De minimis*

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Company Document Type Date of Document	Relevant Information	Condition
***PHASE ONE* INC.** Phase I Environmental Assessment Project No. 6973 March 11, 2010	A Phase I ESA was completed for 12601 Leda Lane, Garden Grove. The site was occupied by a 1,998 sq. ft. residence on .53 acres of land. The residence was constructed in 1955. One recognized environmental condition was identified: **Condition #1, Subject Site**: Based on a review of an aerial photograph, it appears that the site was used for agricultural purposes in the past. The concern exists that agricultural chemicals remain in near surface soils and that future site occupants may be exposed to these chemicals. Action Suggested: If the site is redeveloped as the proposed use of an asphalted parking lot, no further action is suggested. If the subject site is to be redeveloped for anything other than a completely asphalted parking lot, than ***PHASE ONE* INC.** recommends sampling of the near surface soil for agricultural chemicals. Contract with ***PHASE ONE* INC.** or another environmental firm to perform near surface soil sampling and analysis to determine if any agricultural chemicals remain at the site. Two *De minimis* conditions was identified: **Condition #2**, **Subject Structure**: Given the pre-1981 construction date of the subject structure, during the site reconnaissance, materials were identified that are suspected of containing asbestos. No samples of the suspect ACMs were taken. At the time of the inspection, most of the materials appeared to be intact and undisturbed (that is, they appeared to be in a non-friable condition) and, thus, do not pose an immediate environmental concern. Still, these materials may become hazardous if they in fact contain asbestos and are subsequently damaged or disturbed, as, for example, in the course of remodeling or if the structure is demolished. Asbestos-containing materials are considered to be hazardous materials, and their eventual disposal and handling are subject to federal and state regulatory guidelines. In addition, given the construction date of the subject building (1955), the past use of lead-based paints and leaded piping and/or fixtures is suspected. Lead paint may pose a significant health hazard if ingested or inhaled, particularly for children. Lead-containing water is considered hazardous to health at certain levels. Because this is a building where children could reside or play, if there is lead contamination on-site, there is the likelihood that children could be affected. Action Suggested: Since the proposed plan for the property is for the residential structure is to be demolished and not to be used for occupancy, contact the local building department and the South Coast Air Quality Management for their specific requirements for demolition. Prior to demolition, precautionary steps may need to be taken to reduce worker exposure to lead, according to occupational health standards. In addition, the removal of lead-based paint and asbestos-containing materials is subject to state and federal regulatory guidelines. If the proposed plan changes, and the residence continues to be used for occupancy, then sampling of the paint and water for lead is recommended. **Condition #3, Nearby Site, (12502 Harbor Blvd.):** This nearby site, a gas station, is identified in the environmental records search document. It has been reported as having an environmental condition associated with it that has lead to the contamination of the area groundwater. The possibility exists that groundwater contamination generated by this nearby site extends beneath the subject property. Action Suggested: No action is suggested or recommended at this time. It does not appear that groundwater contamination constitutes a health hazard to the site's occupants unless the occupants have or will come into contact with the groundwater. Only subsurface sampling can determine whether the groundwater beneath the site has been impacted by off-site sources. Further investigation was recommended.	*De minimis*

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Company Document Type Date of Document	Relevant Information	Condition
PHASE ONE INC. Phase I Environmental Assessment Project No. 6974 March 11, 2010	A Phase I ESA was completed for 12602 Leda Lane, Garden Grove. The site was occupied by a 2,033± sq. ft. residence on .52 acres of land. The residence was constructed in 1953. One recognized environmental condition was identified: **Condition #1, Subject Site:** Based on a review of an aerial photograph, it appears that the site was used for agricultural purposes in the past. The concern exists that agricultural chemicals remain in near surface soils and that future site occupants may be exposed to these chemicals. Action Suggested: If the site is redeveloped as the proposed use of an asphalted parking lot, no further action is suggested. If the subject site is to be redeveloped for anything other than a completely asphalted parking lot, than ***PHASE ONE*** **INC.** recommends sampling of the near surface soil for agricultural chemicals. Contract with ***PHASE ONE*** **INC.** or another environmental firm to perform near surface soil sampling and analysis to determine if any agricultural chemicals remain at the site. Three *de minimis* environmental conditions were identified: **Condition #2, Subject Structure**: Given the pre-1981 construction date of the subject structure, during the site reconnaissance, materials were identified that are suspected of containing asbestos. No samples of the suspect ACMs were taken. At the time of the inspection, most of the materials appeared to be intact and undisturbed (that is, they appeared to be in a non-friable condition) and, thus, do not pose an immediate environmental concern. Still, these materials may become hazardous if they in fact contain asbestos and are subsequently damaged or disturbed, as, for example, in the course of remodeling or if the structure is demolished. Asbestos-containing materials are considered to be hazardous materials, and their eventual disposal and handling are subject to federal and state regulatory guidelines. In addition, given the construction date of the subject building (1953), the past use of lead-based paints and leaded piping and/or fixtures is suspected. Lead paint may pose a significant health hazard if ingested or inhaled, particularly for children. Lead-containing water is considered hazardous to health at certain levels. Because this is a building where children could reside or play, if there is lead contamination on-site, there is the likelihood that children could be affected. Action Suggested: Since the proposed plan for the property is for the residential structure is to be demolished and not to be used for occupancy, contact the local building department and the South Coast Air Quality Management for their specific requirements for demolition. Prior to demolition, precautionary steps may need to be taken to reduce worker exposure to lead, according to occupational health standards. In addition, the removal of lead-based paint and asbestos-containing materials is subject to state and federal regulatory guidelines. If the proposed plan changes, and the residence continues to be used for occupancy, then sampling of the paint and water for lead is recommended. **Condition #3, Nearby site (12502 Harbor Blvd.):** This nearby site, a gas station, is identified in the environmental records search document. It has been reported as having an environmental condition associated with it that has lead to the contamination of the area groundwater. The possibility exists that groundwater contamination generated by this nearby site extends beneath the subject property. Action Suggested: No action is suggested or recommended at this time. It does not appear that groundwater contamination constitutes a health hazard to the site's occupants unless the occupants have or will come into contact with the groundwater. Only subsurface sampling can determine whether the groundwater beneath the site has been impacted by off-site sources. **Condition #4, Southeast Corner of Subject Site**: A pole-mounted transformer was observed. Given the pre-1979 date of development of the subject site, the presence of fluids containing polychlorinated biphenyls (PCBs) in the transformer is possible. No leakage or staining was visible on or around the transformer. Action Suggested: No action is suggested or recommended at this time based on visual observations. If leaks should develop, contact the utility company to sample the fluids for the presence of PCBs. If the analysis results indicate that the electrical transformer contains PCBs, the utility company would be responsible for mitigating any leakage and staining and for replacing the fluids and/or transformer. Further investigation is recommended.	*De minimis*

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Company Document Type Date of Document	Relevant Information	Condition
PHASE ONE INC. Phase I Environmental Assessment Project No. 6987 May 12, 2010	A Phase I ESA was completed for12581 Harbor Boulevard, Garden Grove. The site was occupied by a a building, approximately 3,000 ± sq. ft., occupied by a bar (Humdinger) on approximately 1.0 acre of land. The residence was constructed in 1961. No recognized environmental conditions were identified. Two de minimis environmental conditions were identified: **Condition #1, Subject Site**: Although the site was used for agricultural purposes in the past, the subsequent commercial development of the site minimizes the probability of occupants to come in contact with possible residual agricultural chemicals in the soil or groundwater. Action Suggested: No action is suggested, recommended and/or warranted at this time. However, if the property were to be redeveloped (especially for use by a sensitive receptor like residential, day care, medical, etc.); or if workers would come in contact with the soil during trenching, excavation, or similar activities; or if the groundwater beneath the site were to be used for domestic use or irrigation, then subsurface sampling would be recommended at that time to determine whether significant levels of agricultural chemicals exist at the site. **Condition #2, Nearby Site**: A site was identified in the environmental records search document that appears to be within ¼-mile of the subject site. This nearby site has been reported as having an environmental condition associated with it that may have led to the contamination of the area groundwater. The possibility exists that groundwater contamination generated by this nearby site extends beneath the subject property. Action Suggested: No action is suggested, recommended and/or warranted at this time. It does not appear that groundwater contamination, if it exists below the subject site, constitutes a health hazard to the site's occupants unless the occupants have or will come into contact with the groundwater. Only subsurface sampling, which is not recommended at this time, can determine conclusively whether the groundwater beneath the site has been impacted by off-site sources. No evidence was uncovered in the course of the research conducted for this assessment that would indicate that the current or past activities on the subject site might have contributed to the area groundwater contamination.	*De minimis*

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Company Document Type Date of Document	Relevant Information	Condition
PHASE ONE INC. Limited Phase II Environmental Assessment Project No. 6985 June 14, 2010	A Limited Phase II ESA was completed for 12601 Leda Lane, Garden Grove. The site was occupied by a 1,998 sq. ft. residence on .53 acres of land. The residence was constructed in 1955. One recognized environmental condition was identified in the previous Phase I ESA. The principal findings of *PHASE ONE* INC.'s Limited Phase II ESA for all the areas sampled are as follows: • All the samples had increased levels of Arsenic above the USEPA RSL. The levels of Arsenic in these samples ranged from 3.03 ppm to 4.90 ppm and appear to be background levels. The detected concentrations are well below the CCR Title 22 levels for arsenic but exceed the United States Environmental Protection Agency (USEPA) Regional Screening Levels (RSLs) of 0.39 mg/Kg (ppm) for residential land use. This is common in the Western states. Naturally occurring arsenic ranging as high as 171 ppm in Southern California is common. The Department of Toxic Substances Control (DTSC) has further defined the naturally occurring arsenic by sampling school sites in Southern California and determining that 11.3 ppm is not a concern based on an average background level for these sites. Therefore, if the arsenic concentrations all fall within a statistical average range within the subject site, they can be considered naturally occurring background levels for that particular site. These samples fall well within the DTSC guidelines and are considered naturally occurring background levels. Therefore, arsenic concentrations do not represent a concern for the subject site. • No levels of Organochlorinated pesticides (USEPA Method 8081A) were detected that are a concern and/or exceed their respective reporting limits and/or any identified action level. No levels extended beyond the 2 foot sample level. Although, Dieldren increased in the second step-out sampling round, the levels did not increase with depth nor exceed any action levels. Based on the soil sample results presented in this report, *PHASE ONE* INC. does not find evidence of actionable contamination. Therefore, the previous use of agriculture appears not to have significantly impacted the site and further investigation is not recommended. The minor removal of these "Hot Spots" after demolition and prior to grading would eliminate completely any existing concerns.	None

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Company Document Type Date of Document	Relevant Information	Condition
PHASE ONE INC. Limited Phase II Environmental Assessment Project No. 6986 June 14, 2010	A Limited Phase II ESA was completed for 12602 Leda Lane, Garden Grove. The site was occupied by a 2,033± sq. ft. residence on .52 acres of land. The residence was constructed in 1953. One recognized environmental condition was identified in the previous Phase I ESA. The principal findings of ***PHASE ONE* INC.**'s Limited Phase II ESA for all the areas sampled are as follows: • No levels of Arsenic (USEPA Method 7060) were detected that are a concern or that exceed their respective reporting limits and/or any identified action levels except for the following: • All the samples had increased levels of Arsenic above the USEPA PRG and average background levels for the site. The levels of Arsenic in these samples ranged from 3.20 ppm to 4.96 ppm. The detected concentration is 4well below the CCR Title 22 levels for arsenic but exceeds the United States Environmental Protection Agency (USEPA) Preliminary Remediation Goals (PRGs) of 0.39 mg/Kg (ppm) for residential land use. This is common in the Western states. Naturally occurring arsenic ranging as high as 171 ppm in Southern California is common. The Department of Toxic Substances Control (DTSC) has further defined the naturally occurring arsenic by sampling school sites in Southern California and determining that 11.3 ppm is not a concern based on an average background level for these sites. Therefore, if the arsenic concentrations all fall within a statistical average range within the subject site, they can be considered naturally occurring background levels for that particular site. These samples fall well within the DTSC guidelines and are considered naturally occurring background levels. Therefore, arsenic concentrations do not represent a concern for the subject site. • No levels of Organochlorinated pesticides (USEPA Method 8081A) were detected that are a concern or exceed their respective reporting limits and/or any identified action level. Based on the soil sample results presented in this report, ***PHASE ONE* INC.** does not find evidence of contamination. Therefore, the previous use of agriculture does appear to not have impacted the site and further investigation is not recommended.	None
Leighton Consulting Inc. Groundwater Sampling and Laboratory Analysis Results for National Pollutant Discharge Elimination System (NPDES) For the Great Wolf Lodge Resort Hotel, City of Garden Grove, CA	Leighton Consulting Inc. collected one groundwater sample and submitted to TestAmerica for analysis. The results of the analysis identified a Methylene chloride level of 1.1 ug/L in the water sample. The screening level for Methylene chloride is 2,400 ug/L. Based on this one sampling analysis and the results, no further action is necessary and no other constituents of concern were identified.	None

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Company Document Type Date of Document	Relevant Information	Condition
PHASE ONE INC. Limited Phase II Environmental Assessment Project No. 7230 April 27, 2012	A Limited Phase II ESA was completed for the Harbor Boulevard Site – Water Park, 12581, 12591, 12625, 12721 Harbor Boulevard; 12601 and 12602 Leda Lane, Garden Grove, California 92840. The site consisted of 12.07 acres of vacant land. The principal findings of ***PHASE ONE* INC.**'s Phase II Agricultural Chemicals Site Assessment for all the areas sampled are as follows: • No levels of Organochlorinated pesticides (USEPA Method 8081A) were detected that are a concern or exceed their respective reporting limits and/or any identified action level. • Several of the Arsenic (Ar) levels slightly exceeded the EPA Screening levels which is common in California. All levels appeared to be within a reasonable range of background levels for the subject site. ***PHASE ONE* INC.** attempted to assess the most likely potential sources of the agricultural chemicals at the site. ***PHASE ONE* INC.,** divided the site into 28 grids and random soil samples were collected from each grid. In addition, specific periphery soil samples were collected near the approximate locations of the prior soil sampling conducted at 12602 Leda Lane. Although it is not possible or feasible to sample the site in its entirety, the grid methodology is an effective tool in providing an accurate assessment of agricultural contaminates at the site, since it is an accepted assessment practice in the industry and used by State regulatory agencies. Specific areas of impact may have escaped detection due to: 1) Unknown areas where extensive use may have occurred, 2) Unknown areas of chemicals storage and handling, 3) Difficulty in identifying probable locations, or 4) The limited extent of the assessments performed. Based on the soil sample results presented in this report, ***PHASE ONE* INC.** concludes that the presence of agricultural chemicals to be low. The assessment results show that no remedial action is required, despite previous agricultural uses. The trace concentrations of agricultural chemicals have not impacted the site as they are well below screening levels. Further investigation is not recommended.	None

4.8 HISTORICAL SITE USE

The chronological historical site use summary is based on reviewed aerial photographs, maps, regulatory agency files, interviews, and additional environmental documents. The historical site use summary for the subject site and the adjoin sites is presented in the following table. The rows of this table are organized in chronological order, according to the date range of a specific site use.

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HISTORICAL SITE USE

Date Range	Subject Site	Adjoining Sites
1953 to late 1950s	Agriculture and residence at 12602 Leda Lane in 1953; residence at 12601 Leda Lane in 1955	Agriculture (Orchards) Harbor Boulevard Present
1960-2011	Residences (12601, 12602 Leda Lane) Commercial Buildings (12581 Harbor- 1961 Commercial Beer Cavern1962-2011 Humdinger Bar, 12591 Harbor, Furniture store, retail, comic store) Fireside Motel/Restaurant (12625 Harbor) 1956-~2003(vacant land 2003 to 2012) Vacant Lot /Residence (1964) RV Park 1972- ~2011 (12571 Harbor)	Residential, Church to the West Commercial to the North and South Residential to the East

4.9 IDENTIFICATION OF HISTORICAL DATA GAPS

During the course of this assessment, ***PHASE ONE*** **INC.** identified the following data gaps within the reviewed historic documents regarding the recognized environmental condition of the subject site.

SUMMARY OF HISTORICAL DATA GAPS

Date span of Data Gap	Documents Reviewed	Data Gap Discussions	Condition
Pre-1953	Aerial Photographs Prior Phase I ESAs	At the oldest research interval in this report (1953), the subject property use was for agricultural purposes and as a residence at 12601 Leda Lane. Although it is not known how far back in time this use was present prior to this date, it is likely that agriculture and the residence are the first use of the subject site based on the information reviewed. Therefore, it is our opinion that this data gap (1940 to 1952) will not materially affect the conclusions of this report.	None

4.10 REVIEW OF TITLE AND/OR JUDICIAL RECORDS FOR ENVIRONMENTAL LIENS OR ACTIVITY AND LAND USE LIMITATIONS (E.G., ENGINEERING AND INSTITUTIONAL CONTROLS)

The client provided ***PHASE ONE*** **INC.** with documents regarding title and/or judicial records for environmental liens or activity and land use limitations for the subject site. ***PHASE ONE*** **INC.** relies upon the author/and corresponding companies' expertise. ***PHASE ONE*** **INC.** does not verify in any way the completeness or correctness of the documents. ***PHASE ONE*** **INC.** relies upon the documents

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provided. The discussion of these materials is described in the following table. (Copies of the records, if available, are included in Appendix G.)

REVIEW OF TITLE AND/OR JUDICIAL RECORDS FOR ENVIRONMENTAL LIENS OR ACTIVITY AND LAND USE LIMITATIONS (E.G., ENGINEERING AND INSTITUTIONAL CONTROLS) SUMMARY

Date of Document	Type of Document	Company	Description (If a concern, why?)	Condition
April 27, 2012	Preliminary Title Report	First American Title Insurance Company	No environmental liens, records of environmental activity and/or environmental land use limitations were identified.	None

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SECTION 5.0

INTERVIEWS

5.1 INTERVIEWS WITH OWNER, PROPERTY MANAGER, USER, AND OTHERS

As part of the Phase I Assessment, ***PHASE ONE*** **INC.** attempts to interview various individuals who may have knowledge of different aspects of the subject site as it pertains to environmental conditions. The comments of the interviewees are noted by the ***PHASE ONE*** **INC.** interviewer on Interview Note Forms, which are included in Appendix F. The following table summarizes the relevant portions of these notes.

SUMMARY OF INTERVIEWS

ID #	Date of Interview	Name of Interviewee	Title	Relevant Discussions	Condition
1	May 29, 2012	Jerry Holstein	City of Garden Grove Community Development Department/Building Services Division/Building Records	Mr. Holstein searched the city building database for any records pertaining to the site address(es). He found several permits and sent them over; however, he did state that some records may be housed in Orange County's Community Development office. After consulting OCCD, it was determined that no records for the site address(es) were housed there.	None

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ID #	Date of Interview	Name of Interviewee	Title	Relevant Discussions	Condition
2	May 30, 2012	Carlos Marquez	City of Garden Grove, As Successor Agency to the Garden Grove Agency for Community Development Senior Real Estate Property Agent Owner	The City of Garden Grove has owned the property for 10 years. The purpose of the Phase I ESA is for a property sale. The proposed use of the property is a hotel-resort. He indicated a groundwater well is present on the subject site; however in a phone conversation on June 20, 2012, Mr. Marquez reported that the well has been capped and abandoned in accordance with regulatory agency guidelines. There were manifests for the disposal of asbestos from the demolition of the structures that were formerly present on the subject site. There are electrical transformers on the adjacent sites. The subject site was used for agriculture, approximately 50 years ago. Mr. Marquez is not aware of any activity or land use limitations, engineering or institutional controls, environmental liens, or other restrictions that have been placed on the property relating to hazardous materials or petroleum products. He does not have any specialized knowledge of the subject property and surrounding areas material to recognized environmental conditions in connection with the subject property.	None

5.2 PURCHASE PRICE VERSUS FAIR MARKET VALUE INTERVIEW

***PHASE ONE* INC.** uses data supplied by the client to determine if a difference between the purchase price of the property and the fair maket value of the property is due to the effect of any releases or threatened releases of hazardous substances or petroleum products. On May 30, 2012, ***PHASE ONE* INC.** contacted Mr. Carlos Marquez, City of Garden Grove, As Successor Agency to the Garden Grove Agency for Community Development, for the purpose of ascertaining any difference between the purchase price and fair market value of the property. According to Mr. Marquez, there is no purchase price as this report as this report is being prepared for a property sale. Therefore, a determination on the effect of any releases or threatened releases of hazardous substances on the purchase price of the property was not performed as this is not applicable.

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SECTION 6.0

CONCLUSIONS AND RECOMMENDATIONS

6.1 RECOGNIZED ENVIRONMENTAL CONDITIONS

This section contains full descriptions of any recognized environmental conditions (REC) that have been identified as a result of the ***PHASE ONE*** **INC.** Phase I Environmental Site Assessment for the subject site. ***PHASE ONE*** **INC.** classifies a condition as a REC (as opposed to a *de minimis* condition) when it is one that involves a condition for which, in the opinion of ***PHASE ONE*** **INC.**, further investigation and/or remediation is recommended. In addition to the descriptions of condition, this section also contains a statement of the recommended next-step actions for any conditions that are described in the following tables.

Each identified condition receives its own table, and that table will collect together the particular findings from the body of the report that have been used to support ***PHASE ONE*** **INC.**'s conclusion as to the presence of a recognized environmental condition. For the benefit of the reader, the tables also contain the section numbers of the findings cited in support of the condition.

CONDITION # N/A **LOCATION:N/A**	**IDENTIFIED CONDITION APPEARS TO BE A RECOGNIZED ENVIRONMENTAL CONDITION**
SECTION #	**COMMENTS**
N/A	No recognized environmental conditions appear to currently affect the subject site.
DESCRIPTION OF CONDITION: N/A	
ACTION SUGGESTED: N/A	
TOTAL ESTIMATED COST TO COMPLETE SUGGESTED NEXT STEP ACTION† N/A	

6.2 *DE MINIMIS* OR HISTORICAL RECOGNIZED ENVIRONMENTAL CONDITIONS

This section contains descriptions of *de minimis* or historical RECs that have been identified in the ***PHASE ONE*** **INC.** Phase I Environmental Site Assessment for the subject site. ***PHASE ONE*** **INC.** classifies an issue as a *de minimis* condition (as opposed to a REC) when (1) it involves issues that appear to pose no immediate or imminent threat to the subject site, but which over time (with the occurrence of groundwater movement, demolition, disturbance, etc.) may come to pose an actual or present REC for the subject site and/or when (2) it involves areas that currently appear to have a negligible impact on the subject property and which do not, therefore, require additional investigation at this time, but of which ***PHASE ONE*** **INC.** feels the client should be made aware. ***PHASE ONE*** **INC.**

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classifies a historical REC as an issue which was considered a REC in the past, but is no longer considered a REC as a result of prior investigation and/or mitigation.

Each identified condition receives its own table, and that table will collect together the particular findings from the body of the report that have been used to support ***PHASE ONE* INC.**'s conclusion as to the presence of that condition. For the benefit of the reader, the table also contains the section numbers of the findings cited in support of the condition.

CONDITION #1	**IDENTIFIED CONDITION APPEARS TO BE A *DE MINIMIS* CONDITION**
LOCATION: South Side and West Side of Subject Site	

SECTION #	**COMMENTS**
3.7	Identification of suspected PCB-containing equipment, pole- mounted transformers.

DESCRIPTION OF CONDITION: Pole-mounted transformers were observed near the southern and western boundaries of the subject site. They area located on the adjacent sites; however, they are near the property boundaries of the subject site. Given the pre-1979 date of development of the subject site vicinity, the presence of fluids containing polychlorinated biphenyls (PCBs) in the transformers is possible. No leakage or staining was visible on or around the transformers.

ACTION SUGGESTED: No action is suggested or recommended at this time based on visual observations. If leaks should develop, contact the utility company to sample the fluids for the presence of PCBs. If the analysis results indicate that the electrical transformers contains PCBs, the utility company would be responsible for mitigating any leakage and staining and for replacing the fluids and/or transformers.

CONDITION # 2	**IDENTIFIED CONDITION APPEARS TO BE A *DE MINIMIS* CONDITION**
LOCATION: Nearby Site (12502 Harbor Blvd.)	

SECTION #	**COMMENTS**
4.5	Regulatory listing of nearby site with environmental condition.

DESCRIPTION OF CONDITION: This nearby site, a gas station, is identified in the environmental records search document. It has been reported as having an environmental condition associated with it that has lead to the contamination of the area groundwater. The possibility exists that groundwater contamination generated by this nearby site extends beneath the subject property.

ACTION SUGGESTED: Subsurface water sampling was taken onsite in a location that is closest to the gas station. The soil and water sample results indicate no evidence of significant contamination. The subsurface sampling results (phase II) are attached in Appendix G. Therefore, off-site contamination from the gas station does not appear to have significantly impacted the site and further investigation is not recommended.

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SECTION 7.0

LIMITATIONS

To achieve the study objectives stated in this report, we were required to base ***PHASE ONE*** **INC.**'s conclusions and recommendations on the best information available during the period the investigation was conducted and within the limits prescribed by ***PHASE ONE*** **INC.**'s client in the contract/authorization agreement and standard terms and conditions.

PHASE ONE **INC.**'s professional services were performed using that degree of care and skill ordinarily exercised by environmental consultants practicing in this or similar fields. The findings were mainly based upon examination of historic records, maps, aerial photographs, and governmental agencies lists. The hazardous waste site lists represented in this report represent only a search of the specific government records as listed above. It should be noted that governmental agencies often do not list all sites with environmental contamination; the lists could be inaccurate and/or incomplete. Recommendations are based on the historic land use of the subject property, as well as features noted during the site walk and examined records. The absence of potential gross contamination sources, historic or present, does not necessarily imply that the subject property is free of any contamination. This report only represents a "due diligence" effort as to the integrity of the subject property. No warranty or guarantee, expressed or implied, is made as to the professional conclusions or recommendations contained in this report. The limitations contained within this report supersede all other contracts or scopes of work, implied or otherwise, except those stated or acknowledged herewith.

This report is not a legal opinion. It does not necessarily comply with requirements defined in any environmental law such as the "innocent landowner defense" or "due diligence inquiry." Only legal counsel retained by the client is competent to determine the legal implications of any information, conclusions, or recommendations in this report. The compliance status, discussed in Section 3.0, is not intended for use as a guide to compliance for the present owner. Its intended use is to identify environmental impairments to the subject property and is not to be used as a guide to the legal compliance to any regulations of any kind.

The findings, conclusions, recommendations, and professional opinions contained in this report have been prepared by the staff of ***PHASE ONE*** **INC.**, in accordance with generally accepted professional practices. All cost estimates in Section 6.0, are purely estimates only, and may not represent the actual costs. Without further investigative assessment, exact, actual costs cannot be fixed. The costs associated with ***PHASE ONE*** **INC.**'s recommendations are for budgetary purposes only.

This report does not address, in any way, septic systems, leach fields, septic tanks, or related health hazards.

All asbestos, lead, or any other sampling is sampled in a good faith effort by ***PHASE ONE*** **INC.** assessors. Sample results should not be construed as conclusive and binding in any way. All sampling conducted is only for the purposes of general screening and does not imply that all materials, locations, or hazardous materials have been identified nor was the sampling intended to identify every instance of the materials sampled. No interpretation of the sample results is made or implied. ***PHASE ONE*** **INC.** only relays the information supplied by the laboratory conducting the analysis.

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SECTION 8.0

FIGURES

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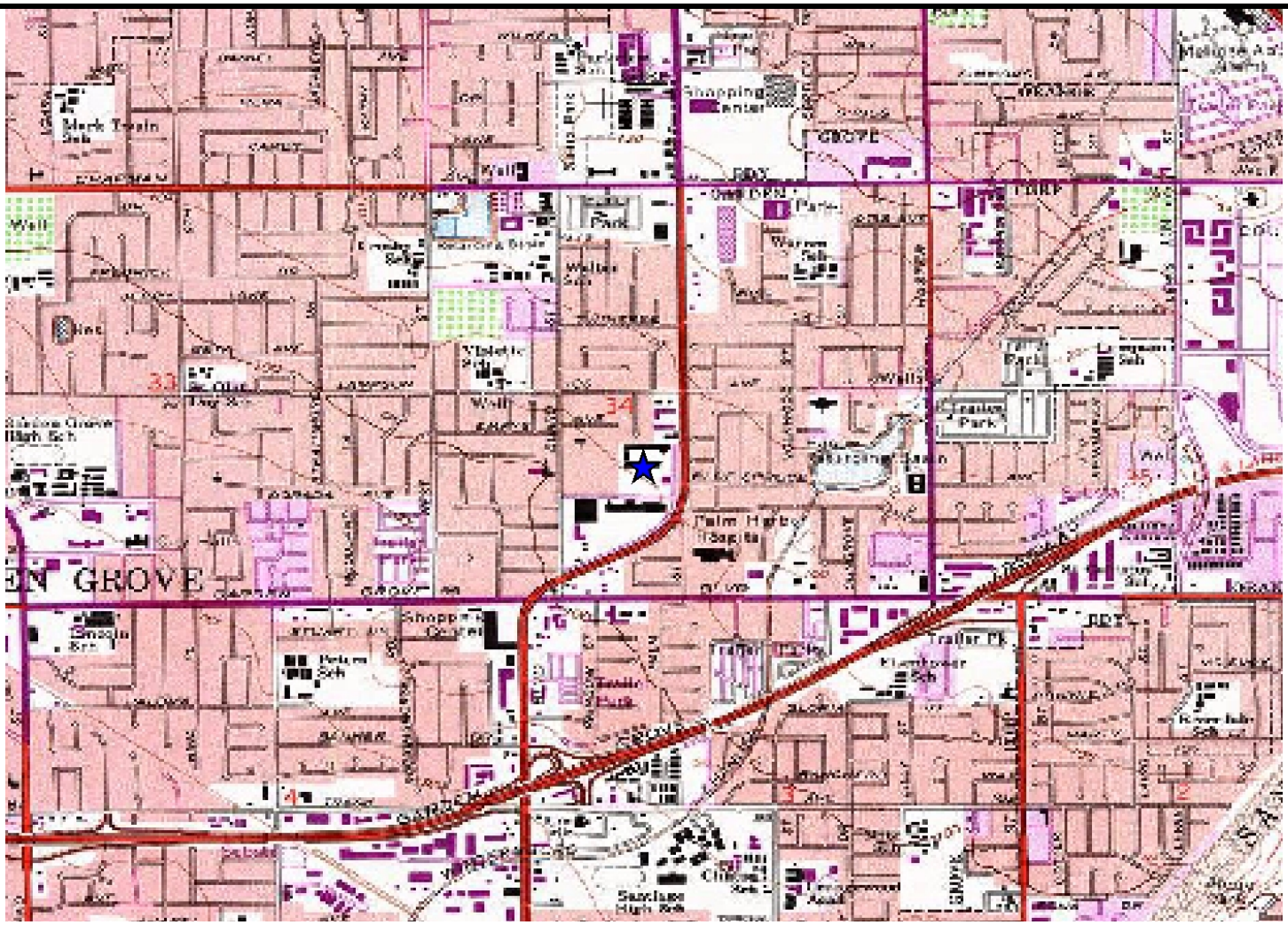

SITE LOCATION MAP

U.S. Geological Survey. Anaheim Quadrangle
7.5 Minute Series, Approximate Scale: 1: 24000

N

PHASE ONE INC.	**Harbor Blvd Site -- Water Park** **Garden Grove, CA 92840**	FIGURE: 1 JOB: 7282 DATE: 5/21/2012

NOT TO SCALE

KEY

= SUBJECT SITE

OP# = OUTSIDE PHOTO

GROUNDWATER

N

PHASE ONE INC.

ENVIRONMENTAL ASSESSMENT SPECIALISTS

HARBOR BOULEVARD SITE - WATER PARK
12581, 12591, 12625, 12721 HARBOR BOULEVARD
12601, 12602 LEDA LANE
GARDEN GROVE, CALIFORNIA 92840

DRAWN: LT

SITE PLAN	
FIGURE:	2
JOB:	7282
DATE:	5/21/2012

SECTION 9.0

APPENDICES

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