FINAL

INITIAL STUDY

&

MITIGATED NEGATIVE DECLARATION

Orangewood Surface Parking Lot Project

University of California, Irvine
Office of Environmental Planning and Sustainability

April 2015

TABLE OF CONTENTS

Section **Page**

I. PROJECT INFORMATION 1

II. PROJECT LOCATION AND DESCRIPTION 2

III. DETERMINATION 5

IV. EVALUATION OF ENVIRONMENTAL IMPACTS 6

1. Aesthetics 6
2. Agriculture and Forest Resources 8
3. Air Quality 10
4. Biological Resources 18
5. Cultural Resources 21
6. Geology and Soils 24
7. Greenhouse Gas Emissions 27
8. Hazards and Hazardous Materials 32
9. Hydrology and Water Quality 35
10. Land Use and Planning 42
11. Mineral Resources 44
12. Noise 45
13. Population and Housing 47
14. Public Services 48
15. Recreation 50
16. Transportation/Traffic 51
17. Utilities and Service Systems 54
18. Mandatory Findings of Significance 57

V. SUPPORTING INFORMATION SOURCES 59

VI. LIST OF INITIAL STUDY PREPARERS 62

LIST OF TABLES

Table		Page
1	California and National Ambient Air Quality Standards	11
2	Designation of Criteria Pollutants in the South Coast Air Basin	12
3	SCAQMD Criteria Pollutant Significant Mass Emissions Significance Thresholds (lbs/day)	13
4	Estimated Maximum Daily Construction Emissions (lbs/day)	14
5	Maximum Localized Construction Pollutant Emissions (lbs/day)	15
6	Peak Daily Operations Emissions	16
7	Maximum Localized Operations Pollutant Emissions (lbs/day)	16
8	Global Warming Potentials and Atmospheric Lifetimes	28
9	Estimated GHG Emissions from Construction	30
10	Estimated GHG Emissions from Construction	30
11	Hazardous Material Users and Hazardous Waste Generators Within a ½-Mile Radius of the Project Site	34
12	Intersection Capacity Utilization Summary	52

LIST OF EXHIBITS

Exhibit		Follows Page
1	Regional Location	1
2	Local Vicinity	1
3	Project Location Aerial	1
4	Conceptual Site Plan	2
5	Conceptual Landscape Plan	2
6	Preliminary Array Layout Plan	2
7	Site Photographs Location Key	3
8a–e	Site Photographs	3

LIST OF APPENDICES

A	Air Quality Assessment
B	Historic Property Data File
C	Greenhouse Gas Assessment
D	Environmental Data Resources, Inc. (EDR) Report
E	Traffic Memorandum
F	Public Review/Response to Comments
G	Mitigation Monitoring and Reporting Program

I. PROJECT INFORMATION

1. PROJECT TITLE

Orangewood Surface Parking Lot

2. LEAD AGENCY NAME AND ADDRESS

University of California Regents
1111 Franklin Street
Oakland, CA 94607

3. CONTACT PERSON AND PHONE NUMBER

Richard Demerjian, Director
University of California, Irvine
Office of Environmental Planning and Sustainability
(949) 824-6316

4. PROJECT LOCATION

As shown on Exhibits 1, 2, and 3, the project site (or Orangewood Lot) is located adjacent to Interstate (I) 5. The rectangular-shaped parcel is generally bound by East Orangewood Avenue to the north, Orange Center Drive to the east, and North Anaheim Boulevard to the west. An existing parcel (not a part of this project) separates the southern project boundary from State College Boulevard to the southeast. The distance from the southern property boundary to State College Boulevard varies from approximately 70 to 130 feet. The project site is located approximately 0.30 mile north of the University of California, Irvine Medical Center (UCIMC) campus; the proposed Orangewood Lot is north of I-5, and the UCIMC campus is south of I-5.

5. PROJECT SPONSOR'S NAME AND ADDRESS

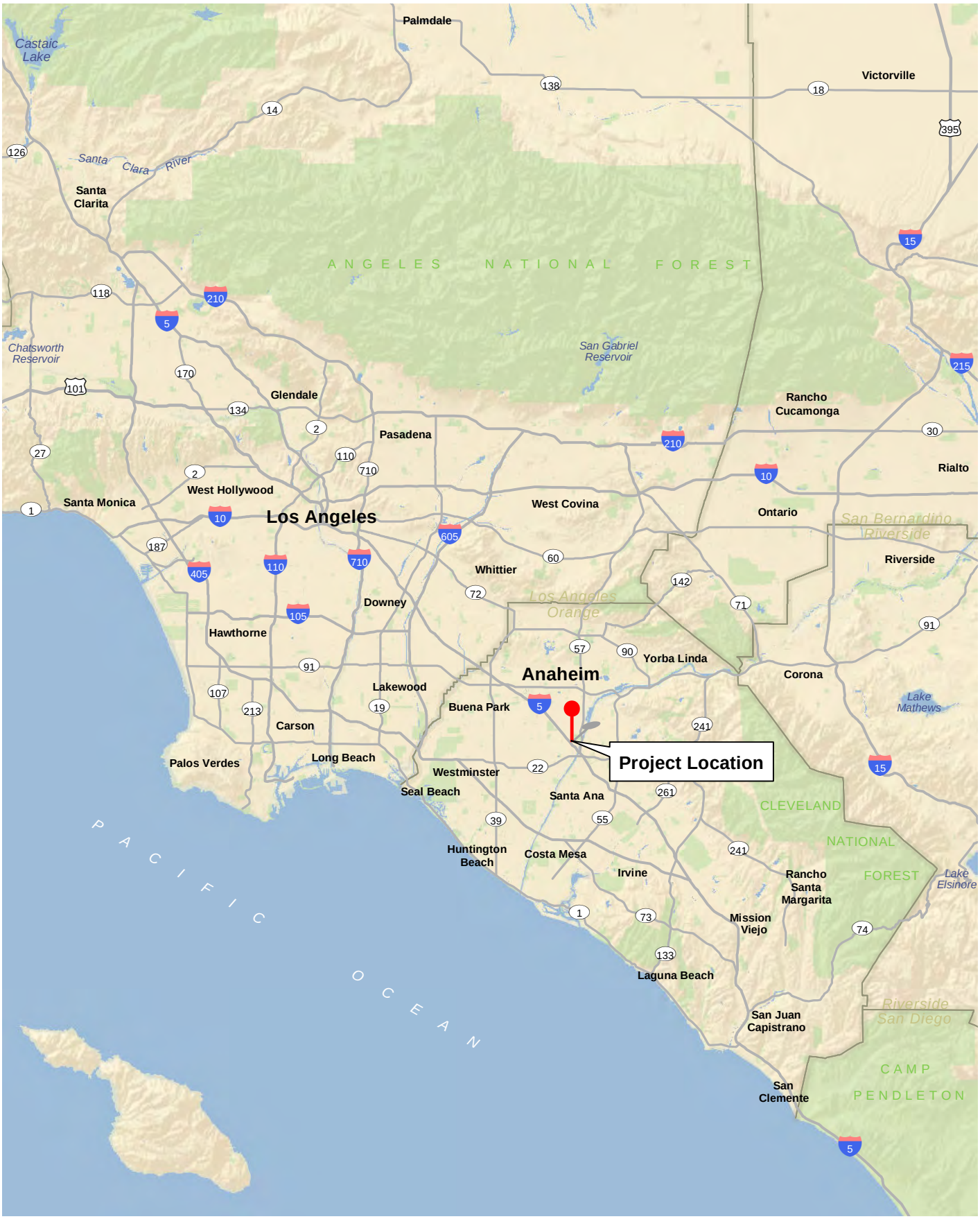
University of California, Irvine
Office of Environmental Planning and Sustainability
750 University Tower
Irvine, CA 92697-2325

6. CUSTODIAN OF THE ADMINISTRATIVE RECORD FOR THIS PROJECT

Same as listed under No. 3 above.

7. IDENTIFICATION OF PREVIOUS EIRS INCORPORATED BY REFERENCE

The project site is not a part of the UCIMC campus and was not included in the UCIMC 2003 Long Range Development Plan (LRDP) or analyzed in the LRDP Final Environmental Impact Report (FEIR), certified in December 2003. However, pursuant to Section 15150 of the California Environmental Quality Act (CEQA) Guidelines, the LRDP FEIR is hereby incorporated by reference, primarily for the discussion of relevant UCIMC policies and programs. The LRDP FEIR is located at the address listed under No. 3 above and at http://www.eps.uci.edu/current_projects.html for inspection. The City of Orange's General Plan Program EIR (approved in 2010) is also hereby incorporated by reference in order to provide a summary of development projections for the analysis of cumulative impacts, discussed below. The City of Orange's General Plan Program EIR is available at http://www.cityoforange.org/depts/commdev/general_plan_update.asp.



D:\Projects\UC\J024\MXD\MND\ex_RL.mxd

Regional Location

Exhibit 1

UCI Medical Center Orangewood Parking Lot

N W E S

10 5 0 10 Miles

BonTerra CONSULTING

(Rev: 1-15-2014 MMD) Projects\UCI\J024\Graphics\MND\ex_RL.pdf

D:\Projects\UCI\J024\MXD\MND\ex_LV_v002.mxd

Local Vicinity

Exhibit 2

UCI Medical Center Orangewood Parking Lot

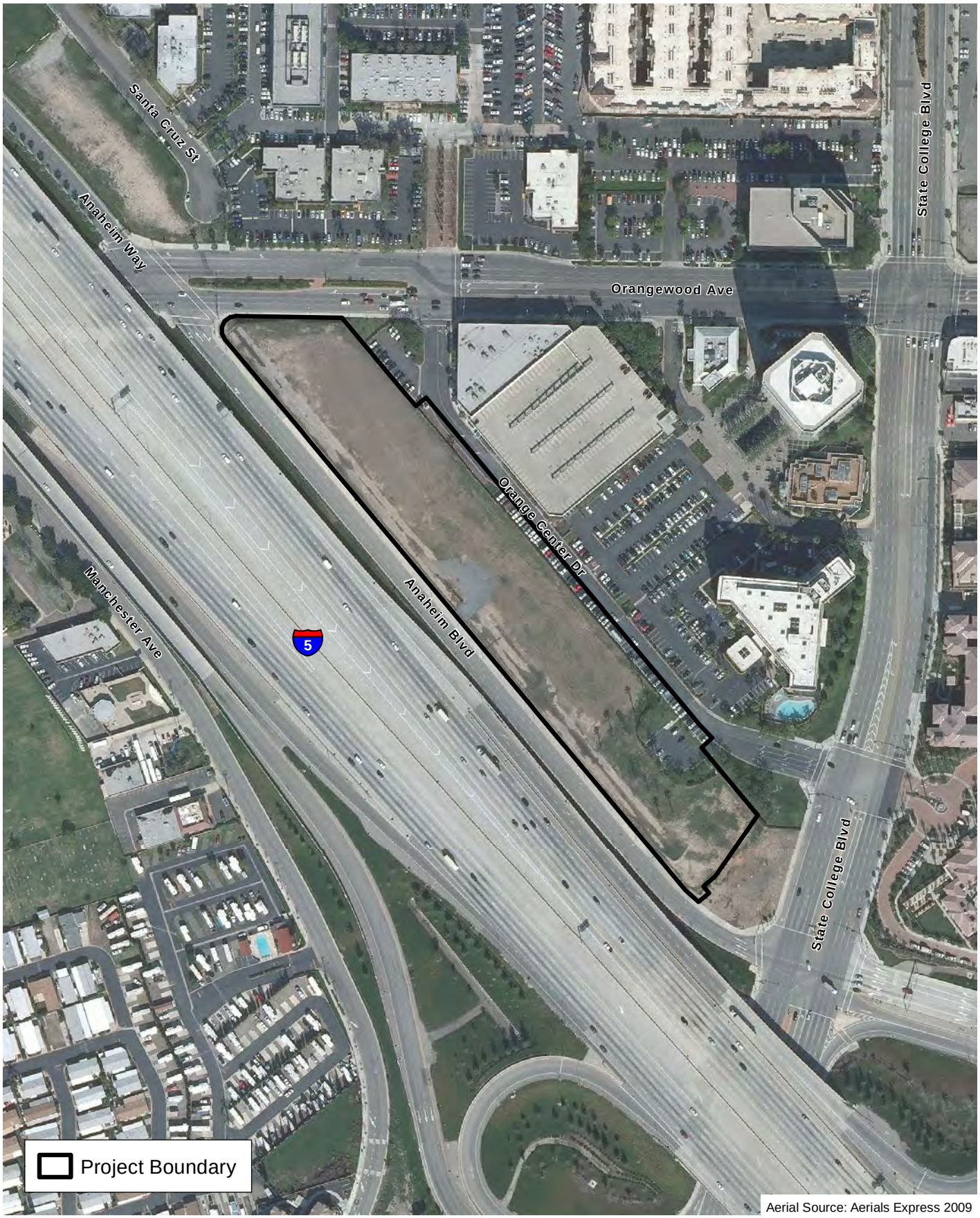
N W E S

600 300 0 600

Feet

BonTerra CONSULTING

(Rev: 1-15-2014 MMD) Projects\UCI\J024\Graphics\MND\ex_LV.pdf



Aerial Source: Aerials Express 2009

D:\Projects\UCI\J024\MXD\MND\ex_aerial.mxd

Project Location Aerial

Exhibit 3

UCI Medical Center Orangewood Parking Lot

N
W E
S

250 125 0 250

Feet

BonTerra CONSULTING

(Rev: 1-15-2014 MMD) Projects\UCI\J024\Graphics\MND\ex_aerial.pdf

II. PROJECT LOCATION AND DESCRIPTION

1. DESCRIPTION OF PROJECT

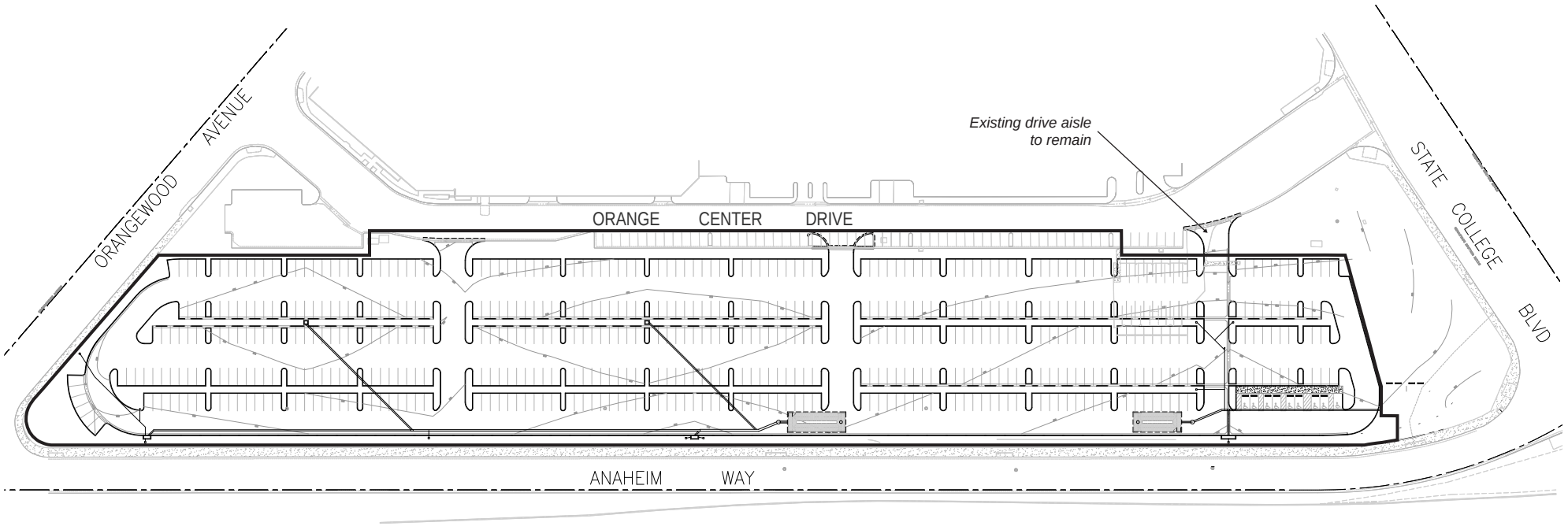
Staff parking for University of California, Irvine Medical Center (UCIMC) employees is currently distributed on multiple off-campus sites within the UCIMC campus vicinity and provided through use and lease agreements with third parties. Approximately 2,290 parking spaces are located on these leased off-campus properties. The proposed Orangewood Parking Lot project would construct a new off-campus surface parking lot to partially replace approximately 800 of these spaces owned by and located at the Christ Cathedral (formerly Crystal Cathedral) at 13280 Chapman Avenue in the City of Garden Grove and used by the UCIMC under a lease, which can be terminated with a six-month notice given at any time. The proposed parking lot, located approximately 0.30 mile north of the UCIMC campus on University property would provide approximately 628 parking spaces: 577 spaces would be for UCIMC employee use and 51 spaces would be reserved per a property rights and common area maintenance agreement between KCO One and Embassy Suites, Inc. An existing UCIMC employee shuttle system consisting of five 25-passenger and two 21-passenger compressed natural gas vehicles would provide staff transportation to/from the proposed project and the UCIMC campus located at 101 The City Drive in the City of Orange and off-campus office buildings leased or owned by UCI proximate to the campus.

The approximately 6.2-acre project site is predominately undeveloped (Exhibit 3). Within its boundaries is a small lighted and paved parking lot used for valet parking by the Embassy Suites Hotel located immediately to the east and surface parking spaces used by the hotel along Orange Center Drive. The majority of the spaces along Orange Center Drive, as noted above would be retained; however, a limited number would be eliminated to allow for ingress/egress to the proposed project. The Conceptual Land Use Plan is provided in Exhibit 4.

Project implementation would include site development and construction of the new surface parking lot. Site development would involve demolition of existing parking surfaces, removal of vegetation, connection to utility and drainage systems, and site landscaping. The project would also remove a degraded and abandoned asphalt roadway (formerly Anaheim Way) located on the site's western boundary parallel to Anaheim Boulevard. Storm water runoff generated from the parking lot, once constructed, would be directed to on-site structural filtration units via on-site catch basins (see Exhibit 4). An existing 12-inch potable water line that runs north-south near the western boundary would provide water to the project. Electricity would be supplied to the project site via connections to existing lines on site.

As depicted on Exhibit 4 three ingress/egress points would be provided from Orange Center Drive to the proposed parking lot. As shown on the Conceptual Landscape Plan (see Exhibit 5), a variety of trees, groundcover, and shrubs would be planted along the perimeter of the proposed parking lot and within its interior.

After the public circulation period of the Draft IS/MND from April 28, 2014 to May 27, 2014, changes were made to the proposed project. An approximately 3,538 kW mounted photovoltaic solar array canopy with 11,600 fixed modules and a height of approximately nine feet may be installed over the proposed parking lot as an alternative option. A preliminary conceptual plan is provided in Exhibit 6. After a review of the CEQA thresholds, however, it was determined that none would be significantly impacted with the addition of the solar array. Changes to the findings in the Draft IS/MND were deemed unnecessary and recirculation is not required under Section 15073.5 of the CEQA Guidelines. The option to include the solar array would be approved separately by the University from this CEQA document and the surface parking lot.



Source: Huitt-Zollars 2014

Conceptual Site Plan

Exhibit 4

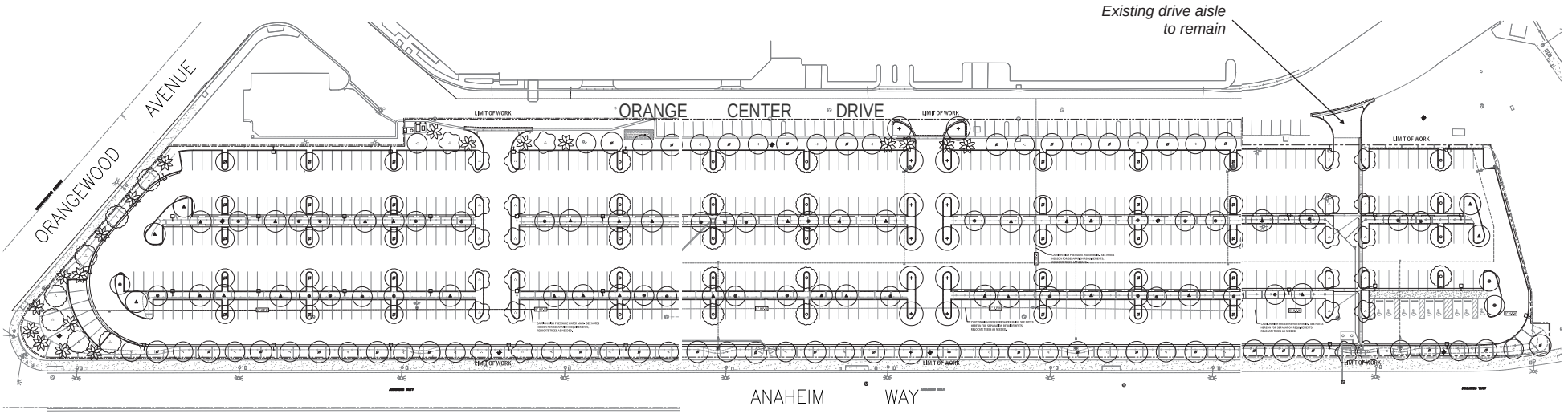
UCI Medical Center Orangewood Parking Lot

N W E S

BonTerra CONSULTING

(03/21/2014 MMD) R:\Projects\UCI\J024\Graphics\MND\ex4_ConceptualSitePlan.pdf

D:\Projects\UCI\J024\Graphics\ex_ConceptualSitePlan.ai



Tree List

Name	Size	Comments
Quercus virginiana Southern Live Oak	24" Box	standard
Tipuana tipu Tipu Tree	24" Box	standard
Arbutus marina Purple Orchid Tree	24" Box	standard
Liquidambar s. 'Rotundiloba' Rotundiloba American Sweet Gum	24" Box	standard
Platanus acerifolia 'Columbia' Columbia London Plane Tree	24" Box	standard
Geijera parviflora Australian Willow	24" Box	standard
Ulmus parvifolia 'Drake' Drake Chinese Elm	24" Box	standard
Jacaranda mimosifolia Jacaranda	24" Box	standard
Koelreuteria bipinnata Chinese Flame Tree	24" Box	standard
Washingtonia robusta Mexican Fan Palm	12-15' BTH	skinned

Source: Rabben/Herman 2012

Conceptual Landscape Plan

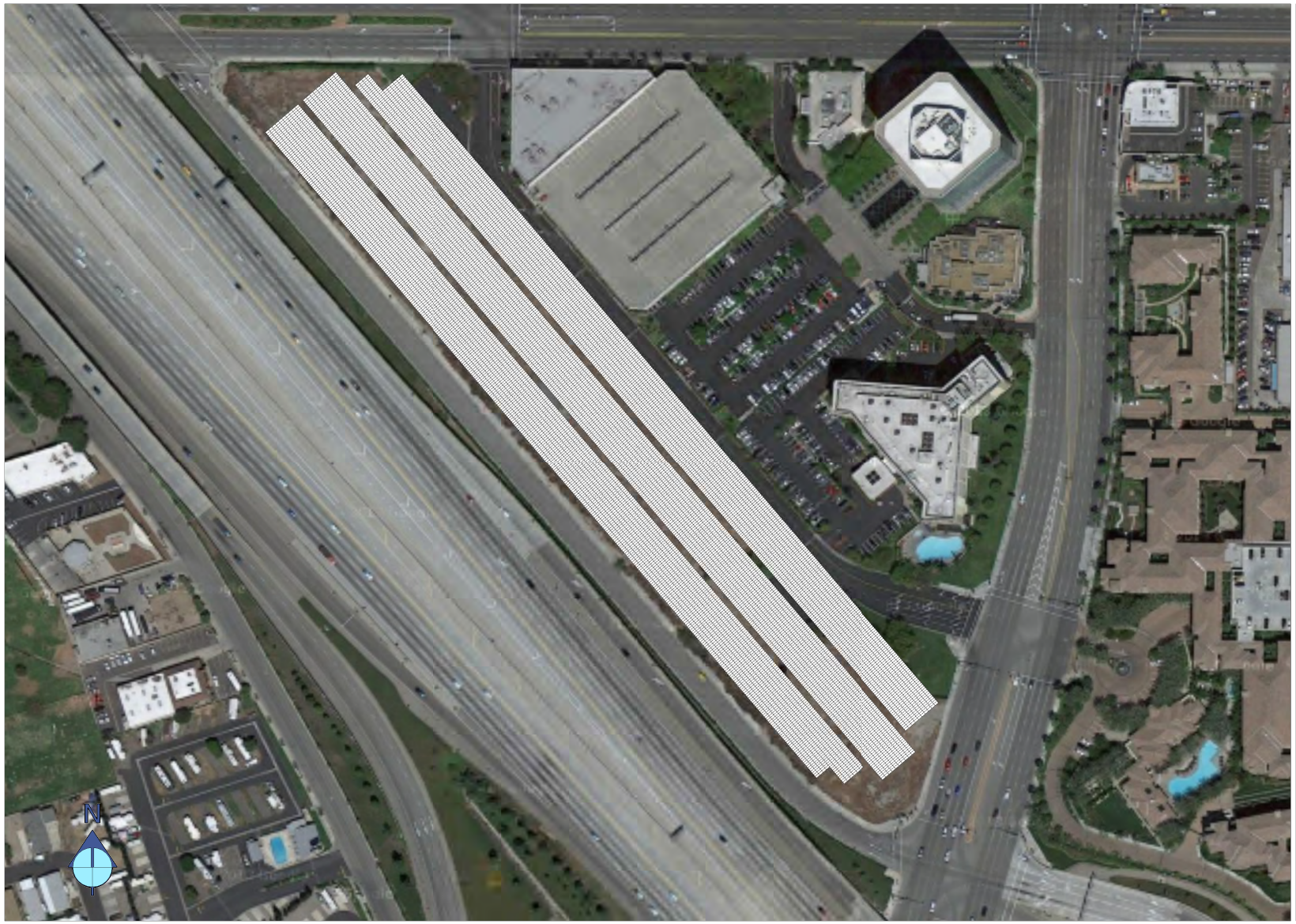
Exhibit 5

UCI Medical Center Orangewood Parking Lot

BonTerra CONSULTING

(03/21/2014 MMD) R:\Projects\UCI\J024\Graphics\MND\ex5_ConceptualLandscapePlan.pdf

D:\Projects\UCI\J024\Graphicslex_ConceptualLandscapePlan.ai



NextEra Energy Resources
529 SW 3rd Avenue
Suite 500
Portland, OR 97204
Tel: 503-893-9955

CLIENT
University of California - Irvine
Irvine, CA 92697

SITE
UC Irvine - Orangewood Site
West Orangewood Avenue
Orange, CA 92868

SYSTEM SIZE
3,538.0 kW DC (STC)
2,784.0 kW AC

MODULES
Quantity: 11,600
Mfr.: TBD
Model: TBD
STC Wattage: 305
Total Strings: 580
Modules/String: 20

MOUNTING
Location: Parking Structure
Type: Fixed
Tilt: 5°
Azimuth: 229°
Spacing: 22.68m

REV	BY	DESCRIPTION	DATE
0	AJS	Initial Draft	10/13/14

DRAFTED BY	AJS
CHECKED BY	AJS
APPROVED BY	AJS
ISSUE DATE	10/13/2014
SCALE	1" = 60'
TITLE	Preliminary Array Layout Plan
DWG. NO.	A-1
	SHEET 1 OF 2

Source: NextEra Energy Resources 2015

Preliminary Array Layout Plan

Exhibit 6

UCI Medical Center Orangewood Parking Lot

Sustainability Features

The University of California (UC) Policy on Sustainable Practices (PSP) establishes goals in eight areas of sustainability: green building, clean energy, transportation, climate protection, sustainable operations, waste reduction and recycling, environmentally preferable purchasing, and sustainable food service. Because of the nature of the project—a surface parking lot—many of the sustainability categories are not applicable. However, the proposed project would be consistent with the UC PSP. The project would incorporate measures resulting in significant energy savings, construction waste reduction, recycled material use, and water conservation. Specifically, the proposed project would continue to use employee shuttles as describe above; divert construction and demolition wastes from landfills; and maximize the use of drip irrigation to the degree feasible within landscaped areas.

2. PROJECT PHASING/CONSTRUCTION SCHEDULE

Construction of the proposed project is anticipated to begin in August 2014 and be completed in approximately four months. Construction activities would include three to four weeks for rough grading and demolition of on-site uses including the hotel valet parking area. Construction lay-down staging would occur on site.

Depending on the phase of construction, implementation of the proposed project would require common construction equipment (e.g., dump trucks, water trucks, scrapers, bobcats, large and small backhoes, motor grader, compactors, and paving equipment). The overall grading volume would be approximately 12,000 cubic yards (cy), including approximately 3,000 cy of export. A location for exported soil has not been determined. It is estimated that there would be an average of 20 to 25 construction workers per day at the project site during construction, and construction workers would park on the project site. Construction of the project would comply with the South Coast Air Quality Management District's (SCAQMD) Rule 403 for dust control.

Although the UCIMC is not required to comply with local regulations, construction of the proposed project would be consistent with the City of Orange requirements regarding construction hours. Construction activities would be limited to the hours of 7:00 AM to 8:00 PM Monday through Saturday with no construction on Sundays or federal holidays; these hours are consistent with Section 8.24, Noise Control, of the City of Orange Municipal Code.

3. SURROUNDING LAND USES AND ENVIRONMENTAL SETTING

As stated above, the approximately 6.2-acre Orangewood Parking Lot site is predominately undeveloped (Exhibit 3). The property is located adjacent to I-5, and is generally bound by East Orangewood Avenue to the north, Orange Center Drive to the east, and North Anaheim Boulevard to the west. An existing parcel (not a part of this project) separates the southern project boundary from State College Boulevard to the southeast. The distance from the southern property boundary to State College Boulevard varies from approximately 70 to 130 feet. The project site is generally bound by existing roads and development uses. To the north of Orangewood Avenue are office uses. To the east of Orange Center Drive, land uses include the Embassy Suites Hotel, 24 Hour Fitness Sport, OC Sports Grill, a parking structure, and office buildings. Interstate Five (I-5) is to the west and high density residential apartments are located to the south of State College Boulevard.

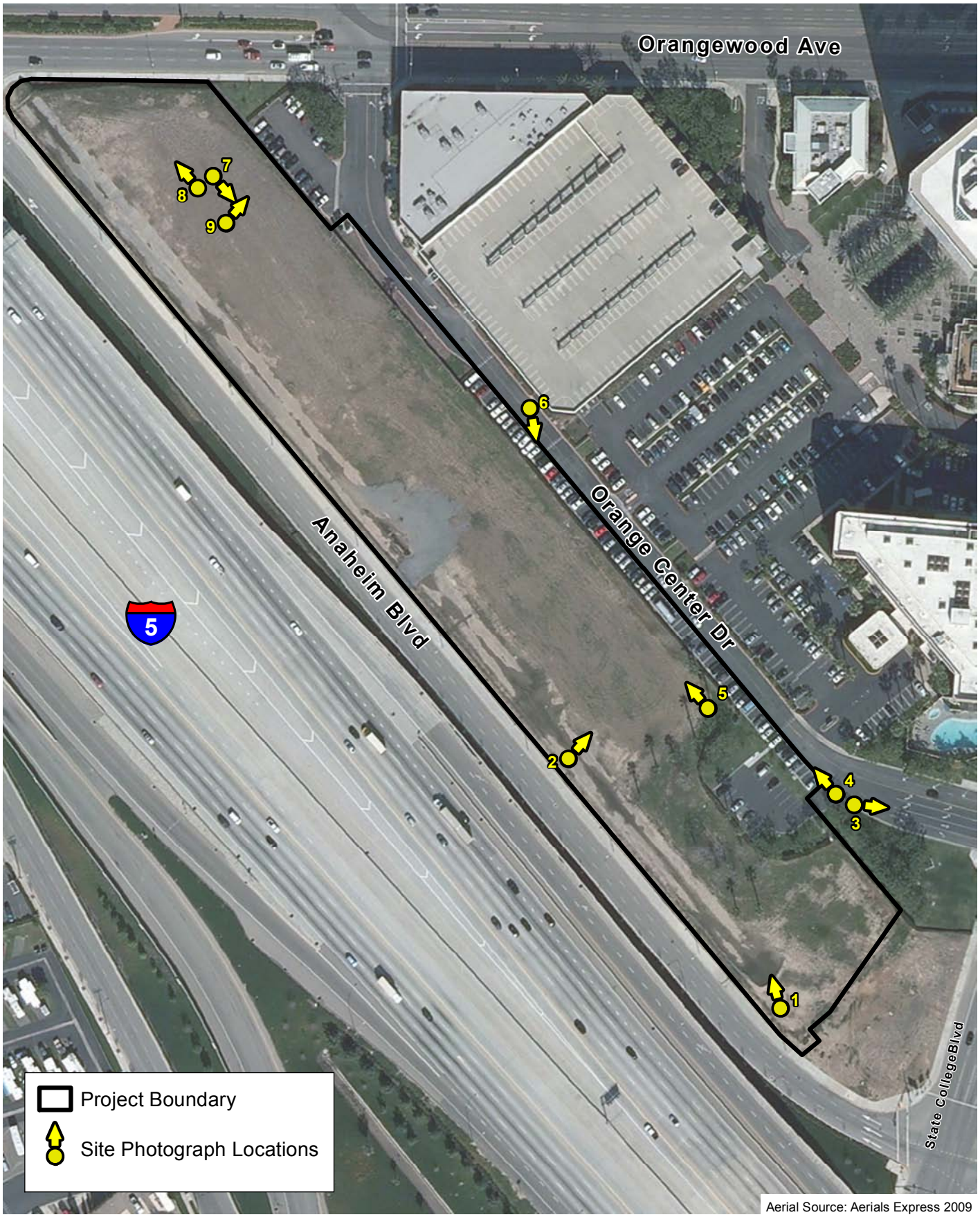
The project site is flat and consists primarily of dirt, gravel, and weeds. As noted above, the site contains an abandoned degraded asphalt roadway (formerly Anaheim Way) located adjacent to its western border and parallel to North Anaheim Boulevard. This degraded roadway is discussed in further detail in Section IV.5, Cultural Resources. Also as stated previously, the property contains a small lighted and paved

parking lot and surface parking spaces along Orange Center Drive. The remainder of the project site is composed of fairly compacted soils without vegetation or with a sparse cover of ruderal vegetation indicative of past disturbance. Vegetation in the surrounding area is dominated by non-native species. A chain-link fence is located on the property's northern, western, and southern perimeter. Photographs of the site and a key location map are shown in Exhibits 7 and 8a–8e.

4. DISCRETIONARY APPROVAL AUTHORITY AND OTHER PUBLIC AGENCIES WHOSE APPROVAL IS REQUIRED

University of California

As a public agency principally responsible for approving or carrying out the proposed project, the University of California is the Lead Agency under CEQA and is responsible for reviewing and certifying the adequacy of the environmental document and approving the proposed project. Pursuant to authority delegated from the Board of Regents of the University of California (The Regents), the UC Irvine Chancellor would consider approval of the proposed project.



D:\Projects\UCI\J024\MXD\MND\ex_SPLocations.mxd

Site Photographs Location Key

Exhibit 7

UCI Medical Center Orangewood Parking Lot

N W E S

150 75 0 150

Feet

BonTerra CONSULTING

(Rev: 3-04-2014 JAZ) Projects\UCI\J024\Graphics\MND\ex6_SPLocation.pdf

View 1. View from southeast corner of Project site looking northwest at the Project site.

View 2. View from southern part of Project site looking northeast at the Project site.

D:\Projects\UCI\J024\Graphics\ex_SP1.ai

Site Photographs

Exhibit 8a

UCI Medical Center Orangewood Parking Lot

BonTerra CONSULTING

(02/21/2014 JAZ) X:\Projects\UCI\J024\Graphics\MND\ex_SP1.pdf

View 3. View from project site (existing valet parking entrance) looking southeast at the off-site apartment housing located across State College Boulevard. Grassy area shown is adjacent to but not a part of the project site.

View 4. View from valet parking entrance looking west at Project site.

D:\Projects\UCI\J024\Graphics\ex_SP2.ai

Site Photographs

Exhibit 8b

UCI Medical Center Orangewood Parking Lot

BonTerra CONSULTING

(02/21/2014 JAZ) X:\Projects\UCI\J024\Graphics\MND\ex_SP2.pdf

View 5. View from area just west of existing valet parking area, looking west at the Project site.

View 6. View from off-site parking structure looking east at the Project site.

D:\Projects\UCI\J024\Graphics\ex_SP3.ai

Site Photographs

Exhibit 8c

UCI Medical Center Orangewood Parking Lot

BonTerra CONSULTING

(02/21/2014 JAZ) X:\Projects\UCI\J024\Graphics\MND\ex_SP3.pdf

View 7. View from northwestern part of Project site looking southeast at the Project site.

View 8. View from northwestern part of Project site looking at off-site land uses to the northwest.

D:\Projects\UCI\J024\Graphics\ex_SP4.ai

Site Photographs

Exhibit 8d

UCI Medical Center Orangewood Parking Lot

BonTerra CONSULTING

(02/21/2014 JAZ) X:\Projects\UCI\J024\Graphics\MND\ex_SP4.pdf

View 9. View from northwestern part of project site looking northeast at off-site parking and commercial building.

D:\Projects\UCI\J024\Graphics\ex_SP5.ai

Site Photographs

Exhibit 8e

UCI Medical Center Orangewood Parking Lot

BonTerra CONSULTING

(02/21/2014 JAZ) X:\Projects\UCI\J024\Graphics\MND\ex_SP5.pdf

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

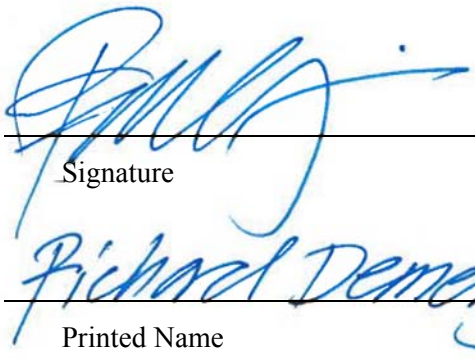
The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

	Aesthetics		Agriculture/Forest 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

III. DETERMINATION

On the basis of the initial evaluation that follows:

	I find that the proposed project WOULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
X	I find that although the proposed project could have a significant effect on the environment, the project impacts were adequately addressed in an earlier document or there will not be a significant effect in this case because revisions in the project have been made that will avoid or reduce any potential significant effects to a less than significant level. A MITIGATED NEGATIVE DECLARATION will be prepared.
	I find that the proposed project MAY have a significant effect on the environment. An ENVIRONMENTAL IMPACT REPORT will be prepared.



Signature

4/23/14

Date

Richard Demerjian

Printed Name

For

IV. EVALUATION OF ENVIRONMENTAL IMPACTS

During the completion of the environmental evaluation, the lead agency relied on the following categories of impact noted as column headings in the IS checklist:

A) "Potentially Significant Impact" is appropriate if there is substantial evidence that the project's effect may be significant. If there are one or more "Potentially Significant Impacts" a Project EIR will be prepared.

B) "Less Than Significant With Mitigation Incorporated" applies where the incorporation of project specific mitigation measures will reduce an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." All mitigation measures must be described, including a brief explanation of how the measures reduce the effect to a less than significant level.

C) "Less Than Significant Impact" applies where the project will not result in any significant effects. The project impact is less than significant without the incorporation of mitigation.

D) "No Impact" applies where a project would not result in any impact in the category or the category does not apply. "No Impact" answers need to be adequately supported by the information sources cited, which show that the impact 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).

Impact Questions and Responses

1. AESTHETICS

Issues	(A) Potentially Significant Impact	(B) Less Than Significant with Project-level Mitigation Incorporated	(C) Less Than Significant Impact	(D) No Impact
Would the project:				
a) Have a substantial adverse effect on a scenic vista?				X
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?				X
c) Substantially degrade the existing visual character or quality of the site and its surroundings?			X	
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?			X	

Relevant Elements of Project

The proposed project would construct a surface parking lot at the project site, which is primarily undeveloped except for a paved area used for hotel valet parking and an abandoned road. The proposed project would introduce new landscaping throughout the project, including shrubs and trees, as shown on Exhibit 5. Standard parking lot lighting would be provided to ensure adequate vision lighting in parking areas while avoiding glare and direct illumination onto adjacent properties or streets.

The project site is located in a highly urbanized area surrounded by a freeway, roads and various land uses, including a hotel and commercial uses. As shown in the Project Description, Exhibits 6 and 7a–7e include site photograph location key and photographs of the site and surrounding land uses.

There are no State scenic highways within the vicinity of the project site (Caltrans 2013). The Natural Resources Element of the *City of Orange General Plan* (City of Orange 2010a) does not identify any local scenic resources or vistas in the vicinity of the project site.

Discussion of Potential Project Impacts

1(a) Scenic Vista: No Impact

The project site is located in an urbanized area with no identified scenic vistas on or adjacent to the project site. Therefore, the proposed project would not affect any scenic vistas.

1(b) Scenic Resources within a State Scenic Highway: No Impact

The project site is located in an urbanized area of the City of Orange, and there are no identified scenic vistas or resources on or adjacent to the project site. Therefore, the proposed project would not affect any scenic resources within a State scenic highway.

1(c) Visual Character: Less Than Significant Impact

The project site is located in an urbanized area with existing sources of lighting on the project site in the valet parking lot as well as ambient lighting around the project site. The conversion of the predominately vacant parcel completely surrounded by urban land uses including office, retail and residential land uses and roadways (Exhibits 6 and 7a–7e) to a surface parking lot with night lighting would not result in a significant aesthetic impact. Views from the residential apartment complex across State College Boulevard would be altered from a vacant lot to a surface parking lot. Given the presences of existing lighting and urban uses proximate to the project site, the project is considered consistent with the existing land uses in the area. As a part of the project, the limited and fragmented ornamental landscaping and trees would also be removed and replaced with ornamental trees and shrubs along the perimeter of the site and in the landscaped planters (Exhibit 5). The project site does not contain any native vegetation.

1(d) Light or Glare: Less Than Significant Impact

The project site is located within a developed, urban area and is currently subject to the effect of night-lighting. Existing ambient sources of lighting surrounding the project area include overhead street lighting along roadways, lighting from vehicle headlights, and adjacent building illumination. The proposed project would introduce a new lighting source, which could add to the nighttime illumination of the immediate area. However, given the proximity of the project site in an urbanized area that has multiple sources of existing ambient lighting, the proposed project would not create a new source of substantial

light or glare that would adversely affect day or nighttime views in the area. Therefore, no significant impacts generated by nighttime illumination features of the proposed project would occur.

Mitigation Measures

None required

Significance Determination After Mitigation

Not applicable

2. AGRICULTURE AND FOREST RESOURCES

Issues	(A) Potentially Significant Impact	(B) Less Than Significant with Project-level Mitigation Incorporated	(C) Less Than Significant Impact	(D) 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 CA Resources Agency, to non-agricultural use?				X
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?				X
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))?				X
d) Result in the loss of forest land or conversion of forest land to non-forest use?				X
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 or conversion of forest land to non-forest use?				X

Relevant Elements of Project

As stated in the Project Description, the proposed project would allow for the construction of a surface parking lot at an existing disturbed site that is not currently used for agriculture or forest resources.

Discussion of Potential Project Impacts

2(a) Convert Farmland to Non-Agricultural Use: No Impact

The Project site is not used for agriculture and the project would not convert the site from agricultural to non-agricultural use. It is not mapped as Farmland (Prime Farmland, Unique Farmland, or Farmland of Statewide Importance) by the Farmland Mapping and Monitoring Program (FMMP 2010). The project would therefore have no impact related to the conversion of farmland to a non-agricultural use.

2(b) Conflict with Zoning for Agricultural Use or a Williamson Act contract: No Impact

The Williamson Act is a statewide mechanism for the preservation of agricultural land and open space land and provides a comprehensive method for local governments to protect farmland and open space by allowing lands in agricultural use to be placed under contract (agricultural preserve) between a local government and land owner. No land on the project site is currently under a Williamson Act Contract (City of Orange 2010a). The project site is not zoned for agricultural use. The project would therefore have no impact related to a conflict with zoning for agricultural use or a Williamson Act Contract.

2(c) Conflict with Zoning for Forest Land, Timberland, Timberland Production: No Impact

There are no forest resources on the project site. The project would therefore have no impact related to a conflict with zoning for forest land, timberland, or timberland production.

2(d) Loss of Forest Land or Conversion to Non-Forest Use: No Impact

Because there is no forest land on the site, construction of the project would not result in the loss or conversion of such lands. No impact would occur associated with the proposed project.

2(e) Other Changes Resulting in Conversion of Farmland/Forest Land: No Impact

As stated previously, the project site does not include any agricultural or forest lands. Therefore, there would be no conversion of farmland or forest land. No impacts would occur.

Mitigation Measures

None required

Significance Determination After Mitigation

Not applicable

3. AIR QUALITY

Issues	(A) Potentially Significant Impact	(B) Less Than Significant with Project-level Mitigation Incorporated	(C) Less Than Significant Impact	(D) No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?			X	
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?			X	
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)?			X	
d) Expose sensitive receptors to substantial pollutant concentrations?			X	
e) Create objectionable odors affecting a substantial number of people?				X

Information in this section is derived from the *Air Quality Assessment For UCI Medical Center 500 Orangewood Ave. Parking Lot* dated January 21, 2014, and prepared by Mestre Greve Associates, a division of Landrum and Brown. This report is provided in its entirety in Appendix A.

Relevant Elements of Project

Relevant elements of the proposed project related to air quality include (1) grading and excavation on the project site and the export of approximately 3,000 cy of soil; (2) paving of the entire project site for use as a surface parking lot; and (3) shuttle bus trips between this off-site parking area and the UCIMC.

The project site is located within the Orange County portion of the South Coast Air Basin (SoCAB) and, for air quality regulation and permitting, is under the jurisdiction of the South Coast Air Quality Management District (SCAQMD). Both the State of California (State) and the U.S. Environmental Protection Agency (USEPA) have established health-based Ambient Air Quality Standards (AAQS) for air pollutants, which are known as "criteria pollutants". The AAQS are designed to protect the health and welfare of the populace within a reasonable margin of safety. The federal and State AAQS are shown in Table 1.

TABLE 1
CALIFORNIA AND NATIONAL AMBIENT AIR QUALITY STANDARDS

Pollutant	Averaging Time	California Standards	Federal Standards	
			Primary[a]	Secondary[b]
O_3	1 Hour	0.09 ppm (180 µg/m^3)	–	–
	8 Hour	0.070 ppm (137 µg/m^3)	0.075 ppm (147 µg/m^3)	Same as Primary
PM10	24 Hour	50 µg/m^3	150 µg/m^3	Same as Primary
	AAM	20 µg/m^3	–	Same as Primary
PM2.5	24 Hour	–	35 µg/m^3	Same as Primary
	AAM	12 µg/m^3	12 µg/m^3	Same as Primary
CO	1 Hour	20 ppm (23 mg/m^3)	35 ppm (40 mg/m^3)	–
	8 Hour	9.0 ppm (10 mg/m^3)	9 ppm (10 mg/m^3)	–
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m^3)	–	–
NO_2	AAM	0.030 ppm (57 µg/m^3)	0.053 ppm (100 µg/m^3)	Same as Primary
	1 Hour	0.18 ppm (339 µg/m^3)	0.100 ppm (188 µg/m^3)	–
SO_2	24 Hour	0.04 ppm (105 µg/m^3)	–	–
	3 Hour	–	–	0.5 ppm (1,300 µg/m^3)
	1 Hour	0.25 ppm (655 µg/m^3)	0.075 ppm (196 µg/m^3)	–
Lead	30-day Avg.	1.5 µg/m^3	–	–
	Calendar Quarter	–	1.5 µg/m^3	Same as Primary
	Rolling 3-month Avg.	–	0.15 µg/m^3	
Visibility Reducing Particles	8 hour	Extinction coefficient of 0.23 per km – visibility ≥ 10 miles (0.07 per km – ≥30 miles for Lake Tahoe)	**No Federal Standards**	
Sulfates	24 Hour	25 µg/m^3		
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m^3)		
Vinyl Chloride	24 Hour	0.01 ppm (26 µg/m^3)		

O_3: ozone; ppm: parts per million; –: No Standard; µg/m^3: micrograms per cubic meter; PM10: respirable particulate matter with a diameter of 10 microns or less; AAM: Annual Arithmetic Mean; PM2.5: fine particulate matter with a diameter of 2.5 microns or less; CO: carbon monoxide; mg/m^3: milligrams per cubic meter; NO_2: nitrogen dioxide; SO_2: sulfur dioxide; km: kilometer.

[a] *National Primary Standards:* The levels of air quality necessary, within an adequate margin of safety, to protect the public health.

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

Note: More detailed information in the data presented in this table can be found at the CARB website (www.arb.ca.gov).

Source: CARB 2013; Mestre Greve Associates 2014a (Appendix A).

Regional air quality is defined by whether the area has attained State and federal air quality standards, as determined by air quality data from various monitoring stations. Areas that are considered in "nonattainment" are required to prepare plans and implement measures that will bring the region into "attainment". When an area has been reclassified from nonattainment to attainment for a federal standard, the status is identified as "maintenance", and there must be a plan and measures established to keep the region in attainment for the following ten years.

For the California Air Resources Board (CARB), an "Unclassified" designation indicates that the air quality data for the area are incomplete and there are no standards to support a designation of attainment or nonattainment. Table 2 summarizes the attainment status of the SoCAB for the criteria pollutants.

TABLE 2
DESIGNATIONS OF CRITERIA POLLUTANTS IN THE SOUTH COAST AIR BASIN

Pollutant	State	Federal
O_3 (1-hour)	Nonattainment	No Standard
O_3 (8-hour)		Extreme Nonattainment
PM10	Nonattainment	Attainment/Maintenance
PM2.5	Nonattainment	Nonattainment
CO	Attainment	Attainment/Maintenance
NO_2	Nonattainment	Attainment/Maintenance
SO_2	Attainment	Attainment
Lead[a]	Attainment/Nonattainment	Attainment/Nonattainment
All others	Attainment/Unclassified	No Standards

O_3: ozone; PM10: respirable particulate matter with a diameter of 10 microns or less; PM2.5: fine particulate matter with a diameter of 2.5 microns or less; CO: carbon monoxide; NO_2: nitrogen dioxide; SO_2: sulfur dioxide; SoCAB: South Coast Air Basin.

[a] Los Angeles County is classified as nonattainment for lead; the remainder of the SoCAB is in attainment of the State and federal standards.

Source: CARB 2012; USEPA 2012; Mestre Greve Associates 2014a (Appendix A).

Discussion of Potential Project Impacts

3(a) Air Quality Management Plan Consistency: Less Than Significant Impact

The main purpose of an Air Quality Management Plan (AQMP) is to bring an area into compliance with the requirements of federal and State air quality standards. For a project within the SCAQMD to be consistent with the AQMP, the pollutants emitted from the project should not (1) exceed the SCAQMD CEQA air quality significance thresholds or (2) conflict with or exceed the assumptions in the AQMP. Based on the air quality modeling analysis prepared for the proposed project (Appendix A), the project is not forecasted to contribute to the exceedance of any air pollutant concentration standards. Therefore, the project is found to be consistent with the AQMP for the first criterion. Consistency with the AQMP assumptions is determined by performing an analysis of a project with the assumptions in the AQMP. The Southern California Association of Government (SCAG) forecasts included in the AQMP are based on the General Plans of municipalities in the SoCAB. As the project does not propose any new trip-generating land uses, project implementation would not result in development that was not anticipated in the AQMP. No conflict with the 2012 AQMP would occur associated with the proposed project (Mestre Greve Associates 2014a).

3(b) Air Quality Standards: Less Than Significant Impact

The SCAQMD establishes significance thresholds to assess the regional impact of project-related air pollutant emissions in the SCAQMD. Table 3 summarizes the SCAQMD's mass emissions thresholds, which are presented for both long-term operational and short-term construction emissions. A project with emissions rates below these thresholds is considered to have a less than significant effect on air quality.

TABLE 3
SCAQMD CRITERIA POLLUTANT SIGNIFICANT MASS EMISSIONS SIGNIFICANCE THRESHOLDS (LBS/DAY)

Criteria Pollutant	Construction	Operation
Volatile Organic Compounds (VOC)	75	55
Oxides of Nitrogen (NOx)	100	55
Carbon Monoxide (CO)	550	550
Oxides of Sulfur (SOx)	150	150
Particulate Matter (PM10)	150	150
Particulate Matter (PM2.5)	55	55
lbs/day: pounds per day Source: Mestre Greve Associates 2014a (Appendix A).		

Regional Construction Impacts

The SCAQMD has established methodologies to quantify air emissions associated with construction activities such as air pollutant emissions generated by operation of on-site construction equipment; fugitive dust emissions related to trenching and earthwork activities; and mobile (tailpipe) emissions from construction worker vehicles and haul/delivery truck trips. Emissions would vary from day to day, depending on the level of activity; the specific type of construction activity occurring; and, for fugitive dust, prevailing weather conditions.

A construction-period mass emissions inventory was compiled based on an estimate of construction equipment as well as scheduling and project phasing assumptions. More specifically, the mass emissions analysis takes into account the following:

- Combustion emissions from operating on-site stationary and mobile construction equipment;
- Fugitive dust emissions from the demolition, site-preparation, and grading phases; and
- Mobile-source combustion emissions and fugitive dust from worker commute and truck travel.

For the purposes of estimating emissions associated with construction activities, a timeframe of four months in 2014 was applied to the analysis. Emissions were calculated using the California Emissions Estimator Model (CalEEMod) emissions inventory model (SCAQMD 2013). CalEEMod is a computer program accepted by the SCAQMD that can be used to estimate anticipated emissions associated with land development projects in California. CalEEMod has separate databases for specific counties and air districts, and the Orange County database was used for the proposed project.

Maximum daily emissions during the peak work day are shown in Table 4. Actual emissions could be less than those forecasted due to the conservative nature of the assumptions incorporated into the CalEEMod program regarding phasing. If construction is delayed or occurs over a longer time period, emissions could be reduced because of (1) a more modern and cleaner-burning construction equipment fleet mix and/or (2) a less intensive buildout schedule (i.e., fewer daily emissions occurring over a longer time interval). As shown in Table 4, all criteria pollutant emissions would be less than their respective thresholds. Therefore, impacts would be less than significant. However, the project would be required to comply with SCAQMD's Rule 403, Dust Control noted in the Project Description, which would further minimize dust emissions from grading activities.

TABLE 4
ESTIMATED MAXIMUM DAILY CONSTRUCTION EMISSIONS
(LBS/DAY)

	VOC	NOx	CO	SOx	PM10	PM2.5
Maximum daily emissions in 2014	12	62	46	<0.5	21	13
SCAQMD Daily Thresholds	***75***	***100***	***550***	***150***	***150***	***55***
Exceeds SCAQMD Thresholds?	**No**	**No**	**No**	**No**	**No**	**No**

lbs/day: pounds per day; VOC: volatile organic compound(s); NOx: nitrogen oxides; CO: carbon monoxide; SOx: sulfur oxides; PM10: respirable particulate matter with a diameter of 10 microns or less; PM2.5: fine particulate matter with a diameter of 2.5 microns or less; SCAQMD: South Coast Air Quality Management District

Source: Mestre Greve Associates 2014a (Appendix A).

Localized Construction Impacts

The localized effects from the on-site portion of daily emissions were evaluated at sensitive receptor locations that could potentially be impacted by the project; these emissions were evaluated according to the SCAQMD's localized significance threshold (LST) methodology, which uses on-site mass emissions rate look up tables and project-specific modeling, where appropriate. LSTs are applicable to the following criteria pollutants: nitrogen dioxide (NO_2), carbon monoxide (CO), respirable particulate matter with a diameter of 10 microns or less (PM10), and fine particulate matter with a diameter of 2.5 microns or less (PM2.5).[1] LSTs represent the maximum emissions from a project that are not expected to cause or contribute to an exceedance of the most stringent applicable federal or State ambient air quality standard, and are developed based on the ambient concentrations of that pollutant for each source receptor area and distance to the nearest sensitive receptor. The mass rate look-up tables were developed for each source receptor area and can be used to determine whether a project may generate significant adverse localized air quality impacts. The SCAQMD provides LST mass rate look-up tables for project sites that are less than or equal to five acres. For project sites that exceed five acres, the five-acre LST look-up values can be used as a screening tool to determine which pollutants require detailed analysis. This approach is conservative because it assumes that all on-site emissions would occur within a five-acre area and over-predicts potential localized impacts (i.e., more pollutant emissions occurring within a smaller area and proximate to potential sensitive receptors).

When quantifying mass emissions for localized analysis, only emissions that occur on site are considered. Consistent with the SCAQMD's LST methodology guidelines, emissions related to off-site delivery/haul truck activity and employee trips are not considered in the evaluation of localized impacts.

The results of the LST analysis are in Table 5. As shown in the table, localized emissions for all criteria pollutants would be less than their respective SCAQMD LSTs for all pollutants. Therefore, impacts would be less than significant and no mitigation is required.

[1] NO_2 impacts are addressed by evaluating nitrogen oxide (NOx) emissions.

TABLE 5
MAXIMUM LOCALIZED CONSTRUCTION POLLUTANT EMISSIONS
(LBS/DAY)

	NOx	CO	PM10	PM2.5
Maximum On-Site Emissions	58	43	21	13
SCAQMD LSTs	***219***	***1,403***	***47***	***14***
Exceeds SCAQMD Thresholds?	**No**	**No**	**No**	**No**

NOx: nitrogen oxides; CO: carbon monoxide; PM10: respirable particulate matter with a diameter of 10 microns or less; PM2.5: fine particulate matter with a diameter of 2.5 microns or less; SCAQMD: South Coast Air Quality Management District; LSTs: Local Significance Thresholds.

Source: Mestre Greve Associates 2014a (Appendix A).

Toxic Air Contaminants Impacts

The greatest potential for toxic air contaminant (TAC) emissions during construction are diesel particulate emissions associated with heavy equipment operations during site grading activities. The SCAQMD does not consider diesel-related cancer risks from construction equipment to be an issue because of the short-term nature of construction activities. Construction activities associated with the proposed project would be short term (approximately four months). The assessment of cancer risk is typically based on a 70-year exposure period. Because exposure to diesel exhaust would be well below the 70-year exposure period, construction of the proposed project is not anticipated to result in an elevated cancer risk to exposed persons due to the short-term nature of construction. As such, project-related toxic emission impacts during construction would be less than significant and no mitigation is required (Mestre Greve Associates 2014a).

Regional Operational Impacts

The primary source of long-term operational air pollutant emissions associated with the project would be due to emissions from the shuttle buses running between the proposed project and other off-site parking lots and the main campus of the UCIMC and other off-site office buildings. Total emissions from the project area for the opening year of the project were calculated using CalEEMod. As shown in Table 6, the operational emissions for the project would be less than the SCAQMD CEQA significance thresholds for all criteria pollutants. Therefore, the operational impact of the project on regional emissions would be less than significant and no mitigation is required.

Local Operational Impacts

As with construction, when quantifying mass emissions for localized analysis for operations, only emissions that occur on site are considered. Consistent with the SCAQMD's LST methodology guidelines, emissions related to off-site activity and employee trips are not considered in the evaluation of localized impacts.

The results of the LST analysis are shown in Table 7. As shown in the table, localized emissions for all criteria pollutants would be less than their respective SCAQMD LSTs for all pollutants. Therefore, impacts would be less than significant and no mitigation is required.

TABLE 6
PEAK DAILY OPERATIONS EMISSIONS

Source	Emissions (lbs/day)				
	VOC	**NOx**	**CO**	**PM10**	**PM2.5**
Area sources	5	<0.5	<0.5	<0.5	<0.5
Energy sources	<0.5	<0.5	<0.5	<0.5	<0.5
Mobile sources	1	1	3	<0.5	<0.5
Total Operational Emissions*	**5**	**1**	**3**	**<0.5**	**<0.5**
SCAQMD Significance Thresholds	**55**	**55**	**550**	**150**	**55**
Significant Impact?	**No**	**No**	**No**	**No**	**No**

Lbs/day: pounds per day; VOC: volatile organic compounds; NOx: nitrogen oxides; CO: carbon monoxide; PM10: respirable particulate matter with a diameter of 10 microns or less; PM2.5: fine particulate matter with a diameter of 2.5 microns or less; SCAQMD: South Coast Air Quality Management District; SOx: sulfur oxides.

Notes: SOx and lead emissions are not shown; these emissions would be negligible for the project.
Some totals do not add due to rounding.

Source: Mestre Greve Associates 2014a (Appendix A).

TABLE 7
MAXIMUM LOCALIZED OPERATIONS POLLUTANT EMISSIONS (LBS/DAY)

	NOx	**CO**	**PM10**	**PM2.5**
Area sources	<0.05	0.1	<0.05	<0.05
Energy sources	<0.05	<0.05	<0.05	<0.05
Mobile sources	0.1	0.8	0.1	<0.05
Total Operational Emissions	**0.1**	**0.8**	**0.1**	**<0.05**
SCAQMD LSTs	***136***	***1,022***	***2***	***2***
Exceeds SCAQMD Thresholds?	**No**	**No**	**No**	**No**

lbs/day: pounds per day; NOx: nitrogen oxides; CO: carbon monoxide; PM10: particulate matter with a diameter of 10 microns or less; PM2.5: fine particulate matter with a diameter of 2.5 microns or less; SCAQMD: South Coast Air Quality Management District; LSTs: localized significance thresholds.

Source: Mestre Greve Associates 2014a (Appendix A).

3(c) Cumulatively Considerable Net Increase of Any Criteria Pollutants: Less Than Significant Impact

The SCAQMD's approach for assessing cumulative impacts is based on the AQMP forecasts of attainment of ambient air quality standards in accordance with the requirements of the Federal and State Clean Air Acts. As discussed earlier in Checklist Response IV.3(a), the proposed project would be consistent with the AQMP, which is intended to bring the SoCAB into attainment for all criteria pollutants.[2] In addition, the mass regional emissions calculated for the proposed project (Table 4) would

[2] Section 15064(h)(3) of the State CEQA Guidelines states "A lead agency may determine that a project's incremental contribution to a cumulative effect is not cumulatively considerable if the project will comply with the requirements in a previously approved plan or mitigation program which provides specific requirements that will avoid or substantially lessen the cumulative problem (e.g., water quality control plan, air quality plan, integrated waste management plan) within the geographic area in which the project is located. Such plans or programs must be specified in law or adopted by the public

be lower than the applicable SCAQMD daily significance thresholds that are designed to assist the region in attaining the applicable State and national ambient air quality standards. Furthermore, there are no known projects in the vicinity of the project site such that major construction would occur concurrently with the proposed project. As such, cumulative impacts would be less than significant and no mitigation is required.

3(d) Sensitive Receptors: Less Than Significant Impact

As addressed in Checklist Response IV.3(b), the proposed project would not result in any substantial TAC air pollution impacts, and construction criteria pollutant emissions would be less than the conservative LST. Therefore, project construction and operations would not expose any nearby sensitive receptors to substantial pollutant concentrations. As such, the proposed project would have a less than significant impact and no mitigation is required.

Changes in traffic patterns could result in increased pollutant emissions adjacent to roads and intersections. CO and particulates (PM10 and PM2.5) are the pollutants of major concern along roadways. Although the project itself would not generate any new vehicle trips, it would result in the re-routing of trips from current off-site parking areas to the proposed project site. A traffic analysis performed for the project concludes that the project would have no significant impact to the surrounding circulation system (Stantec 2014). Therefore, the project would not be expected to considerably increase congestion or local CO and particulate matter concentrations (Mestre Greve Associates 2014).

3(e) Objectionable Odors: No Impact

According to the SCAQMD's *CEQA Air Quality Handbook,* land uses associated with odor complaints typically include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding. The proposed project does not include any uses identified by the SCAQMD as being associated with odors; therefore, it would not produce objectionable long-term operational odors.

Short-term project construction equipment and activities would generate odors. Potential construction odors include diesel exhaust emissions, blasting, and paving activities. There may be situations where construction activity odors will be noticeable by persons working at or visiting nearby facilities, but these odors would not be unfamiliar or necessarily objectionable. The odors would be temporary and would dissipate rapidly from the source with an increase in distance. Therefore, the impacts would be short-term; would not be objectionable to a substantial number of people; and would be less than significant. All project-related actions are construction related and short-term, and no long-term operational odors would be created. As such, the proposed project would have no impact in regards to objectionable odors.

Mitigation Measures

None required

Significance Determination After Mitigation

Not applicable

agency with jurisdiction over the affected resources through a public review process to implement, interpret, or make specific the law enforced or administered by the public agency".

4. BIOLOGICAL RESOURCES

Issues	(A) Potentially Significant Impact	(B) Less Than Significant with Project-level Mitigation Incorporated	(C) Less Than Significant Impact	(D) 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 CA Department of Fish and Game or U.S. Fish and Wildlife Service?		X		
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 Game or US Fish and Wildlife Service?				X
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?				X
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?				X
e) Conflict with any applicable policies protecting biological resources?				X
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other applicable habitat conservation plan?				X

Relevant Elements of Project

The project site contains developed and disturbed areas. A portion of the project site is a degraded asphalt roadway. The remainder of the project site is composed of fairly compacted soils without vegetation or with a sparse cover of ruderal vegetation indicative of past disturbance. This area was dominated by non-native species such as cheeseweed (*Malva parviflora*), Russian thistle (*Salsola tragus*), mustards (*Sisymbrium* spp.), filarees (*Erodium* spp.), hare barley (*Hordeum murinum* var. *leporinum*), and ripgut grass (*Bromus diandrus*). Native plant species among the ruderal vegetation include morning-glory (*Calystegia macrostegia*), telegraph weed (*Heterotheca grandiflora*), coyote brush (*Baccharis pilularis*), western ragweed (*Ambrosia psilostachya*), and horseweed (*Erigeron canadensis*).

Ornamental trees and shrubs generally border the project site. Tree species include Mexican fan palm (*Washingtonia robusta*), edible fig (*Ficus carica*), tree of heaven (*Ailanthus altissima*), Brazilian pepper (*Schinus terebinthifolius*), white alder (*Alnus rhombifolia*), and jacaranda (*Jacaranda mimosifolia*). Ornamental shrubs include Japanese privet (*Ligustrum japonicum*), Japanese honeysuckle (*Lonicera japonica*), and turf grasses.

Wildlife species observed include Botta's pocket gopher (*Thomomys bottae*), California ground squirrel (*Spermophilus beecheyi*), red-tailed hawk (*Buteo jamaicensis*), and European starlings (*Sterna vulgaris*).

Discussion of Potential Project Impacts

4(a) Species Impacts: Less than Significant with Mitigation Incorporated

The wildlife species observed on site are all relatively tolerant of human activity and development. Due to the developed and disturbed nature of the project site, no special status plant or wildlife species are expected to occur.

The project site contains ornamental vegetation that has potential to be used by nesting birds and raptors. State regulations prohibit activities that "take, possess or destroy" any raptor nest or egg (*California Fish and Game Code* §3503, §3503.5, and §3513). The Migratory Bird Treaty Act protects the taking of migratory birds and their nests and eggs. This protection generally ceases once nesting activity is complete. Therefore, if construction is initiated during the raptor nesting season (February 1 to June 30), or during the peak bird nesting season (typically March 1 through July 31), then the project could directly impact nesting birds or raptors if any ornamental vegetation is removed during the nesting season; the project could also indirectly impact nesting raptors if work would occur adjacent to large ornamental trees during the raptor nesting season. The loss of an active nest would be considered a violation of the aforementioned State and federal regulations. This impact would be reduced to a level considered less than significant with implementation of MM Bio-1.

4(b-c) Riparian Habitat or Other Sensitive Natural Community/Federally Protected Wetlands: No Impact

No riparian habitat or any other sensitive community identified in local or regional plans or policies by the California Department of Fish and Wildlife (CDFW) or by the U.S. Fish and Wildlife Service (USFWS) occurs on the project site. Additionally, the project site does not support any federally protected wetlands (as defined in Section 404 of the Clean Water Act), marsh, vernal pool, or coastal habitats. Therefore, no impacts would occur and no mitigation is required.

4(d) Wildlife Corridors: No Impact

Because the project site is surrounded by development, it does not function as a wildlife movement corridor or wildlife nursery site. Therefore, there would be no impact and no mitigation is required.

4(e) Conflict with Applicable Policies: No Impact

The University of California is the only agency with local land use jurisdiction over the project. No specific UC policies have been adopted for the project and the land is not governed by any policies or regulations adopted to avoid or mitigate an environmental effect. Thus, there would be no conflict with any biological protection policies because none applies to the project site.

4(f) Conflict with a Natural Community Conservation Plan or Habitat Conservation Plan: No Impact

No University of California habitat conservation plan is applicable to the project site and according to the Natural Resources Element of the *City of Orange General Plan*, the project site is not located within a designated or proposed Natural Community Conservation Plan (NCCP) area (City of Orange 2010a). No impact would occur, and no mitigation is required.

Mitigation Measures

MM Bio-1 Any ornamental vegetation should be removed during the non-nesting bird season (July 1 to January 31 for nesting raptors; August 1 to February 29 for nesting birds) to the extent practicable. If construction would be initiated during the raptor nesting season (February 1 to June 30), then the University of California, Irvine shall ensure that a survey for active raptor nests is conducted within seven days prior to commencement of any demolition or construction activities; the survey shall include all ornamental trees immediately adjacent to the project site. If ornamental vegetation would be removed during the nesting bird season (March 1 to July 31), then the University of California, Irvine shall ensure that a survey for active bird nests is conducted within three days prior to commencement of construction. Should an active nest be identified, restrictions may be placed on construction activities in the vicinity of the active nest observed until the nest is no longer active, as determined by a qualified Biologist. These restrictions may include a buffer zone to minimize disturbance to the active nest. Once the nest is no longer active, construction can proceed within the buffer zone. The size of the buffer will depend on the sensitivity of the species and the location of the nest in relation to proposed construction activities and existing development.

Significance Determination After Mitigation

Less than significant.

5. CULTURAL RESOURCES

Issues	(A) Potentially Significant Impact	(B) Less Than Significant with Project-level Mitigation Incorporated	(C) Less Than Significant Impact	(D) No Impact
a) Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?				X
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?		X		
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?		X		
d) Disturb any human remains, including those interred outside of formal cemeteries?			X	

Relevant Elements of Project

The following actions were taken to complete this cultural resources section: (1) a cultural resources records search undertaken at the South Central Coastal Information Center (SCCIC) at California State University, Fullerton; (2) a paleontological resources records search undertaken by the Natural History Museum of Los Angeles County (LACM); (3) Native American scoping through consultation with the Native American Heritage Commission (NAHC) and delivery of project letters to listed Native American tribes and individuals; and (4) field reconnaissance. This section contains both an assessment of the project's potential to adversely impact cultural resources and recommendations for mitigating any adverse impacts to a less than significant level.

Discussion of Potential Project Impacts

5(a) Historical Resources: No Impact

An archaeological/historical resources records search was conducted by BonTerra Psomas archaeologist Patrick Maxon on February 22, 2012, at the SCCIC. An examination was made of the Historic Property Data File (HPDF) maintained by the Office of Historic Preservation (OHP). The HPDF is a listing of buildings and structures within a specified city that have been evaluated for listing on the National Register of Historic Places (NRHP) and/or the California Register of Historic Resources (CRHR). The findings of the HPDF are provided in Appendix B. In addition to the HPDF, archaeological inventory records (discussed below), reports, and historic maps were also reviewed. Based on this review of historical resources data, no historic resources are identified as listed within the project site.

The entire northern portion of the site has been cleared of structures that were present on the parcel as late as 1981. An abandoned segment of an asphalt roadway is still present. It will be demolished as a part of the project. The southern portion of the site contains a small valet parking area for the adjacent hotel; this lot will also be demolished as a part of the project. Aerials of the project site do not show the presence of

the road in 1995 (Google Earth). The project would, therefore, not result in impacts to historical resources.

5(b) Archaeological Resources: Less Than Significant with Project-level Mitigation Incorporated

The results of the archaeological/historical resources records conducted on February 22, 2012, indicated that no previously recorded archaeological sites have been identified within a one-mile radius of the project site. Much of the surface (to an unknown depth) of the project site has likely been graded during previous construction at the site for structures that were present prior to 1995 as well as the widening of I-5 but were removed prior to 2005. However, it is possible that grading and excavation for the project could impact unknown archaeological resources related to the prehistoric and historic use of the site. The potential loss of resources is a potentially significant impact. With implementation of MM Cul-1, this potential impact would be mitigated to a less than significant level.

The NAHC conducted a search of the Sacred Lands File on February 9, 2012. The review did not identify any Native American cultural resources sites within the immediate project vicinity. In accordance with Senate Bill (SB) 18, tribal representatives were contacted based on the contact list provided by the NAHC on February 9, 2012. Two telephone responses have been received to date. Joyce Perry, representing the Tribal Chairperson, Juaneño Band of Mission Indians Acjachemen Nation, called on February 15, 2012, and Anthony Morales, Chairperson, Gabrielino/Tongva San Gabriel Band of Mission Indians called on February 23, 2012. Ms. Perry stated that she does not know of any archaeological sites within the project site, but because of the proximity of the project site to the Santa Ana River, the entire area is sensitive for cultural resources and she recommends monitoring during grading. Mr. Morales also recommended monitoring during grading because of the sensitivity of the area. Refer to Appendix B for all Native American correspondence. With implementation of MM Cul-1, potential impacts to sensitive cultural resources would be mitigated to a less than significant level.

5(c) Paleontological Resources: Less Than Significant Impact with Project-level Mitigation Incorporated

Based on the paleontological resources records search, conducted at the SCCIC on February 22, 2012, the LACM indicated that no known fossil localities have been previously recorded within the study area boundaries, but fossil localities have been found nearby from sedimentary deposits that are similar to those that occur in the study area. The site is underlain by younger Quaternary Alluvium, with older Alluvium at depth (McLeod 2012). Because grading for the proposed project will be relatively shallow, no impacts to paleontological resources are expected, and the project would not impact any known paleontological resources. However, grading and excavation could impact unknown paleontological resources. This potential impact is considered a potentially significant impact. This potential impact would be mitigated to a level considered less than significant with implementation of MM Cul-2.

5(d) Human Remains: Less Than Significant Impact

The records searches noted no evidence of human remains within the project site or in its immediate vicinity. Native American tribes were given an opportunity to reveal the existence of any remains, background research failed to find any potential for remains, and the project site was physically inspected. The project site's proximity to the Santa Ana River suggests the possibility of the presence of burials as native populations are known to have interred individuals along water courses. However, there is no evidence in place to suggest that the project site has been used for human burials. Section 7050.5 of the *California Health and Safety Code* states that, if human remains are discovered on site, no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to Section 5097.98 of the *California Public Resources Code*. Since compliance with State

regulations is required for all development, no additional mitigation is required in the unlikely event human remains are discovered on site. Impacts associated with this issue are expected to be less than significant.

Mitigation Measures

MM Cul-1: Should archaeological resources be found during ground-disturbing activities related to construction of the UCIMC's Orangewood Surface Parking Lot project, all such activities must be directed away from the immediate area of the discovery and further disturbance to it must be prevented by the on-site contractor in consultation with UCI and a qualified project Archaeologist approved by UCI.

The project Archaeologist shall first determine whether the uncovered resource is a "unique archaeological resource" pursuant to Section 21083.2(g) of the *California Public Resources Code* (PRC) or a "historical resource" pursuant to Section 15064.5(a) of the State CEQA Guidelines (*California Code of Regulations* [CCR], Title 14). If the resource is determined to be a "unique archaeological resource" or a "historical resource", the Archaeologist in consultation UCI shall recommend disposition of the site and formulate a mitigation plan that satisfies the requirements of Section 21083.2 of the PRC and Section 15064.5 of the State CEQA Guidelines. The UCIMC shall pay all costs associated with the discovery, evaluation and ultimate disposition of the find.

If the Archaeologist determines that the resource is not a "unique archaeological resource" or "historical resource", he/she shall record the site and submit the recordation form to the California Historical Resource Information System (CHRIS) at the South Central Coastal Information Center (SCCIC). The Archaeologist shall prepare a report of the results of any study prepared as part of a testing or mitigation plan, following accepted professional practice. The report shall follow guidelines of the California Office of Historic Preservation. Copies of the report shall be submitted to UCIMC and to the CHRIS at the SCCIC.

MM Cul-2: If fossil resources are discovered by the Contractor or others during project grading, ground-disturbing activities in the vicinity of the discovery shall be halted or diverted until a qualified Paleontologist, approved by UCI, inspects the find and evaluates it for significance. Work may proceed in other areas of the site, subject to the direction of the Paleontologist, in consultation with UCI. If determined to be significant, the Paleontologist shall have the authority to quickly and efficiently salvage and remove the fossil from its locality, as appropriate, before ground-disturbing activities resume in the area. These actions, as well as final disposition of the resources, shall be subject to the approval of UCI.

Significance Determination After Mitigation

Less than significant.

6. GEOLOGY AND SOILS

Issues	(A) Potentially Significant Impact	(B) Less Than Significant with Project-level Mitigation Incorporated	(C) Less Than Significant Impact	(D) 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.				X
ii) Strong seismic ground shaking?			X	
iii) Seismic-related ground failure, including liquefaction?				X
iv) Landslides				X
b) Result in substantial soil erosion or the loss of topsoil?			X	
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?			X	
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?			X	
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?				X

Relevant Elements of Project

The project site is not located within a designated Alquist-Priolo Fault Zone. However, most of Southern California is subject to some level of ground shaking (ground motion) as a result of movement along active and potentially active fault zones in the region. The nearest faults to the project site that are considered active or potentially active by the California Geological Survey (CGS) are the Compton Thrust (4.0 miles), Whittier (9.4 miles), and Newport-Inglewood faults (10.4 miles) (GMU Geotechnical 2010).

The site is located on a relatively flat and broad alluvial basin that has been gradually filled with Quaternary-age marine and non-marine sediments. The site is underlain by fine-grained sediments consisting of man-made fills near the ground surface and alluvial sediments (such as interbedded sands, silty sands, gravelly sands, sandy silts, sandy clays, and sandy clays with gravel) beneath the fills. Fill

soils consist of dry to damp silty and clayey sands from three to five feet deep. Alluvial deposits extend from near the ground surface to the depth of exploration at 81.5 feet. Groundwater was encountered at a depth of 63 and 68 feet below the ground surface (GMU Geotechnical 2010).

The project site is not currently used, and is not intended to be used, for agricultural or other purposes that require topsoil. Therefore, the project would not result in the long-term loss of topsoil.

Discussion of Potential Project Impacts

6(a)(i) Fault Rupture: No Impact

Fault rupture is defined as the breakage of ground along the surface trace of a fault caused by the intersection of the fault surface area that was fractured in an earthquake. Fault rupture hazards can be characterized by a site's proximity to an active or potentially active fault and the designation of a site as being within an Alquist-Priolo Special Study Zone. Under the Alquist-Priolo Earthquake Fault Zoning Act (Alquist-Priolo Act), which was adopted to mitigate surface fault rupture hazards along known active faults (*California Public Resources Code* §2621 et seq.), the California Geological Survey (CGS) has defined an "active" fault as one that has had surface displacement during the past 11,000 years (Holocene age). The Alquist-Priolo Act directs the State Geologist to establish Earthquake Fault Zones (known as "Special Studies Zones" prior to January 1, 1994) to regulate development within designated hazard areas. In accordance with the Alquist-Priolo Act, the State has delineated "Earthquake Fault Zones" along identified active faults throughout California. Where habitable structures are proposed within an Alquist-Priolo Zone, the lead agency must require a geologic investigation to demonstrate that structures for human occupancy are adequately set back from an active fault prior to permitting. The project site is not located within an Alquist-Priolo Earthquake Fault Zone and no habitable structures are proposed. Because the site is not located within a designated fault zone and there are no known active faults on or near the project site, no significant impacts are anticipated and no mitigation is required.

6(a)(ii) Groundshaking: Less Than Significant Impact

The project site is located in Southern California, a seismically active region. The proposed parking lot would be subject to groundshaking during an earthquake event on nearby faults and other faults in the region that may affect the project site. However, the proposed project is a surface parking lot. Therefore, groundshaking at the site is not expected to pose a major hazard. Impacts would be less than significant and no mitigation is required.

6(a)(iii–iv) Liquefaction and Landslides: No Impact

The California Seismic Hazard Zones for the Anaheim Quadrangle do not include the site in an area with a potential for liquefaction. Subsurface exploration at the site also indicated that groundwater is below a depth of 50 feet. Therefore, the potential for liquefaction at the site is low (GMU Geotechnical2010).

The site is relatively flat and is not located near hillside areas that may be subject to landslides. Therefore, the proposed parking lot would not be exposed to liquefaction or landslide hazards. No impacts would occur and no mitigation is required.

6(b) Soil Erosion: Less Than Significant Impact

During construction activities for the proposed project, on-site soils would be disturbed and exposed, and there would be an increased potential for soil erosion compared to existing conditions. Erosion by wind or

water can occur as a result of, and can be accelerated by, excavation and grading activities. Additionally, during a storm event, erosion of bare soils could occur at an accelerated rate.

Earth-disturbing activities associated with construction of the proposed project would be temporary, and erosion effects would depend largely on (1) the size of areas excavated and disturbed; (2) the quantity of excavation; and (3) the length of time soils are subject to conditions that support erosion processes. Earth-disturbance associated with construction of the proposed project would include removal of asphalt pavements and vegetation on site and excavation to approximately three to five feet below ground surface (bgs) for the proposed project (GMU Geotechnical 2010). The precise grading plans show that trenching would extend to 6.0 feet bgs, and excavation for the pre-treatment manholes and underground retention and infiltration systems would range from 8.5 to 10.5 feet bgs.

The project's Erosion-Control Plan shows that a gravel bag berm would be installed along the site boundaries to prevent sediment from exiting the site. Curb inlets and catch basins would also be surrounded by gravel bags, and a concrete washout would be provided on site. Access driveways on Orange Center Drive would be stabilized with an aggregate base and steel rattle plates to reduce the track out of loose soils. These Best Management Practices (BMPs) would be included in the Storm Water Pollution Prevention Plan (SWPPP) for the project, as required under the National Pollution Discharge Elimination System (NPDES) State Construction General Permit. Implementation of these and other erosion-control BMPs would minimize erosion during construction. Site watering for fugitive dust control as required by SCAQMD Rule 403 noted in the Project Description would also reduce wind erosion. Impacts would be less than significant and no mitigation is required.

Once the parking lot is constructed, the majority of the site would be paved, and parking islands, swales, and slopes would be landscaped. This pavement and landscaping would reduce long-term erosion at the site and would prevent the loss of topsoil. No long-term erosion impacts would occur.

6(c–d) Soil Instability and Expansive Soils: Less Than Significant Impact

The project's Geotechnical Investigation Report (GMU Geotechnical 2010) does not identify any soil instability, soil expansion hazards, or other geologic constraints to the construction of the proposed parking lot. Resistance (R) value tests were performed to evaluate the required thickness of asphalt pavement. Recommendations for engineering design and construction are also provided in the report, which would ensure the structural integrity and stability of the proposed parking lot.

Site preparation, grading, excavation and construction activities for the project shall comply with the California Building Code and the recommendations listed in the Geotechnical Investigation Report. Impacts would be less than significant and no mitigation is required.

6(e) Septic Tanks or Alternative Waste Disposal Systems: No Impact

As stated in the Project Description, the project does not include restroom facilities and would not generate wastewater. The project would not require septic tanks or an alternative waste disposal system. Therefore, no soil impacts related to septic tanks or alternative wastewater disposal systems would occur. No mitigation is required.

Mitigation Measures

None required

Significance Determination After Mitigation

Not applicable

7. GREENHOUSE GAS EMISSIONS

Issues	(A) Potentially Significant Impact	(B) Less Than Significant with Project-level Mitigation Incorporated	(C) Less Than Significant Impact	(D) No Impact
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?			X	
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?			X	

Information in this section is summarized from the *Greenhouse Gas Assessment For UCI Medical Center 500 Orangewood Ave. Parking Lot* dated January 21, 2014, and prepared by Mestre Greve Associates. This report is provided in its entirety in Appendix C.

Relevant Elements of Project

Relevant elements of the proposed project related to greenhouse gas (GHG) emissions include (1) grading and excavation on the project site and the export of approximately 3,000 cubic yards (cy) of soil; (2) paving of the project site for use as a surface parking lot; and (3) shuttle bus trips.

Climate change refers to any significant change in measures of climate, such as average temperature, precipitation, or wind patterns over a period of time. Climate change may result from natural factors, natural processes, and human activities that change the composition of the atmosphere and alter the surface and features of the land. Significant changes in global climate patterns have recently been associated with global warming, which is an average increase in the temperature of the atmosphere near the Earth's surface; this is attributed to an accumulation of GHG emissions in the atmosphere. GHGs trap heat in the atmosphere which, in turn, increases the Earth's surface temperature. Some GHGs occur naturally and are emitted into the atmosphere through natural processes, while others are created and emitted solely through human activities. The emission of GHGs through fossil fuel combustion in conjunction with other human activities appears to be closely associated with global warming.

GHGs, as defined under California's Assembly Bill (AB) 32, include carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). General discussions on climate change often include water vapor, ozone, and aerosols in the GHG category. However, water vapor and atmospheric ozone are not gases that are formed directly in the construction or operation of development projects, nor can they be controlled in these projects. Aerosols are not gases. While these elements have a role in climate change, they are not considered by either regulatory bodies (e.g., CARB or climate change groups such as the Climate Action Registry [CAR]), as gases to be reported or analyzed for control. Therefore, no further discussion of water vapor, ozone, or aerosols is provided in this Initial Study.

GHGs vary widely in the power of their climatic effects; therefore, climate scientists have established a unit called global warming potential (GWP). The GWP of a gas is a measure of both potency and lifespan in the atmosphere as compared to CO_2. For example, since CH_4 and N_2O are approximately 25 and 298 times more powerful than CO_2, respectively, in their ability to trap heat in the atmosphere, they have GWPs of 25 and 298, respectively (CO_2 has a GWP of 1). Carbon dioxide equivalent (CO_2e) is a quantity that enables all GHG emissions to be considered as a group despite their varying GWP. The GWP of each GHG is multiplied by the prevalence of that gas to produce CO_2e. The atmospheric lifetime and GWP of selected GHGs are summarized in Table 8.

TABLE 8
GLOBAL WARMING POTENTIALS AND ATMOSPHERIC LIFETIMES

Greenhouse Gas	Atmospheric Lifetime (years)	Global Warming Potential (100-year time horizon)
Carbon Dioxide (CO_2)	50.0–200.0	1
Methane (CH_4)	12.0	25
Nitrous Oxide (N_2O)	114.0	298
HFC-134a	14	1,430
PFC: Tetrafluoromethane (CF_4)	50,000.0	7,390
PFC: Hexafluoroethane (C_2F_6)	10,000.0	12,200
Sulfur Hexafluoride (SF_6)	3,200.0	22,800
HFC: hydrofluorocarbons; PFC: perfluorocarbons Source: IPCC 2007.		

Assembly Bill 32 – the California Global Warming Solutions Act of 2006

AB 32, the California Global Warming Solutions Act of 2006, recognizes that California is the source of substantial amounts of GHG emissions. The statute states that:

> Global warming poses a serious threat to the economic well being, public health, natural resources, and the environment of California. The potential adverse impacts of global warming include the exacerbation of air quality problems, a reduction in the quality and supply of water to the state from the Sierra snowpack, a rise in sea levels resulting in the displacement of thousands of coastal businesses and residences, damage to marine ecosystems and the natural environment, and an increase in the incidences of infectious diseases, asthma, and other human health-related problems.

In order to avert these consequences, AB 32 establishes a State goal of reducing GHG emissions to 1990 levels by the year 2020, which is a reduction of approximately 16 percent from forecasted emission levels, with further reductions to follow.

University of California Irvine Plans, Policies, Regulations, and Laws

The University of California, Irvine (UCI) adopted its climate action and sustainability plan entitled *Achieving Net Zero: Climate Change & Sustainability* in June 2009, which is compliant with the emissions reductions defined in AB 32. The goals presented in the plan include the University achieving 2000 GHG emissions levels by 2012, 1990 GHG emissions levels by 2020, and 80 percent below 1990 GHG emissions levels by 2050 with a commitment to achieve climate neutrality as soon as possible. An aggressive portfolio of over 250 energy efficiency projects to reduce GHG emissions are identified in the

Climate Action Plan, including lighting retrofits, refrigerator replacements, computer power management software, and monitoring-based commissioning projects. In addition, the plan includes an expansion of the campus' use of more low carbon renewable energy sources in its energy infrastructure.

Transportation emissions will be reduced through a variety of means, including a new bike sharing program and increased participation in alternative transportation modes. Lastly, emissions reductions will be achieved through educational programs geared towards behavioral change. On the road to climate neutrality, UCI will use renewable energy certificates and offsets when all possible direct actions have been exhausted. UCI will adjust the Climate Action Plan accordingly as the campus continues to identify new strategies to meet its emissions reduction targets.

In July 2003, the University of California adopted the Policy on Sustainable Practices to be implemented system-wide within the University's campuses, including UCI. Since then, the policy has been updated several times, most recently in September 2009. The document contains eight sustainability categories, which include policies to address GHG emissions (Mestre Greve Associates 2014b).

Discussion of Potential Project Impacts

7(a) Greenhouse Gas Emissions: Less Than Significant

At this time, a widely accepted threshold for determining the significance of GHG emissions has not been established. In April 2008, SCAQMD convened a Greenhouse Gas Significance Threshold Working Group to provide guidance to local lead agencies on determining the significance for GHG emissions in their CEQA documents. The Working Group adopted a philosophy similar to recommendations made by other agencies in California to identify Significance Screening Levels, or thresholds, for GHG emissions. Projects with GHG emissions less than these levels or thresholds would be determined to have less than significant impacts. Projects with GHG emissions greater than the Significance Screening Level would be required to implement specific performance standards or purchase offsets to reduce their climate change impact to less than significant levels.

On December 5, 2008, the SCAQMD Governing Board adopted an interim screening threshold for industrial projects where SCAQMD is the lead agency of 10,000 metric tons of carbon dioxide equivalent per year ($MTCO_2e$/yr). In September 2010, the working group proposed to expand this 10,000 $MTCO_2e$/yr threshold to other lead agency industrial projects. While not adopted by the SCAQMD Governing Board, the guidance document prepared for the stationary source threshold also suggested a 3,000 $MTCO_2e$/year screening threshold for residential and commercial projects.

For this project, the 3,000 $MTCO_2e$/yr screening threshold is used for the significance threshold. As recommended by the SCAQMD, total construction emissions are amortized over a 30-year period and added to the operational emissions.

Construction

Construction GHG emissions are generated by vehicle engine exhaust from construction equipment, on-road hauling trucks, vendor trips, and worker commuting trips. Construction GHG emissions were calculated by using CalEEMod. The results are output in $MTCO_2e$ for each year of construction. The estimated construction GHG emissions for the project are shown in Table 9.

GHG emissions generated from construction activities would be finite and would occur for a relatively short-term period of time. Unlike the numerous opportunities available to reduce a project's long-term GHG emissions through design features, operational restrictions, use of green-building materials, and

other means, GHG emissions-reduction measures for construction equipment are relatively limited. Therefore, SCAQMD staff recommends that construction emissions be amortized over a 30-year project lifetime so that GHG-reduction measures address construction GHG emissions as part of the operational GHG reduction strategies. As shown in Table 9, the 30-year amortized construction emissions would be 6 $MTCO_2e$/yr.

TABLE 9
ESTIMATED GHG EMISSIONS FROM CONSTRUCTION

Construction Activities	Emissions ($MTCO_2e$)
Site Preparation	20
Grading	22
Construction	96
Paving	46
Painting	5
Total	**189**
Annual Emissions*	**6**

$MTCO_2e$: metric tons of carbon dioxide equivalent
Note: Combined total amortized over 30 years

Source: Mestre Greve Associates 2014b (Appendix C).

Operations

Operational GHG emissions are generated by area, energy, and mobile sources. Operational GHG emissions were calculated by using CalEEMod. The results are output in $MTCO_2e$. The estimated operational GHG emissions for the project are shown in Table 10. The annualized construction emissions are added to the operational emissions to give the total increase in annualized emissions due to the project.

TABLE 10
ESTIMATED GHG EMISSIONS FROM CONSTRUCTION

	Emissions ($MTCO_2e$)
Total Operational Emissions	115
Annualized Construction Emissions	6
Total Annualized Project Emissions	**121**
SCAQMD Screening Threshold	**3,000**
Exceed Threshold?	**No**

$MTCO_2e$: metric tons of carbon dioxide equivalent

Source: Mestre Greve Associates 2014b (Appendix C).

As shown in Table 10, the estimated increase in annual GHG emissions, including amortized construction emissions, would be 121 $MTCO_2e$/yr. This value may be compared with and is less than the proposed SCAQMD screening threshold of 3,000 $MTCO_2e$/yr. It is accepted as very unlikely that any individual development project would have GHG emissions of a magnitude to directly impact global climate change; therefore, any impact would be considered on a cumulative basis. Because the proposed project's GHG emissions would be less than 3,000 $MTCO_2e$/yr, the emissions would not be cumulatively considerable. The impact would be less than significant and no mitigation is required (Mestre Greve Associates 2014b).

7(b) Conflict with Greenhouse Gas Emissions Plan, Policy, or Regulation: Less Than Significant

The analysis presented above shows that the increase in GHG emissions due to the project are below the SCAQMD suggested screening level significance threshold of 3,000 $MTCO_2e$/yr. Therefore, no project-specific mitigation measures are required to construct the project. Additionally, UCI implements a Climate Action Plan which is compliant with AB 32 and policies contained in the University of California Policy on Sustainable Practices to further reduce GHG emissions on campus. The proposed project would also incorporate specific, project-relevant policies contained in these plans. Therefore, the project will not considerably contribute to significant cumulative impacts associated with global climate change due to GHG emissions or interfere with California's ability to achieve its GHG reduction goals.

Mitigation Measures

None required

Significance Determination After Mitigation

Not applicable

8. HAZARDS AND HAZARDOUS MATERIALS

Issues	(A) Potentially Significant Impact	(B) Less Than Significant with Project-level Mitigation Incorporated	(C) Less Than Significant Impact	(D) No Impact
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?			X	
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?			X	
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?				X
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?				X
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?				X
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?				X
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?				X
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?				X

Relevant Elements of Project

The project site is predominately vacant; it contains a small valet parking lot associated with the adjacent hotel. The site is not within two miles of a public airport or a public use airport. Additionally, no private airstrips exist within the City of Orange, and the site is not located within any airport land use plan or

airport crash zones. The project site is located in an urban area of the City of Orange and is not adjacent to wildlands.

Construction or use of the proposed parking lot would not use hazardous materials in quantities that may pose hazards to its users or the public. No hazardous materials would be stored at, generated by, or disposed from the parking lot.

7(a-b) Hazardous Materials Transport, Disposal, Release: Less Than Significant

Construction activities for the parking lot would involve the use of hazardous materials. These hazardous materials would include asphalt, diesel gasoline, paints, thinners, solvents, acids, curing compounds, grease, oils, fertilizers, and other substances that could pose risks to construction workers or which have the potential to cause soil and groundwater contamination if not properly stored, used, or disposed.

There are numerous federal and State regulations that control the use, storage, disposal, and transport of hazardous materials and hazardous wastes, including operational safety and emergency response requirements that would prevent major threats to public health and safety. Compliance with pertinent hazardous material regulations would prevent undue hazards at the site.

Maintenance of the proposed parking lot is anticipated to involve the use of fertilizers, pesticides, paint, asphalt, diesel gasoline, and other hazardous materials in limited quantities. This use would not create a hazard to the public or the environment with compliance with existing regulations related to the transport, use, or disposal of hazardous materials. Impacts would be less than significant and mitigation is not required.

7(c) Proximity to Schools: No Impact

There are no schools within 0.25 mile of the project site although a number of vocational schools in various office buildings are located within 1.0 mile of the site. The nearest school is the Orange campus of Intercoast College, which is located approximately 0.4 mile to the southwest of the project site and south of I-5. Therefore, no hazardous emissions that may affect schools would be generated by the project.

7(d) Hazardous Materials Sites: No Impact

Environmental Data Resources, Inc. (EDR) prepared an EDR Radius Map™ with GeoCheck® (EDR Report, included in Appendix D) for the project site. The EDR Report provides data from a search of government databases to determine the presence of significant hazardous material users or generators on or near the project site. As listed below in Table 11, the EDR report indicates that several past land uses previously located on or adjacent to the project site had underground storage tanks (USTs),which have been cleaned up and are identified in the report as "Case Closed."

As no hazardous material use occurs on site and past uses have been cleaned up, the construction and operation of the parking lot would not pose a significant hazard to the public or the environment. Therefore, no hazards to the construction crew during short-term construction and to users of the parking lot during its long-term use would accompany the project. No impacts would occur, and no mitigation is required.

TABLE 11
PRIOR HAZARDOUS MATERIAL USERS AND HAZARDOUS WASTE GENERATORS ON OR ADJACENT THE PROJECT SITE

Name	Address	Classification
Taormina Industries	300 N. Anaheim Blvd	UST cleanup
Yorba Linda Disposal	301 N. Anaheim Blvd	UST cleanup
Caltrans /Roger's Automotive/ Interstate Battery Orange	335-337 N Anaheim Blvd	Waste oil; liquid waste
Caltrans/ City Distribution Service	505 N Anaheim Blvd	UST cleanup
Beach Cities Auto	538 N Anaheim Blvd	Small quantity generator
Co Thompson Petroleum	531 N Anaheim Blvd	UST cleanup
Caltrans/Bob's Auto Salon/ Corvette Mike	407–425 and 477 N Anaheim Blvd	Waste oil; site clean-up
Orange County Printing	357 N Anaheim Blvd	Waste oil
Orange Welding	517 N Anaheim Blvd	Lead compounds
UST: underground storage tank; Caltrans: California Department of Transportation		

7(e–f) Airports: No Impact

Because the project site is not located within two miles of an airport or airstrip, the proposed project would not result in a safety hazard related to airport or aircraft operations. No impacts would occur and no mitigation is required.

7(g) Emergency Response: No Impact

State College Boulevard is designated as an evacuation corridor in the *City of Orange General Plan's* Public Safety Element (Figure PS-4, Generalized Evacuation Corridors). The City of Orange has not designated Orangewood Avenue, Orange Center Drive, or Anaheim Way as evacuation corridors.

Construction traffic would not interfere with vehicle movement or emergency access along State College Boulevard because no direct access to the site would be provided on State College Boulevard. The site is approximately 80 feet from State College Boulevard. The project's construction activities, including construction staging, are planned to occur on site. No obstruction of traffic flow and emergency access on Orangewood Avenue, Orange Center Drive, or Anaheim Way would occur with construction and use of the parking lot. In addition, emergency access to the project site would be provided by three ingress/egress points via Orange Center Drive. No impacts on emergency response would occur and no mitigation is required.

7(h) Wildland Fires: No Impact

The site is not located in or near areas designated as Wildland Very High Fire Hazard Areas or Wildland High Fire Hazard Areas (refer to Figure PS-1, Environmental and Natural Hazard Policy Map, from the *City of Orange General Plan*). Therefore, the proposed project would not result in a significant risk of loss, injury, or death involving wildland fires. No mitigation is required.

Mitigation Measures

None required

Significance Determination After Mitigation

Not applicable

9. HYDROLOGY AND WATER QUALITY

Issues	(A) Potentially Significant Impact	(B) Less Than Significant with Project-level Mitigation Incorporated	(C) Less Than Significant Impact	(D) No Impact
a) Violate any water quality standards or waste discharge requirements?			X	
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)?				X
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?			X	
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?				X
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?			X	
f) Otherwise substantially degrade water quality?			X	
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?				X
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?				X

Issues	(A) Potentially Significant Impact	(B) Less Than Significant with Project-level Mitigation Incorporated	(C) Less Than Significant Impact	(D) No Impact
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?			X	
j) Inundation by seiche, tsunami, or mudflow?				X

Relevant Elements of Project

The majority of storm water on the site percolates into the ground, with runoff generally flowing southeast into a catch basin on Orange Center Drive and another catch basin at the southern corner of the site. With minimal on-site development, water quality issues are limited to the parked vehicles in the valet parking lot. These vehicles may generate oil, grease, and other automotive fluids that drip on paved surfaces and are conveyed into the storm drainage system during rain events.

The proposed parking lot would have no impact on storm drains or channels in the surrounding area. While the project would increase the number of vehicles parked at the site, storm water would be detained on site, and permanent treatment-control BMPs are proposed. The preliminary grading plans show that drainage swales would be provided in landscaped areas throughout the site. Runoff from landscaped and paved areas would be directed into pre-treatment manholes connected to underground retention and infiltration systems. The project's Erosion Control Plan shows that, during construction, a gravel bag berm would be installed along the site; curb inlets and catch basins would be surrounded by gravel bags; driveways on Orange Center Drive would also be stabilized with an aggregate base and steel rattle plates; and a concrete washout would be provided on site.

The site is underlain by the Coastal Plain of the Orange County Groundwater Basin, where groundwater elevations are approximately 40 feet above mean sea level (msl) (OCWD 2012) and site elevations range from approximately 142 to 144 feet above msl. Water service to the site is available through an existing water meter and water lines of the City of Orange Water Department (City of Orange 2011a). No direct groundwater extraction or recharge is proposed with the project nor would it obtain water directly from underlying groundwater sources. Landscape irrigation would be provided through the water meter at the middle driveway that is connected to the City of Orange water system.

The project site is located outside the 100-year floodplain, as designated in Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRM) (FEMA FIRM 06059C0142J). The project site is not located downstream of the Villa Park Dam, Santiago Dam (Irvine Lake), or Peters Canyon Dam and would not be subject to inundation in the event of the failure of these dams. The site is also not located downstream of Olive Hill Reservoir, which may pose inundation hazards in the event of failure (City of Orange 2010a). However, the site is located downstream of Prado Dam and is within the inundation area of this dam (County of Orange 2005).

Discussion of Potential Impacts

9(a) Water Quality Standards: Less Than Significant Impact

No industrial activities, restrooms, toilets, or kitchens that may generate wastewater are proposed with the parking lot. No violation of waste discharge requirements would occur.

Construction of the project could result in pollutants in the storm water runoff from ground disturbance (e.g., site clearing, excavation, and grading), materials and soils stockpiles, landscaping materials, concrete, and asphalt. Pollutants that could result in water quality impacts include soils; trash; debris; oil and grease; fuels and other fluids associated with construction equipment; fertilizers; paints; concrete slurries; and asphalt. These pollutants could affect water quality if they join runoff that leaves the site.

Pursuant to the Clean Water Act, the State Water Resources Control Board (SWRCB) has issued the NPDES General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Order No. 2009-009-DWQ, as amended by No. 2010-0014-DWQ). Under this General Construction Permit, individual coverage must be obtained for discharges of storm water from construction sites with a disturbance area of one acre or more.

Coverage under the General Construction Permit is accomplished by completing and filing a Permit Registration Document (PRD) with the SWRCB prior to the start of construction activities. The PRD must include a Storm Water Pollution Prevention Plan (SWPPP) that identifies the BMPs that would be installed, implemented, and maintained at the construction site to reduce or eliminate pollutants in storm water discharges and authorized non-storm water discharges during construction. The General Construction Permit requires dischargers to assess the risk level of a project based on both sediment transport and receiving water risk, and to determine the appropriate erosion- and sediment-control BMPs to be implemented. Visual monitoring of storm water and non-storm water discharges is also required. The General Construction Permit also includes post-construction requirements for projects to match pre-project runoff volume through the use of non-structural or structural measures. For sites larger than two acres, a project should also maintain the site's pre-project runoff rate.

The construction of the proposed parking lot would require compliance with General Construction Permit. While the SWPPP that is required by the General Construction Permit has not been developed, the project's Erosion Control Plan shows that a gravel bag berm would be installed along the site boundaries to prevent sediment from exiting the site. Curb inlets and catch basins would also be surrounded by gravel bags, and a concrete washout would be provided on site. Access driveways on Orange Center Drive would be stabilized with an aggregate base and steel rattle plates to reduce the track out of loose soils. These BMPs would be included in the SWPPP for the project, as required under the General Construction Permit, and would reduce pollutants in storm water runoff during construction. Water quality standards would not be violated during construction.

During operation of the parking lot, pollutants that would enter the storm water include oil, grease, fuel and other automotive fluids from parked vehicles and shuttle buses; organic matter and fertilizers, herbicides, and pesticides used in landscaped areas; and trash, debris and other solids from the parking areas.

The SWRCB has issued Waste Discharge Requirements for storm water discharges from Small Municipal Separate Storm Sewer Systems (MS4) (Order No. 2013-0001-DWQ). This General Small MS4 Storm Water Permit requires permittees (such as UCI) to file a Notice of Intent (NOI) that commits the permittee to comply with the BMPs in the Order and to submit annual reports evaluating the following: the permittee's storm water program; the effectiveness of BMPs and goals; improvement opportunities;

and other supplemental information. In accordance with the requirements of this Permit, the UCIMC has designed the proposed parking lot to incorporate Low Impact Development (LID) features to detain and retain runoff throughout the site.

The proposed drainage swales would remove the following pollutants from the storm water: suspended solids (e.g., soils, trash, debris, and organic matter); oxygen-demanding substances (from decomposing organic materials and manure); nitrate and phosphorus (from fertilizers); petroleum hydrocarbons; and heavy metals (e.g., cadmium, copper, lead and zinc). The drainage swales would also allow for ground percolation. Runoff from landscaped areas and paved areas would be directed into a pre-treatment manhole that would remove sediments, trash, debris, floatables, and hydrocarbons from the storm water prior to directing flows into underground perforation pipes that would detain and infiltrate storm water into the ground. Treated storm water would be stored in the pipes during a storm, and pipe perforations would allow slow infiltration into the underlying soil. These on-site storm drain lines and facilities proposed with the project have been designed to accommodate storm water that would be generated by at least twice the 85th percentile 24-hour storm runoff event and therefore, would not require additional storm drainage capacity.

Installation of these drainage features and facilities would remove pollutants from storm water such that no long-term impacts on water quality would occur. The project would have no long-term impact related to the violation of water quality standards. Short-term impacts during construction would also be reduced through construction BMPs and would be less than significant. No mitigation is required.

9(b Groundwater: No Impact

On-site water use would be minimal and would have limited and indirect impacts on the City's water supplies, which include imported water, groundwater, and treated water. Excavation and grading activities would not be deep enough (i.e., exceeding 100 feet) to affect underlying groundwater resources. With the proposed underground retention and infiltration systems, no decrease in the amount of ground percolation and recharge of the underlying groundwater would occur. No impacts on the underlying groundwater resources would occur and no mitigation is required.

9(c) Erosion On or Off-Site: Less Than Significant Impact

Erosion due to wind and water occurs on site due to the presence of bare soils over most of the site. The project would change a primarily vacant lot into a parking lot, with more paved areas and more landscaping. Wind and water erosion would decrease with the project.

Grading, excavation, and other ground disturbance during construction would result in loose soils and an increased potential for wind and water erosion. As discussed above, the contractor would have to implement a SWPPP that outlines the BMPs that would have to be in place during construction activities. These BMPs would include erosion-control and sediment-control measures, which would reduce erosion and siltation on or off site. The project's Erosion Control Plan shows that a gravel bag berm would be installed along the site boundaries to prevent sediment from exiting the site. In addition, curb inlets and catch basins would be surrounded by gravel bags for inlet protection. Driveways on Orange Center Drive would also be stabilized with an aggregate base and steel rattle plates to reduce the track out of loose soils from the construction site. These BMPs would be included in the project's SWPPP, which is required under the Construction General Permit, and would reduce wind and water erosion during construction activities.

Once constructed, drainage patterns on the site will change. Storm water on the landscaped areas (e.g., slopes and planter islands) would pass through drainage swales and into underground detention and

infiltration systems. Storm water on paved areas would also be directed into the underground detention and infiltration systems. The asphalt pavement on the parking lot would reduce wind and water erosion, as will landscaping of slopes and island planters. No on-site erosion would occur. Overflows from the on-site detention and infiltration systems would be directed into existing catch basins and storm drain pipes on Anaheim Boulevard. Off-site flows would not cause erosion.

Changes in drainage patterns would be limited to the site and would not alter the course of a stream or river. Impacts related to erosion would be less than significant and no mitigation is required.

9(d) Flooding On or Off-Site: No Impact

The project site is a primarily vacant lot with some parking spaces and is surrounded by roads on two sides (Orangewood Avenue and Anaheim Boulevard); parking areas on Orange Center Drive on one side; and a vacant parcel on the fourth side. The surrounding area is highly urbanized, with a developed storm drainage system. Storm flows on the site primarily percolate into the bare ground, with runoff flowing southeasterly from the northwest end and then easterly toward a catch basin on Orange Center Drive. The southern section of the site flows southeasterly toward a catch basin at the southern corner of the site. These catch basins are connected by reinforced concrete pipes and boxes running along Orange Center Drive and the southern site boundary, extending south and connecting to the storm drainage facilities at I-5 (City of Orange 2011b).

The proposed project would pave a large portion of the site for use as a parking lot and drive aisles, resulting in decreased ground percolation and increased storm water volume. Existing drainage patterns that generally flow in a southeasterly direction would be altered with the project, as storm water in landscaped areas and planters would flow along drainage swales; this would allow for ground percolation. Overflows would be directed into catch basins and pipes that would also collect storm water from paved areas and direct storm water flows into on-site underground retention and infiltration systems; no storm water would flow into off-site catch basins on Orange Center Drive or at the southern corner of the site. Most storm water would infiltrate into the ground at the site. Therefore, storm water flows from paved areas would not increase storm water rates and volumes leaving the site. No off-site flooding hazards would be created by the project.

The underground retention and infiltration system would be designed to capture storm water at the site through drainage swales on slopes and planter islands and storm drain gutters, catch basins, and pipes that would direct storm water into underground perforated pipes for ground percolation. No on-site flood hazards would be created by the project.

Changes in drainage patterns would not create on-site or off-site flood hazards. Impacts would be less than significant and no mitigation is required.

9(e) Drainage System Capacity/Substantial Additional Polluted Runoff: Less Than Significant Impact

There is a storm drainage system that serves the existing developments, roads, and freeways surrounding the site. While runoff from the site enters the existing storm drainage system at catch basins along the site boundaries, storm water on the proposed parking lot would no longer be discharged off site, but instead would be retained and infiltrated on site.

Construction activities for the proposed parking lot would result in pollutants entering the storm water; however, erosion-control and sediment-control BMPs, tracking control, waste management practices, and other BMPs would be implemented in accordance with the SWPPP that would be prepared for the project.

As discussed above, these BMPs would reduce storm water pollutants during construction, and impacts would be less than significant.

As stated above, the project has been designed to accommodate storm water that would be generated by at least twice the 85th percentile 24-hour storm runoff event and therefore, would not require additional storm drainage capacity. Since storm water would not be discharged into the adjacent City of Orange or California Department of Transportation (Caltrans) facilities, no impacts on the capacity of off-site storm drainage facilities would occur with the project.

As the proposed parking lot would feature drainage swales, pre-treatment manholes, and underground retention and infiltration systems, no new sources of storm water pollutants associated with the use and maintenance of the parking lot would occur with the project. Impacts would be less than significant and no mitigation is required.

9(f) Otherwise Substantially Degrade Water Quality: Less than Significant Impact

The proposed project could potentially generate water quality impacts related to construction and operation of the parking lot. However, storm water pollutants that may degrade water quality during the project's construction phase would be reduced through the installation and implementation of BMPs outlined in the SWPPP for the project. Please refer to the discussion under Checklist Response IV.9(a) above.

Once constructed, landscaped areas in the parking lot could result in loose soils, sediments, organic matter, fertilizers, herbicides, and pesticides entering storm water flows. However, proposed drainage swales would allow for the settlement of loose soils, sediments, organic matter, trash, and other debris. From landscaped areas, storm water would be directed into a pretreatment manhole that would additionally remove sediments, debris, trash, floatables, and hydrocarbons before conveying water to the underground retention and infiltration systems; this is also discussed under Checklist Response IV.9(a). Therefore, no runoff or pollutants in runoff would be conveyed off site. Impacts on water quality would be less significant and no mitigation is required.

9(g) Place Housing within a 100-Year Flood Hazard Area: No Impact

No housing is proposed as a part of the project. The project would have no impact associated with the construction of housing units in flood hazard areas.

9(h) Place Structures within a 100-Year Flood Hazard Area: No Impact

There are no 100-year flood hazard areas on the project site. Also, the proposed parking lot would be a largely flat surface, except for curbs and planter islands. With on-site detention and infiltration of storm water flows, no increase in off-site runoff volumes would occur that may create flood hazards. The project would not place any structures in a manner that would impede or redirect flood flows. Landscaped areas would feature drainage swales that would direct overflows into catch basins that are connected to underground detention and infiltration systems. Runoff flows from paved areas would also be directed into pipes and catch basins that would convey storm flows into the underground detention and infiltration systems. Thus, no impact related to the introduction of structures that could impede or redirect flood flows would occur; no mitigation is required.

9(i) Expose People or Structures to a Significant Risk Involving Flooding: Less than Significant Impact

Although the site is located more than 16 miles from Prado Dam, failure of Prado Dam may lead to inundation of the site. In the event of dam failure, emergency notification by the U.S. Army Corps of Engineers would allow for the timely evacuation of areas that may be potentially inundated (OC and OCFA 2010), including the proposed parking lot. Due to distance, there would be time between dam failure and floodwaters reaching the site to warn people who may be present at proposed parking lot to evacuate. Also, the proposed parking lot and landscaped areas would not be subject to major damage due to inundation. Therefore, impacts related to dam inundation would be less than significant and no mitigation is required.

9(j) Seiche, Tsunami, or Mudflow: No Impact

The project site is located approximately 11 miles inland and is outside designated tsunami inundation areas along the Pacific Coast (CalEMA 2009). Since the site is not located within tsunami inundation areas, the proposed parking lot and users of the lot would not be exposed to inundation due to a tsunami.

There are no large open water bodies on or near the site that may pose seiche hazards. Therefore, the proposed parking lot and users of the lot would not be subject to inundation from seiche hazards. Also, the site and the surrounding areas are relatively flat. Slopes on the site would be landscaped to reduce erosion, and the project would not expose people or structures to mudflow hazards. No impacts related to seiche, tsunami or mudflow hazards would occur and no mitigation is required.

Mitigation Measures

None required

Significance Determination After Mitigation

Not applicable

10. LAND USE AND PLANNING

Issues	(A) Potentially Significant Impact	(B) Less Than Significant with Project-level Mitigation Incorporated	(C) Less Than Significant Impact	(D) No Impact
a) Physically divide an established community?				X
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?				X
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?				X
d) Create other land use impacts?				X

Relevant Elements of Project

As stated in the Project Description, the proposed project would allow for the construction of a surface parking lot in a highly urbanized area already developed with a variety of land uses, including retail, office light industrial, and high density residential (see Exhibits 4 and 5). The project site is not located within an established community.

The project site has a City of Orange General Plan designation of UMIX (Urban Mixed Use 30-60 DU/AC) and is zoned UMU (Urban Mixed Use). The project site is not located in a designated or proposed Habitat Conservation Plan, Natural Community Conservation Plan, or any other land conservation plan.

Discussion of Potential Project Impacts

10(a) Divide an Established Community: No Impact

The project site is in the City of Orange and is surrounded by existing retail, office, and light industrial uses to the north and east. Anaheim Boulevard and I-5 are located to the west, and a high density residential apartment complex is located to the south across State College Boulevard. The project site is not a part of an existing community and, therefore, would not result in dividing an established community.

10(b) Conflict with an Applicable Land Use Plan: No Impact

As described in the Project Description, the project would provide staff parking for the UCIMC. Although the project site is not located within the boundaries of the UCIMC LRDP, the project is consistent with the objectives of the LRDP, which include but are not limited to providing support services that are located closer to the main Medical Center on land owned by the University and to reduce vehicle miles traveled by service vehicles and shuttles.

As stated previously, the University of California is constitutionally exempt[3] from local land use controls. Because the project site is owned by the Regents of the University of California, the University of California is the only agency with local land use jurisdiction over the project. Therefore, no impacts would occur with respect to a land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. However it should be noted that the proposed project would be an allowable use under the City of Orange zoning designation of UMU (Urban Mixed Use). No mitigation is required.

10(c) Conflict with an Applicable Conservation Plan: No Impact

As previously discussed in Section IV.4, Biological Resources, the project site is not located within a designated or proposed NCCP. Additionally, development of the proposed project would not conflict with the provisions of any local, regional, or State habitat conservation plan. No impact would occur, and mitigation is not required.

10(d) Create Other Land Use Impacts: No Impact

The proposed project would not result in significant environmental impacts and therefore is considered a compatible land use with adjacent uses.

Mitigation Measures

None required

Significance Determination After Mitigation

Not applicable

[3] In accordance with Article IX, Section 9 of the *California Code of Regulations.*

11. MINERAL RESOURCES

Issues	(A) Potentially Significant Impact	(B) Less Than Significant with Project-level Mitigation Incorporated	(C) Less Than Significant Impact	(D) 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?				X
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?				X

Relevant Elements of Project

According to the *City of Orange General Plan,* mineral resource deposits in the City are primarily limited to the sand and gravel resources contained in and along the Santa Ana River and Santiago Creek (City of Orange 2010a). The project site has not been used for mineral extraction, and no known or potential mineral resource has been identified on the project site.

Discussion of Potential Project Impacts

11(a-b) Loss of Availability of a Known Mineral Resource of Regional, State, or Local Value: No Impact

The City of Orange does not identify any known State or locally designated mineral resources or locally important mineral resource recovery sites within the project area. Therefore, implementation of the proposed project would not result in the loss of access to lands potentially containing mineral resources. Additionally, as the property is not subject to local land use regulations, the proposed project would not result in the loss of availability of a locally important mineral resource recovery site delineated by a local land use plan. No impacts to mineral resources would occur and no mitigation is required.

Mitigation Measures

None required

Significance Determination After Mitigation

Not applicable

12. NOISE

Issues	(A) Potentially Significant Impact	(B) Less Than Significant with Project-level Mitigation Incorporated	(C) Less Than Significant Impact	(D) No Impact
a) Exposure of persons to or generation of noise levels in excess of standards established in any applicable plan or noise ordinance, or applicable standards of other agencies?			X	
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?			X	
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?			X	
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project (including construction)?			X	
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?				X
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?				X

Relevant Elements of Project

The primary source of ambient noise is I-5, located parallel to and approximately 100 feet west of the project site. There are no sensitive receptors on the site. The nearest noise-sensitive receptor is the Embassy Suites Hotel, approximately 190 feet east of the project site. There are multi-family residences approximately 300 feet to the southeast, across State College Boulevard. Noise would be generated during construction of the parking lot and subsequently by vehicles using the parking lot.

Discussion of Potential Project Impacts

12(a) Noise Standards: Less Than Significant Impact

There are no quantitative standards applicable to the proposed project. Although the UCIMC is not required to comply with local regulations, the project would be constructed consistent with the City of Orange requirements regarding construction hours. Construction activities would be limited to the hours of 7:00 AM to 8:00 PM Monday through Saturday with no construction on Sundays or federal holidays; these hours are consistent with Section 8.24, Noise Control, of the *City of Orange Municipal Code.* Noise impacts would be less than significant with respect to exposure of persons to or generation of noise levels in excess of standards.

12(b) Groundborne Vibration: Less Than Significant Impact

Construction of the proposed project may require impact equipment such as hoe-rams or jackhammers to break up existing concrete or asphalt surfaces. Bulldozers, loaders, rollers, and similar equipment would be used for grading and paving. The nearest receptors would be at the Embassy Suites swimming pool area, approximately 120 feet from the project site. At this distance, vibration and groundborne noise would not be perceptible. Therefore, impacts would be less than significant with respect to groundborne noise or vibration. No mitigation is required.

12(c) Permanent Ambient Noise: Less Than Significant Impact

As noted above, the primary existing source of ambient noise in the project vicinity is vehicle traffic on the I-5 freeway. The average daily traffic volume on I-5 at the project location exceeds 250,000 vehicles per day (Caltrans 2013b). Average daytime traffic noise levels (L_{eq}) on the project site are estimated at 77 to 80 A-weighted decibels (dBA), using the Federal Highway Traffic Noise Model. At the Embassy Suites Hotel, the average daytime noise level from I-5 traffic is estimated at approximately 75 dBA L_{eq}. Nighttime traffic noise levels may be approximately 6 dBA less than the daytime noise levels. Long-term noise would be generated by vehicles coming to and leaving the proposed parking lot, vehicles starting, car doors closing, and the shuttle buses coming to and leaving the parking lot. Currently, similar noise is generated at the Embassy Suites parking lot. Because of the high level of traffic noise from the freeway, noise from the proposed parking lot operations would be a negligible addition to the ambient noise environment. Impacts are considered less than significant and no mitigation is required.

12(d) Temporary Ambient Noise: Less Than Significant Impact

Construction of the proposed parking lot would occur over an approximate four-month period and would require the use of diesel-engine-powered construction equipment (e.g., bulldozers, loaders, pavers, and rollers). Impact equipment (e.g., jackhammers) may be used to demolish existing pavement on site. Construction equipment noise levels at the Embassy Suites pool area would be of similar or less magnitude than the freeway traffic noise and would be of different character; it may be intermittently audible. At receptors further away, the construction noise would be barely audible. The temporary construction noise would not be substantially greater than the existing ambient noise level. Impacts are considered less than significant and no mitigation is required.

12(e–f) Public and Private Airport Noise: No Impact

As there are no public or private airports in the vicinity of the project (see also IV.7[e–f]), there would be no impact with respect to noise generated by such facilities.

Mitigation Measures

None required

Significance Determination After Mitigation

Not applicable

13. POPULATION AND HOUSING

Issues	(A) Potentially Significant Impact	(B) Less Than Significant with Project-level Mitigation Incorporated	(C) Less Than Significant Impact	(D) 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)?				X
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?				X
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?				X

Relevant Elements of Project

The proposed project would allow for the construction of a surface parking lot on a largely undeveloped site, no residential development is proposed.

Discussion of Potential Project Impacts

13(a) Induce Substantial Population Growth: No Impact

The proposed project is a surface parking lot that would serve employees of the UCIMC. Since no new housing is proposed for the project site, there would be no direct population growth in the area. Because the parking lot would replace existing leased parking, the project would not create new employment or indirectly induce population growth. The project would not induce substantial population growth.

13(b–c) Replacement Housing: No Impact

Because the project would displace neither existing housing nor people, necessitating the construction of replacement housing elsewhere, no impacts would occur and no mitigation is required.

Mitigation Measures

None required

Significance Determination After Mitigation

Not applicable

14. PUBLIC SERVICES

Issues	(A) Potentially Significant Impact	(B) Less Than Significant with Project-level Mitigation Incorporated	(C) Less Than Significant Impact	(D) No Impact
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:				
a) Fire protection?			X	
b) Police protection?			X	
c) Schools?				X
d) Parks?				X
e) Other public facilities?				X

Relevant Elements of Project

As noted in the Project Description, the proposed project would construct a surface parking lot on a largely undeveloped lot. The proposed project would not introduce new housing or require new staffing for any public facilities.

Discussion of Potential Project Impacts

14(a) Fire Protection: Less Than Significant Impact

The City of Orange Fire Department (Fire Department) provides fire protection and emergency medical services in the City, including the UCIMC and the project site area. The Fire Department has 8 fire stations, which are staffed 24 hours a day, 7 days a week. The nearest fire station to UCIMC is Orange Fire Station No. 6, which is located at 345 The City Drive South. The Orange Fire Department uses the National Fire Protection Association Standard 1710 as a benchmark for response times, which translates into approximate response times of four minutes or less for travel time of "first responder with AED or BLD" capabilities or greater EMS capabilities and eight minutes travel time or less for emergency

medical support (NFPA 2010). The City of Orange Fire Department participates in a "joint powers agreement" with neighboring cities in order to dispatch the closest available fire department resources required for a given emergency call.

The proposed project would require limited fire protection and emergency medical services from the Fire Department, which has indicated that it would be able to serve the proposed project and does not anticipate major changes in the demand for fire protection services with the project (MacDonald 2014). The project would be required to comply with applicable California Fire Code and the requirements of the California Fire Marshal. The proposed project would result in less than significant impacts to fire protection services and no mitigation is required.

14(b) Police Protection: Less Than Significant Impact

The UCI Police Department and the UCIMC Security Department share security and operational responsibilities at the UCIMC campus, including the project site. Currently, the UCIMC Security Department has 30 uniformed personnel that serve the UCIMC with 6 "full-time equivalent" support, administrative, and parking service personnel. The City of Orange Police Department's main station is the nearest to the Medical Center. Because patrol officers are assigned to designated patrol areas and respond to calls for service from their locations in the field, response times vary but average less than five minutes. There is also an existing police services agreement between the City of Orange Police Department and the UCIMC. The UCI Police Department and the City of Orange Police Department have mutual aid agreements with all Orange County law enforcement agencies. Impacts to police protection services would be less than significant.

14(c) Schools: No Impact

The project does not include housing and would not generate new permanent employees. Therefore, there would be no direct impact to schools and mitigation is not required.

14(d) Parks: No Impact

There are no parks or recreational uses proposed with the project. Because the project would replace existing off-site leased parking with the proposed site owned by the University, the project, by its own nature, would not generate new employees. Therefore, the project would not induce additional populations requiring parks and recreational uses; therefore, the project would have no impact with respect to the adverse physical impacts associated with the provision of or need for new or physically altered parks. No mitigation is required.

14(e) Other Public Facilities: No Impact

There are no public facilities proposed with the project. Because the project would serve existing UCIMC employees who may or may not be using public facilities nearby, the project, by its own nature, would not generate new employees. Therefore, there would not be a new population who would use other public facilities. The project would have no impact with respect to the adverse physical impacts associated with the provision of or need for new or physically altered governmental facilities.

Mitigation Measures

None required

Significance Determination After Mitigation

Not applicable

15. RECREATION

Issues	(A) Potentially Significant Impact	(B) Less Than Significant with Project-level Mitigation Incorporated	(C) Less Than Significant Impact	(D) No Impact
a) 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?				X
b) Include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?				X

Relevant Elements of Project

The proposed project is a surface parking lot on the largely undeveloped site, with irrigated landscaped slopes and parking islands. The proposed project would not include construction or expansion of a recreational facility. The project would not generate a new population that would require the use of recreational facilities.

Discussion of Potential Project Impacts

15(a) Physically Deteriorate Existing Facilities: No Impact

The proposed project would serve existing UCIMC employees. The project would not result in a new population or create the need for housing. Therefore, the proposed project would have no impact with respect to substantial physical deterioration of parks and other recreational facilities, which might have an adverse physical effect on the environment.

15(b) Construction of Recreational Facilities: No Impact

As stated above, the proposed project would not include construction of recreation facilities. Therefore, the proposed project would have no impact with respect to construction or expansion of recreational facilities, which might have an adverse physical effect on the environment.

Mitigation Measures

None required

Significance Determination After Mitigation

Not applicable

16. TRANSPORTATION/TRAFFIC

Issues	(A) Potentially Significant Impact	(B) Less Than Significant with Project-level Mitigation Incorporated	(C) Less Than Significant Impact	(D) 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?			X	
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?				X
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?				X
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?				X
e) Result in inadequate emergency access?				X
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?				X

Information in this section is summarized from the *GUCI Medical Center – Orangewood Avenue Parking Lot* traffic analysis dated January 7, 2014, and prepared by Stantec Consulting Services. This report is provided in its entirety in Appendix E.

Relevant Elements of Project

As stated in the Project Description, the proposed project would construct a 628-space parking lot on an approximate 6.2-acre site. The parking lot would be used by UCIMC staff that is currently parking off-campus at the Christ Cathedral (formerly Crystal Cathedral). No alterations would be made to the design of adjacent intersections or roadways, and there are no pedestrian or bikeway improvements, or public

transit stops in place adjacent to the project site. Given the nature of the project, a parking lot by itself does not generate any new vehicle trips; it is the associated land uses that generate vehicle trips. The project would serve to redistribute trips generated by UCIMC that are currently on the circulation network.

Discussion of Potential Project Impacts

16(a) Performance of the Circulation System: Less Than Significant Impact

A traffic analysis was prepared for the proposed project (refer to Appendix F) to analyze the proposed parking lot's impact on the surrounding transportation network. As shown in Table 12, ten study intersections were defined as the extent of the boundaries for the project's traffic study area. The table shows the existing intersection capacity utilization (ICU) for the ten intersections, all of which operate at a Level of Service (LOS) A for the AM and PM peak hours. The traffic analysis indicates that, with the proposed project, the ten study intersections would still remain at an acceptable LOS (A or B) during the AM and PM peak hours.

TABLE 12
INTERSECTION CAPACITY UTILIZATION SUMMARY

Intersection	LOS (Existing)		LOS (Existing + Project[a])	
	AM	PM	AM	PM
1. Orange Center Dr and Orangewood Dr	0.33/A	0.38/A	0.35/A	0.40/A
2. State College Blvd Orangewood Dr	0.47/A	0.53/A	0.47/A	0.54/A
3. State College Blvd and Orange Center Dr	0.33/A	0.32/A	0.37/A	0.39/A
4. State College Blvd and I-5 NB Ramps	0.28/A	0.43/A	0.28/A	0.45/A
5. State College Blvd and I-5 SB Ramps	0.33/A	0.30/A	0.31/A	0.31/A
6. Manchester Ave and Chapman Ave	0.53/A	0.53/A	0.52/A	0.52/A
7. State College Blvd /The City Dr and Chapman Ave	0.66/A	0.64/A	0.64/B	0.63/B
8. I-5 SB Ramps/Anita Dr and Chapman Ave	0.44/A	0.44/A	0.43/A	0.43/A
9. SR-57 SB Ramps/Anita Dr and Chapman Ave	0.57/A	0.60/A	0.57/A	0.59/A
10. SR-57 NB Ramps/Driveway and Chapman Ave	0.47/A	0.40/A	0.47/A	0.40/A

LOS: Level of Service; I: Intersection; NB: northbound; SB: southbound; SR: State Route

[a] The traffic analysis evaluated a maximum capacity of 630 parking spaces on the project site; however, the project proposes 577 parking spaces.

Level of Service Ranges:

0.00 – 0.60 A
0.61 – 0.70 B
0.71 – 0.80 C
0.81 – 0.90 D
0.91 – 1.00 E
Above 1.00 F

Source: Stantec 2014.

There are no designated bicycle lanes on the streets that surround the project site. Existing sidewalks are located adjacent to Anaheim Boulevard and Orangewood Drive. There are no bus stops on the adjacent sidewalks. The project would not preclude construction of bicycle lanes or bus stops adjacent to the project site; therefore, the project would have no impact upon such facilities. Traffic generated during project construction would be temporary in nature, and construction workers would be encouraged to

carpool. Therefore, the project would have no significant impacts on the circulation system and no mitigation is required.

16(b) Conflict with Congestion Management Program: No Impact

A Congestion Management Program analysis is required when a project would generate 2,400 average daily or 200 peak hour trips. Because the proposed project would not generate any new vehicular trips, a congestion management analysis was not prepared. Additionally, as stated above in Checklist Response IV.16(a), the project would have no adverse traffic-related impacts. Consequently, the proposed project would have no impact with respect to travel demand measures or other standards related to congestion management.

16(c) Air Traffic Patterns: No Impact

The project site is located more than six miles from the nearest airport (Fullerton Municipal Airport). The project would have no effect on this airport facility, nor would it cause a change in air traffic patterns. Therefore, no impacts with respect to air traffic patterns would occur and nor mitigation is required.

16(d) Hazards Due to a Design Feature: Less Than Significant Impact

As previously discussed in Checklist Response IV.16(a), the ten traffic study area intersections currently operate and are forecasted to operate with the inclusion of proposed project traffic, at acceptable LOS B or better during the peak hours. Construction trucks would access the site from Orange Center Drive. All construction equipment and vehicles would be staged on the project site. Therefore, the project would not create any hazards or incompatible uses.

16(e) Inadequate Emergency Access: No Impact

The proposed project would not impact emergency access in the City. The proposed project would not require modifications to State College Boulevard, Orangewood Avenue, or Anaheim Boulevard. The only modifications would be to the project access locations on Orange Center Drive.

As indicated above in Checklist Response IV.7(g) in Section IV.7, Hazards and Hazardous Materials, construction traffic would not interfere with vehicle movement or emergency access along State College Boulevard, a designated evacuation corridor in the City. Construction activities, including construction staging, for the project are anticipated to occur within the boundaries of the project site. No obstruction of traffic flow and emergency access on Orangewood Avenue, Orange Center Drive, and Anaheim Way would occur with construction and use of the parking lot. In addition, emergency access to the project site would be provided by three ingress/egress points via Orange Center Drive. No impacts on emergency response would occur and no mitigation is required.

16(f) Public Transit, Bicycle, or Pedestrian Facilities: No Impact

As stated above, none of these facilities are located on the project site. The UCIMC shuttle service will be provided to the parking lot to transport employees to the UCIMC campus and to existing off-site leased office locations proximate to the campus. The proposed project would have no impact with respect to conflicts with alternative transportation. No mitigation is required.

Mitigation Measures

None required

Significance Determination After Mitigation

Not applicable

17. UTILITIES AND SERVICE SYSTEMS

Issues	(A) Potentially Significant Impact	(B) Less Than Significant with Project-level Mitigation Incorporated	(C) Less Than Significant Impact	(D) No Impact
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?				X
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?				X
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?				X
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?			X	
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?				X
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?			X	
g) Comply with applicable federal, state, and local statutes and regulations related to solid waste?				X

Relevant Elements of Project

The proposed project would construct a surface parking lot on the largely undeveloped site, with irrigated landscaped slopes and parking islands. No restroom, kitchen, or other facility that would generate wastewater is proposed on site. The parking lot would not discharge storm water off site, but would percolate storm water on site along drainage swales running in landscaped areas and in underground retention and infiltration systems.

Discussion of Potential Project Impacts

17(a) Regional Water Quality Control Board Wastewater Treatment Requirements: No Impact

The proposed project would not generate wastewater and need not connect to the public sewer system. No impact on water and wastewater treatment facilities would occur. No mitigation is required.

17(b) Construction of New Water or Wastewater Treatment Facilities or Expansion of Existing Facilities: No Impact

There is an existing six-inch high-pressure water line running on the southwestern boundary of the site and parallel Anaheim Boulevard, which is connected to an eight-inch water line traversing the site. These water lines would be preserved in place. There is also an eight-inch sewer line running parallel to Anaheim Boulevard, which would be abandoned. There are sewer mains on Orangewood Avenue and Orange Center Drive that would not be affected by the project (City of Orange 2014a).

The project would require irrigation water and would connect to the water system of the City of Orange Water Department through a new water meter tapping the water line on Orange Center Drive. No new water facilities or water system upgrades are needed to serve the project.

The proposed project would not generate wastewater and need not connect to the public sewer system. No impact on water and wastewater treatment facilities would occur. No mitigation is required.

17(c) Stormwater Drainage Facilities: No Impact

There are storm drainage pipes and boxes along Orangewood Avenue, Orange Center Drive, and the southern site boundary that connect to the storm drainage facilities at I-5 (City of Orange 2014a). The majority of storm water currently percolates into the ground at the undeveloped site, with runoff going into a catch basin on Orange Center Drive and another catch basin at the southern corner of the site. The project would retain storm water for on-site percolation at drainage swales and underground retention and infiltration systems. Therefore, the project would not require the construction of off-site storm water drainage facilities or the upgrade/expansion of existing facilities. The project would have no impact on storm drainage lines or channels in the surrounding area and no mitigation is required.

17(d) Water Supplies: Less than Significant Impact

Landscape irrigation for the proposed project would require water from the City of Orange Water Department through a connection to an existing water line on Orange Center Drive. A new water meter would be installed at approximately the middle driveway, with water lines extending into the landscaped areas on the site. The landscaped areas would be planted with shrubs and trees and would use high-efficiency sprinklers, dripline emitter tubings, low-flow bubblers, and a smart (automatic seasonal) controller; these would reduce irrigation water demand from the project.

With a landscaped area of approximately 75,550 square feet, approximately 4,100 gallons per day or 1.5 million gallons per year[4] of irrigation water would be used on site. This water demand would represent approximately 0.015 percent of the City of Orange Water Department's 2010 water supply of 30,573 acre-feet (City of Orange 2011a). As this water demand percentage represents a minimal amount of the City's overall use, no new water supplies would be needed to serve the proposed project. Impacts would be less than significant and no mitigation is required.

[4] Assumes moderate water requirements of 11.75 gallons per square foot per year over 75,550 square feet of landscaped area, with an efficiency factor of 0.60.

17(e) Wastewater Capacity: No Impact

The proposed parking lot would not generate wastewater and would not be connected to the public sewer system. During construction, an insignificant amount of wastewater would be temporarily generated by portable toilets made available for the construction crew. No impact on wastewater treatment plants or their capacities would occur with the project.

17(f) Landfill Capacity: Less than Significant Impact

The use of the parking lot is not expected to be a major source of solid wastes that could measurably affect capacity at area landfills. Construction would generate solid wastes (e.g., asphalt debris, excavated soils, construction wastes, and trash) that could be disposed of at the Olinda Landfill, the nearest landfill to the site. This waste generation would be temporary and short-term (4 months) and could be accommodated by the Olinda Landfill, which accepts 8,000 tons of wastes per day and had a remaining capacity of 49.5 million cubic yards in 2010 (CalRecycle 2010).

The University of California has adopted a Policy on Sustainable Practices that requires the implementation of solid waste reduction and diversion measures. In compliance with this policy and the goal for zero waste, short-term construction of the project would implement measures to reduce the volume of construction and demolition wastes and green wastes from long-term maintenance activities at the parking lot would be diverted or reused.

Maintenance of the parking lot and landscaped areas would also generate trash, debris, and green wastes that would require disposal. The waste generation from the parking lot would be minimal when compared to the 8,000-ton daily limit at the Olinda Landfill. Impacts on landfill capacity would be less than significant and no mitigation is required.

17(g) Solid Waste Regulations: No Impact

As previously addressed, the University of California has adopted a Policy on Sustainable Practices that requires the implementation of solid waste reduction and diversion measures. The proposed project would not conflict with federal, State, or local programs to reduce solid waste generation would occur. No mitigation is required.

Mitigation Measures

None required

Significance Determination After Mitigation

Not applicable

18. MANDATORY FINDINGS OF SIGNIFICANCE

Issues	(A) Potentially Significant Impact	(B) Less Than Significant with Project-level Mitigation Incorporated	(C) Less Than Significant Impact	(D) 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, substantially 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?		X		
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of past, present and probable future projects)?			X	
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?			X	

18(a) Degrade the Environment, Reduce Habitat or Wildlife Populations, Eliminate Examples of California History: Less Than Significant with Mitigation

As described in Section IV.4, Biological Resources, there are no sensitive biological resources, habitat, or species located on the project site. As described in Section IV.5, Cultural Resources, there are no known historical resources within the project site and mitigation is not required. However, due to the possibility that grading and excavation could impact unknown archaeological and paleontological resources, mitigation is identified to ensure that potential impacts on these resources on the project site would be reduced to less than significant.

18(b) Cumulatively Considerable Impacts: Less Than Significant with Mitigation

A significant impact may occur if a project, in conjunction with other related projects in the area of the project site, would result in impacts that are less than significant when viewed on the project-specific level, but are cumulatively significant when combined with the impacts of other past, present, and probable future projects. For purposes of analysis, the City of Orange ("City") is used as the cumulative study area for all environmental topics, with the exception of air quality, greenhouse gas, and transportation for which the analysis already takes into consideration the cumulative nature of impacts in each section's respective analysis (Sections 4.3, 4.7, and 4.16). To evaluate cumulative impacts in resource areas other than air quality, greenhouse gases, and transportation, the University referred to the

City of Orange's General Plan Program EIR, approved in 2010. (The University incorporates the City of Orange's General Plan Program EIR by reference, as described in Section I, above.) While the University is not subject to local land use controls pursuant to Article IX, section 9 of the California Constitution, the City of Orange's General Plan Program EIR provides a thorough and recent summary of projections for development within the City and analyzes the impacts that would result from the level of development authorized and anticipated by the General Plan. The project proposed here would not require an amendment to the City's General Plan (even if the University were subject to the City's land use controls), is consistent with the underlying land use, and is an allowable use under the City of Orange's zoning designation of UMU (Urban Mixed Use); therefore, it is consistent with the City's General Plan and considered as projected growth within the City. The General Plan Program EIR has indicated that if project-level impacts of future development projects are mitigated to a less than significant level, then future development assumed in the General Plan would not result in cumulatively significant impacts (City of Orange 2010b).

As identified through the analysis presented in this IS/MND, the proposed project would have "no impact" or "less than significant impacts" related to aesthetics, agriculture and forestry resources, air quality, geology and soils, greenhouse gas emissions, hazards and hazardous materials, hydrology and water quality, land use and planning, mineral resources, noise, population and housing, public services, recreation, transportation and traffic, and utilities and service systems. The proposed project's incremental contributions to impacts in these resource areas are either non-existent or de minimis and would therefore not result in cumulatively considerable impacts related to these topical issues.

For the remaining topical issues, biological resources and cultural resources, mitigation was identified to reduce potential impacts to less than significant. As discussed in Section 4.4, Biological Resources, mitigation was required for potential impacts to migratory birds (MM Bio-1). As discussed in Section 4.5, Cultural Resources, mitigation was required for potential impacts to archaeological resources (MM Cul-1) and paleontological resources (MM Cul-2). Project-specific impacts to biological resources and cultural resources would thereby be mitigated to less than significant levels. Similarly, the City of Orange's General Plan Program EIR determined that mitigation would reduce the General Plan's impacts on biological resources and cultural resources to less than significant levels (City of Orange 2010b, p. 2-4.) Thus, by implementing similar mitigation measures, the project proposed here would not result in cumulatively considerable impacts on biological or cultural resources.

Based on this analysis, the project would not result in any cumulatively considerable impacts, and no mitigation is required for any such impacts.

18(c) Direct or Indirect Effects on Humans: Less Than Significant Impact

All project-level impacts associated with the project have been determined to be less than significant or mitigated to a level considered less than significant.

V. SUPPORTING INFORMATION SOURCES

California Air Resources Board (CARB). 2013 (June 7). Ambient Air Quality Standards. Sacramento, CA: CARB. http://www.arb.ca.gov/research/aaqs/aaqs2.pdf.

———. 2012 (May 21, last reviewed) Standards and Area Designations. Sacramento, CA: CARB. http://www.arb.ca.gov/desig/ 2012statedesig.htm.

California Department of Conservation, Division of Mines and Geology (CDMG). 1998 (April 15). Seismic Hazard Zone – Anaheim Quadrangle. Sacramento, CA: CDMG.

California Department of Conservation, Farmland Mapping and Monitoring Program (FMMP). 2010. Farmland Mapping and Monitoring Program (FMMP) Farmland Map: Orange County, California. Sacramento, CA: FMMP.

California Department of Resources Recycling and Recovery (CalRecycle). 2013. Facility/Site Summary Details: Olinda Alpha Sanitary Landfill (30-AB-0035). Sacramento, CA: CalRecycle. http://www.calrecycle.ca.gov/SWFacilities/Directory/30-AB-0035/Detail/

———. 2010 (May 27). Solid Waste Facility Permit 30-AB-0035. Sacramento, CA: CalRecycle.

California Department of Transportation (Caltrans). 2013a (December 19, last updated). Eligible (E) and Officially Designated (OD) Routes. Sacramento, CA: Caltrans. http://www.dot.ca.gov/hq/ LandArch/scenic/cahisys.htm.

———. 2013b. Traffic and Vehicle Data Systems Unit: 2012 All Traffic Volumes on CSHS (Data for Route 5). http://www.dot.ca.gov/hq/traffops/saferesr/trafdata/2012all/.

California Emergency Management Agency (CalEMA). 2009 (March 15). Tsunami Inundation Map for Emergency Planning, Newport Beach Quadrangle. Sacramento, CA: CalEMA.

Environmental Data Resources (EDR). 2012 (February). *The EDR Radius Map™ Report with GeoCheck®: U.C. Irvine Medical Center Surface Parking Lots, The City Drive, Orange, CA 92868.* Millford, CT: EDR (Appendix D).

Federal Emergency Management Agency (FEMA). 2009 (December 3). Flood Insurance Rate Map – Orange County, California, map No. 06059C0142J. Oakton, VA: FEMA.

GMU Geotechnical. 2010 (July 22). Report of Limited Geotechnical Investigation and Precise Grading Plan Review. Rancho Santa margarita, CA: GMU Geotechnical.

Intergovernmental Panel on Climate Change (IPCC). 2007 (February). *Climate Change 2007: The Physical Science Basis. Summary for Policymakers (Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change*). Boulder, CO: IPCC, Working Group I.

McLeod, S.A. 2012 (February 29). *Paleontological Resources for the proposed UCI Medical Center Parking Lot Project, in the City of Orange, Orange County, project area.* Los Angeles, CA: Natural History Museum of Los Angeles County.

MacDonald, I. 2014 (March 25). Personal communication. Email correspondence between I. MacDonald,

Deputy Fire Marshal (Orange City Fire Department) and J. Cho, Project Manager (BonTerra Psomas).

Mestre Greve Associates. 2014a (January 21). *Air Quality Assessment For: UCI Medical Center 500 Orangewood Ave. Parking Lot.* Laguna Niguel, CA: Mestre Greve.

———. 2014b (January 21). *Greenhouse Gas Assessment For: UCI Medical Center 500 Orangewood Ave. Parking Lot*. Laguna Niguel, CA: Mestre Greve.

Morales, A. 2012 (February 23). Personal communication. Telephone call between A. Morales, Chairperson (Gabrielino/Tongva San Gabriel Band of Mission Indians) and P.O. Maxon, Director of Cultural Resources (BonTerra Psomas).

National Fire Protection Association (NFPA). 2010. *NFPA 1710: Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments* (2010 Edition). Manchester, NH: NFPA.

Orange, City of. 2014a (February 5, date accessed). City of Orange Project Index. Orange, CA: City of. http://gis.cityoforange.org/maps/ProjectRecords.html

———. 2014b. Fire Response Statistics. Orange, CA: the City. http://www.cityoforange.org/depts/fire/general_information/fire_response_statistics.asp.

———. 2013 (September, current through). *Orange, California – Code of Ordinances.* Talahassee, FL: Municode Corporation for the City. https://library.municode.com/index.aspx? clientId=16539.

———. 2011a (June). City of Orange Final 2010 Urban Water Management Plan. Orange, CA: the City.

———. 2011b (January 24). Storm Drain Index Maps L-02, L-03, and M-03. Orange, CA: the City.

———. 2010a (March, adopted). *Orange General Plan.* Orange, CA: the City. http://www.cityoforange.org/depts/commdev/planning/general_plan.asp.

———. 2010b (March). *Program Environmental Impact Report: Orange General Plan.* Orange, CA: the City. http://www.cityoforange.org/depts/commdev/planning/general_plan.asp.

Orange, County of. 2005 (as amended through 2011). General Plan 2005 (Chapter IX, Safety). Santa Ana, CA: the County. http://ocplanning.net/planning/generalplan2005.

Orange, County of and Orange County Fire Authority (OC and OCFA). 2010 (October). Hazard Mitigation Plan. Santa Ana, CA: the County. http://cams.ocgov.com/Web_Publisher_Sam/Agenda03_15_2011_files/images/O01409-001806E.PDF.

Orange County Water District (OCWD). 2012. June 2012 Groundwater Elevation Contours for the Principal Aquifer. Fountain Valley: CA: OCWD. http://www.ocwd.com/Portals/0/ProgramsProjects/Hydrogeology/GroundwaterContourMaps/June_WL2012L2.pdf.

Perry, J. 2012 (February 15). Personal communication. Phone call between J. Perry, Tribal Chairperson (Juaneño Band of Mission Indians, Acjachemen Nation) and P.O. Maxon, Director of Cultural Resources (BonTerra Psomas).

South Coast Air Quality Management District (SCAQMD). 2013. California Emission Estimator Model (CalEEMod)™ Version 2013.2 (Developed by Environ International Corporation in Collaboration with SCAQMD and other California Air Districts). Diamond Bar, CA: SCAQMD.

———. 1993. *CEQA Air Quality Handbook*. Diamond Bar, CA: SCAQMD.

———. 1976 (May, as amended through 2005). Rule 403: Fugitive Dust. Diamond Bar, CA: SCAQMD. http://www.aqmd.gov/rules/reg/reg04/r403.pdf.

Stantec Consulting Services, Inc., 2014 (January 7). *UCI Medical Center – Orangewood Avenue Parking Lot.* Irvine, CA: Stantec.

State Water Resources Control Board (SWRCB). 2013. Water Quality Order No. 2013-0001-DWQ - National Pollutant Discharge Elimination System (NPDES) General Permit No. CAS000004, Waste Discharge Requirements (WDRs) For Storm Water Discharges From Small Municipal Separate Storm Sewer Systems (MS4s) (General Permit). Sacramento, CA: SWRCB.

———. National Pollutant Discharge Elimination System (NPDES) General Permit For Storm Water Discharges Associated With Construction And Land Disturbance Activities, Order No. 2012-0014-DWQ - NPDES No. CAS000002. Sacramento, CA: SWRCB.

University of California Office of the President (UCOP). 2004 (as revised through 2013). *Sustainable Practices.* Oakland, CA: UCOP. http://policy.ucop.edu/doc/3100155/Sustainable%20Practices.

———. 2001 (July). *UC CEQA Handbook 2001.* Oakland, CA: UCOP. http://www.ucop.edu/ceqa-handbook/.

University of California, Irvine (UCI). 2003 (December, certified). *University of California, Irvine Medical Center Long Range Development Plan Draft Environmental Impact Report*. Irvine, CA: UCI. http://www.ceplanning.uci.edu/UCIMC%20LRDP%20DEIR%20FEIR/UCIMC%20LRDP%20DEIR%20Volume%20I.pdf.

U.S. Environmental Protection Agency (USEPA). 2012 (July). The Green Book Nonattainment Areas for Criteria Pollutants. Washington, D.C.: USEPA. http://www.epa.gov/oar/oaqps/greenbk/index.html.

VI. INITIAL STUDY PREPARERS

University of California, Irvine, Environmental Planning and Sustainability, Office of Campus and Environmental Planning (Lead Agency)

Richard Demerjian, Director
Alexander S. Marks, AICP, Senior Planner

BonTerra Psomas

Dana C. Privitt, AICP, Vice President, Environmental Planning
Julie A. Cho, Project Manager
Patrick O. Maxon, Director, Cultural Resources
James Kurtz, Director, Air Quality and Acoustical Programs
Victor Ortiz, Air Quality Specialist
Josephine Alido, Environmental Planner
Julia R. Black, Technical Editor
Sheryl Kristal, Word Processor

Mestre Greve Associates (Division of Landrum and Brown)

Matthew B. Jones, P.E., Project Manager

Stantec Consulting Services, Inc.

Cathy Lawrence, P.E., Transportation Engineer

APPENDIX A

AIR QUALITY ASSESSMENT

Air Quality Assessment For:

UCI Medical Center
500 Orangewood Ave.
Parking Lot

Prepared For:

University of California, Irvine
Campus and Environmental Planning
750 University Tower
Irvine, CA 92697-2325

Submitted By:

Mestre Greve Associates
Division of Landrum and Brown
Fred Greve P.E.
Matthew B. Jones P.E.
27812 El Lazo Road
Laguna Niguel, CA 92677-3915
949•349•0671

January 21, 2014
Report #530202AQ1

Table of Contents

List of Tables iii

List of Exhibits iii

1.0 Existing Air Quality 1

1.1 Project Description 1

1.2 Local, State, and Federal Air Quality Agencies 1

1.3 Criteria Pollutants and Standards 4

1.3.1 Ozone (O_3) *6*

1.3.2 Particulate Matter (PM_{10} & $PM_{2.5}$) *6*

1.3.3 Carbon Monoxide (CO) *7*

1.3.4 Nitrogen Dioxide (NO_2) *7*

1.3.5 Sulfur Dioxide (SO_2) *8*

1.3.6 Lead (Pb) *8*

1.3.7 Visibility Reducing Particulates *8*

1.3.8 Sulfates(SO_4^{2-}) *8*

1.3.9 Hydrogen Sulfide (H_2S) *9*

1.3.10 Vinyl Chloride (Chloroethene) *9*

1.4 South Coast Air Basin Air Quality Attainment Designations 9

1.5 Air Quality Management Plan (AQMP) 13

1.6 Climate 16

1.7 Monitored Air Quality 16

2.0 Potential Air Quality Impacts 20

2.1 Thresholds of Significance 20

2.1.1 Regional Air Quality *20*

2.1.2 Local Air Quality *20*

2.2 Short-Term Impacts 22

2.2.1 Construction Emission Calculation Methodology *22*

2.2.2 Regional Construction Emissions *22*

2.2.3 On-site Construction Emissions *24*

2.2.4 Diesel Particulate Matter Emissions During Construction *25*

2.3 Long Term Impacts 25

2.3.1 Project Emissions Calculation Methodology *26*

2.3.2 Regional Project Emissions *26*

2.3.3 On-Site Project Emissions *27*

2.3.4 Local Air Quality Impacts Near Intersections Affected by Traffic Patterns Altered by The Project *27*

Table of Contents (Continued)

2.4 Compliance with Air Quality Planning 28
2.4.1 Consistency with AQMP 28
Criterion 1 - Increase in the Frequency or Severity of Violations? 29
Criterion 2 - Exceed Assumptions in the AQMP? 29

3.0 Mitigation Measures 30

3.1 Short-Term Impacts 30

3.2 Long-Term Impacts 30

4.0 Unavoidable Significant Impacts 30

Appendix 31

CalEEMod Output Files 31

List of Tables

Table 1 Ambient Air Quality Standards 5
Table 2 Designations of Criteria Pollutants for the SCAB 10
Table 3 Air Quality Measured at the Anaheim-Pampas Lane Monitoring Station 17
Table 4 SCAQMD Regional Pollutant Emission Thresholds of Significance 20
Table 5 Localized Significance Thresholds 21
Table 6 Total Construction Emissions by Activity 23
Table 7 Total Concurrent Construction Emissions 23
Table 8 On-Site Emissions By Construction Activity 24
Table 9 On-Site Emissions By Concurrent Construction Activities 24
Table 10 Total Emissions With Project 26
Table 11 Comparison of interim Project Emissions with SCAB Emissions 27
Table 12 On-Site Project Emissions 27

List of Exhibits

Exhibit 1 Project Vicinity 2
Exhibit 2 Project Site 3

1.0 Existing Air Quality

1.1 Project Description

The project proposes the construction of 628-space surface at grade parking lot for use by the University of California Irvine Medical Center on an undeveloped parcel located at 500 Orangewood Avenue. The approximate 6.38 acre site bounded by Orangewood Avenue to the northwest, State College Boulevard to the southeast, Anaheim Way and the Santa Ana (I-5) freeway to the southwest, and Orange Center drive to the northwest. Exhibit 1 presents a vicinity map showing the project location and Exhibit 2 shows an aerial photograph of the project site with the Project Plans overlaid.

Exhibit 2 shows that there are a number of existing parking spaces on the southwest side of Orange Center Drive. Fifty-one of these spaces are located within the project. Therefore, the project will result in the development of 577 additional parking spaces. Construction of the project is anticipated to take approximately 4 months and occur 2014.

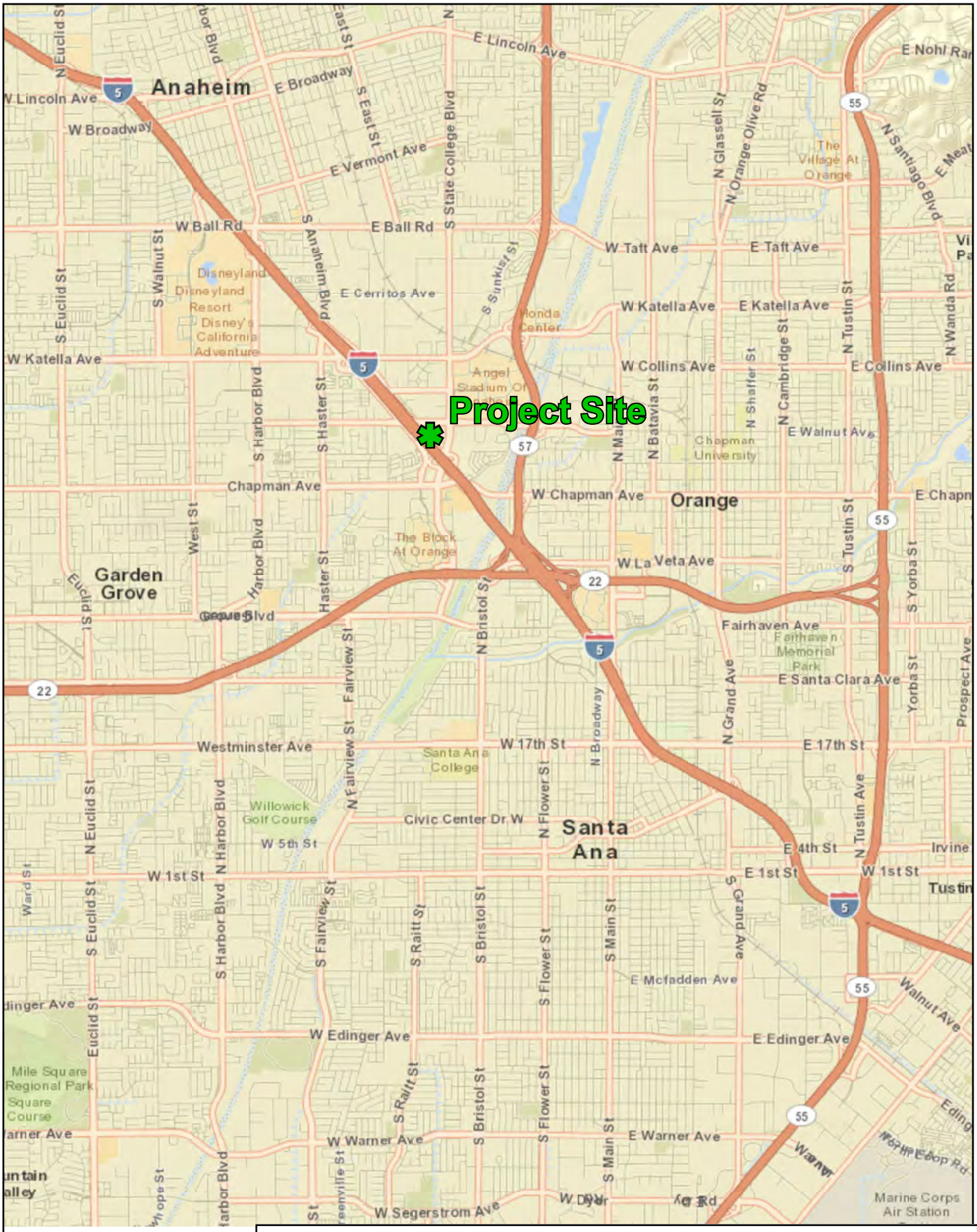
Completion of the project will re-locate off-site parking for the Medical Center from its current location on the Crystal Cathedral property located at the southwest corner of Chapman Avenue and Lewis Street. A shuttle bus operates between this off-site parking area and the Medical Center between the hours of 5:30 a.m. and 8:45 p.m. Monday through Friday. With the project the shuttle bus will be rerouted to operate between the project site and the Medical Center.

This report analyzes the potential air quality impacts associated with this project. Regional air quality impacts from construction and operation of the proposed project are analyzed, as are potential local air quality impacts.

1.2 Local, State, and Federal Air Quality Agencies

The proposed project is located in the South Coast Air Basin (SCAB). The SCAB is comprised of parts of Los Angeles, Riverside and San Bernardino counties and all of Orange County. The basin is bounded on the west by the Pacific Ocean and surrounded on the other sides by mountains. To the north lie the San Gabriel mountains, to the north and east the San Bernardino Mountains, to the southeast the San Jacinto Mountains and to the south the Santa Ana Mountains. The basin forms a low plain and the mountains channel and confine air flow which trap air pollutants.

The primary agencies responsible for regulations to improve air quality in the SCAB are the South Coast Air Quality Management District (SCAQMD) and the California Air Resources Board (CARB). The Southern California Association of Governments (SCAG) is an important partner to the SCAQMD, as it is the designated metropolitan planning authority for the area and produces estimates of anticipated future growth and vehicular travel in the basin which are used for air quality planning. The SCAQMD sets and enforces regulations for non-vehicular sources of air pollution in the basin and works with SCAG to develop and implement Transportation Control Measures (TCM). TCM measures are intended to reduce and improve vehicular travel and associated pollutant emissions.



N

0 mi 0.5mi 1.0 mi

Mestre Greve Associates

Exhibit 1
Vicinity Map

Exhibit 2
Site Plan

Mestre Greve Associates

CARB was established in 1967 by the California Legislature to attain and maintain healthy air quality, conduct research into the causes and solutions to air pollution, and systematically attack the serious problem caused by motor vehicles, which are the major causes of air pollution in the State. CARB sets and enforces emission standards for motor vehicles, fuels, and consumer products. It sets the health based California Ambient Air Quality Standards (CAAQS) and monitors air quality levels throughout the state. The board identifies and sets control measures for toxic air contaminants. The board also performs air quality related research, provides compliance assistance for businesses, and produces education and outreach programs and materials. CARB provides assistance for local air quality districts, such as SCAQMD.

The U.S. Environmental Protection Agency (U.S. EPA) is the primary federal agency for regulating air quality. The EPA implements the provisions of the Federal Clean Air Act (FCAA). This Act establishes national ambient air quality standards (NAAQS) that are applicable nationwide. The EPA designates areas with pollutant concentrations that do not meet the NAAQS as non-attainment areas for each criteria pollutant. States are required by the FCAA to prepare State Implementation Plans (SIP) for designated non-attainment areas. The SIP is required to demonstrate how the areas will attain the NAAQS by the prescribed deadlines and what measures will be required to attain the standards. The EPA also oversees implementation of the prescribed measures. Areas that achieve the NAAQS after a non-attainment designation are redesignated as maintenance areas and must have approved Maintenance Plans to ensure continued attainment of the NAAQS.

The CCAA required all air pollution control districts in the state to prepare a plan prior to December 31, 1994 to reduce pollutant concentrations exceeding the CAAQS and ultimately achieve the CAAQS. The districts are required to review and revise these plans every three years. The SCAQMD satisfies this requirement through the publication of an Air Quality Management Plan (AQMP). The AQMP is developed by SCAQMD and SCAG in coordination with local governments and the private sector. The AQMP is incorporated into the SIP by CARB to satisfy the FCAA requirements discussed above. The AQMP is discussed further in Section 1.5.

1.3 Criteria Pollutants and Standards

Under the Federal Clean Air Act (FCAA), the U.S. EPA has established National Ambient Air Quality Standards (NAAQS) for six major pollutants; ozone (O_3), respirable particulate matter (PM_{10}), fine particulate matter ($PM_{2.5}$), carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), and lead. These six air pollutants are often referred to as the criteria pollutants. The NAAQS are two tiered: primary, to protect public health, and secondary, to prevent degradation to the environment (i.e., impairment of visibility, damage to vegetation and property).

Under the California Clean Air Act (CCAA), the California Air Resources Board have established California Ambient Air Quality Standards (CAAQS) to protect the health and welfare of Californians. State standards have been established for the six criteria pollutants as well as four additional pollutants; visibility reducing particles, sulfates, hydrogen sulfide, and vinyl chloride.

Table 1 presents the state and national ambient air quality standards. A brief explanation of each pollutant and their health effects is presented follows.

Table 1
Ambient Air Quality Standards

Pollutant	Averaging Time	State Standards[1,3]	Federal Standards[2] Primary[3,5]	Federal Standards[2] Secondary[3,6]
Ozone (O_3)[8]	1 Hour	0.09 ppm (180 µg/m^3)	--	--
	8 Hour	0.070 ppm (137 µg/m^3)	0.075 ppm (147 µg/m^3)	Same as Primary
Respirable Particulate Matter (PM_{10})	24 Hour	50 µg/m^3	150 µg/m^3	Same as Primary
	AAM[6]	20 µg/m^3	--	Same as Primary
Fine Particulate Matter ($PM_{2.5}$)[8]	24 Hour	--	35 µg/m^3	Same as Primary
	AAM[6]	12 µg/m^3	15.0 µg/m^3	Same as Primary
Carbon Monoxide (CO)	1 Hour	20 ppm (23 mg/m^3)	35 ppm (40 mg/m^3)	None
	8 Hour	9.0 ppm (10 mg/m^3)	9 ppm (10 mg/m^3)	None
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m^3)	--	--
Nitrogen Dioxide (NO_2)	AAM[6]	0.030 ppm (56 µg/m^3)	0.053 ppm (100 µg/m^3)	Same as Primary
	1 Hour	0.18 ppm (338 µg/m^3)	--	--
Sulfur Dioxide (SO_2)	AAM[6]	--	0.030 ppm (80 µg/m^3)	--
	24 Hour	0.04 ppm (105 µg/m^3)	0.14 ppm (365 µg/m^3)	--
	3 Hour	--	--	0.5 ppm (1,300 µg/m^3)
	1 Hour	0.25 ppm (655 µg/m^3)	--	--
Lead[7,9]	30 day Avg.	1.5 µg/m^3	--	--
	Rolling 3-Month Average	--	0.15 µg/m^3	Same as Primary
Visibility Reducing Particles	8 hour	Extinction coefficient of 0.23 per km -- visibility 10 miles (0.07 per km -- 30 miles for Lake Tahoe)	**No Federal Standards**	
Sulfates	24 Hour	25 µg/m^3		
Hydorgen Sulfide	1 Hour	0.03 ppm (42 µg/m^3)		
Vinyl Chloride[7]	24 Hour	0.01 ppm (26 µg/m^3)		

1. California standards for ozone, carbon monoxide (except Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, PM_{10}, $PM_{2.5}$, and visibility reducing particles, are values that are not to be exceeded. All others are not to be equaled or exceeded.
2. National standards (other than ozone, PM_{10}, $PM_{2.5}$, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest eight hour concentration in a year, averaged over three years, is equal to or less than the standard. For PM_{10}, the 24 hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m^3 is equal to or less than one. For $PM_{2.5}$, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact U.S. EPA for further clarification and current federal policies.
3. Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25˚ C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25˚ C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.
4. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.
5. National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.
6. Annual Arithmetic Mean
7. The ARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.
8. On March 12, 2008 EPA lowered the 8-hour ozone standard to 0.075 ppm from 0.08 ppm. On January 19, 2010, EPA announced that it was delaying implementation of the 2008 ozone standard and considering adopting a revised primary ozone standard with an 8-hour average concentration in the 0.060 to 0.070 ppm range and a secondary standard based on a new cumulative seasonal standard. The final standard is anticipated to be adopted by August 31, 2010.
9. On October 15, 2008, EPA lowered the lead standard to 0.15 µg/m^3 from 1.5 µg/m^3. Further the averaging time was changed from a calendar quarter to a rolling three-month average. Attainment designations are to be issued by October 2010 with attainment plans due 18 months later.

-- No Standard

1.3.1 Ozone (O_3)

Ozone is a secondary pollutant; it is not directly emitted. Ozone is the result of chemical reactions between volatile organic compounds (VOC) (also referred to as reactive organic gasses (ROG)) and nitrogen oxides (NO_x), which occur only in the presence of bright sunlight. Sunlight and hot weather cause ground-level ozone to form in the air. As a result, it is known as a summertime air pollutant. Ground-level ozone is the primary constituent of smog. Because ozone is formed in the atmosphere, high concentrations can occur in areas well away from sources of its constituent pollutants.

People with lung disease, children, older adults, and people who are active can be affected when ozone levels are unhealthy. Numerous scientific studies have linked ground-level ozone exposure to a variety of problems, including:

- lung irritation that can cause inflammation much like a sunburn;
- wheezing, coughing, pain when taking a deep breathe, and breathing difficulties during exercise or outdoor activities;
- permanent lung damage to those with repeated exposure to ozone pollution; and
- aggravated asthma, reduced lung capacity, and increased susceptibility to respiratory illnesses like pneumonia and bronchitis.

Ground-level ozone can have detrimental effects on plants and ecosystems. These effects include:

- interfering with the ability of sensitive plants to produce and store food, making them more susceptible to certain diseases, insects, other pollutants, competition and harsh weather;
- damaging the leaves of trees and other plants, negatively impacting the appearance of urban vegetation, national parks, and recreation areas; and
- reducing crop yields and forest growth, potentially impacting species diversity in ecosystems.

1.3.2 Particulate Matter (PM_{10} & $PM_{2.5}$)

Particulate matter includes both aerosols and solid particles of a wide range of size and composition. Of particular concern are those particles smaller than 10 microns in size (PM_{10}) and smaller than or equal to 2.5 microns ($PM_{2.5}$). The size of the particulate matter is referenced to the aerodynamic diameter of the particulate. Smaller particulates are of greater concern because they can penetrate deeper into the lungs than large particles.

The principal health effect of airborne particulate matter is on the respiratory system. Short term exposures to high $PM_{2.5}$ levels are associated with premature mortality and increased hospital admissions and emergency room visits. Long term exposures to high $PM_{2.5}$ levels are associated with premature mortality and development of chronic respiratory disease. Short-term exposure to high PM_{10} levels are associated with hospital admissions for cardiopulmonary diseases, increased respiratory symptoms and possible premature mortality. The EPA has concluded that available evidence does not suggest an association between long-term exposure to PM_{10} at current ambient levels and health effects.

$PM_{2.5}$ is directly emitted in combustion exhaust and formed from atmospheric reactions between of various gaseous pollutants including nitrogen oxides (NO_x) sulfur oxides (SO_x) and volatile organic compounds (VOC). PM_{10} is generally emitted directly as a result of mechanical processes that crush or grind larger particles or the re suspension of dusts most typically through construction activities and vehicular travels. $PM_{2.5}$ can remain suspended in the atmosphere for days and weeks and can be transported long distances. PM_{10} generally settles out of the atmosphere rapidly and are not readily transported over large distances.

1.3.3 Carbon Monoxide (CO)

Carbon monoxide is a colorless and odorless gas, which in the urban environment, is associated primarily with the incomplete combustion of fossil fuels in motor vehicles. Carbon monoxide combines with hemoglobin in the bloodstream and reduces the amount of oxygen that can be circulated through the body. High carbon monoxide concentrations can lead to headaches, aggravation of cardiovascular disease, and impairment of central nervous system functions. Carbon monoxide concentrations can vary greatly over comparatively short distances. Relatively high concentrations are typically found near crowded intersections, along heavily used roadways carrying slow-moving traffic, and at or near ground level. Even under the most severe meteorological and traffic conditions, high concentrations of carbon monoxide are limited to locations within a relatively short distance (i.e., up to 600 feet or 185 meters) of heavily traveled roadways. Overall carbon monoxide emissions are decreasing as a result of the Federal Motor Vehicle Control Program, which has mandated increasingly lower emission levels for vehicles manufactured since 1973.

1.3.4 Nitrogen Dioxide (NO_2)

Nitrogen gas, normally relatively inert (unreactive), comprises about 80% of the air. At high temperatures (i.e., in the combustion process) and under certain other conditions it can combine with oxygen, forming several different gaseous compounds collectively called nitrogen oxides (NO_x). Nitric oxide (NO) and nitrogen dioxide (NO_2) are the two most important compounds. Nitric oxide is converted to nitrogen dioxide in the atmosphere. Nitrogen dioxide (NO_2) is a red-brown pungent gas. Motor vehicle emissions are the main source of NO_x in urban areas.

Nitrogen dioxide is toxic to various animals as well as to humans. Its toxicity relates to its ability to form nitric acid with water in the eye, lung, mucus membrane and skin. In animals, long-term exposure to nitrogen oxides increases susceptibility to respiratory infections lowering their resistance to such diseases as pneumonia and influenza. Laboratory studies show susceptible humans, such as asthmatics, exposed to high concentrations of NO_2 can suffer lung irritation and potentially, lung damage. Epidemiological studies have also shown associations between NO_2 concentrations and daily mortality from respiratory and cardiovascular causes and with hospital admissions for respiratory conditions.

NO_x is a combination of primarily NO and NO_2. While the NAAQS only addresses NO_2, NO and the total group of nitrogen oxides is of concern. NO and NO_2 are both precursors in the formation of ozone and secondary particulate matter as discussed in Sections 1.3.1 and 1.3.2. Because of this and that NO emissions largely convert to NO_2, NO_x emissions are typically examined when assessing potential air quality impacts.

1.3.5 Sulfur Dioxide (SO_2)

Sulfur oxides (SO_x) constitute a class of compounds of which sulfur dioxide (SO_2) and sulfur trioxide (SO_3) are of greatest importance. Ninety-five percent of pollution related SO_x emissions are in the form of SO_2. SO_x emissions are typically examined when assessing potential air quality impacts of SO_2. Combustion of fossil fuels for generation of electric power is the primary contributor of SO_x emissions. Industrial processes, such as nonferrous metal smelting, also contribute to SO_x emissions. SO_x is also formed during combustion of motor fuels. However, most of the sulfur has been removed from fuels greatly reducing SO_x emissions from vehicles.

SO_2 combines easily with water vapor, forming aerosols of sulfurous acid (H_2SO_3), a colorless, mildly corrosive liquid. This liquid may then combine with oxygen in the air, forming the even more irritating and corrosive sulfuric acid (H_2SO_4). Peak levels of SO_2 in the air can cause temporary breathing difficulty for people with asthma who are active outdoors. Longer-term exposures to high levels of SO_2 gas and particles cause respiratory illness and aggravate existing heart disease. SO_2 reacts with other chemicals in the air to form tiny sulfate particles which are measured as $PM_{2.5}$. The heath effects of $PM_{2.5}$ are discussed in Section 1.3.2.

1.3.6 Lead (Pb)

Lead is a stable compound, which persists and accumulates both in the environment and in animals. In humans, it affects the blood-forming or hematopoletic, the nervous, and the renal systems. In addition, lead has been shown to affect the normal functions of the reproductive, endocrine, hepatic, cardiovascular, immunological, and gastrointestinal systems, although there is significant individual variability in response to lead exposure. Since 1975, lead emissions have been in decline due in part to the introduction of catalyst-equipped vehicles, and decline in production of leaded gasoline. In general, an analysis of lead is limited to projects that emit significant quantities of the pollutant (i.e. lead smelters) and are not applied to transportation projects.

1.3.7 Visibility Reducing Particulates

Visibility-reducing particles consist of suspended particulate matter, which is a complex mixture of tiny particles that consists of dry solid fragments, solid cores with liquid coatings, and small droplets of liquid. These particles vary greatly in shape, size and chemical composition, and can be made up of many different materials such as metals, soot, soil, dust, and salt. The Statewide standard is intended to limit the frequency and severity of visibility impairment due to regional haze. A separate standard for visibility-reducing particles that is applicable only in the Lake Tahoe Air Basin is based on reduction in scenic quality.

1.3.8 Sulfates(SO_4^{2-})

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

The ARB's sulfates standard is designed to prevent aggravation of respiratory symptoms. Effects of sulfate exposure at levels above the standard include a decrease in ventilatory function, aggravation of asthmatic symptoms, and an increased risk of cardio-pulmonary disease. Sulfates

are particularly effective in degrading visibility, and, due to fact that they are usually acidic, can harm ecosystems and damage materials and property.

1.3.9 Hydrogen Sulfide (H_2S)

Hydrogen sulfide (H_2S) is a colorless gas with the odor of rotten eggs. It is formed during bacterial decomposition of sulfur-containing organic substances. It can also be present in sewer gas and some natural gas, and can be emitted as the result of geothermal energy exploitation. Breathing H_2S at levels above the standard will result in exposure to a very disagreeable odor. In 1984, an ARB committee concluded that the ambient standard for H_2S is adequate to protect public health and to significantly reduce odor annoyance.

1.3.10 Vinyl Chloride (Chloroethene)

Vinyl chloride (chloroethene), a chlorinated hydrocarbon, is a colorless gas with a mild, sweet odor. Most vinyl chloride is used to make polyvinyl chloride (PVC) plastic and vinyl products. Vinyl chloride has been detected near landfills, sewage plants, and hazardous waste sites, due to microbial breakdown of chlorinated solvents.

Short-term exposure to high levels of vinyl chloride in air causes central nervous system effects, such as dizziness, drowsiness, and headaches. Long-term exposure to vinyl chloride through inhalation and oral exposure causes in liver damage. Cancer is a major concern from exposure to vinyl chloride via inhalation. Vinyl chloride exposure has been shown to increase the risk of angiosarcoma, a rare form of liver cancer in humans.

1.4 South Coast Air Basin Air Quality Attainment Designations

Based on monitored air pollutant concentrations, the U.S. EPA and CARB designate areas relative to their status in attaining the NAAQS and CAAQS respectively. Table 2 lists the current attainment designations for the SCAB. For the Federal standards, the required attainment date is also shown. The Unclassified designation indicates that the air quality data for the area does not support a designation of attainment or nonattainment.

Table 2 shows that the U.S. EPA has designated SCAB as Severe-17 non-attainment for ozone, serious non-attainment for PM_{10}, non-attainment for $PM_{2.5}$, and attainment/maintenance for CO and NO_2. The basin has been designated by the state as non-attainment for ozone, PM_{10}, and $PM_{2.5}$. For the federal designations, the qualifiers, Severe-17 and Serious, affect the required attainment dates as the federal regulations have different requirements for areas that exceed the standards by greater amounts at the time of attainment/non-attainment designation. The SCAB is currently designated as in attainment of the Federal SO_2 and lead NAAQS as well as the state CO, NO_2, SO_2, lead, hydrogen sulfide, and vinyl chloride CAAQS. CARB has proposed redesignating the basin as non-attainment for state NO_2 AAQS and the Los Angeles County portion of SCAB as non-attainment for both the state and federal standards. These proposed redesignations are discussed further below.

In July 1997, U.S. EPA issued a new ozone NAAQS of 0.08 ppm using an 8-hour averaging time. Implementation of this standard was delayed by several lawsuits. Attainment/non-attainment designations for the new 8-hour ozone standard were issued on April 15, 2004 and became effective on June 15, 2005. The SCAB was designated severe-17 non-attainment, which requires attainment of the Federal Standard by June 15, 2021. As a part of the designation, the EPA announced that the 1-hour ozone standard would be revoked in June of 2005. Thus, the 8-hour ozone standard attainment deadline of 2021 supersedes and replaces the previous 1-hour ozone standard attainment deadline of 2010.

Table 2
Designations of Criteria Pollutants for the SCAB

Pollutant	Federal	State
Ozone (O_3)	Severe-17 Nonattainment (2021)	Nonattainment
Respirable Particulate Matter (PM_{10})	Attainment/Maintenance (2013)	Nonattainment
Fine Particulate Matter ($PM_{2.5}$)	Nonattainment (2014 or 2019 with extension)	Nonattainment
Carbon Monoxide (CO)	Attainment/Maintenance (2000)	Attainment
Nitrogen Dioxide (NO_2)	Attainment/Maintenance (1995)	Attainment*
Sulfur Dioxide (SO_2)	Attainment	Attainment
Lead	Attainment*	Attainment*
Visibility Reducing Particles	n/a	Unclassified
Sulfates	n/a	Unclassified
Hydrogen Sulfide	n/a	Attainment
Vinyl Chloride	n/a	Attainment

* Proposed for redesignation to non-attainment

The SCAQMD and CARB requested that U.S. EPA change the nonattainment status of the 8-hour ozone standard to extreme and this request was granted in August 2009. This change of classifications extends the attainment date by three years to 2024 but also requires the SCAQMD to incorporate more stringent air quality regulations such as lower permitting thresholds and implementing reasonably available control technologies at more sources. This change also allows for the use of undefined reductions (i.e. "black box") based on the anticipated development of new control technologies or improvement of existing technologies in the attainment plan.

On March 12, 2008, U.S. EPA announced that it was lowering the 8-hour average NAAQS for ozone to 0.075 ppm. On September 19, 2009 the U.S. EPA announced that it would re-consider the revised standard to ensure that the standards are clearly grounded in science, protect public health with an adequate margin of safety, and are sufficient to protect the environment. On January 19, 2010, U.S. EPA announced that it was considering adopting a primary ozone standard with an 8-hour averaging time in the 0.060 to 0.070 ppm range. Further, a cumulative seasonal standard was proposed as the secondary standard to provide increased protection against ozone related adverse impacts on vegetation and forested ecosystems. The final revised standard is expected to be announced by August 31, 2010.

On April 28, 2005, CARB adopted an 8-hour ozone standard of 0.070 ppm. The California Office of Administrative Law approved the rulemaking and filed it with the Secretary of State on

April 17, 2006. The standard became effective on May 17, 2006. California has retained the 1-hour concentration standard of 0.09 ppm. To be redesignated as attainment by the state the basin will need to achieve both the 1-hour and 8-hour ozone standards.

The SCAB was designated as moderate non-attainment of the PM_{10} standards when the designations were initially made in 1990 with a required attainment date of 1994. In 1993, the basin was redesignated as serious non-attainment with a required attainment date of 2006 because it was apparent that the basin could not meet the PM_{10} standard by the 1994 deadline. At this time, the Basin has met the PM_{10} standards at all monitoring stations except the western Riverside where the annual PM_{10} standard has not been met. However, on September 21, 2006, the U.S. EPA announced that it was revoking the annual PM_{10} standard as research had indicated that there were no considerable health effects associated with long-term exposure to PM_{10}. With this change, the basin is technically in attainment of the federal PM_{10} standards. SCAQMD has begun holding public hearings to consider a request to re-designate the basin as attainment for PM_{10} and to develop a maintenance plan. In July 1997, U.S. EPA issued NAAQS for fine particulate matter ($PM_{2.5}$). The $PM_{2.5}$ standards include an annual standard set at 15 micrograms per cubic meter ($\mu g/m^3$), based on the three-year average of annual mean $PM_{2.5}$ concentrations and a 24-hour standard of 65 $\mu g/m^3$, based on the three-year average of the 98th percentile of 24-hour concentrations. Implementation of these standards was delayed by several lawsuits. On January 5, 2005, EPA took final action to designate attainment and nonattainment areas under the NAAQS for $PM_{2.5}$ effective April 5, 2005. The SCAB was designated as non-attainment with an attainment required as soon as possible but no later than 2010. EPA may grant attainment date extensions of up to five years in areas with more severe $PM_{2.5}$ problems and where emissions control measures are not available or feasible. It is likely that the SCAB will need this additional time to attain the standard

On September 21, 2006, the U.S. EPA announced that the 24-hour $PM_{2.5}$ standard was lowered to 35 $\mu g/m^3$. The EPA announced attainment/non-attainment designations for the revised $PM_{2.5}$ standard on November 13, 2009 with an effective date of December 14, 2009. The SCAB was found to be in non-attainment of the standard. The SCAQMD has three years from the effective date to submit a plan demonstrating attainment of the standard by December 2014, although an extension of up to five years could be granted by the U.S. EPA.

The Federal attainment deadline for CO was to be December 31, 2000 but at that time the basin still had measured exceedances of the CO NAAQS. The basin was granted an extension to attain the standard and has not had any violations of the federal CO standards since 2002. In March 2005, the South Coast AQMD adopted a CO Redesignation Request and Maintenance Plan. On May 11, 2007, the U.S. EPA announced approval of the Redesignation Request and Maintenance Plan and that, effective June 11, 2007, the SCAB would be re-designated as attainment/maintenance for the federal CO NAAQS. The plan provides for maintenance of the federal CO air quality standard until at least 2015 and commits to revising the Plan in 2013 to ensure maintenance through 2025.

The federal annual NO_2 standard was met for the first time in 1992 and has not been exceeded since. The SCAB was redesignated as attainment for the federal NO_2 AAQS in 1998. The basin will remain a maintenance/attainment area until 2018, assuming the federal NO_2 standard is not exceeded. The basin was redesignated from non-attainment of the state NO_2 standard in 1994 and has been designated as attainment since that time. In 2007 CARB revised the state 1-hour NO_2 standard from 0.25 ppm to 0.18 ppm and established an annual average NO_2 standard of 0.030 ppm. In November 2009, CARB proposed redesignating the SCAB as non-attainment for the state NO_2 standard due to exceedances of the annual average standard measured at the

Lynwood, Pomona, and Upland monitoring stations in the 2006-2008 time period. The Lynwood and Upland stations exceeded the standard in 2006 but were below the standard in 2007 and 2008. The Pomona station exceeded the standard in 2006 and 2007 but was below the standard in 2008. In all cases the exceedances were due to levels 0.001 ppm above the standard. The 1-hour standard has not been exceeded in the SCAB.

Generally, lead concentrations throughout the SCAB have been lower than the state and federal lead standards since the early 1980's due to the removal of lead from automobile fuel. In 1990, U.S. EPA requested the SCAQMD to collect lead concentrations near several large lead handling (battery recycling) facilities and in 1992 the SCAQMD adopted Rule 1420 to reduce emissions of lead from non-vehicular sources. Rule 1420 requires facilities emitting more than 10 tons per year of lead to monitor lead concentrations and facilities emitting between 2 and 10 tons per year to either monitor or model lead concentrations. This monitoring showed exceedances of the state lead AAQS at one location next to a battery recycling facility in Los Angeles County. Because the standard was exceeded at only one location the state is proposing redesignating the Los Angeles County portion of the SCAB as non-attainment of the Lead standard. This designation is expected to be finalized in 2010.

On November 12, 2008 the U.S. EPA issued final revisions to the NAAQS for lead. The standard was revised from 1.5 $\mu g/m^3$ to 0.15 $\mu g/m^3$ and the averaging time was changed from a calendar quarter to a rolling three-month average. The revised standard also changed the requirements for monitoring of lead concentrations. Monitoring is now required for any facility emitting more than 1 ton per year of lead. Existing monitoring shows exceedances of the revised lead NAAQS near two battery-recycling facilities. In addition, the new requirements will require installation of a new monitor near Van Nuys Airport due to the large volume of general aviation aircraft that use leaded aviation gas. This monitoring will begin in 2010.

To implement the new lead NAAQS, U.S. EPA requested states to recommend designations. On September 24, 2009, CARB recommended re-designating the Los Angeles County portion of SCAB to non-attainment for the 2008 Lead NAAQS due to the exceedances measured near battery recycling facilities discussed above. Final designations of all attainment, nonattainment, and unclassifiable areas will be effective no later than January 2012. U.S. EPA intends to complete initial designations as soon as possible. State Implementation Plans demonstrating attainment of the standards by January 2017, will need to be submitted to U.S. EPA by June 2013.

Table 2 shows that SCAB is currently designated as in attainment of the SO_2 and lead NAAQS as well as the state CO, NO_2, SO_2, lead, hydrogen sulfide, and vinyl chloride CAAQS. Generally, SO_2, hydrogen sulfide, and vinyl chloride are not considered a concern in the SCAB. Lead concentrations are only a concern near facilities with considerable lead emissions. As discussed above, annual NO_2 concentrations slightly exceed the state annual standard in a few locations in the basin. The primary pollutants of concern in the SCAB are Ozone and particulate matter.

1.5 Air Quality Management Plan (AQMP)

As, discussed above, the CAA requires plans to demonstrate attainment of the NAAQS for which an area is designated as nonattainment. Further, the CCAA requires SCAQMD to revise its plan to reduce pollutant concentrations exceeding the CAAQS every three years. In the SCAB, SCAQMD and SCAG, in coordination with local governments and the private sector, develop the Air Quality Management Plan (AQMP) for the air basin to satisfy these requirements. The AQMP is the most important air management document for the basin because it provides the blueprint for meeting state and federal ambient air quality standards.

The 2003 AQMP is the current Federally approved applicable air plan for ozone. The 2003 AQMP was adopted locally on August 1, 2003, by the governing board of the SCAQMD. CARB adopted the plan as part of the California State Implementation Plan on October 23, 2003. The PM_{10} attainment plan from the 2003 AQMP received final approval from the U.S. EPA on November 14, 2005 with an effective date of December 14, 2005. As of February 14, 2007 the U.S. EPA had not acted on the ozone attainment plan of the 2003 AQMP. On this date, CARB announced that it was rescinding the ozone attainment plan from the 2003 AQMP with the intention to expedite approval of the 2007 AQMP. However, on March 10, 2009 the U.S. EPA announced partial approval and partial disapproval of the ozone attainment plan of the 2003 AQMP effective April 9, 2009. The portions disapproved by the U.S. EPA were determined to not be required by the FCAA because they represented revisions to previously approved AQMP elements. Even with the disapproved elements the 2003 AQMP satisfied the requirements of the EPA and did not trigger sanction clocks. The 2007 AQMP was adopted by the SCAQMD on June 1, 2007. CARB adopted the plan as a part of the California State Implementation Plan on September 27, 2007. The State Implementation Plan was submitted to the U.S. EPA on November 16, 2007. The U.S. EPA has not taken action on the 2007 AQMP at this time.

The 2007 AQMP was prepared in response to the implementation of the federal $PM_{2.5}$ and 8-hour ozone NAAQS. The implementation of the new standards required completion of plan addressing attainment of the 8-hour ozone standard by June of 2007 and completion of a plan addressing the $PM_{2.5}$ standard one year later, in April of 2008. SCAQMD determined that it was most prudent to prepare an integrated plan to address both pollutants. The attainment date for the $PM_{2.5}$ NAAQS is earlier (i.e., 2015) than the attainment date for the ozone NAAQS (i.e., 2021) and the district felt that delaying a plan for $PM_{2.5}$ by a year could jeopardize the basin's ability to attain the standard. Further, development of a plan for ozone would have likely focused on lowering VOC emissions, which would have no effect on $PM_{2.5}$ levels. Reductions in NO_x emissions result in reductions in both ozone and $PM_{2.5}$ levels.

The 2007 AQMP demonstrates attainment of the 65 $\mu g/m^3$ 24-hour average and 15$\mu g/m^3$ annual average $PM_{2.5}$ standards by the 2015 deadline. However, it should be noted that in September of 2006, the U.S. EPA lowered the 24-hour $PM_{2.5}$ NAAQS to 35 $\mu g/m^3$. An attainment plan for the revised standard will need to be completed by December 14, 2013. The deadline for meeting the revised standard will not change (i.e., April 2015) but five year extensions to attain the standard may be granted by the U.S. EPA.

The 2007 AQMP determined that the basin would not be able to achieve the 0.08-ppm 8-hour ozone standard by the 2021 deadline without the use of "black box" measures. "Black box" measures anticipate the development of new technologies or improving existing control technologies that are not well defined at the time the plan is prepared. However, the use of "black box" measures is not allowed for areas with a Severe-17 non-attainment designation. Because of this the SCAQMD and CARB requested to the U.S. EPA to "bump up" the basin's classification to Extreme with the submittal of the 2007 AQMP. This request was granted in

August 2009 and will extend the required attainment date to 2024 and allow the use of "black box" measures. The "black box:" reductions needed for ozone attainment are estimated to be 190 tons per day (tpd) of NO_x and 27 tpd of VOC. These reductions represent a 17% reduction in 2002 average daily NO_x emissions and a 3% reduction in 2002 average daily VOC emissions.

It should be noted that on March 12, 2008, the U.S. EPA lowered the 8-hour ozone standard to 0.075 ppm. This effectively lowers the standard 0.009 ppm as 0.084 ppm is considered meeting the 0.08 ppm standard. A plan to attain the revised standard will need to be completed by 2013. Attainment deadlines for the revised standard have not been established and may vary depending on the severity of the exceedances.

Implementation of the 2007 AQMP is based on a series of control measures and strategies that vary by source type (i.e., stationary or mobile) as well as by the pollutant that is being targeted. Short-term and mid-term control measures are defined to achieve the $PM_{2.5}$ standard by 2015. These measures are designed to also contribute to reductions in ozone levels. Additional, long-term measures are defined to attain the 8-hour ozone standard by 2024. The measures rely on actions to be taken by several agencies that have statutory authority to implement such measures. Each control measure will be brought for regulatory consideration in a specified time frame. Control measures deemed infeasible will be substituted by other measures to achieve the total emission reduction target for each agency.

The plan focuses on control of sulfur oxides (SO_x), directly emitted $PM_{2.5}$, and nitrogen oxides (NO_x) to achieve the $PM_{2.5}$ standard. Achieving the 8-hour ozone standard builds upon the $PM_{2.5}$ attainment strategy with additional NO_x and VOC reductions. The control measures in the 2007 AQMP are based on facility modernization, energy efficiency and conservation, good management practices, market incentives/compliance flexibility, area source programs, emission growth management and mobile source programs. In addition, CARB has developed a plan of control strategies for sources controlled by CARB (i.e. on-road and off-road motor vehicles and consumer products). Further, Transportation Control Measures (TCM) defined in SCAG's Regional Transportation Plan (RTP) and Regional Transportation Improvement Program (RTIP) are needed to attain the standards.

The 2007 AQMP includes 30 short-term and mid-term stationary and 7 mobile source control measures proposed for implementation by the district that are applicable to sources under their jurisdiction. Nine of these measures were included in the 2003 AQMP and have been updated or revised. Twenty-eight new measures are proposed based on replacement of the District's long-term reduction measures from the 2003 AQMP with more defined control measures or development of new control measures. Measures include; regulations to reduce VOC emissions from coatings, solvents, petroleum operations, and cutback asphalt; measures to reduce emissions from industrial combustion sources as well as residential and commercial space heaters; a measure to offset potential emission increases due to changes in natural gas specifications; localized control of PM emission hot spots; regulation of wood burning fireplaces and wood stoves; reductions from under-fired char broilers; reducing urban heat island through lighter colored roofing, and paving materials and tree planting programs; energy efficiency and conservation programs; and emission reduction from new or redevelopment projects through regulations that will establish mitigation options to be implemented in such project. The specific measures are discussed in Chapter 4 and presented in detail in Appendix IV-A of the 2007 AQMP.

The TCMs defined in the RTP and RTIP fall into three categories, High Occupancy Vehicle measures, Transit and System Management Measures and Information-based Transportation Strategies. The High Occupancy Vehicle (HOV) Strategy attempts to reduce the proportion of commute trips made by single occupancy vehicles which constitute 72% of all home work trips according to the 200 U.S. Census. Specific measures include new HOV lanes on existing and new facilities, HOV to HOV bypasses and High Occupancy Toll (HOT) lanes. The Transit and Systems Management Strategy incentivize the use of transit, alternative transportation modes (e.g., pedestrian and bicycles), and increases in average vehicle occupancy by facilitating vanpools, smart shuttles and similar strategies. Systems management measures include grade separation and traffic signal synchronization projects. The information-based Transportation Strategy relies primarily on the innovative provision of information in a manner that successfully influences the ways in which individuals use the regional transportation system. Providing ride matching to increase ride-sharing and carpool trips and providing near real-time estimates of congestion in an effort to influence persons to defer traveling to a less congested period are examples of the strategy.

In addition to District's measures and SCAG's TCMs, the Final 2007 AQMP includes additional short- and mid-term control measures aimed at reducing emissions from sources that are primarily under state and federal jurisdiction including on-road and off-road mobile sources, and consumer products. Measures committed to be enacted by CARB include (1) improvements to the smog check program, (2) cleaner in-use heavy duty truck emission regulations, (3) increased regulations on goods movement sources including ships, harbor craft, and port trucks, (4) regulations for cleaner in-use off-road equipment including agricultural equipment, (5) various measures to reduce evaporative VOC emissions from fuel storage and dispensing, (6) tightened emission standards and product reformulation for consumer products that emit VOC's, and (7) reductions in emissions from pesticide applications.

Four long-term "black box" control approaches are presented in the 2007 AQMP. These measures include (1) further reductions from on-road sources by retiring or retrofitting older high-emitting vehicles and accelerated penetration of very low and zero emission vehicles, (2) increased inspection and maintenance (I/M) programs for heavy-duty diesel trucks, (3) further reductions from off-road mobile sources through accelerated turn-over of existing equipment, retrofitting existing equipment and new engine emission standards, and (4) further reductions from consumer product VOC emissions.

The 2007 AQMP identifies four contingency measures that would need to be implemented if milestone emission targets are not met or if the standards are not attained by the required date. While implementation of these measures is expected to reduce emissions, there are issues that limit the viability of these measures as AQMP control measures. These issues include the availability of District resources to implement and enforce the measure, cost-effectiveness of the measure, potential adverse environmental impacts, effectiveness of emission reductions, and availability of methods to quantify emission reductions.

1.6 Climate

The climate in and around the project area, as with all of Southern California, is controlled largely by the strength and position of the subtropical high pressure cell over the Pacific Ocean. It maintains moderate temperatures and comfortable humidity, and limits precipitation to a few storms during the winter "wet" season. Temperatures are normally mild, excepting the summer months, which commonly bring substantially higher temperatures. In all portions of the basin, temperatures well above 100 degrees F. have been recorded in recent years. The annual average temperature in the basin is approximately 62 degrees Fahrenheit.

Winds in the project area are usually driven by the dominant land/sea breeze circulation system. Regional wind patterns are dominated by daytime onshore sea breezes. At night the wind generally slows and reverses direction traveling towards the sea. Wind direction will be altered by local canyons, with wind tending to flow parallel to the canyons. During the transition period from one wind pattern to the other, the dominant wind direction rotates into the south and causes a minor wind direction maximum from the south. The frequency of calm winds (less than 2 miles per hour) is less than 10 percent. Therefore, there is little stagnation in the project vicinity, especially during busy daytime traffic hours.

Southern California frequently has temperature inversions which inhibit the dispersion of pollutants. Inversions may be either ground based or elevated. Ground based inversions, sometimes referred to as radiation inversions, are most severe during clear, cold, early winter mornings. Under conditions of a ground-based inversion, very little mixing or turbulence occurs, and high concentrations of primary pollutants may occur local to major roadways. Elevated inversions can be generated by a variety of meteorological phenomena. Elevated inversions act as a lid or upper boundary and restrict vertical mixing. Below the elevated inversion, dispersion is not restricted. Mixing heights for elevated inversions are lower in the summer and more persistent. This low summer inversion puts a lid over the South Coast Air Basin (SCAB) and is responsible for the high levels of ozone observed during summer months in the air basin.

1.7 Monitored Air Quality

Air quality at any site is dependent on the regional air quality and local pollutant sources. Regional air quality is determined by the release of pollutants throughout the air basin. Estimates for the SCAB have been made for existing emissions ("2007 Air Quality Management Plan", June 2007). The data indicate that on-road (e.g.; automobiles, busses and trucks) and off-road (e.g.; trains, ships, and construction equipment) mobile sources are the major source of current emissions in the SCAB. Mobile sources account for approximately 64% of VOC emissions, 92% of NO_X emissions, 39% of direct $PM_{2.5}$ emissions, 59% of SO_X emissions and 98% of CO emissions. Area sources (e.g., architectural coatings, residential water heaters, and consumer products) account for approximately 30% of VOC emissions and 32% of direct $PM_{2.5}$ emissions. Point sources (e.g., chemical manufacturing, petroleum production, and electric utilities) account for approximately 38% of SO_X emissions. Entrained road dust account for approximately 20% of direct $PM_{2.5}$ emissions.

The SCAQMD has divided its jurisdiction into 38 source receptor areas (SRA) with a designated ambient air monitoring station in most areas. The project is located in the North Orange County SRA (SRA 16). The designated monitoring station for this SRA is the Anaheim-Pampas Lane station which is located approximately 4.25 miles northwest of the site in the vicinity of the intersection of Euclid Street and Lincoln Avenue in the City of Anaheim. The air pollutants measured at the Anaheim-Pampas Lane site include ozone, carbon monoxide (CO), nitrogen dioxide (NO_2), and particulate matter (PM_{10} and $PM_{2.5}$). Sulfur dioxide (SO_2) is not measured at

the Anaheim-Pampas Lane Station. Sulfur dioxide levels in the SCAB have been well below state and federal standards for many years.

The air quality data monitored at the Anaheim-Pampas Lane station from 2009 to 2012 are presented in Table 3. The air quality data monitored were obtained from the CARB air quality data website (www.arb.ca.gov/adam/) and the SCAQMD Historical Data website (http://www.aqmd.gov/smog/historicaldata.htm). At this dime CARB and SCAQMD have not published complete data for 2013. The previous year's data is typically made available between three and six months after the end of the year.

Table 3
Air Quality Measured at the Anaheim-Pampas Lane Monitoring Station

Pollutant	California Standard	National Standard	Year	% Msrd.[1]	Max. Level	Days State Standard Exceeded[2]	Days National Standard Exceeded[2]
Ozone	0.09 ppm	None	2012	95	0.079	0	n/a
1 Hour			2011	96	0.088	0	n/a
Average			2010	83	0.104	1	n/a
			2009	97	0.093	0	n/a
Ozone	0.070 ppm	0.075 ppm	2012	93	0.067	0	0
8 Hour			2011	94	0.072	1	0
Average			2010	79	0.088	1	1
			2009	97	0.077	2	1
CO	20 ppm	35 ppm	2012	46	--	--	--
1 Hour			2011	45	--	--	--
Average			2008	96	3	0	0
			2007	97	4	0	0
CO	9.0 ppm	9 ppm	2012	46	2.34	0	0
8 Hour			2011	95	2.08	0	0
Average			2010	96	1.98	0	0
			2009	97	2.73	0	0
NO_2	0.25 ppm	None	2012	96	0.067	0	n/a
1 Hour			2011	94	0.074	0	n/a
Average			2010	93	0.073	0	n/a
			2009	93	0.068	0	n/a
NO_2	None	0.053 ppm	2012	96	0.014	n/a	No
AAM[3]			2011	94	--	n/a	No
			2010	93	--	n/a	No
			2009	93	0.018	n/a	No

(Table Continued on Next Page)

Table 3 (Continued)
Air Quality Measured at the Anaheim-Pampas Lane Monitoring Station

Pollutant	California Standard	National Standard	Year	% Msrd.[1]	Max. Level	Days State Standard Exceeded[2]	Days National Standard Exceeded[2]
Respirable	50 μg/m^3	150 μg/m^3	2012	100	48.0	0/0	0/0
Particulates			2011	99	53.0	2/12	0/0
PM_{10}			2010	97	43.0	0/--	0/0
24 Hour Average			2009	0	62.0	1/--	0/0
Respirable	20 μg/m^3	None	2012	100	22.3	Yes	n/a
Particulates			2011	99	24.7	Yes	n/a
PM_{10}			2010	97	22.5	Yes	n/a
AAM[3]			2009	0	25.1	Yes	n/a
Fine	None	35 μg/m^3	2012	99	50.1	n/a	4/4
Particulates			2011	100	39.2	n/a	2/2
$PM_{2.5}$			2010	100	31.7	n/a	5/5
24 Hour Average			2009	100	64.5	n/a	5/5
Fine	12 μg/m^3	15 μg/m^3	2012	99	10.8	No	No
Particulates			2011	100	11.0	No	No
$PM_{2.5}$			2010	100	10.5	No	No
AAM[3]			2009	100	12.0	No	No

1. Percent of year where high pollutant levels were expected that measurements were made.
2. For annual averaging times a yes or no response is given if the annual average concentration exceeded the applicable standard. For the PM_{10} and $PM_{2.5}$ 24-hour standards, daily monitoring is not performed. The first number shown in Days State Standard Exceeded column is the actual number of days measured that State standard was exceeded. The second number shows the number of days the standard would be expected to be exceeded if measurements were taken every day.
3. Annual Arithmetic Mean

-- Data Not Reported, n/a – no applicable standard

Sources: CARB Air Quality Data Statistics web site www.arb.ca.gov/adam/ accessed 1/10/14
SCAQMD Historical Data Website http://www.aqmd.gov/smog/historicaldata.htm accessed 1/10/14

The monitoring data presented in Table 3 show that the only air quality standards exceeded in the project area in the past four years are particulates and ozone. The table shows that the State 1-hour state ozone standard was exceeded once in the past four years. The State 8-hour ozone was exceeded between 1 and two days each year in 2009 through 2011 and was not exceeded in 2012.

There have been no exceedances of Federal 24-hour average PM_{10} standard in the past four years. The State standard was measured to be exceeded once in 2009 and twice in 2011 (with an estimated total of 12 days of exceedances that year). The State 24-hour PM_{10} standard was not exceeded in 2010 or 2012. The State annual average PM_{10} standard has been exceeded each of the past four years at the Station. The federal 24-hour $PM_{2.5}$ standard was measured to be exceeded between two and five days each year at the Anaheim-Pampas Lane Monitoring Station. The state and federal annual $PM_{2.5}$ standards have not been exceeded in the past four years.

The data shows a general downward trend in particulate and ozone concentrations and number of days of exceedances. However, the 1-hour ozone and 24-hour particulate matter data shows considerable variation around this downward trend. This is due to the fact all ozone and a

substantial portion of $PM_{2.5}$ are bit directly emitted but formed in the atmosphere as other pollutants combine. The rate of formation is very dependent on weather conditions. During years with the highest concentrations, weather conditions favorable to the formation of ozone and particulate matter occurred concurrently with high emissions of precursor pollutants. The 8-hour ozone and annual particulate matter concentrations reflect the general downward trend as these values are not as affected by short term weather patterns..

The monitored data shown in Tables 3 shows that other than ozone, PM_{10}, and $PM_{2.5}$ exceedances as mentioned above, no State or Federal standards were exceeded for the remaining criteria pollutants in the project area.

2.0 Potential Air Quality Impacts

Air quality impacts are usually divided into short term and long term. Short-term impacts are usually the result of construction or grading operations. Long-term impacts are associated with the built out condition of the proposed project.

2.1 Thresholds of Significance

2.1.1 Regional Air Quality

In their "1993 CEQA Air Quality Handbook", the SCAQMD has established significance thresholds to assess the impact of project related air pollutant emissions. Table 4 presents these significance thresholds. There are separate thresholds for short-term construction and long-term operational emissions. A project with daily emission rates below these thresholds are considered to have a less than significant effect on regional air quality. It should be noted the thresholds recommended by the SCAQMD are very low and subject to controversy. It is up to the individual lead agencies to determine if the SCAQMD thresholds are appropriate for their projects.

Table 4
SCAQMD Regional Pollutant Emission Thresholds of Significance

	Regional Significance Threshold (lbs/day)					
	CO	VOC	NO_x	PM_{10}	$PM_{2.5}$	SO_x
Construction	550	75	100	150	55	150
Operation	550	55	55	150	55	150

2.1.2 Local Air Quality

As part of the SCAQMD's environmental justice program, attention was focused on localized effects of air quality. In accordance with Governing Board direction, SCAQMD staff developed localized significance threshold (LST) methodology and mass rate look-up tables by source receptor area (SRA) that can be used to determine whether or not a project may generate significant adverse localized air quality impacts. The LST's represent the maximum emissions from a project that will not cause or contribute to an exceedance of the most stringent applicable federal or state ambient air quality standard, and are developed based on the ambient concentrations of that pollutant for each source receptor area. The LST methodology is described in "Final Localized Significance Threshold Methodology" dated June 2003 by the SCAQMD and is available at the SCAQMD website (http://aqmd.gov/ceqa/handbook/LST/LST.html).

The LST mass rate look-up tables provided by the SCAQMD allow one to determine if the daily emissions for proposed construction or operational activities could result in significant localized air quality impacts. If the calculated on-site emissions for the proposed construction or operational activities are below the LST emission levels found on the LST mass rate look-up table, then the proposed construction or operation activity will not result in a significant impact on local air quality.

The LST mass rate look-up tables are applicable to the following pollutants only: oxides of nitrogen (NO_X), carbon monoxide (CO), respirable particulate matter (PM_{10}), and fine particulate matter ($PM_{2.5}$). LST's are derived based on the location of the activity (i.e., the source/receptor area); the emission rates of NO_X, CO, PM_{10}, and $PM_{2.5}$; and the distance to the nearest exposed

individual. This distance is based upon the uses around the project and the Ambient Air Quality Standard (AAQS) averaging times for the pollutants of concern. The shortest AAQS averaging time for CO and NO_2 are for one-hour and the nearest exposed individual is the location where a person could be expected to remain for 1-hour. The shortest averaging time for the PM_{10} and $PM_{2.5}$ AAQS is 24 hours and the nearest exposed individual is the location where a person could be expected to remain for 24-hours. Typically, this is the nearest residential use.

The LST methodology presents mass emission rates for each SRA, project sizes of 1, 2, and 5 acres, and nearest receptor distances of 25, 50, 100, 200, and 500 meters. For project sizes between the values given, or with receptors at distances between the given distances, the methodology uses linear interpolation to determine the thresholds. If receptors are within 25 meters of the site, the methodology document says that the threshold for the 25-meter distance should be used.

The project is located in SRA 16. The nearest residential uses where a person could spend 24-hours are located adjacent to the proposed project to the southeast approximately 310 feet southeast of the project site. The nearest area where a person could spend 1-hour is the hotel pool located approximately 100 feet north of the project. Therefore, per the LST methodology a 30.5-meter (100-foot) receptor distance was used was used to establish the threshold CO and NO_X emissions and a 94.5-meter (310-foot) receptor distance was used to establish the thresholds for PM_{10} and $PM_{2.5}$ emission. The project site is approximately 6.38 acres. This information was used to determine the localized significance thresholds applicable to the project.

The LST thresholds specific for the proposed project are presented in Table 5. A project with on-site daily emission rates below these thresholds is considered to have a less than significant effect on local air quality.

Table 5
Localized Significance Thresholds

	Localized Significance Threshold (lbs/day)			
	CO	NO_x	PM_{10}	$PM_{2.5}$
Construction	1,403.1	219.0	47.3	14.3
Operation	1,403.1	219.0	11.7	3.9

In addition, the project would result in a local air quality impact if the project results in increased traffic volumes and/or decreases in Level of Service (LOS) that would result in an exceedance of the CO ambient air quality standards of 20 ppm for 1-hour Carbon Monoxide (CO) concentration levels, and 9 ppm for 8-hour CO concentration levels. If the CO concentration levels at potentially impacted intersections with the project are lower the standards, then there is no significant impact. If future CO concentrations with the project are above these levels, then the project will have a significant local air quality impact.

2.2 Short-Term Impacts

Temporary impacts will result from project construction activities. Air pollutants will be emitted by construction equipment and fugitive dust will be generated during demolition of the existing improvements as well as during grading of the site.

2.2.1 Construction Emission Calculation Methodology

Emissions during the primary phases of construction were calculated using CalEEMod (v2013.2.1). The CalEEMod model calculates total emissions, on-site and off-site, resulting from each construction activity which are compared to the SCAQMD Regional Thresholds presented in Table 4. On-site project emissions, which are compared to the SCAQMD Local Significance Thresholds presented in Table 5, were calculated by scaling the emissions from on-road sources so that only the emissions from on-site portion of the trip are included. Each worker, material removal or delivery trip was assumed to have a 0.25-mile component within the project site.

The Project Applicant provided project specific construction information. Construction of the Project is anticipated to occur in 2014 and take approximately 4 months to complete. Site preparation and grading are anticipated to take 3 to 4 weeks to complete. On-site grading will involve moving approximately 12,000 CY of material and approximately 3,000 CY of material will be exported. It was assumed that paving would occur during the last month of construction and that painting would occur during the last two weeks. CalEEMod default assumptions were used for all other inputs.

Note that delays in the start of construction would not significantly affect emission estimates. In fact, the CalEEMod program includes a reduction in on-road and off-road vehicle exhaust emissions each year to account for new construction equipment and on-road vehicles manufactured under stricter emission standards becoming a larger part of the construction fleet (a fleet average emission factor is used to estimate emissions). So for emissions modeling purposes, a delay moving the activity into the following year would actually result in a slight reduction in the exhaust emissions estimates. Lengthening the duration of each activity would result in the same or lower daily emissions as daily activity levels for emission sources would either not change or decrease as the work is spread out over a longer period of time. A shortening of any of the construction activities assumed could result in higher emissions and would require a re-analysis of the emission impacts.

2.2.2 Regional Construction Emissions

Using the estimates presented above, the air pollutant emissions were calculated and presented in Table 6. The daily emissions are calculated and these represent the highest level of emissions during each construction activity. The CalEEMod output files are presented in the appendix.

Table 6 shows that no individual construction activity will generate emissions that exceed the SCAQMD Regional Emissions Significance Thresholds. Building construction will occur concurrently with paving as will paving and painting. Table 7 presents the total emissions during these concurrent construction activities. These are simply the sum of the emissions presented in Table 6 for the concurrent activities.

Table 6
Total Construction Emissions by Activity

	Daily Emissions (lbs/day)					
Activity	**CO**	**NO_x**	**VOC**	**PM_{10}**	**$PM_{2.5}$**	**SO_x**
Site Preparation	44.2	57.7	5.7	21.4	12.9	0.04
Grading	32.1	47.9	5.2	9.6	5.8	0.05
Construction	29.9	36.1	6.6	3.6	2.5	0.05
Paving	16.0	26.2	3.1	1.6	1.4	0.02
Painting	3.2	2.9	8.9	0.5	0.3	0.01
Site Preparation	44.2	57.7	5.7	21.4	12.9	0.04
Significance Threshold	**550**	**100**	**75**	**150**	**55**	**150**
Exceed Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

Table 7
Total Concurrent Construction Emissions

	Daily Emissions (lbs/day)					
Activity	**CO**	**NO_x**	**VOC**	**PM_{10}**	**$PM_{2.5}$**	**SO_x**
Paving Combined With:						
Construction	45.9	62.2	9.7	5.3	3.9	0.1
Painting	19.2	29.1	11.9	2.1	1.7	0.0
Significance Threshold	**550**	**100**	**75**	**150**	**55**	**150**
Exceed Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

Table 7 shows that no concurrent construction activity will generate emissions that exceed the SCAQMD Regional Emissions Significance Thresholds. Therefore, the construction of the project will not result in a significant regional air quality impact.

2.2.3 On-site Construction Emissions

On-site emissions for each of the construction activities were calculated based on the CalEEMod output as discussed in Section 2.2.1 and are presented in Table 8. The applicable LST thresholds are also presented.

Table 8
On-Site Emissions By Construction Activity

Activity	Daily Emissions (lbs/day) CO	NO_x	PM_{10}	$PM_{2.5}$
Site Preparation	43.0	57.6	21.2	12.8
Grading	27.0	41.4	9.0	5.6
Construction	19.4	31.4	2.3	2.1
Paving	15.0	26.1	1.5	1.3
Painting	0.1	0.1	0.0	0.0
Significance Threshold	**1,403.1**	**219.0**	**47.3**	**14.3**
Exceed Threshold?	**No**	**No**	**No**	**No**

Table 8 shows that no individual construction activity will generate emissions that exceed the SCAQMD Localized Significance Thresholds. Building construction will occur concurrently with paving as will paving and painting. Table 9 presents the total emissions during these concurrent construction activities. These are simply the sum of the emissions presented in Table 8 for the concurrent activities.

Table 9
On-Site Emissions By Concurrent Construction Activities

Activity	Daily Emissions (lbs/day) CO	NO_x	PM_{10}	$PM_{2.5}$
Paving Combined With:				
Construction	34.3	57.5	3.7	3.5
Painting	15.0	26.2	1.5	1.3
Significance Threshold	**1,403.1**	**219.0**	**47.3**	**14.3**
Exceed Threshold?	**No**	**No**	**No**	**No**

Table 9 shows that no concurrent construction activity will generate emissions that exceed the SCAQMD Localized Significance Thresholds. Therefore, the construction of the project will not result in a significant local air quality impact.

2.2.4 Diesel Particulate Matter Emissions During Construction

In 1998, the California Air Resources Board (ARB) identified particulate matter from diesel-fueled engines (Diesel Particulate Matter or DPM) as a Toxic Air Contaminant (TAC). It is assumed that the majority of the heavy construction equipment utilized during construction would be diesel fueled and emit DPM. Impacts from toxic substances are related to cumulative exposure and are assessed over a 70-year period. Cancer risk is expressed as the maximum number of new cases of cancer projected to occur in a population of one million people due to exposure to the cancer-causing substance over a 70-year lifetime (California Environmental Protection Agency, Office of Environmental Health Hazard Assessment, Guide to Health Risk Assessment.) Demolition and grading for the project, when the peak diesel exhaust emissions would occur, is expected to take approximately one month, cumulatively, with all construction expected to take approximately 4 months. Because of the relatively short duration of construction compared to a 70-year lifespan, diesel emissions resulting from the construction of the project are not expected to result in a significant impact.

2.3 Long Term Impacts

The primary source of long-term operational air pollutant emissions associated with the project will be due to emissions from the shuttle bus running between the parking lot and the medical center. Currently shuttles between the existing off-site parking lot and the medical center operate from 5:45 a.m. to 8:45 p.m. Monday through Friday. Assuming shuttle service is provided every 10 minutes there are approximately 90 trips each weekday. With the project, this service will be re-routed to run between the project and the medical center. The existing off-site parking is not available on weekends and the shuttle is not operated on Saturday or Sunday. The Project will be available seven days a week and it is likely that shuttle operation will be extended to the weekends. It was assumed that the shuttle would operate 11 hours per day on weekends resulting in 66 trips. The round trip travel distance between the project and the medical center is approximately 2 miles.

CallEEMod uses a vehicular emission factor that is representative of the emissions from the average vehicle operated in Orange County, which is primarily passenger vehicles but also includes all sizes of trucks. The shuttle bus would be expected to be a light or medium duty truck, which would be expected to generate more emissions than the average. Therefore, the number of shuttle trips entered into the CalEEMod was doubled from the actual expected number of trips discussed above to provide a conservative estimate of the actual emissions.

Total emissions from the project area for the opening year of the project were calculated using the methodology presented in Section 0 and are presented in Section 2.3.2. These emissions are compared to the SCAQMD Regional emission factors presented in Section 2.1.1. Total on-site emissions from the project during the interim period were calculated using the methodology presented in Section 0 and are presented in Section 2.3.3. These emissions are compared to the Local Significance Thresholds (LST) presented in Section 2.1.2. Traffic generated by the project has the potential to affect air pollutant concentrations at intersections in the vicinity of the project. These impacts are examined in Section 2.3.4.

2.3.1 Project Emissions Calculation Methodology

Air pollutant emissions due to the project were calculated using the CalEEMod Program. To determine emissions with the project, the program was set to calculate emissions for a 577 space, 203,800 gross square foot asphalt surface parking lot on a 6.38-acre site. Default CalEEMod factors were used for the calculations except the trip generation rate, which was modified to account for the shuttle emissions as discussed above.

Emissions were calculated for the opening year of the project, 2014. Vehicular emissions are projected to decrease in future years (as projected by EMFAC2007). Therefore, emissions during the first year are the highest emissions from the project during its lifespan. CalEEMod calculates daily emissions for the summertime and wintertime periods. The results presented below are the highest daily emissions for either season. Output files from the CalEEMod program are presented in the appendix and provide the emissions for each season independently. CalEEMod calculates total regional emissions associated with the operation of the project. On-site vehicular emissions were calculated by scaling the vehicular emissions by the ratio of the on-site trip length, 0.5 miles, to the total average trip length of 2 miles discussed above.

2.3.2 Regional Project Emissions

Table 10 presents the results of the CalEEMod model showing the daily air pollutant emissions projected for the opening year of the project. The CalEEMod output file showing the specific data utilized in calculating the emissions due to the project are provided in the appendix.

Table 10
Total Emissions With Project

	Daily Emissions (lbs/day)					
Activity	**CO**	**VOC**	**NO_x**	**PM_{10}**	**$PM_{2.5}$**	**SO_x**
Vehicular Emissions	3.0	0.7	0.6	0.3	0.1	0.00
Natural Gas Combustion	0.0	0.0	0.0	0.0	0.0	0.00
Landscaping	0.1	0.0	0.0	0.0	0.0	0.00
Consumer Products	0.0	4.6	0.0	0.0	0.0	0.00
Architectural Coatings	0.0	0.0	0.0	0.0	0.0	0.00
Total Emissions	**3.1**	**5.3**	**0.6**	**0.3**	**0.1**	**0.00**
Significance Threshold	**550**	**55**	**55**	**150**	**55**	**150**
Exceed Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

Table 10 shows that the total emissions from the project will be less than the SCAQMD regional significance thresholds. Therefore, the project will not result in a significant regional air quality impact. No mitigation is required.

Table 11 compares total emissions with the project to the projected basin wide emissions from the 2007 AQMP. This comparison shows that the project represents a very small fraction of the total regional emissions. The project represents, at most, less than 3 thousandths of a percent of the total regional emissions.

Table 11
Comparison of interim Project Emissions with SCAB Emissions

	Pollutant Emissions (tons/day)					
	CO	VOC	NO_x	PM_{10}	$PM_{2.5}$	SO_x
Project Emissions	0.00153	0.00265	0.00028	0.00014	0.00004	0.00000
2023 South Coast Air Basin*	2,147	95	539	508	318	102
Project as Percentage of Basin	0.0001%	0.0028%	0.0001%	0.0000%	0.0000%	0.0000%

* Source: 2007 AQMP Table 3-5A except PM_{10} from 2003 AQMP Tables 3-5A and 3-5B

2.3.3 On-Site Project Emissions

Based on the assumptions described above, the on-site emissions during the opening year of the project were calculated and are presented in Table 12. Table 12 shows that the on-site emissions will not exceed the LSTs. Therefore, the project will not result in a significant localized air quality impact.

Table 12
On-Site Project Emissions

	Daily Emissions (lbs/day)			
Activity	CO	NO_x	PM_{10}	$PM_{2.5}$
Vehicular Emissions	0.8	0.1	0.1	0.0
Natural Gas Combustion	0.0	0.0	0.0	0.0
Landscaping	0.1	0.0	0.0	0.0
Consumer Products	0.0	0.0	0.0	0.0
Architectural Coatings	0.0	0.0	0.0	0.0
Total Emissions	**0.8**	**0.1**	**0.1**	**0.0**
Significance Threshold	**1,021.9**	**136.3**	**2.2**	**2.0**
Exceed Threshold?	**No**	**No**	**No**	**No**

2.3.4 Local Air Quality Impacts Near Intersections Affected by Traffic Patterns Altered by The Project

Changes in traffic patterns could result in increased pollutant emissions adjacent to roads and intersections. Carbon monoxide (CO) and particulates (PM_{10} and $PM_{2.5}$) are the pollutants of major concern along roadways.

The most notable source of CO is motor vehicles. For this reason, carbon monoxide concentrations are usually indicative of the local air quality generated by a roadway network, and are used as an indicator of its impacts on local air quality. CO concentrations are highest near intersections where queuing increases emissions. Local air quality impacts can be assessed by comparing future carbon monoxide levels with State and Federal carbon monoxide standards moreover by comparing future CO concentrations with and without the project. The Federal and State standards for carbon monoxide were presented earlier in Table 1.

CO modeling was performed for the 2003 AQMP to demonstrate attainment of the federal CO standards in the South Coast Air Basin (SCAB). Modeling was performed for four intersections considered the worst-case intersections in the SCAB. These intersections included; Wilshire at Veteran, Sunset at Highland, La Cienega at Century, and Long Beach at Imperial. Table 4-10 of Appendix V of the AQMP shows that modeled 1-hour average concentrations at these four intersections for 2002 conditions are actually below the 8-hour standard of 9 ppm. The highest modeled 1-hour average concentration of 4.6 ppm occurred at the Wilshire and Veteran intersection. Generally, only intersections operating at LOS of D or worse are considered to have the potential to cause CO concentrations to exceed the state ambient air quality standards of 20 ppm for a 1-hour averaging time and 9 ppm for an 8-hour averaging time.

Roads with substantial diesel truck volumes have the potential to result in particulate hot spots. The FHWA has published guidance on performing a qualitative analysis of particulate hot spots because at this time a reliable and accurate methodology for quantitatively assessing particulate hotspots has not been established. The FHWA guidance considers a road with an average daily diesel truck volume of 10,000 or less does not have the potential to result in a hot spot.

The project itself does not generate any new vehicle trips. However, the project will result in the re-routing of trips from the current off-site parking lot to the proposed project. A traffic analysis performed for the project concluded that the project would have no significant impact to the surrounding circulation system (Stantec Consulting Services, Inc., UCI Medical Center – Orangewood Avenue Parking Lot, January 7, 2014). Therefore, the project would not be expected to considerably increase congestion and local CO and particulate matter concentrations.

The project is not anticipated to cause or significantly contribute to any CO or particulate matter concentrations exceeding the AAQS along roadways serving the project. Therefore, the Project will not result in a significant local air quality impact along roadways serving the project.

2.4 Compliance with Air Quality Planning

The following sections deal with the major air planning requirements for this project. Specifically, consistency of the project with the AQMP is addressed. As discussed below, consistency with the AQMP is a requirement of the California Environmental Quality Act (CEQA).

2.4.1 Consistency with AQMP

An EIR must discuss any inconsistencies between the proposed project and applicable GPs and regional plans (California Environmental Quality Act (CEQA) guidelines (Section 15125)). Regional plans that apply to the proposed project include the South Coast Air Quality Management Plan (AQMP). In this regard, this section will discuss any inconsistencies between the proposed project with the AQMP.

The purpose of the consistency discussion is to set forth the issues regarding consistency with the assumptions and objectives of the AQMP and discuss whether the project would interfere with the region's ability to comply with Federal and State air quality standards. If the decision-maker determines that the project is inconsistent, the lead agency may consider project modifications or inclusion of mitigation to eliminate the inconsistency.

The SCAQMD's CEQA Handbook states that "New or amended GP Elements (including land use zoning and density amendments), Specific Plans, and significant projects must be analyzed for consistency with the AQMP." Strict consistency with all aspects of the plan is usually not

required. A proposed project should be considered to be consistent with the plan if it furthers one or more policies and does not obstruct other policies. The Handbook identifies two key indicators of consistency:

(1) Whether the project will result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations, or delay timely attainment of air quality standards or the interim emission reductions specified in the AQMP (except as provided for CO in Section 9.4 for relocating CO hot spots).

(2) Whether the project will exceed the assumptions in the AQMP based on the year of project buildout and phase.

Both of these criteria are evaluated in the following sections.

Criterion 1 - Increase in the Frequency or Severity of Violations?

Based on the air quality modeling analysis contained in this report, there will not be significant short-term construction and long-term operational impacts due to the project based on the SCAQMD thresholds of significance. Emissions generated during construction and operation will not exceed SCAQMD's LST criteria, and therefore, it is unlikely that development of the project will increase the frequency or severity of existing air quality violations in the immediate vicinity of the project. Further, the project is not projected to result in any exceedances due to traffic volume increases at nearby intersections. The proposed project is not projected to contribute to the exceedance of any air pollutant concentration standards, thus the project is found to be consistent with the AQMP for the first criterion.

Criterion 2 - Exceed Assumptions in the AQMP?

Consistency with the AQMP assumptions is determined by performing an analysis of the project with the assumptions in the AQMP. Thus, the emphasis of this criterion is to insure that the analyses conducted for the project are based on the same forecasts as the AQMP. The Regional Comprehensive Plan and Guide (RCP&G) consists of three sections: Core Chapters, Ancillary Chapters, and Bridge Chapters. The Growth Management, Regional Mobility, Air Quality, Water Quality, and Hazardous Waste Management chapters constitute the Core Chapters of the document. These chapters currently respond directly to federal and state requirements placed on SCAG. Local governments are required to use these as the basis of their plans for purposes of consistency with applicable regional plans under CEQA.

Since the SCAG forecasts are not detailed, the test for consistency of this project is not specific. The SCAG forecasts are based on the General Plans of municipalities in the basin. The project does not propose any new trip generating land uses. Further, the analysis presented above shows that the total project emissions are less than the SCAQMD significance thresholds. The emissions increase due to the project is minor and will not interfere with the AQMP or the attainment of the ambient air quality standards. Therefore, emissions from the project site at project completion will not be greater than those anticipated in the AQMP.

3.0 Mitigation Measures

3.1 Short-Term Impacts

The analysis presented in Section 2.2 concluded that the construction of the project would not result in any significant short-term air quality impacts. Note that grading and construction activities will need to comply with SCAQMD's Rule 403 to minimize fugitive dust emissions.

3.2 Long-Term Impacts

The analysis presented in Section 2.3 concluded that the operation of the project would not result in any significant long-term air quality impacts. No mitigation measures are required.

4.0 Unavoidable Significant Impacts

With the mitigation measures described in Section 3.0, all significant impacts will be reduced to a level of insignificance and the project will not result in any unavoidable significant impacts.

Appendix

CalEEMod Output Files

Orangewood Parking Lot

Orange County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	577.00	Space	6.38	230,800.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	30
Climate Zone	8			**Operational Year**	2014
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	630.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Project Specific Lot Acreage

Construction Phase - Schedule adjusted to match guidance from Project Applicant

Trips and VMT - Grading Haul Trips Adjusted for 16 CY truck

Grading -

Construction Off-road Equipment Mitigation -

Vehicle Trips - Modified to include shuttle bus emissions

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	230.00	45.00
tblConstructionPhase	NumDays	20.00	10.00
tblConstructionPhase	NumDays	20.00	40.00
tblConstructionPhase	PhaseEndDate	10/24/2014	9/26/2014
tblConstructionPhase	PhaseEndDate	10/24/2014	9/26/2014
tblConstructionPhase	PhaseStartDate	9/27/2014	9/1/2014
tblConstructionPhase	PhaseStartDate	6/28/2014	6/30/2014
tblConstructionPhase	PhaseStartDate	6/14/2014	6/16/2014
tblConstructionPhase	PhaseStartDate	8/30/2014	8/4/2014
tblGrading	MaterialExported	0.00	3,000.00
tblLandUse	LotAcreage	5.19	6.38
tblTripsAndVMT	HaulingTripNumber	375.00	188.00
tblVehicleTrips	CC_TL	8.40	2.00
tblVehicleTrips	CC_TTP	0.00	100.00
tblVehicleTrips	ST_TR	0.00	0.23
tblVehicleTrips	SU_TR	0.00	0.23
tblVehicleTrips	WD_TR	0.00	0.31

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2014	12.0805	62.3956	46.3121	0.0717	18.2675	3.7725	21.4067	9.9840	3.5182	12.8722	0.0000	7,203.1197	7,203.1197	1.4657	0.0000	7,233.8999
Total	**12.0805**	**62.3956**	**46.3121**	**0.0717**	**18.2675**	**3.7725**	**21.4067**	**9.9840**	**3.5182**	**12.8722**	**0.0000**	**7,203.1197**	**7,203.1197**	**1.4657**	**0.0000**	**7,233.8999**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2014	12.0805	62.3956	46.3121	0.0717	7.2470	3.7725	10.3863	3.9263	3.5182	6.8145	0.0000	7,203.1197	7,203.1197	1.4657	0.0000	7,233.8999
Total	**12.0805**	**62.3956**	**46.3121**	**0.0717**	**7.2470**	**3.7725**	**10.3863**	**3.9263**	**3.5182**	**6.8145**	**0.0000**	**7,203.1197**	**7,203.1197**	**1.4657**	**0.0000**	**7,233.8999**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**60.33**	**0.00**	**51.48**	**60.67**	**0.00**	**47.06**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	4.6200	6.0000e-004	0.0616	0.0000		2.2000e-004	2.2000e-004		2.2000e-004	2.2000e-004		0.1263	0.1263	3.8000e-004		0.1342
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.2795	0.2449	1.9946	4.4000e-004	0.0000	1.7000e-003	1.7000e-003	0.0000	1.5500e-003	1.5500e-003		38.0982	38.0982	6.4200e-003		38.2330
Total	**4.8995**	**0.2455**	**2.0562**	**4.4000e-004**	**0.0000**	**1.9200e-003**	**1.9200e-003**	**0.0000**	**1.7700e-003**	**1.7700e-003**		**38.2244**	**38.2244**	**6.8000e-003**	**0.0000**	**38.3672**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	4.6200	6.0000e-004	0.0616	0.0000		2.2000e-004	2.2000e-004		2.2000e-004	2.2000e-004		0.1263	0.1263	3.8000e-004		0.1342
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.2795	0.2449	1.9946	4.4000e-004	0.0000	1.7000e-003	1.7000e-003	0.0000	1.5500e-003	1.5500e-003		38.0982	38.0982	6.4200e-003		38.2330
Total	**4.8995**	**0.2455**	**2.0562**	**4.4000e-004**	**0.0000**	**1.9200e-003**	**1.9200e-003**	**0.0000**	**1.7700e-003**	**1.7700e-003**		**38.2244**	**38.2244**	**6.8000e-003**	**0.0000**	**38.3672**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	6/2/2014	6/13/2014	5	10	
2	Grading	Grading	6/16/2014	6/27/2014	5	10	
3	Building Construction	Building Construction	6/30/2014	8/29/2014	5	45	
4	Paving	Paving	8/4/2014	9/26/2014	5	40	
5	Architectural Coating	Architectural Coating	9/1/2014	9/26/2014	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 5

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 10,386; Non-Residential Outdoor: 3,462 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	255	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	162	0.38
Grading	Graders	1	8.00	174	0.41
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	226	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	125	0.42
Paving	Paving Equipment	2	8.00	130	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	188.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	97.00	38.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	19.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Site Preparation - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	5.2910	57.6198	42.9609	0.0391		3.1377	3.1377		2.8867	2.8867		4,155.8914	4,155.8914	1.2281		4,181.6817
Total	**5.2910**	**57.6198**	**42.9609**	**0.0391**	**18.0663**	**3.1377**	**21.2040**	**9.9307**	**2.8867**	**12.8174**		**4,155.8914**	**4,155.8914**	**1.2281**		**4,181.6817**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.4406	0.1091	1.1398	2.3200e-003	0.2012	1.5600e-003	0.2028	0.0534	1.4300e-003	0.0548		207.8217	207.8217	0.0114		208.0607
Total	**0.4406**	**0.1091**	**1.1398**	**2.3200e-003**	**0.2012**	**1.5600e-003**	**0.2028**	**0.0534**	**1.4300e-003**	**0.0548**		**207.8217**	**207.8217**	**0.0114**		**208.0607**

3.2 Site Preparation - 2014

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.0458	0.0000	7.0458	3.8730	0.0000	3.8730			0.0000			0.0000
Off-Road	5.2910	57.6198	42.9609	0.0391		3.1377	3.1377		2.8867	2.8867	0.0000	4,155.8914	4,155.8914	1.2281		4,181.6817
Total	**5.2910**	**57.6198**	**42.9609**	**0.0391**	**7.0458**	**3.1377**	**10.1836**	**3.8730**	**2.8867**	**6.7597**	**0.0000**	**4,155.8914**	**4,155.8914**	**1.2281**		**4,181.6817**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.4406	0.1091	1.1398	2.3200e-003	0.2012	1.5600e-003	0.2028	0.0534	1.4300e-003	0.0548		207.8217	207.8217	0.0114		208.0607
Total	**0.4406**	**0.1091**	**1.1398**	**2.3200e-003**	**0.2012**	**1.5600e-003**	**0.2028**	**0.0534**	**1.4300e-003**	**0.0548**		**207.8217**	**207.8217**	**0.0114**		**208.0607**

3.3 Grading - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.5863	0.0000	6.5863	3.3726	0.0000	3.3726			0.0000			0.0000
Off-Road	3.8669	41.0997	26.7538	0.0298		2.3714	2.3714		2.1817	2.1817		3,162.4266	3,162.4266	0.9345		3,182.0518
Total	**3.8669**	**41.0997**	**26.7538**	**0.0298**	**6.5863**	**2.3714**	**8.9577**	**3.3726**	**2.1817**	**5.5544**		**3,162.4266**	**3,162.4266**	**0.9345**		**3,182.0518**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.1362	6.9252	4.8831	0.0139	0.3274	0.1255	0.4529	0.0896	0.1154	0.2050		1,425.3962	1,425.3962	0.0124		1,425.6562
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.3672	0.0909	0.9498	1.9300e-003	0.1677	1.3000e-003	0.1690	0.0445	1.1900e-003	0.0457		173.1848	173.1848	9.4800e-003		173.3839
Total	**1.5033**	**7.0161**	**5.8329**	**0.0158**	**0.4951**	**0.1268**	**0.6218**	**0.1341**	**0.1166**	**0.2507**		**1,598.5809**	**1,598.5809**	**0.0219**		**1,599.0401**

3.3 Grading - 2014

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.5686	0.0000	2.5686	1.3153	0.0000	1.3153			0.0000			0.0000
Off-Road	3.8669	41.0997	26.7538	0.0298		2.3714	2.3714		2.1817	2.1817	0.0000	3,162.4266	3,162.4266	0.9345		3,182.0518
Total	**3.8669**	**41.0997**	**26.7538**	**0.0298**	**2.5686**	**2.3714**	**4.9401**	**1.3153**	**2.1817**	**3.4971**	**0.0000**	**3,162.4266**	**3,162.4266**	**0.9345**		**3,182.0518**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.1362	6.9252	4.8831	0.0139	0.3274	0.1255	0.4529	0.0896	0.1154	0.2050		1,425.3962	1,425.3962	0.0124		1,425.6562
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.3672	0.0909	0.9498	1.9300e-003	0.1677	1.3000e-003	0.1690	0.0445	1.1900e-003	0.0457		173.1848	173.1848	9.4800e-003		173.3839
Total	**1.5033**	**7.0161**	**5.8329**	**0.0158**	**0.4951**	**0.1268**	**0.6218**	**0.1341**	**0.1166**	**0.2507**		**1,598.5809**	**1,598.5809**	**0.0219**		**1,599.0401**

3.4 Building Construction - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.8680	31.2537	18.9298	0.0268		2.2280	2.2280		2.0973	2.0973		2,709.1969	2,709.1969	0.6889		2,723.6630
Total	**3.8680**	**31.2537**	**18.9298**	**0.0268**		**2.2280**	**2.2280**		**2.0973**	**2.0973**		**2,709.1969**	**2,709.1969**	**0.6889**		**2,723.6630**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.8469	4.3774	5.3255	8.2100e-003	0.2374	0.0826	0.3200	0.0676	0.0759	0.1435		837.3193	837.3193	7.6100e-003		837.4792
Worker	2.3744	0.5879	6.1420	0.0125	1.0842	8.4000e-003	1.0926	0.2875	7.7000e-003	0.2953		1,119.9280	1,119.9280	0.0613		1,121.2159
Total	**3.2213**	**4.9653**	**11.4675**	**0.0207**	**1.3216**	**0.0910**	**1.4126**	**0.3551**	**0.0836**	**0.4388**		**1,957.2474**	**1,957.2474**	**0.0689**		**1,958.6951**

3.4 Building Construction - 2014

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.8680	31.2537	18.9298	0.0268		2.2280	2.2280		2.0973	2.0973	0.0000	2,709.1969	2,709.1969	0.6889		2,723.6630
Total	**3.8680**	**31.2537**	**18.9298**	**0.0268**		**2.2280**	**2.2280**		**2.0973**	**2.0973**	**0.0000**	**2,709.1969**	**2,709.1969**	**0.6889**		**2,723.6630**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.8469	4.3774	5.3255	8.2100e-003	0.2374	0.0826	0.3200	0.0676	0.0759	0.1435		837.3193	837.3193	7.6100e-003		837.4792
Worker	2.3744	0.5879	6.1420	0.0125	1.0842	8.4000e-003	1.0926	0.2875	7.7000e-003	0.2953		1,119.9280	1,119.9280	0.0613		1,121.2159
Total	**3.2213**	**4.9653**	**11.4675**	**0.0207**	**1.3216**	**0.0910**	**1.4126**	**0.3551**	**0.0836**	**0.4388**		**1,957.2474**	**1,957.2474**	**0.0689**		**1,958.6951**

3.5 Paving - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.3610	26.0857	14.9649	0.0223		1.4523	1.4523		1.3361	1.3361		2,363.4906	2,363.4906	0.6984		2,378.1578
Paving	0.4179					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**2.7788**	**26.0857**	**14.9649**	**0.0223**		**1.4523**	**1.4523**		**1.3361**	**1.3361**		**2,363.4906**	**2,363.4906**	**0.6984**		**2,378.1578**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.3672	0.0909	0.9498	1.9300e-003	0.1677	1.3000e-003	0.1690	0.0445	1.1900e-003	0.0457		173.1848	173.1848	9.4800e-003		173.3839
Total	**0.3672**	**0.0909**	**0.9498**	**1.9300e-003**	**0.1677**	**1.3000e-003**	**0.1690**	**0.0445**	**1.1900e-003**	**0.0457**		**173.1848**	**173.1848**	**9.4800e-003**		**173.3839**

3.5 Paving - 2014

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.3610	26.0857	14.9649	0.0223		1.4523	1.4523		1.3361	1.3361	0.0000	2,363.4906	2,363.4906	0.6984		2,378.1578
Paving	0.4179					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**2.7788**	**26.0857**	**14.9649**	**0.0223**		**1.4523**	**1.4523**		**1.3361**	**1.3361**	**0.0000**	**2,363.4906**	**2,363.4906**	**0.6984**		**2,378.1578**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.3672	0.0909	0.9498	1.9300e-003	0.1677	1.3000e-003	0.1690	0.0445	1.1900e-003	0.0457		173.1848	173.1848	9.4800e-003		173.3839
Total	**0.3672**	**0.0909**	**0.9498**	**1.9300e-003**	**0.1677**	**1.3000e-003**	**0.1690**	**0.0445**	**1.1900e-003**	**0.0457**		**173.1848**	**173.1848**	**9.4800e-003**		**173.3839**

3.6 Architectural Coating - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	8.0232					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.4462	2.7773	1.9216	2.9700e-003		0.2452	0.2452		0.2452	0.2452		281.4481	281.4481	0.0401		282.2905
Total	**8.4694**	**2.7773**	**1.9216**	**2.9700e-003**		**0.2452**	**0.2452**		**0.2452**	**0.2452**		**281.4481**	**281.4481**	**0.0401**		**282.2905**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.4651	0.1152	1.2031	2.4500e-003	0.2124	1.6500e-003	0.2140	0.0563	1.5100e-003	0.0578		219.3674	219.3674	0.0120		219.6196
Total	**0.4651**	**0.1152**	**1.2031**	**2.4500e-003**	**0.2124**	**1.6500e-003**	**0.2140**	**0.0563**	**1.5100e-003**	**0.0578**		**219.3674**	**219.3674**	**0.0120**		**219.6196**

3.6 Architectural Coating - 2014

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	8.0232					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.4462	2.7773	1.9216	2.9700e-003		0.2452	0.2452		0.2452	0.2452	0.0000	281.4481	281.4481	0.0401		282.2905
Total	**8.4694**	**2.7773**	**1.9216**	**2.9700e-003**		**0.2452**	**0.2452**		**0.2452**	**0.2452**	**0.0000**	**281.4481**	**281.4481**	**0.0401**		**282.2905**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.4651	0.1152	1.2031	2.4500e-003	0.2124	1.6500e-003	0.2140	0.0563	1.5100e-003	0.0578		219.3674	219.3674	0.0120		219.6196
Total	**0.4651**	**0.1152**	**1.2031**	**2.4500e-003**	**0.2124**	**1.6500e-003**	**0.2140**	**0.0563**	**1.5100e-003**	**0.0578**		**219.3674**	**219.3674**	**0.0120**		**219.6196**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.2795	0.2449	1.9946	4.4000e-004	0.0000	1.7000e-003	1.7000e-003	0.0000	1.5500e-003	1.5500e-003		38.0982	38.0982	6.4200e-003		38.2330
Unmitigated	0.2795	0.2449	1.9946	4.4000e-004	0.0000	1.7000e-003	1.7000e-003	0.0000	1.5500e-003	1.5500e-003		38.0982	38.0982	6.4200e-003		38.2330

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Parking Lot	180.02	132.13	132.13		
Total	180.02	132.13	132.13		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Parking Lot	16.60	2.00	6.90	0.00	100.00	0.00	0	0	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.511766	0.057390	0.191335	0.154102	0.040813	0.005872	0.014592	0.013169	0.001415	0.002132	0.004680	0.000514	0.002220

4.4 Fleet Mix

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	4.6200	6.0000e-004	0.0616	0.0000		2.2000e-004	2.2000e-004		2.2000e-004	2.2000e-004		0.1263	0.1263	3.8000e-004		0.1342
Unmitigated	4.6200	6.0000e-004	0.0616	0.0000		2.2000e-004	2.2000e-004		2.2000e-004	2.2000e-004		0.1263	0.1263	3.8000e-004		0.1342

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0440					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	4.5698					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	6.2200e-003	6.0000e-004	0.0616	0.0000		2.2000e-004	2.2000e-004		2.2000e-004	2.2000e-004		0.1263	0.1263	3.8000e-004		0.1342
Total	**4.6200**	**6.0000e-004**	**0.0616**	**0.0000**		**2.2000e-004**	**2.2000e-004**		**2.2000e-004**	**2.2000e-004**		**0.1263**	**0.1263**	**3.8000e-004**		**0.1342**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0440					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	4.5698					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	6.2200e-003	6.0000e-004	0.0616	0.0000		2.2000e-004	2.2000e-004		2.2000e-004	2.2000e-004		0.1263	0.1263	3.8000e-004		0.1342
Total	**4.6200**	**6.0000e-004**	**0.0616**	**0.0000**		**2.2000e-004**	**2.2000e-004**		**2.2000e-004**	**2.2000e-004**		**0.1263**	**0.1263**	**3.8000e-004**		**0.1342**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

Orangewood Parking Lot

Orange County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	577.00	Space	6.38	230,800.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	30
Climate Zone	8			**Operational Year**	2014
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	630.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Project Specific Lot Acreage

Construction Phase - Schedule adjusted to match guidance from Project Applicant

Trips and VMT - Grading Haul Trips Adjusted for 16 CY truck

Grading -

Construction Off-road Equipment Mitigation -

Vehicle Trips - Modified to include shuttle bus emissions

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	230.00	45.00
tblConstructionPhase	NumDays	20.00	10.00
tblConstructionPhase	NumDays	20.00	40.00
tblConstructionPhase	PhaseEndDate	10/24/2014	9/26/2014
tblConstructionPhase	PhaseEndDate	10/24/2014	9/26/2014
tblConstructionPhase	PhaseStartDate	9/27/2014	9/1/2014
tblConstructionPhase	PhaseStartDate	6/28/2014	6/30/2014
tblConstructionPhase	PhaseStartDate	6/14/2014	6/16/2014
tblConstructionPhase	PhaseStartDate	8/30/2014	8/4/2014
tblGrading	MaterialExported	0.00	3,000.00
tblLandUse	LotAcreage	5.19	6.38
tblTripsAndVMT	HaulingTripNumber	375.00	188.00
tblVehicleTrips	CC_TL	8.40	2.00
tblVehicleTrips	CC_TTP	0.00	100.00
tblVehicleTrips	PR_TP	0.00	100.00
tblVehicleTrips	ST_TR	0.00	0.23
tblVehicleTrips	SU_TR	0.00	0.23
tblVehicleTrips	WD_TR	0.00	0.31

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2014	11.9351	62.2269	45.8942	0.0726	18.2675	3.7714	21.4067	9.9840	3.5172	12.8722	0.0000	7,282.3415	7,282.3415	1.4655	0.0000	7,313.1176
Total	**11.9351**	**62.2269**	**45.8942**	**0.0726**	**18.2675**	**3.7714**	**21.4067**	**9.9840**	**3.5172**	**12.8722**	**0.0000**	**7,282.3415**	**7,282.3415**	**1.4655**	**0.0000**	**7,313.1176**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2014	11.9351	62.2269	45.8942	0.0726	7.2470	3.7714	10.3863	3.9263	3.5172	6.8145	0.0000	7,282.3415	7,282.3415	1.4655	0.0000	7,313.1176
Total	**11.9351**	**62.2269**	**45.8942**	**0.0726**	**7.2470**	**3.7714**	**10.3863**	**3.9263**	**3.5172**	**6.8145**	**0.0000**	**7,282.3415**	**7,282.3415**	**1.4655**	**0.0000**	**7,313.1176**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**60.33**	**0.00**	**51.48**	**60.67**	**0.00**	**47.06**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	4.6200	6.0000e-004	0.0616	0.0000		2.2000e-004	2.2000e-004		2.2000e-004	2.2000e-004		0.1263	0.1263	3.8000e-004		0.1342
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.6737	0.5579	2.9995	4.1700e-003	0.2750	6.7500e-003	0.2817	0.0734	6.1900e-003	0.0796		382.4233	382.4233	0.0203		382.8493
Total	**5.2938**	**0.5585**	**3.0611**	**4.1700e-003**	**0.2750**	**6.9700e-003**	**0.2820**	**0.0734**	**6.4100e-003**	**0.0798**		**382.5496**	**382.5496**	**0.0207**	**0.0000**	**382.9836**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	4.6200	6.0000e-004	0.0616	0.0000		2.2000e-004	2.2000e-004		2.2000e-004	2.2000e-004		0.1263	0.1263	3.8000e-004		0.1342
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.6737	0.5579	2.9995	4.1700e-003	0.2750	6.7500e-003	0.2817	0.0734	6.1900e-003	0.0796		382.4233	382.4233	0.0203		382.8493
Total	**5.2938**	**0.5585**	**3.0611**	**4.1700e-003**	**0.2750**	**6.9700e-003**	**0.2820**	**0.0734**	**6.4100e-003**	**0.0798**		**382.5496**	**382.5496**	**0.0207**	**0.0000**	**382.9836**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	6/2/2014	6/13/2014	5	10	
2	Grading	Grading	6/16/2014	6/27/2014	5	10	
3	Building Construction	Building Construction	6/30/2014	8/29/2014	5	45	
4	Paving	Paving	8/4/2014	9/26/2014	5	40	
5	Architectural Coating	Architectural Coating	9/1/2014	9/26/2014	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 5

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 10,386; Non-Residential Outdoor: 3,462 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	255	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	162	0.38
Grading	Graders	1	8.00	174	0.41
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	226	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	125	0.42
Paving	Paving Equipment	2	8.00	130	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	188.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	97.00	38.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	19.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Site Preparation - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	5.2910	57.6198	42.9609	0.0391		3.1377	3.1377		2.8867	2.8867		4,155.8914	4,155.8914	1.2281		4,181.6817
Total	**5.2910**	**57.6198**	**42.9609**	**0.0391**	**18.0663**	**3.1377**	**21.2040**	**9.9307**	**2.8867**	**12.8174**		**4,155.8914**	**4,155.8914**	**1.2281**		**4,181.6817**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.3636	0.0992	1.2036	2.4500e-003	0.2012	1.5600e-003	0.2028	0.0534	1.4300e-003	0.0548		219.4269	219.4269	0.0114		219.6659
Total	**0.3636**	**0.0992**	**1.2036**	**2.4500e-003**	**0.2012**	**1.5600e-003**	**0.2028**	**0.0534**	**1.4300e-003**	**0.0548**		**219.4269**	**219.4269**	**0.0114**		**219.6659**

3.2 Site Preparation - 2014

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.0458	0.0000	7.0458	3.8730	0.0000	3.8730			0.0000			0.0000
Off-Road	5.2910	57.6198	42.9609	0.0391		3.1377	3.1377		2.8867	2.8867	0.0000	4,155.8914	4,155.8914	1.2281		4,181.6817
Total	**5.2910**	**57.6198**	**42.9609**	**0.0391**	**7.0458**	**3.1377**	**10.1836**	**3.8730**	**2.8867**	**6.7597**	**0.0000**	**4,155.8914**	**4,155.8914**	**1.2281**		**4,181.6817**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.3636	0.0992	1.2036	2.4500e-003	0.2012	1.5600e-003	0.2028	0.0534	1.4300e-003	0.0548		219.4269	219.4269	0.0114		219.6659
Total	**0.3636**	**0.0992**	**1.2036**	**2.4500e-003**	**0.2012**	**1.5600e-003**	**0.2028**	**0.0534**	**1.4300e-003**	**0.0548**		**219.4269**	**219.4269**	**0.0114**		**219.6659**

3.3 Grading - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.5863	0.0000	6.5863	3.3726	0.0000	3.3726			0.0000			0.0000
Off-Road	3.8669	41.0997	26.7538	0.0298		2.3714	2.3714		2.1817	2.1817		3,162.4266	3,162.4266	0.9345		3,182.0518
Total	**3.8669**	**41.0997**	**26.7538**	**0.0298**	**6.5863**	**2.3714**	**8.9577**	**3.3726**	**2.1817**	**5.5544**		**3,162.4266**	**3,162.4266**	**0.9345**		**3,182.0518**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.0517	6.6944	4.3221	0.0139	0.3274	0.1250	0.4524	0.0896	0.1150	0.2046		1,428.7773	1,428.7773	0.0122		1,429.0344
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.3030	0.0827	1.0030	2.0400e-003	0.1677	1.3000e-003	0.1690	0.0445	1.1900e-003	0.0457		182.8557	182.8557	9.4800e-003		183.0549
Total	**1.3547**	**6.7771**	**5.3251**	**0.0159**	**0.4951**	**0.1263**	**0.6214**	**0.1341**	**0.1162**	**0.2503**		**1,611.6331**	**1,611.6331**	**0.0217**		**1,612.0893**

3.3 Grading - 2014

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.5686	0.0000	2.5686	1.3153	0.0000	1.3153			0.0000			0.0000
Off-Road	3.8669	41.0997	26.7538	0.0298		2.3714	2.3714		2.1817	2.1817	0.0000	3,162.4266	3,162.4266	0.9345		3,182.0518
Total	**3.8669**	**41.0997**	**26.7538**	**0.0298**	**2.5686**	**2.3714**	**4.9401**	**1.3153**	**2.1817**	**3.4971**	**0.0000**	**3,162.4266**	**3,162.4266**	**0.9345**		**3,182.0518**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.0517	6.6944	4.3221	0.0139	0.3274	0.1250	0.4524	0.0896	0.1150	0.2046		1,428.7773	1,428.7773	0.0122		1,429.0344
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.3030	0.0827	1.0030	2.0400e-003	0.1677	1.3000e-003	0.1690	0.0445	1.1900e-003	0.0457		182.8557	182.8557	9.4800e-003		183.0549
Total	**1.3547**	**6.7771**	**5.3251**	**0.0159**	**0.4951**	**0.1263**	**0.6214**	**0.1341**	**0.1162**	**0.2503**		**1,611.6331**	**1,611.6331**	**0.0217**		**1,612.0893**

3.4 Building Construction - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.8680	31.2537	18.9298	0.0268		2.2280	2.2280		2.0973	2.0973		2,709.1969	2,709.1969	0.6889		2,723.6630
Total	**3.8680**	**31.2537**	**18.9298**	**0.0268**		**2.2280**	**2.2280**		**2.0973**	**2.0973**		**2,709.1969**	**2,709.1969**	**0.6889**		**2,723.6630**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.7660	4.2704	4.5107	8.2600e-003	0.2374	0.0815	0.3188	0.0676	0.0749	0.1425		844.3310	844.3310	7.4200e-003		844.4869
Worker	1.9594	0.5345	6.4859	0.0132	1.0842	8.4000e-003	1.0926	0.2875	7.7000e-003	0.2953		1,182.4671	1,182.4671	0.0613		1,183.7550
Total	**2.7254**	**4.8049**	**10.9965**	**0.0215**	**1.3216**	**0.0899**	**1.4115**	**0.3551**	**0.0826**	**0.4377**		**2,026.7982**	**2,026.7982**	**0.0688**		**2,028.2419**

3.4 Building Construction - 2014

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.8680	31.2537	18.9298	0.0268		2.2280	2.2280		2.0973	2.0973	0.0000	2,709.1969	2,709.1969	0.6889		2,723.6630
Total	**3.8680**	**31.2537**	**18.9298**	**0.0268**		**2.2280**	**2.2280**		**2.0973**	**2.0973**	**0.0000**	**2,709.1969**	**2,709.1969**	**0.6889**		**2,723.6630**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.7660	4.2704	4.5107	8.2600e-003	0.2374	0.0815	0.3188	0.0676	0.0749	0.1425		844.3310	844.3310	7.4200e-003		844.4869
Worker	1.9594	0.5345	6.4859	0.0132	1.0842	8.4000e-003	1.0926	0.2875	7.7000e-003	0.2953		1,182.4671	1,182.4671	0.0613		1,183.7550
Total	**2.7254**	**4.8049**	**10.9965**	**0.0215**	**1.3216**	**0.0899**	**1.4115**	**0.3551**	**0.0826**	**0.4377**		**2,026.7982**	**2,026.7982**	**0.0688**		**2,028.2419**

3.5 Paving - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.3610	26.0857	14.9649	0.0223		1.4523	1.4523		1.3361	1.3361		2,363.4906	2,363.4906	0.6984		2,378.1578
Paving	0.4179					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**2.7788**	**26.0857**	**14.9649**	**0.0223**		**1.4523**	**1.4523**		**1.3361**	**1.3361**		**2,363.4906**	**2,363.4906**	**0.6984**		**2,378.1578**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.3030	0.0827	1.0030	2.0400e-003	0.1677	1.3000e-003	0.1690	0.0445	1.1900e-003	0.0457		182.8557	182.8557	9.4800e-003		183.0549
Total	**0.3030**	**0.0827**	**1.0030**	**2.0400e-003**	**0.1677**	**1.3000e-003**	**0.1690**	**0.0445**	**1.1900e-003**	**0.0457**		**182.8557**	**182.8557**	**9.4800e-003**		**183.0549**

3.5 Paving - 2014

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.3610	26.0857	14.9649	0.0223		1.4523	1.4523		1.3361	1.3361	0.0000	2,363.4906	2,363.4906	0.6984		2,378.1578
Paving	0.4179					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**2.7788**	**26.0857**	**14.9649**	**0.0223**		**1.4523**	**1.4523**		**1.3361**	**1.3361**	**0.0000**	**2,363.4906**	**2,363.4906**	**0.6984**		**2,378.1578**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.3030	0.0827	1.0030	2.0400e-003	0.1677	1.3000e-003	0.1690	0.0445	1.1900e-003	0.0457		182.8557	182.8557	9.4800e-003		183.0549
Total	**0.3030**	**0.0827**	**1.0030**	**2.0400e-003**	**0.1677**	**1.3000e-003**	**0.1690**	**0.0445**	**1.1900e-003**	**0.0457**		**182.8557**	**182.8557**	**9.4800e-003**		**183.0549**

3.6 Architectural Coating - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	8.0232					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.4462	2.7773	1.9216	2.9700e-003		0.2452	0.2452		0.2452	0.2452		281.4481	281.4481	0.0401		282.2905
Total	**8.4694**	**2.7773**	**1.9216**	**2.9700e-003**		**0.2452**	**0.2452**		**0.2452**	**0.2452**		**281.4481**	**281.4481**	**0.0401**		**282.2905**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.3838	0.1047	1.2704	2.5800e-003	0.2124	1.6500e-003	0.2140	0.0563	1.5100e-003	0.0578		231.6173	231.6173	0.0120		231.8695
Total	**0.3838**	**0.1047**	**1.2704**	**2.5800e-003**	**0.2124**	**1.6500e-003**	**0.2140**	**0.0563**	**1.5100e-003**	**0.0578**		**231.6173**	**231.6173**	**0.0120**		**231.8695**

3.6 Architectural Coating - 2014

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	8.0232					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.4462	2.7773	1.9216	2.9700e-003		0.2452	0.2452		0.2452	0.2452	0.0000	281.4481	281.4481	0.0401		282.2905
Total	**8.4694**	**2.7773**	**1.9216**	**2.9700e-003**		**0.2452**	**0.2452**		**0.2452**	**0.2452**	**0.0000**	**281.4481**	**281.4481**	**0.0401**		**282.2905**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.3838	0.1047	1.2704	2.5800e-003	0.2124	1.6500e-003	0.2140	0.0563	1.5100e-003	0.0578		231.6173	231.6173	0.0120		231.8695
Total	**0.3838**	**0.1047**	**1.2704**	**2.5800e-003**	**0.2124**	**1.6500e-003**	**0.2140**	**0.0563**	**1.5100e-003**	**0.0578**		**231.6173**	**231.6173**	**0.0120**		**231.8695**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.6737	0.5579	2.9995	4.1700e-003	0.2750	6.7500e-003	0.2817	0.0734	6.1900e-003	0.0796		382.4233	382.4233	0.0203		382.8493
Unmitigated	0.6737	0.5579	2.9995	4.1700e-003	0.2750	6.7500e-003	0.2817	0.0734	6.1900e-003	0.0796		382.4233	382.4233	0.0203		382.8493

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Parking Lot	178.87	132.71	132.71	120,616	120,616
Total	178.87	132.71	132.71	120,616	120,616

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Parking Lot	16.60	2.00	6.90	0.00	100.00	0.00	100	0	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.511766	0.057390	0.191335	0.154102	0.040813	0.005872	0.014592	0.013169	0.001415	0.002132	0.004680	0.000514	0.002220

4.4 Fleet Mix

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	4.6200	6.0000e-004	0.0616	0.0000		2.2000e-004	2.2000e-004		2.2000e-004	2.2000e-004		0.1263	0.1263	3.8000e-004		0.1342
Unmitigated	4.6200	6.0000e-004	0.0616	0.0000		2.2000e-004	2.2000e-004		2.2000e-004	2.2000e-004		0.1263	0.1263	3.8000e-004		0.1342

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0440					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	4.5698					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	6.2200e-003	6.0000e-004	0.0616	0.0000		2.2000e-004	2.2000e-004		2.2000e-004	2.2000e-004		0.1263	0.1263	3.8000e-004		0.1342
Total	**4.6200**	**6.0000e-004**	**0.0616**	**0.0000**		**2.2000e-004**	**2.2000e-004**		**2.2000e-004**	**2.2000e-004**		**0.1263**	**0.1263**	**3.8000e-004**		**0.1342**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0440					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	4.5698					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	6.2200e-003	6.0000e-004	0.0616	0.0000		2.2000e-004	2.2000e-004		2.2000e-004	2.2000e-004		0.1263	0.1263	3.8000e-004		0.1342
Total	**4.6200**	**6.0000e-004**	**0.0616**	**0.0000**		**2.2000e-004**	**2.2000e-004**		**2.2000e-004**	**2.2000e-004**		**0.1263**	**0.1263**	**3.8000e-004**		**0.1342**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

APPENDIX B

HISTORIC PROPERTY DATA FILE

PROPERTY-NUMBER	PRIMARY-#	STREET.ADDRESS.....	NAMES.....	CITY.NAME.....	OWN	YR-C	OHP-PROG..	PRG-REFERENCE-NUMBER	STAT-DAT	NRS	CRIT
041186	30-161778	120 N CLEMENTINE ST	MARIETTA COURT APARTMENTS (SITE OF	ANAHEIM	P	1922	HIST.SURV.	2803-0010-0008	04/22/78	6Z	
094797	30-162396	611 N CLEMENTINE ST		ANAHEIM	P		PROJ.REVW.	HUD881123A	12/22/88	7K	
173653		131 N COFFMAN ST		ANAHEIM	P	1922	PROJ.REVW.	HUD081003N	10/31/08	6Y	
171369		829 N DICKEL ST		ANAHEIM	P	1948	PROJ.REVW.	HUD080425P	05/01/08	6Y	
173613		852 N DICKEL ST		ANAHEIM	P	1939	PROJ.REVW.	HUD081003M	10/31/08	6Y	
041188	30-161780	104 N EMILY ST	MASONIC TEMPLE	ANAHEIM	P	1913	HIST.SURV.	2803-0010-0010	04/22/78	3D	
041200	30-161791	120 N EMILY ST	ZION LUTHERAN CHURCH, OLD ZION LUT	ANAHEIM	P		HIST.SURV.	2803-0010-0022	04/22/78	3D	
101438	30-162537	416 N EMILY ST		ANAHEIM	P	1930	PROJ.REVW.	HUD960226AK	03/27/96	6Y	
183257		917 N EMILY ST		ANAHEIM	P	1945	PROJ.REVW.	HUD110627D	07/01/11	6Y	
171368		932 N HARBOR BLVD		ANAHEIM	P	1923	PROJ.REVW.	HUD080425O	05/01/08	6Y	
100995	30-162534	808 N HELENA ST		ANAHEIM	P	1938	PROJ.REVW.	HUD960205B	02/27/96	6Y	
140212		838 N HELENA ST		ANAHEIM	P	1947	HIST.RES.	DOE-30-03-0007-0000	06/05/03	6Y	
							PROJ.REVW.	HUD030530A	06/05/03	6Y	
066666	30-161834	626 N PAULINE ST		ANAHEIM	P		PROJ.REVW.	HUD110418I	04/20/11	6Y	
							PROJ.REVW.	HUD880513C	06/13/88	6Y	
043087	30-161798	303 N PHILADELPHIA ST	JUDGE AMES HOUSE	ANAHEIM	P	1911	HIST.RES.	NPS-86000783-0006	04/03/86	1D	C
041197	30-161788	307 N PHILADELPHIA ST	RICHARD MELROSE HOUSE	ANAHEIM	P	1910	HIST.RES.	NPS-86000783-0005	04/03/86	1D	C
							HIST.SURV.	2803-0010-0019	01/01/78	1S	
076619	30-161971	317 N PHILADELPHIA ST	FRED BACKS, JR, HOUSE	ANAHEIM	P	1907	HIST.RES.	NPS-86000783-0004	04/03/86	1D	C
076617	30-161970	321 N PHILADELPHIA ST	FRED BACKS HONEYMOON COTTAGE	ANAHEIM	P	1903	HIST.RES.	NPS-86000783-0003	04/03/86	1D	C
067205	30-161840	921 N SABINA ST	PROPERTY REHABILITATION	ANAHEIM	U		PROJ.REVW.	HUD900402D	04/05/90	6Y	
147689		515 N STATE COLLEGE BLVD	FIRST CONGREGATIONAL CHURCH/ GRIFF	ANAHEIM	U	1920	HIST.RES.	DOE-30-03-0022-0000	12/22/03	6Y	
							PROJ.REVW.	FCC031006C	12/22/03	6Y	
147687		515 N STATE COLLEGE BLVD	FIRST CONGREGATIONAL CHURCH SCHOOL	ANAHEIM	U	1959	HIST.RES.	DOE-30-03-0021-0000	12/22/03	6Y	
							PROJ.REVW.	FCC031006C	12/22/03	6Y	
147683		515 N STATE COLLEGE BLVD	FIRST CONGREGATIONAL CHURCH	ANAHEIM	U	1959	HIST.RES.	DOE-30-03-0020-0000	12/22/03	6Y	
							PROJ.REVW.	FCC031006C	12/22/03	6Y	
102318	30-162548	713 N TOPEKA ST		ANAHEIM	P	1921	PROJ.REVW.	HUD960422I	05/20/96	6Y	
086735	30-162254	725 N TOPEKA ST		ANAHEIM	P	1939	PROJ.REVW.	HUD931220N	01/24/94	6Y	
182275		811 N TOPEKA ST		ANAHEIM	P	1942	PROJ.REVW.	HUD110425J	04/27/11	6Y	
182246		1223 N VENTURA ST		ANAHEIM	P	1956	PROJ.REVW.	HUD110404D	04/13/11	6Y	
041206	30-161797	414 N WEST ST	THE MOTHER COLONY PIONEER HOUSE	ANAHEIM	M	1857	HIST.SURV.	2803-0015-0000		3S	
							HIST.RES.	SHL-0201-0000	06/20/35	7L	
171761		615 N ZEYN ST		ANAHEIM		1916	PROJ.REVW.	HUD080425J	06/25/08	6Y	
171759		618 N ZEYN ST		ANAHEIM		1914	PROJ.REVW.	HUD080425I	06/25/08	6Y	
171760		700 N ZEYN ST		ANAHEIM	P	1930	PROJ.REVW.	HUD080425H	06/25/08	6Y	
096235	30-162502	OLIVE ST	KROGER-MELROSE DISTRICT	ANAHEIM	P		HIST.RES.	NPS-85001326-9999	06/19/85	1S	AC
182886		9822 PACIFIC AVE		ANAHEIM	P	1954	PROJ.REVW.	HUD110617D	06/27/11	6Y	
041182	30-161775	110 S ANAHEIM BLVD	CALIFORNIA BUILDING	ANAHEIM	P	1915	HIST.SURV.	2803-0010-0004	04/22/78	3D	
041103	30-161716	225 S ANAHEIM BLVD	PICKWICK HOTEL	ANAHEIM	P	1926	HIST.RES.	NPS-79000513-0000	12/31/79	1S	AC
041183	30-161776	241 S ANAHEIM BLVD	CARNEGIE LIBRARY/ANAHEIM PUBLIC LI	ANAHEIM	M	1915	ST.FND.PRG	619.0-84-HP-30-002	11/01/85	3	
							HIST.SURV.	2803-0010-0005	10/22/79	3S	
							HIST.RES.	NPS-79000511-0000	10/22/79	1S	AC
041105	30-161718	887 S ANAHEIM BLVD	TRUXAW-GERVAIS HOUSE/WHITE HOUSE R	ANAHEIM	P	1909	HIST.RES.	NPS-82000977-0000	10/29/82	1S	
182953		2221 S ATLANTA ST		ANAHEIM	P	1958	PROJ.REVW.	HUD110620E	06/29/11	6Y	
073883	30-161907	76 S CLAUDINA ST	SAMUEL KRAEMER BUILDING	ANAHEIM	P	1924	TAX.(NPS)	019082CA820144	08/04/82	2D3	
041205	30-161796	76 S CLAUDINA ST	SAMUEL KRAEMER BUILDING, OLD EL CA	ANAHEIM	P	1924	HIST.RES.	NPS-83001217-0000	06/16/83	1S	
182240		312 S CLEMENTINE ST		ANAHEIM	P	1920	PROJ.REVW.	HUD110408L	05/03/11	6Y	
173621		316 S CLEMENTINE ST		ANAHEIM	P	1920	PROJ.REVW.	HUD081003S	10/31/08	6Y	
180320		497 S COUNTY HILL RD	SCE MIRA LOMA SERRANO M17-T1	ANAHEIM	P	1952	PROJ.REVW.	FCC100517A	10/06/10	6Y	
179796		814 S DAKOTA ST		ANAHEIM	P	1961	PROJ.REVW.	HUD100823E	08/25/10	6Y	
179793		858 S DAKOTA ST		ANAHEIM	P	1961	PROJ.REVW.	HUD100823C	08/25/10	6Y	
171370		612 S DICKEL ST		ANAHEIM	P	1925	PROJ.REVW.	HUD080425Q	05/01/08	6Y	
124774		1751 S DOUGLASS RD	REVIEW OF PBW FACILITY CM 288-02,	ANAHEIM	P		PROJ.REVW.	FCC000601F	06/15/00	6Y	
155366		1621 S EUCLID ST		ANAHEIM	P	1951	PROJ.REVW.	FCC100518D	09/23/10	6Y	

PROPERTY-NUMBER	PRIMARY-#	STREET.ADDRESS.....	NAMES.....	CITY.NAME.....	OWN	YR-C	OHP-PROG..	PRG-REFERENCE-NUMBER	STAT-DAT	NRS	CRIT
041113	30-161726	129 S OLIVE ST	BOYD HOUSE	ANAHEIM	P	1898	HIST.RES.	NPS-85001326-0008	06/19/85	1D	AC
041119	30-161732	202 S OLIVE ST	DANIELS HOUSE	ANAHEIM	P	1905	HIST.RES.	NPS-85001326-0014	06/19/85	1D	AC
041114	30-161727	203 S OLIVE ST		ANAHEIM	P	1923	HIST.RES.	NPS-85001326-0009	06/19/85	1D	AC
041120	30-161733	206 S OLIVE ST	PRICE HOUSE	ANAHEIM	P	1913	HIST.RES.	NPS-85001326-0015	06/19/85	1D	AC
041115	30-161728	209 S OLIVE ST	BAYS HOUSE	ANAHEIM	P	1914	HIST.RES.	NPS-85001326-0010	06/19/85	1D	AC
041121	30-161734	210 S OLIVE ST	WILLIAM PRICE HOUSE	ANAHEIM	P	1914	HIST.RES.	NPS-85001326-0021	06/19/85	1D	AC
041116	30-161729	211 S OLIVE ST	KUHLMAN HOUSE	ANAHEIM	P	1903	HIST.RES.	NPS-85001326-0011	06/19/85	1D	AC
041122	30-161735	214 S OLIVE ST		ANAHEIM	P	1904	HIST.RES.	NPS-85001326-0017	06/19/85	1D	AC
041117	30-161730	215 S OLIVE ST		ANAHEIM	P	1918	HIST.RES.	NPS-85001326-0012	06/19/85	1D	AC
171258		609 S OLIVE ST		ANAHEIM	P	1922	PROJ.REVW.	HUD080425C	05/05/08	6Y	
176332		703 S OLIVE ST		ANAHEIM	P	1927	PROJ.REVW.	HUD090209P	02/26/09	6Y	
041106	30-161719	114 S PHILADELPHIA ST	DR. WILLIS ADAMS HOME	ANAHEIM	P	1900	HIST.RES.	NPS-85001326-0001	06/19/85	1D	AC
041107	30-161720	118 S PHILADELPHIA ST	WATKINS FINNEY HOUSE	ANAHEIM	P	1904	HIST.RES.	NPS-85001326-0002	06/19/85	1D	AC
041177	30-161771	120 S PHILADELPHIA ST		ANAHEIM	P		HIST.RES.	NPS-85001326-0065	06/19/85	6X	
041163	30-161764	126 S PHILADELPHIA ST		ANAHEIM	P	1950	HIST.RES.	NPS-85001326-0057	06/19/85	6X	
041108	30-161721	130 S PHILADELPHIA ST	CHANDLER HOUSE	ANAHEIM	P	1901	HIST.RES.	NPS-85001326-0003	06/19/85	1D	AC
041164	30-161765	202 S PHILADELPHIA ST		ANAHEIM	P	1950	HIST.RES.	NPS-85001326-0058	06/19/85	6X	
041109	30-161722	208 S PHILADELPHIA ST	HOLMAN HOUSE	ANAHEIM	P	1904	HIST.RES.	NPS-85001326-0004	06/19/85	1D	AC
171365		408 S VINE ST		ANAHEIM	P	1896	PROJ.REVW.	HUD080425L	05/01/08	6Y	
173630		123 S WEST ST		ANAHEIM	P	1938	PROJ.REVW.	HUD081003R	10/31/08	6Y	
173631		426 S WEST ST		ANAHEIM	P	1921	PROJ.REVW.	HUD081003Q	10/31/08	6Y	
182955		225 S WESTERN AVE	MIRACLE TERRACE	ANAHEIM	P	1972	PROJ.REVW.	HUD110620D	06/29/11	6Y	
173624		541 S ZEYN ST		ANAHEIM	P	1941	PROJ.REVW.	HUD081003V	10/31/08	6Y	
171762		555 S ZEYN ST		ANAHEIM		1937	PROJ.REVW.	HUD080425F	06/25/08	6Y	
067206	30-161841	921 SABINA ST	PROPERTY REHABILITATION	ANAHEIM	U		PROJ.REVW.	HUD900402D	04/05/90	6Y	
070081	30-161876	23472 SANTA ANA CANYON RD		ANAHEIM	U	1920	HIST.RES.	DOE-30-91-0011-0000	03/13/91	6Y	
							PROJ.REVW.	FHWA910214A	03/13/91	6Y	
180241		SKYTOP CT	SCE-SAN ONOFRE-SERRAN M38-T4: CA-O	ANAHEIM	P	1965	PROJ.REVW.	FCC100527G	11/04/10	6Y	
182868		415 SOUTH CITRON		ANAHEIM	P	1930	PROJ.REVW.	HUD110516Q	06/09/11	6Y	
147679		1924 SYCAMORE ST		ANAHEIM	P		HIST.RES.	DOE-30-03-0017-0000	12/22/03	6Y	
							PROJ.REVW.	FCC031006C	12/22/03	6Y	
147681		1930 SYCAMORE ST		ANAHEIM	P		HIST.RES.	DOE-30-03-0019-0000	12/22/03	6Y	
							PROJ.REVW.	FCC031006C	12/22/03	6Y	
147680		1940 SYCAMORE ST		ANAHEIM	P		HIST.RES.	DOE-30-03-0018-0000	12/22/03	6Y	
							PROJ.REVW.	FCC031006C	12/22/03	6Y	
179889		8932 SYRACUSE AVE		ANAHEIM	P	1955	PROJ.REVW.	HUD100902J	09/08/10	6Y	
065849	30-161817	2424 W BALL RD	MORRIS PLAN	ANAHEIM	P		HIST.RES.	DOE-30-89-0001-0000	05/31/89	6Y	
							PROJ.REVW.	FDIC890511A	05/31/89	6Y	
183824		2719 W BALL RD		ANAHEIM	P	1959	PROJ.REVW.	FCC100503D	05/28/10	6Y	
182954		1651 W BEACON AVE		ANAHEIM	P	1955	PROJ.REVW.	HUD110620F	06/29/11	6Y	
182819		1913 W BEACON AVE		ANAHEIM	P	1955	PROJ.REVW.	HUD110509D	05/09/11	6Y	
041193	30-161785	221 W BROADWAY	GERMAN METHODIST CHURCH, CHURCH DI	ANAHEIM	P	1900	HIST.SURV.	2803-0010-0015	04/22/78	3D	
041194	30-161786	325 W BROADWAY	CHURCH OF THE HOLY PRESENCE	ANAHEIM	P	1924	HIST.SURV.	2803-0010-0016	04/22/78	3D	
139211		1129 W CENTER ST	FRED GRIMM HOUSE	ANAHEIM	P	1925	HIST.RES.	DOE-30-03-0005-0000	04/30/03	6Y	
							PROJ.REVW.	HUD030317E	04/30/03	6Y	
173610		1219 W CENTER ST		ANAHEIM	P	1924	PROJ.REVW.	HUD081003P	10/31/08	6Y	
173657		1225 W CENTER ST		ANAHEIM	P	1911	PROJ.REVW.	HUD081003O	10/31/08	6Y	
066969	30-161839	1593 W CERRITOS AVE	BLDG REHABILITATION	ANAHEIM	U		PROJ.REVW.	HUD891025A	11/27/89	6Y	
182274		2309 W CLOVER AVE		ANAHEIM	P	1955	PROJ.REVW.	HUD110425I	04/27/11	6Y	
182293		1818 W GRAMERCY ST		ANAHEIM	P	1969	PROJ.REVW.	HUD110418K	04/20/11	6Y	
183186		2122 W HARLE AVE		ANAHEIM	P	1954	PROJ.REVW.	HUD110606A	06/30/11	6Y	
041185	30-161777	124 W LINCOLN AVE	CASSOU BUILDING/FAIRYLAND THEATER,	ANAHEIM	P	1917	HIST.SURV.	2803-0010-0007	04/22/78	3D	
041187	30-161779	200 W LINCOLN AVE	CALIFORNIA THEATER BLOCK, FOX THEA	ANAHEIM	P	1921	HIST.SURV.	2803-0010-0009	04/22/78	6Z	
041180	30-161773	212 W LINCOLN AVE	S Q R STORE	ANAHEIM	P	1925	HIST.SURV.	2803-0010-0002	04/22/78	3D	
041181	30-161774	301 W LINCOLN AVE	ROSE MARIE APARTMENTS SITE	ANAHEIM	P	1924	HIST.SURV.	2803-0010-0003	01/01/78	6Z	
041179	30-161772	323 W LINCOLN AVE	KNIGHTS OF PYTHIAS LODGE SITE	ANAHEIM	P	1924	HIST.SURV.	2803-0010-0001	01/01/78	6Z	

APPENDIX C

GREENHOUSE GAS ASSESSMENT

Greenhouse Gas Assessment For:

UCI Medical Center
500 Orangewood Ave.
Parking Lot

Prepared For:

University of California, Irvine
Campus and Environmental Planning
750 University Tower
Irvine, CA 92697-2325

Submitted By:

Mestre Greve Associates
Division of Landrum and Brown
Fred Greve P.E.
Matthew B. Jones P.E.
27812 El Lazo Road
Laguna Niguel, CA 92677
949•349•0671

January 21, 2014
Report #530202GG1

Table of Contents

List of Tables ii

List of Figures ii

1.0 Background Information 1

1.1 Project Description 1

1.1.1 Impact of Climate Change 1

1.1.2 Impact of Climate Change on California and Human Health 5

1.1.3 Adaptation Impact 6

1.2 Emission Inventories 6

1.3 Sources of Greenhouse Gas in California 9

1.4 Regulatory Framework 12

1.4.1 Federal Plans, Policies, Regulations, and Laws. 12

1.4.2 California State Plans, Policies, Regulations, and Laws. 12

1.4.3 South Coast Air Quality Management District Plans, Policies, Regulations and Laws. 17

1.4.4 University of California Irvine Plans, Policies, Regulations, and Laws 17

2.0 Potential Greenhouse Gas Impacts 21

2.1 Significance Thresholds 21

2.1.1 California Air Resource Board Significance Thresholds 21

2.1.2 SCAQMD's Significance Thresholds 23

2.2 Project Emissions Calculation Methodology 24

2.2.1 Construction Emissions 24

2.2.2 Operational Emissions 24

3.0 Estimate of Project Greenhouse Gas Emissions 26

3.1 Construction Emissions 26

3.2 Operational Emissions 26

3.3 Impacts From Project 27

4.0 References 28

Appendix 29

CalEEMod Output File 29

List of Tables

Table 1 Global Warming Potentials (GWP) 5
Table 2 Top Ten CO_2 Producing Nations between 1990-2004 (Emissions in Million Metric Tons (MMT) CO_2EQ) 7
Table 3 Total Construction GHG Emissions 26
Table 4 Annual Project GHG Emissions 27

List of Figures

Exhibit 1 Vicinity Map 2
Exhibit 2 Project Site 3
Exhibit 3 CO_2 Emissions from Fossil Fuel Combustion by State 8
Exhibit 4 California GHG Emissions by Sector 10
Exhibit 5 CO_2 Emissions From Fossil Fuels Per Capita (2001) 11

1.0 Background Information

1.1 Project Description

The project proposes the construction of 628-space surface at grade parking lot for use by the University of California Irvine Medical Center on an undeveloped lot located at 500 Orangewood Avenue. The approximate 6.38 acre site bounded by Orangewood Avenue to the northwest, State College Boulevard to the southeast, Anaheim Way and the Santa Ana (I-5) freeway to the southwest and Orange Center drive to the northwest. Exhibit 1presents a vicinity map showing the project location and Exhibit 2 shows an aerial photograph of the project site with the Project Plans overlaid.

Exhibit 2 shows that there are a number of existing parking spaces on the southwest side of Orange Center Drive. Fifty-one of these spaces are located within the project. Therefore, the project will result in the development of 577 additional parking spaces. Construction of the project is anticipated to take approximately 4 months and occur 2014.

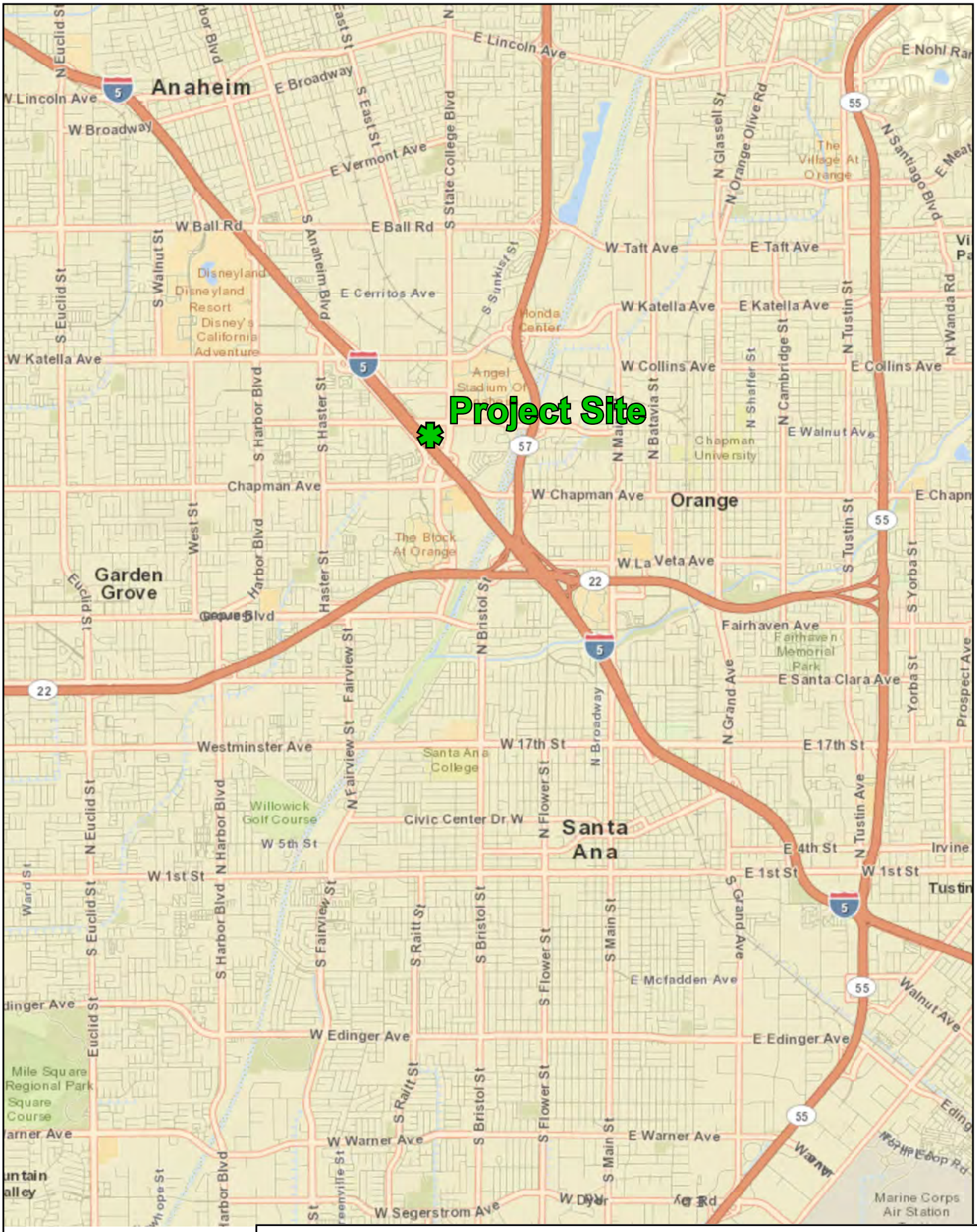
Completion of the project will re-locate off-site parking for the Medical Center from its current location on the Crystal Cathedral property located at the southwest corner of Chapman Avenue and Lewis Street. A shuttle bus operates between this off-site parking area and the Medical Center between the hours of 5:30 a.m. and 8:45 p.m. Monday through Friday. With the project the shuttle bus will be rerouted to operate between the project site and the Medical Center.

This report analyzes the potential greenhouse gas impacts associated with this project. Section 1 provides background information on greenhouse gasses and climate change. Section 2 presents the significance threshold that will be applied to the project and the methodology used to estimate GHG emissions from the project. Section 3 presents the estimated GHG emissions from the project and compares this with the thresholds to determine the significance of the Project's GHG impacts.

1.1.1 Impact of Climate Change

The Earth's climate changes over periods of time that range from decades to millions of years. Climate change is due to many different natural factors. These factors include but are not limited to changes in the Earth's orbit, volcanic eruptions, ocean variability, and solar output variations. The interplay of these natural factors has caused historical global temperature fluctuations ranging from ice ages to long periods of global warming. However, since the Industrial Revolution in the late 18th century, human activities have become a major influence in the rate of climate change. The Intergovernmental Panel on Climate Change (IPCC) concludes that increasing greenhouse gas concentrations in the atmosphere resulting from human activities, such as burning fossil fuels and deforestation, caused most of the observed temperature increases in the Earth's near-surface air and oceans since the middle of the 20th century.

According to the National Oceanic and Atmospheric Administration (NOAA) and National Aeronautics and Space Administration (NASA) data, the average surface temperature of the Earth has increased by about 1.2 to 1.4 ºF since 1900. The warmest global average temperatures in human record have all occurred within the past 15 years, with the warmest two years being 1998 and 2005. [EPA, 2007, epa.gov/climatechange/basicinfo.html].



N

0 mi 0.5mi 1.0 mi

Mestre Greve Associates

Exhibit 1
Vicinity Map

Exhibit 2
Site Plan

Mestre Greve Associates

The greenhouse effect is the process by which absorption and emission of infrared radiation by gases in the atmosphere warm the Earth's lower atmosphere and surface. This process of heating is often referred to as 'global warming,' although the National Academy of Sciences prefers the terms 'climate change' as an umbrella phrase which includes global warming as well as other environmental changes, in addition to the increasing temperatures. Some of these effects include changes to rainfall, wind, and current weather patterns, as well as snow and ice cover, and sea level.

Depending on which GHG emissions scenario is used, climate models predict that the Earth's average temperature could rise anywhere between 2.5 to 10.4 ºF from 1990 to the end of this century. The degree of change is influenced by the assumed amount of GHG emissions, and how quickly atmospheric GHG levels are stabilized. At this point, however, the climate change models are not capable of predicting local impacts, but rather, can only predict global trends. [EPA, 2007, epa.gov/climatechange/basicinfo.html].

Global GHG emissions are measured in million metric tons of carbon dioxide equivalent ("MMT CO_2EQ") units. A metric ton is approximately 2,205 lbs. Some GHGs emitted into the atmosphere are naturally occurring, while others are caused solely by human activities. The major naturally occurring, or biogenic, greenhouse gases (GHG) include water vapor, carbon dioxide, methane, and ozone. Human activities since the Industrial Revolution have increased the amount of these natural GHGs and introduced chloroflurocarbons (CFCs), nitrous oxide, and other anthropogenic GHGs in the atmosphere. Below are descriptions of the general human activity sources of several common GHGs:

- **Carbon dioxide (CO_2)** enters the atmosphere through the burning of fossil fuels (oil, natural gas, and coal), agriculture, irrigation, and deforestation, as well as the manufacturing of cement.

- **Methane (CH_4)** is emitted through the production and transportation of coal, natural gas, and oil, as well as from livestock. Other agricultural activities influence methane emissions as well as the decay of waste in landfills.

- **Nitrous oxide (N_2O)** is released most often during the burning of fuel at high temperatures. This greenhouse gas is caused mostly by motor vehicles, which also include non-road vehicles, such as those used for agriculture.

- **Fluorinated Gases** are emitted primarily from industrial sources, which often include hydrofluorocarbons (HRC), perfluorocarbons (PFC), and sulfur hexafluoride (SF_6). Though they are often released in smaller quantities, they are referred to as High Global Warming Potential Gases because of their ability to cause global warming. Fluorinated gases are often used as substitutes for ozone depleting substances.

These gases have different potentials for trapping heat in the atmosphere, called global warming potential ("GWP"). For example, one pound of methane has 21 times more heat capturing potential than one pound of carbon dioxide. When dealing with an array of emissions, the gases are converted to carbon dioxide equivalents for comparison purposes. The GWPs for common greenhouse gases are shown in Table 1.

Table 1
Global Warming Potentials (GWP)

Gas	Global Warming Potential
Carbon Dioxide (CO_2)	1
Methane (CH_4)	21
Nitrous Oxide (N_2O)	310
HFC-23	11,700
HFC-134a	1,300
HFC-152a	140
PFC: Tetrafluoromethane (CF_4)	6,500
PFC: Hexafluoroethane (C_2F_6)	9,200
Sulfur Hexafluoride (SF_6)	23,900

Source: EPA 2006. Non CO_2 Gases Economic Analysis and inventory. (http://www.epa.gov/nonco2/econ-inv/table.html), December 2006

1.1.2 Impact of Climate Change on California and Human Health

The long term environmental impacts of global warming may include sea level rise that could cause devastating erosion and flooding of coastal cities and villages, as well as more intense hurricanes and typhoons worldwide. In the United States, Chicago is projected to experience 25 percent more frequent heat waves and Los Angeles a four-to-eight-fold increase in heat wave days by the end of the century (IPCC, 2007: Climate Change 2007: Impacts, Adaptation and Vulnerability, Contribution of Working Group II to the Third Assessment Report of the Intergovernmental Panel on Climate Change, Cambridge University Press, Cambridge).

Locally, global warming could cause changing weather patterns with increased storm and drought severity in California. Changes to local and regional ecosystems including the potential loss of species, and a significant reduction in winter snow pack (e.g., estimates include a 30 to 90% reduction in snow pack in the Sierra Nevada mountain range). Current data suggest that in the next 25 years, in every season of the year, California could experience unprecedented heat, longer and more extreme heat waves, greater intensity and frequency of heat waves, and longer dry periods. The California Climate Change Center (2006) predicted that California could witness the following events:

- Temperature rises between 3 and 10.5˚ F
- 6 to 20 inches or more increase in sea level
- 2 to 4 times as many heat-wave days in major urban centers
- 2 to 6 times as many heat-related deaths in major urban centers
- 1 to 1.5 times more critically dry years
- 10 to 55% increase in the risk of wildfires

An increase in the frequency of extreme events may result in more event-related deaths, injuries, infectious diseases, and stress-related disorders. Particular segments of the population such as those with heart problems, asthma, the elderly, the very young and the homeless can be especially vulnerable to extreme heat. Also, climate change may increase the risk of some

infectious diseases, particularly those diseases that appear in warm areas and are spread by mosquitoes and other insects. These "vector-borne" diseases include malaria, dengue fever, yellow fever, and encephalitis. Also, algal blooms could occur more frequently as temperatures warm — particularly in areas with polluted waters — in which case diseases (such as cholera) that tend to accompany algal blooms could become more frequent.

1.1.3 Adaptation Impact

Adaptation refers to potential climate change impacts on the project. Global warming is already having a profound impact on water resources. Climate change already altered the weather patterns and water supply in California leading to increased water shortages (i.e., a dwindling snowpack, bigger flood flows, rising sea levels, longer and harsher droughts). Water supplies are also at risk from rising sea levels. Risks may include degrade California's estuaries, wetlands, and groundwater aquifers which would threaten the quality and reliability of the major California fresh water supply (Climate Change Adaptation Strategies for California's Water, State of California Department of Water Resources, October 2008).

Higher temperatures will also likely increase electricity demand due to higher air conditioning use. Even if the population remained unchanged, toward the end of the century annual electricity demand could increase by as much as 20 percent if temperatures rise into the higher warming range. (Implementing aggressive efficiency measures could lower this estimate).

Higher temperatures may require that the project consume more electricity for cooling. Additionally, more water may be needed for the landscaping. However, sea level rise won't impact the project because it's so far and high relative to the ocean.

Adaptation includes the responses to the changing climate and policies to minimize the predicted impacts (e.g., building better coastal defenses to sea level rise). Adaptation is not included in this report. It should be note that adaptation is not mitigation. Mitigation includes intervention or policies to reduce GHG emissions or to enhance the sinks of GHGs.

1.2 Emission Inventories

To put perspective on the emissions generated by a project and to better understand the sources of GHGs, it is important to look at emission inventories. The United Nations has taken the lead in quantifying GHG emissions and compiling the literature on climate change. The United Nations estimated for CO_2 equivalents for the world and for the top ten CO_2 producing countries are presented in Table 2.

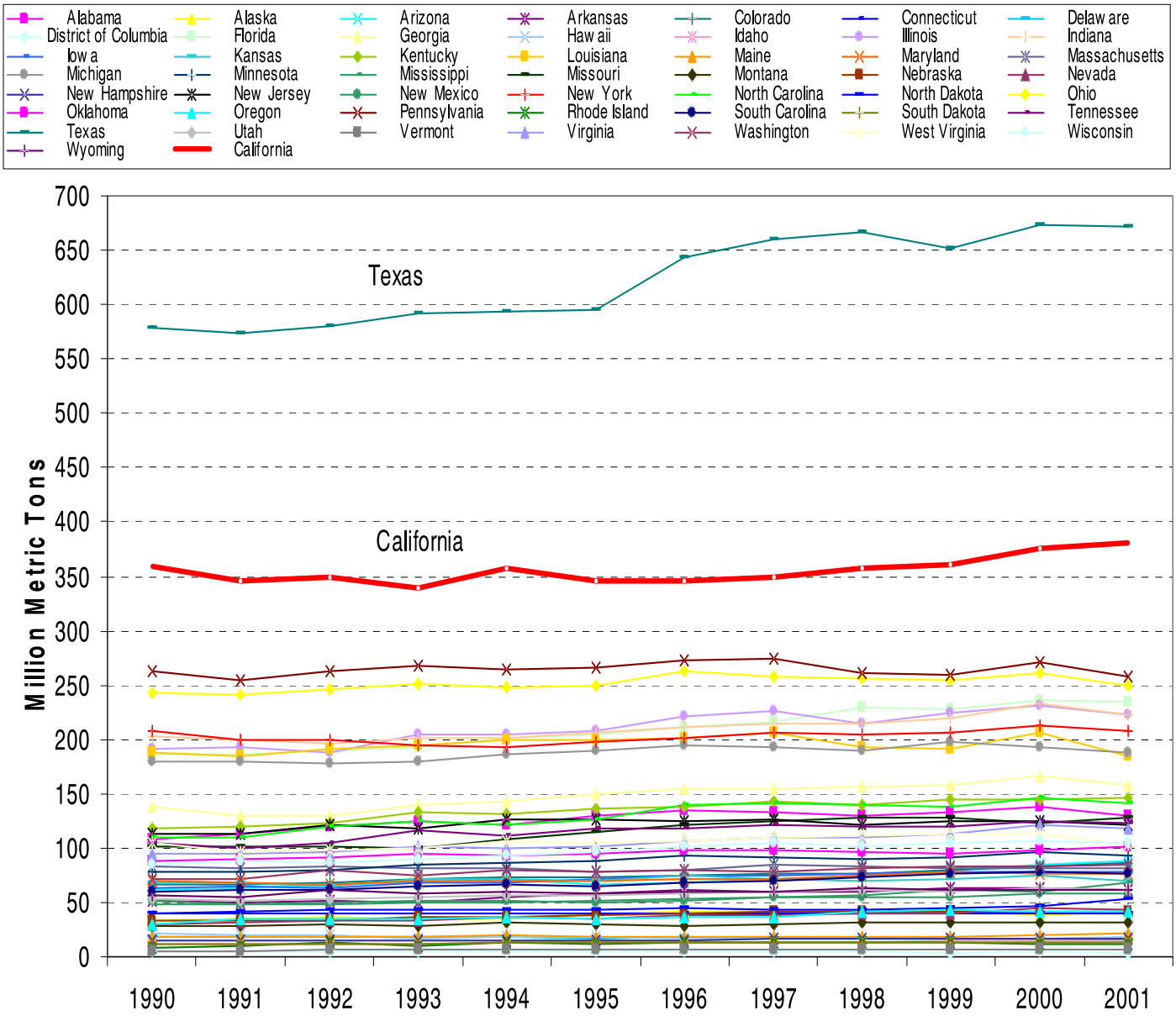
Table 2
Top Ten CO_2 Producing Nations between 1990-2004
(Emissions in Million Metric Tons (MMT) CO_2EQ)

Country	GHG Emissions (MMT CO_2EQ)	Percent of Global
1. United States	7017.32	21.06%
2. China	4057.31	12.17%
3. Japan	1340.08	4.02%
4. India	1214.25	3.64%
5. Germany	1004.79	3.02%
6. Canada	720.63	2.16%
7. Brazil	658.98	1.98%
8. United Kingdom	655.79	1.97%
9. Italy	567.92	1.70%
10. France	546.53	1.64%
Total Global	33,326	
California	*480*	*1.44%*

Source: United Nations Framework Convention on Climate Change, "National Greenhouse Gas Inventory Data for the Period 1990–2006 and Status of Reporting," October 19, 2006.

Global CO_2 emissions totaled about 33,326 MMT CO_2EQ in 2006. The United States released 7,017 MMT CO_2EQ in 2006, which is approximately 21% of the earth's total emissions.

Within the United States, California has the second highest level of GHG production with Texas having the highest. In 2001, the burning of fossil fuels produced over 81% of total GHG emissions. In relation to other states, California is the second highest producer of CO_2 by fossil fuels, as shown in Exhibit 3.



Source: California Energy Commission, "Inventory of California Greenhouse Gas Emissions and Sinks: 1990 to 2004," December 2006

Figure 3 - CO_2 Emissions from Fossil Fuel Combustion by State

Mestre Greve Associates
Landrum & Brown

1.3 Sources of Greenhouse Gas in California

The California Energy Commission ("CEC") categorizes GHG generation by source into five broad categories. The categories are:

- **Transportation** includes the combustion of gasoline and diesel in automobiles and trucks. Transportation also includes jet fuel consumption and bunker fuel for ships.
- **Agriculture and forestry** GHG emissions are composed mostly of nitrous oxide from agricultural soil management, CO_2 from forestry practice changes, methane from enteric fermentation, and methane and nitrous oxide from manure management.
- **Commercial and residential** uses generate GHG emissions primarily from the combustion of natural gas for space and water heating.
- **Industrial** GHG emissions are produced from many industrial activities. Major contributors include oil and natural gas extraction; crude oil refining; food processing; stone, clay, glass, and cement manufacturing; chemical manufacturing; and cement production. Wastewater treatment plants are also significant contributors to this category.
- **Electric generation** includes both emissions from power plants in California as well as power plants located outside of the state that supply electricity to the state.

The amount of GHGs released from each of these categories in California from 2000 to 2008 is shown in Exhibit 4.

Examination of Exhibit 4 indicates that most of California's GHGs are emitted by transportation sources, such as automobiles, trucks, and airplanes. (The transportation sector is labeled as Passenger Vehicles, Heavy Duty Trucks, and Other Transportation in Exhibit 4.) Combustion of fossil fuels in the transportation sector contributed approximately 38% of the California GHG. This category was followed by the electric power sector (including both in-state and out-of-state sources) (24%) and the industrial sector (23%). Residential and commercial activity accounted for approximately 9% of the emissions. The smallest GHG contributors are the waste and recycling sector and the agricultural and forestry sector, which accounted for about 1% and 6%, respectively.

While California has the second highest rate of GHG production in the nation, it should also be noted that California has one of the lowest per capita rates of GHG emissions, as shown in Exhibit 5. According to Exhibit 5, California had the fourth lowest per capita rate of CO_2 production from fossil fuels in the United States. Wyoming produced the most CO_2 per capita,

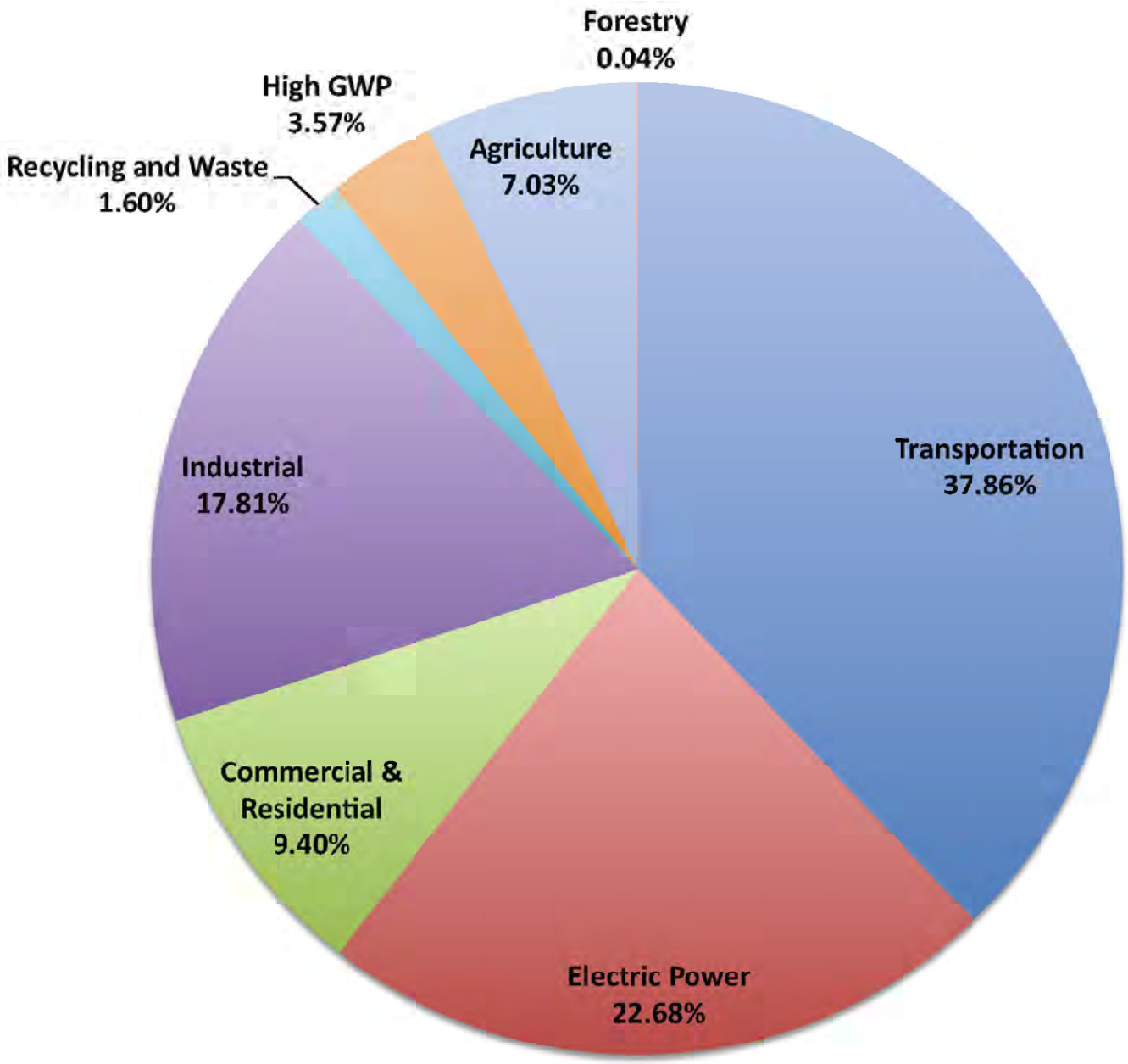
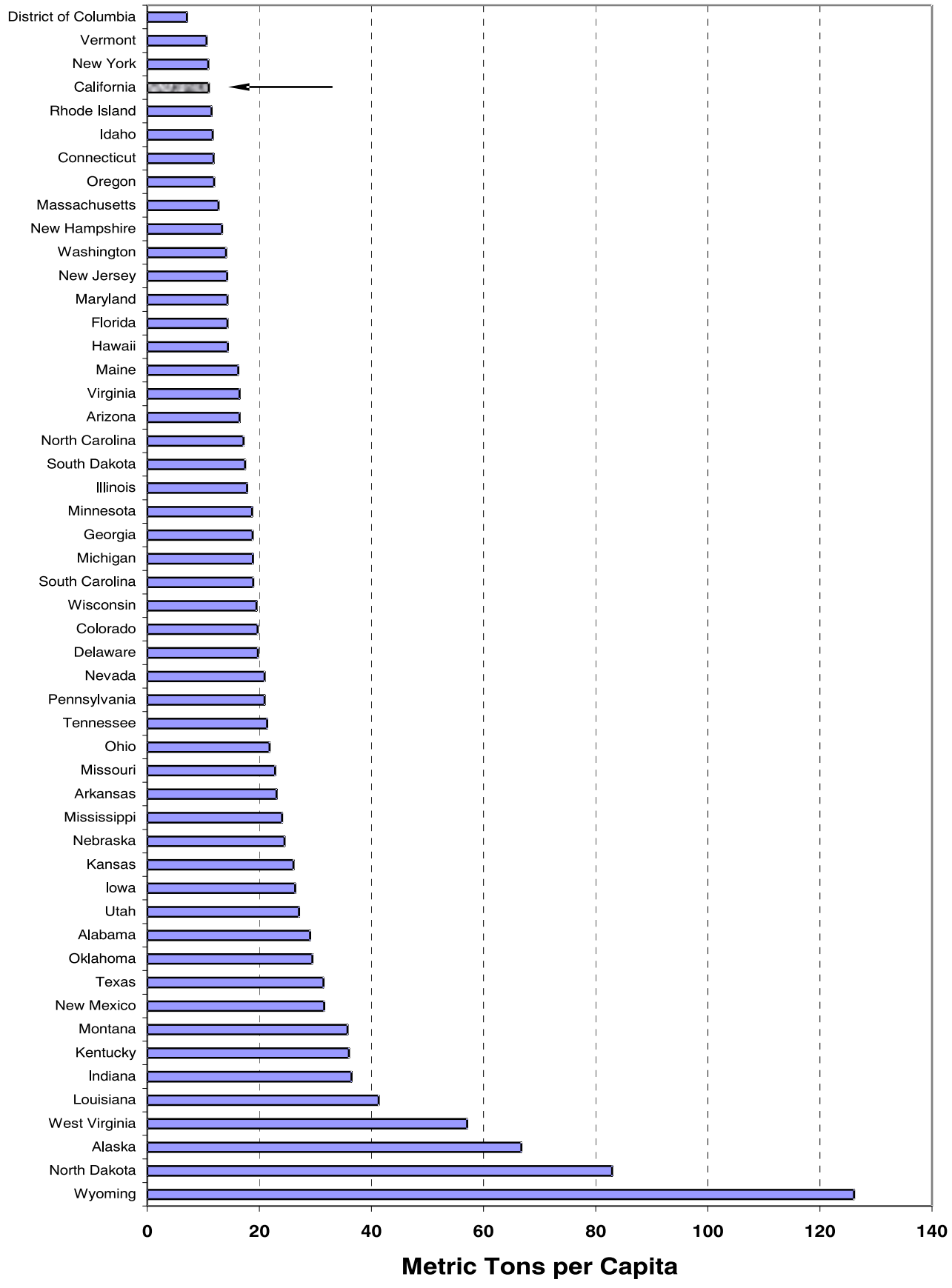


Figure 4
California GHG Emissions by Sector

Mestre Greve Associates
Landrum & Brown



Source: California Energy Commission, "Inventory of California Greenhouse Gas Emissions and Sinks: 1990 to 2004," December 2006

Figure 5 - CO_2 Emissions From Fossil Fuels Per Capita (2001)

Mestre Greve Associates
Landrum & Brown

1.4 Regulatory Framework

1.4.1 Federal Plans, Policies, Regulations, and Laws.

The federal government began studying the phenomenon of global warming as early as 1978 with the National Climate Protection Act, 92 Stat. 601, which required the President to establish a program to "assist the Nation and the world to understand and respond to natural and man-induced climate processes and their implications." The 1987 Global Climate Protection Act, Title XI of Pub. L. 100-204, directed the U.S. EPA to propose a "coordinated national policy on global climate change," and ordered the Secretary of State to work "through the channels of multilateral diplomacy" to coordinate efforts to address global warming. Further, in 1992, the United States ratified a nonbinding agreement among 154 nations to reduce atmospheric GHGs.

More recently, in *Massachusetts v. EPA* (April 2, 2007), the United State Supreme Court held that GHGs fall within the Clean Air Act's definition of an "air pollutant," and directed the EPA to consider whether GHGs are causing climate change. If so, the EPA must regulate GHG emissions from automobiles under the Clean Air Act.

While EPA has not finalized a regulation, it did issue a proposed rule on April 17, 2009. The rule declared that GHGs endanger human health and is the first step to regulation through the federal Clean Air Act. If it becomes final, the EPA would define air pollution to include the six key GHGs – CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6.

In addition, Congress has increased the corporate average fuel economy (CAFE) of the U.S. automotive fleet. In December 2007, President Bush signed a bill raising the minimum average miles per gallon for cars, sport utility vehicles, and light trucks to 35 miles per gallon by 2020. This increase in CAFE standard will create a substantial reduction in GHG emissions from automobiles, which is the largest single emitting GHG sector in California.

As of this writing, however, there are no adopted federal plans, policies, regulations or laws setting a mandatory limit on GHG emissions. Further, the EPA has not finalized its evaluation in the wake of *Massachusetts v. EPA*.

1.4.2 California State Plans, Policies, Regulations, and Laws.

California has distinguished itself as a national leader in efforts to address global climate change by enacting several major pieces of legislation, engaging in multi-national and multi-state collaborative efforts, and preparing a wealth of information on the impacts associated with global climate change.

In November 2008, the Governor issued Executive Order S-13-08 directing state agencies to plan for sea level rise and other climate change impacts. There are four key actions in the Executive Order: (1) initiation of a climate change adaptation strategy that will assess the state's expected climate change impacts where the state is most vulnerable, with recommendations by early 2009; (2) an expert panel on sea level rise will inform state planning and development efforts; (3) interim guidance to state agencies on planning for sea level rise in coastal and floodplain areas for new projects; and (4) initiation of a report on critical existing and planned infrastructure projects vulnerable to sea level rise. (http://gov.ca.gov/executive-order/11036/)

Pursuant to AB 32, the California Air Resources Board ("CARB") has adopted a number of relevant policies and directives. In December 2008, the Scoping Plan was adopted. The Plan is a central requirement of the statute. In addition, it has adopted a number of protocols for industry

and government sectors, including one for local government (http://www.arb.ca.gov/cc/protocols/localgov/localgov.htm). (See also, the Local Government Toolkit (http://www.coolcalifornia.org/local-government).

As directed by SB97, the Natural Resources Agency adopted Amendments to the CEQA Guidelines on December 30, 2009 to address greenhouse gas impacts. On February 16, 2010, the Office of Administrative Law approved the Amendments, and filed them with the Secretary of State for inclusion in the California Code of Regulations. The Amendments became effective on March 18, 2010. The following provides a summary of the amendments:

- *Determining the Significance of the Environmental Effects Caused By a Project* (Guidelines § 15064(h)(3)) was amended to clarify the types plans that can be used to determine if a project's incremental contribution to a cumulative effect is not cumulatively considerable when the project complies with the plans and requires explanation how the plan ensures that the project's incremental contribution to the cumulative effect is not cumulatively considerable.

- *Determining the Significance of Impacts from Greenhouse Gas Emissions* (Guidelines § 15064.4) allows the lead agency to determine if greenhouse gas emissions are significant through a quantitative analysis, a qualitative analysis, or performance based standards. It defines factors, among others, to be considered when assessing the significance of impacts including; (1) the change in greenhouse gas emissions relative to existing environmental setting, (2) whether the project emissions exceed a threshold of significance, (3) to the extent that the project complies with a publicly reviewed and approved plan for the reduction of greenhouse gas emissions.

- *Thresholds of Significance* (Guidelines § 15064.7(c)) allows the lead agency to consider thresholds of significance previously adopted or recommended by other public agencies or experts as supported by substantial evidence when adopting thresholds of significance.

- *Consideration and Discussion of Mitigation Measures Proposed to Minimize Significant Effects-Mitigation Measures Related to Greenhouse Gas Emissions* (Guidelines § 15126.4(c)) requires lead agencies to consider feasible means of mitigation of greenhouse gas emissions including; (1) measures in an existing plan, (2) reductions resulting through the implementation of project features, project design or other energy conservation measures, (3) off-site measures including offsets, and (4) measures that sequester greenhouse gas.

- *Discussion of Cumulative Impac*ts (Guidelines § 15130(b)(1)(B) and Guidelines § 15130(d)) provides guidance on the use of planning documents and prior certified environmental documents in the analysis of cumulative impacts

- *Tiering and Streamlining the Analysis of Greenhouse Gas Emissions* (Guidelines § 15183.5) discusses the use of programmatic plans in the analysis of project specific environmental documents and provides suggested elements of a plan for reduction of greenhouse gas emissions.

- *Greenhouse Gas* (Guidelines § 150364.5) defines greenhouse gasses as including but not limited to carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride.

Assembly Bill 32, the California Global Warming Solutions Act of 2006 (Health and Safety Code § 38500 et seq.). In September 2006, Governor Arnold Schwarzenegger signed AB 32, the California Global Warming Solutions Act of 2006. In general, AB 32 directs the California Air Resources Board ("CARB") to do the following:

- On or before June 30, 2007, CARB shall publish a list of discrete early action measures for reducing GHG emissions that can be implemented by January 1, 2010;
- By January 1, 2008, establish the statewide GHG emissions cap for 2020, based on CARB's calculation of statewide GHG emissions in 1990 (an approximately 25 percent reduction in existing statewide GHG emissions);
- Also by January 1, 2008, adopt mandatory reporting rules for GHG emissions sources that "contribute the most to statewide emissions" (Health & Safety Code § 38530);
- By January 1, 2009, adopt a scoping plan that indicates how GHG emission reductions will be achieved from significant GHG sources through regulations, market mechanisms, and other strategies;
- On or before January 1, 2010, adopt regulations to implement the early action GHG emission reduction measures;
- On or before January 1, 2011, adopt quantifiable, verifiable, and enforceable emission reduction measures by regulation that will achieve the statewide GHG emissions limit by 2020; and
- On January 1, 2012, CARB's GHG emissions regulations become operative.
- On January 1, 2020, achieve 1990 levels of GHG emissions.

In a December 2006 report, CARB estimated that California emitted between 425 and 468 million metric tons of CO_2 in 1990. In December 2007, CARB finalized 1990 emissions at 427 million metric tons of CO_2. In the August 2007 draft report, CARB estimated California emitted approximately 480 million metric tons of CO_2 in 2004. Based on the U.S. Census Bureau California 2007 population of 36,553,215, this would result in about 13 metric tons of CO_2 per capita.

AB 32 takes into account the relative contribution of each source or source category to protect adverse impacts on small businesses and others by requiring CARB to recommend a de minimis (minimal importance) threshold of GHG emissions below which emissions reduction requirements would not apply. AB 32 also allows the Governor to adjust the deadlines mentioned above for individual regulations or the entire state to the earliest feasible date in the event of extraordinary circumstances, catastrophic events, or threat of significant economic harm.

CARB "Early Action Measures" (June 30, 2007). On June 21, 2007, CARB approved its early action measures to address climate change, as required by AB 32. The three measures include: (1) a low carbon fuel standard, which will reduce the carbon-intensity in California fuels, thereby reducing total CO_2 emissions; (2) reduction of refrigerant losses from motor vehicle air conditioning system maintenance through the restriction of "do-it-yourself" automotive

refrigerants; and (3) increased CH_4 (methane) capture from landfills through the required implementation of state-of-the-art capture technologies.

CARB Mandatory Reporting Regulations (December 2008). Under AB 32, CARB propounded regulations to govern mandatory greenhouse gas emissions reporting for certain sectors of the economy, most dealing with approximately 94 percent of the industrial and commercial stationary sources of emissions. Regulated entities include electricity generating facilities, electricity retail providers, oil refineries, hydrogen plants, cement plants, cogeneration facilities, and industrial sources that emit over 25,000 metric tons of CO_2 from stationary source combustion.

Senate Bill 97 (2007). By July 1, 2009, the Governor's Office of Planning and Research (OPR) is directed to prepare, develop, and transmit to the Resources Agency amendments to the CEQA Guidelines for the feasible mitigation of greenhouse gas emissions or the effects of greenhouse gas emissions, as required by the California Environmental Quality Act. The Resources Agency is required to certify and adopt these guidelines by January 1, 2010. OPR is required to periodically update these guidelines as CARB implements AB 32. In addition, SB 97 states that the failure to include a discussion of greenhouse gas emissions in any CEQA document for a project funded under the Highway Safety, Traffic Reduction, Air Quality and Port Security Bond Act of 2006, or projects funded under the Disaster Preparedness and Flood Prevention Bond Act of 2006 shall not be a cause of action under CEQA. This last provision was to be repealed on January 1, 2010.

Executive Order S-01-07 (2007). Executive Order S-01-07 calls for a reduction in the carbon intensity of California's transportation fuels by at least 10 percent by 2020. As noted above, the low-carbon fuel standard ("LCFS") was adopted by CARB as one of its three "early action measures" on June 21, 2007.

Senate Bill 1368 (2006) (Public Utilities Code §§ 8340-41). SB 1368 required the California Public Utilities Commission ("PUC") to establish a "GHG emission performance standard" by February 1, 2007, for all electricity providers under its jurisdiction, including the state's three largest privately-owned utilities. Pub. Res. Code § 8341(d)(1). These utilities provide approximately 30 percent of the state's electric power. After the PUC acted, the CEC adopted a performance standard "consistent with" the PUC performance standard and applied it to local publicly-owned utilities on May 23, 2007 (over one month ahead of its June 30, 2007 deadline). Cal. Pub. Res. Code § 8341(e)(1). However, the California Office of Administrative Law ("OAL") found four alleged flaws in the CEC's rulemaking. The CEC overcame these alleged flaws and adopted reformulating regulations in August 2007.

Senate Bill 107 (2006). Senate Bill 107 ("SB 107") requires investor-owned utilities such as Pacific Gas and Electric, Southern California Edison and San Diego Gas and Electric, to generate 20 percent of their electricity from renewable sources by 2010. Previously, state law required that this target be achieved by 2017.

Senate Bill 375 (September 2008). In September 2008, SB 375 was signed by Governor Schwarzenegger. SB 375 is a comprehensive global warming bill that helps to achieve the goals of AB 32. To help establish these targets, the CARB assigned a Regional Targets Advisory Committee to recommend factors to be considered and methodologies for setting greenhouse gas emission reduction targets. SB 375 also provides incentive – relief from certain CEQA requirements for development projects that are consistent with regional plans that achieve the targets. SB 375 requires CARB to develop, in collaboration with the Metropolitan Planning

Organization (MPO), passenger vehicle greenhouse gas emissions reduction targets for 2020 and 2035 by September 30, 2010. The MPO is required to include and adopt, in their regional transportation plan, a sustainable community strategy that will meet the region's target provided by CARB.

Western Regional Climate Action Initiative (Arizona, California, New Mexico, Oregon, Utah, Washington)(2007). Acknowledging that the western states already experience a hotter, drier climate, the Governors of the foregoing states have committed to three time-sensitive actions: (1) by August 26, 2007, to set a regional goal to reduce emissions from the states collectively, consistent with state-by state goals; (2) by August 26, 2008, to develop "a design for a regional market-based multi-sector mechanism, such as a load-based cap and trade program, to achieve the regional GHG reduction goal;" and (3) to participate in a multi-state GHG registry "to enable tracking, management, and crediting for entities that reduce GHG emissions, consistent with state GHG reporting mechanisms and requirements."

Executive Order S-3-05 (June 1, 2005). Executive Order S-3-05 calls for a reduction in GHG emissions to 2000 levels by 2010; 1990 levels by 2020; and for an 80 percent reduction in GHG emissions below 1990 levels by 2050. It also directs the California Environmental Protection Agency ("CalEPA") to prepare biennial science reports on the potential impact of continued global warming on certain sectors of the California economy.

California's Renewable Energy Portfolio Standard Program (2005). In 2002, California established its Renewable Energy Portfolio Standard Program, which originally included a goal of increasing the percentage of renewable energy in the state's electricity mix to 20 percent by 2017. The state's most recent 2005 Energy Action Plan raises the renewable energy goal from 20 percent by 2017, to 33 percent by 2020.

Title 24, Part 6, California Code of Regulations (2005). In 2005, California adopted new energy efficiency standards for residential and nonresidential buildings in order to reduce California's energy consumption. This program has been partially responsible for keeping California's per capita energy use approximately flat over the past 30 years.

Assembly Bill 1493 (2002) (Health and Safety Code § 43018.5). Assembly Bill 1493 ("AB 1493") required CARB to develop and adopt the nation's first GHG emission standards for automobiles. Not only have litigants challenged their legality in federal court, but also USEPA denied California's request for a Clean Air Act waiver to implement its regulations. As of this writing, California and other states who seek to adopt California's greenhouse gas emissions standards for automobiles are challenging USEPA's denial in federal court.

Climate Action Registry (2001). California Senate Bills 1771 and 527 created the structure of the California Climate Action Registry ("Registry"), and former Governor Gray Davis signed the final version of the Registry's enabling legislation into law on October 13, 2001. These bills establish the Registry as a non-profit entity to help companies and organizations establish GHG emissions baselines against which future GHG emission reduction requirements could be applied. Using any year from 1990 forward as a base year, participants can record their annual GHG emissions with the Registry. In return for this voluntary action, the State of California promises to offer its "best efforts" to ensure that participants receive consideration for their early action if they are subject to any future state, federal, or international emissions regulatory scheme.

1.4.3 South Coast Air Quality Management District Plans, Policies, Regulations and Laws.

The South Coast Air Quality Management District ("SCAQMD") adopted a "Policy on Global Warming and Stratospheric Ozone Depletion" in April 1990. The policy commits the SCAQMD to consider global impacts in rulemaking and in drafting revisions to the Air Quality Management Plan. In March 1992, the SCAQMD Governing Board reaffirmed this policy and adopted amendments to the policy to include the following directives:

- Phase out the use and corresponding emissions of chlorofluorocarbons (CFCs), methyl chloroform (1,1,1-trichloroethane or TCA), carbon tetrachloride, and halons by December 1995;
- Phase out the large quantity use and corresponding emissions of hydrochlorofluorocarbons (HCFCs) by the year 2000;
- Develop recycling regulations for HCFCs (e.g., SCAQMD Rules 1411 and 1415);
- Develop an emissions inventory and control strategy for methyl bromide; and,
- Support the adoption of a California GHG emission reduction goal.

The legislative and regulatory activity detailed above is expected to require significant development and implementation of energy efficient technologies and shifting of energy production to renewable sources.

1.4.4 University of California Irvine Plans, Policies, Regulations, and Laws

The University of California, Irvine adopted its climate action and sustainability plan entitled "Achieving Net Zero: Climate Change & Sustainability" in June 2009 which is compliant with the emissions reductions defined in AB32. The goals presented in the plan include the University achieving 2000 GHG emissions levels by 2012, 1990 GHG emissions levels by 2020, and 80% below 1990 GHG emissions levels by 2050 with a commitment to achieve climate neutrality as soon as possible. An aggressive portfolio of over 250 energy efficiency projects to reduce greenhouse gas emissions are identified in the Plan including lighting retrofits, refrigerator replacements, computer power management software, and monitoring based commissioning projects. In addition, the plan includes an expansion of the campus' use of more low carbon renewable energy sources in its energy infrastructure.

Transportation emissions will be reduced through a variety of means including a new bike sharing program and increased participation in alternative transportation modes. Lastly, emissions reductions will be achieved through educational programs geared towards behavioral change. On the road to climate-neutrality, UCI will use renewable energy certificates and offsets when all possible direct actions have been exhausted. UCI will adjust the climate action plan accordingly as the campus continues to identify new strategies to meet its emissions reduction targets.

In July 2003 the University of California adopted the Policy on Sustainable Practices to be implemented system-wide within the University's campuses, including UCI. Since then, the policy has been updated several times, most recently in September 2009. The document contains eight sustainability categories which include policies to address GHG emissions. Policy highlights from each of the eight categories follow:

Green Building Design

- New buildings (other than acute care) shall outperform Title 24 energy efficiency standards by 20% and strive to outperform by 30%.
- New buildings shall achieve LEED-New Construction (NC) "Silver" Rating and strive to achieve LEED-NC "Gold" rating.
- New buildings shall achieve at least two of the available credits in LEED-NC's Water Efficiency Category and cooperate with local water districts to conserve water and meet district water use reduction goals.
- The measures required by the Policy Guidelines will be incorporated into all new building projects, other than acute care facilities, submitted for first formal scope and budget approval as of July 1, 2009.

Clean Energy Standards:

- Implement a systemwide portfolio approach to reduce consumption of nonrenewable energy including a combination of energy efficiency projects, the incorporation of local renewable power measures for existing and new facilities, green power purchases from the electrical grid, and other energy measures with equivalent demonstrable effect on the environment and reduction in fossil fuel usage.
- Strive to achieve a level of grid-provided electricity purchases from renewable sources that will be similar to the State's Renewable Portfolio Standard, which sets a goal of procuring 20 percent of its electricity needs from renewable sources by 2010.
- Develop a strategic plan for siting renewable power projects in existing and new facilities with a goal of providing up to 10 megawatts of local renewable power by 2014.
- Develop a strategic plan for implementing energy efficiency projects for existing buildings and infrastructure to include operational changes and the integration of best practices with a goal of reducing system-wide growth-adjusted energy consumption by 10% or more by 2014 from the year 2000 base consumption level.
- Pursue marketing of emission credits as a means to bridge the cost-feasibility gap for green power projects

Climate Protection Practices:

- Each campus will pursue individual membership with either the California Climate Action Registry (CCAR) or The Climate Registry (TCR) and form a Climate Change Working Group to monitor progress towards reaching GHG reduction goals and evaluate programs to reach these goals.
- Each campus will complete a greenhouse gas emissions inventory that will be updated at least once every other year.
- Develop an action plan for becoming climate neutral.
- By September 15, 2009 each campus will implement seven of the tangible actions to reduce GHG emissions that are outlined in the ACUPCC.

Sustainable Transportation Practices:

- Facilitate sharing of best practices within the university and among other educational institutions
- Develop mechanism for ongoing involvement of students in efforts for achieving sustainable campus transportation.
- Implement pre-tax transit pass program for employees.
- Pursue the expansion of Transportation Demand Management (TDM) programs including carshare, carpools, vanpools, buspools, campus shuttles, transit, bicycle circulation system, pedestrian circulation system, emergency rides home, telecommuting, flexible schedules, and parking management.

Sustainable Operations:

- Develop a plan to operate and maintain all scope eligible existing buildings at a LEED for Existing Buildings Operations and Maintenance (LEED-EBOM) "Certified" Rating in a comprehensive campus approach.
- Work closely with the U.S. Green Building Council (USGBC) to address the needs and concerns of campuses in the further development of LEED-EBOM rating system and the USGBC's "Portfolio Program"

Recycling and Waste Management:

- Develop an Integrated Waste Management Plan (IWMP) with the following waste diversion goals: 50% by June 30, 2008, 75% by June 30, 2012, and ultimate goal of zero waste by 2020.
- Incorporate waste reduction and recycling elements in Green Building Design and Sustainable Operations implementation goals and campus operations as they are developed.

Environmentally Preferable Purchasing Practices:

- Utilize University purchasing power and academic and research excellence to advance the development of sustainable technologies by pressing markets to continually improve resource productivity.
- For products and services that do not currently offer environmentally preferable alternatives, the University will work with its existing and potential suppliers to develop options.
- Continue to transition all locations toward electronic and paperless processes and utilize web-based catalogs and programs.
- Focus procurement efforts only on products with ENERGYSTAR ratings where available.
- Adopt a minimum standard of 30% Post Consumer Waste (PCW) recycled content paper for office supplies and 100% PCW recycled content paper for uncut paper uses including but not limited to janitorial supplies.
- Achieve Bronze registration or higher under the Electronic Products Environmental Assessment Tool (EPEAT) for all desktop computers, laptops, and computer monitors

purchased by the University. Provide additional consideration for electronics products that have achieved EPEAT Silver or EPEAT Gold registration.

- Recycle all electronic waste in a responsible manner.
- Require take-back program be offered for packaging of electronics products.
- Incorporate the Environmentally Preferable Purchasing Policy into existing strategic sourcing and other training programs. Provide training seminars, supplier fairs, and workshops on purchasing environmentally preferred products and establish educational programs and materials.

Campus Foodservice Operations:

- Achieve goal of procuring 20% sustainable food products by the year 2020 for Campus Foodservice Operations.
- Provide student patrons sustainable food options as well as access to educational materials that will help support their food choices.
- Engage in activities with surrounding community that support common goals regarding sustainability.
- Explore the use of third-party "green business" certifications for sustainable dining operations. If cost effective, each campus will certify one facility by December 2010 through one of the following: (1) City or county's "green business" program, (2) Green Seal's Restaurants and Food Services Operations certification program, or (3) the Green Restaurant Association certification program.

2.0 Potential Greenhouse Gas Impacts

2.1 Significance Thresholds

At this time, a widely accepted threshold for determining the significance of GHG emissions has not been established. Both CARB and SCAQMD have been working to establish significance thresholds for GHG impacts and have published draft thresholds for review and comment, but no significance thresholds applicable to general projects have been adopted by these agencies. Section 2.1.1 discusses CARB's significance threshold development and section 2.1.2 discusses SCAQMD's significance threshold development. These proposed thresholds will be used as guidance in a qualitative assessment of the project's GHG impact potential.

2.1.1 California Air Resource Board Significance Thresholds

The CARB is the lead agency for implementing AB 32. In October 2008, CARB published a Proposed Scoping Plan, in coordination with the Climate Action Team (CAT), to establish a comprehensive set of actions designed to reduce overall greenhouse gas emissions in California. The measures in the Scoping plan approved by the Board will be developed over the next two years and be in place by 2020. California is the fifteenth largest emitter of GHGs on the planet, representing about 2 percent of the worldwide emissions. According to climate scientists, California and the rest of the developed world will have to cut emissions by 80 percent from today's levels to stabilize the amount of CO_2 in the atmosphere and prevent the most severe effects of global climate change. This long-range goal is reflected in California Executive Order S-3-05 that requires an 80 percent reduction of greenhouse gases from 1990 levels by 2050. Reducing GHG emissions to 1990 levels means cutting approximately 30 percent from business-as-usual emissions levels projected for 2020, or about 15 percent from today's levels. On a per-capita basis, that means reducing our annual emissions of 14 tons of CO_2 equivalent for every man, woman and child in California down to about 10 tons per person by 2020.

The scoping plan asserts that significant progress can be made toward the 2020 goal using existing technologies, and improving the efficiency of energy use. Other solutions involve improving our state's infrastructure, transitioning to cleaner and more secure sources of energy, and adopting 21st century land use planning and development practices. Key elements of California's recommendations for reducing its greenhouse gas emissions to 1990 levels by 2020 include:

- Expanding and strengthening existing energy efficiency programs as well as building and appliance standards;
- Achieving a statewide renewable energy mix of 33 percent;
- Developing a California cap-and-trade program that links with other Western Climate Initiative partner programs to create a regional market system;
- Establishing targets for transportation-related greenhouse gas emissions for regions throughout California, and pursuing policies and incentives to achieve those targets;
- Adopting and implementing measures pursuant to existing State laws and policies, including California's clean car standards, goods movement measures, and the Low Carbon Fuel Standard; and
- Creating targeted fees, including a public goods charge on water use, fees on high global warming potential gases, and a fee to fund the administrative costs of the State's long term commitment to AB 32 implementation.

- CARB anticipated 5 million metric tons of CO_2 equivalent (MMT CO_2EQ) reduction for Regional Transportation-Related Greenhouse Gas Targets.

To meet the 1990 target established by AB 32, CARB recommends a de minimis (minimal importance) emission threshold of 0.1 MMT annual (100,000 MT per year) CO_2EQ per transportation source category. Source categories whose total aggregated emissions are below this level are not proposed for emission reduction requirements in the Scoping Plan but may contribute toward the target via other means. As each regulation to implement the Scoping Plan is developed, CARB and other agencies will consider more specific de minimis levels below which the regulatory requirements would not apply. These levels will consider the cost to comply, especially for small businesses, and other factors. Until approved thresholds and guidelines are adopted at the local and regional level, the proposed de minimis threshold of 100,000 MT CO_2EQ per year for transportation sources will be utilized for transportation sources.

In addition to the Proposed Scoping Plan, CARB released the Preliminary Draft Staff Proposal (Staff Proposal) on October 24, 2008 with the objective of developing interim significant thresholds for commercial and residential projects. CARB has proposed a threshold of 7,000 annual MT for industrial operational sources but this threshold has not been adopted. At this time, CARB has not proposed thresholds applicable for residential and commercial sources. Therefore, criteria for determining threshold levels for residential and commercial sources have yet to be defined. Under CARB's Staff Proposal, recommended approaches for setting interim significant thresholds for GHG under the CEQA are underway. CARB staff proposes to define certain performance standards (e.g., for energy efficiency) by referencing or compiling lists from existing local, state or national standards. For some sub-sources of GHG emissions (e.g., construction, transportation, waste), CARB staff has not identified reference standards.

The Staff Proposal's Potential Performance Standards and Measures were released in December 2008. Inside the Staff Proposal, CARB's Potential Performance Standard and Measures included some construction measures. These guideline measures are:

- Provide alternative transportation mode options or incentives for workers to and from worksite on days that construction requires 200 or more workers; and
- Recycle and/or salvage at least 75% of non-hazardous construction and demolition debris by weight (residential) or by weight in volume (commercial); and
- Use recycled materials for at least 20% of construction materials based on cost for building materials, based on volume for roadway, parking lot, sidewalk and curb material. Recycled materials may include salvaged, reused, and recycled content materials.

CARB's Staff Proposal has identified California Energy Commission's (CEC) Tier II Energy Efficiency goals as an appropriate performance standard for energy use. Under State Law, the CEC is required to establish eligibility criteria, conditions for incentives, and rating standards. Thus, the CEC established energy efficiency standards for homes and commercial structures, and requires new buildings to exceed current building standards by meeting Tier Energy Efficiency goals. Currently, CEC's proposed guidelines for the solar energy incentive program recommend a Tier II goal for residential and commercial projects of a 30% reduction in building combined space heating, cooling, and water heating energy compared to the 2008 Title 24 standards.

Existing green building rating systems like LEED, GreenPoint Rated, the California Green Building Code, and others, contain examples of measures that are likely to result in substantial GHG emission reductions from residential and commercial projects. Performance standards that already exist and have been proven to be effective, at the local, state, national or international level, are preferable. For residential and commercial projects, CARB staff has proposed that the GHG emissions of some projects that meet GHG performance standards might under some circumstances still be considered cumulatively considerable and therefore significant. However, criteria threshold for residential and commercial has yet to be developed.

2.1.2 SCAQMD's Significance Thresholds

On December 5, 2008, the South Coast Air Quality Management District (SCAQMD) adopted GHG significance threshold for Stationary Sources, Rules and Plans where the SCAQMD is lead agency. The threshold uses a tiered approach. The project is compared with the requirements of each tier sequentially and would not to result in a significant impact if it complies with any tier. Tier 1 excludes projects that are specifically exempt from SB97 from resulting in a significant impact. Tier 2 excludes projects that are consistent with a GHG reduction plan that has a certified final CEQA document and complies with AB 32 GHG reduction goals. Tier 3 excludes projects with annual emissions lower than a screening threshold. For industrial stationary source projects the SCAQMD adopted a screening threshold of 10,000 MT CO_2EQ/year. This threshold was selected to capture 90% of the GHG emissions from these types of projects where the combustion of natural gas is the primary source of GHG emissions. SCAQMD concluded that projects with emissions less than the screening threshold would not result in a significant cumulative impact. Tier 4 consists of three decision tree options. Under the first option, the project would be excluded if design features and/or mitigation measures resulted in emissions 30 percent lower than business as usual emissions. Under the second option the project would be excluded if it had early compliance with AB 32 through early implementation of CARB's Scoping Plan measures. Under the third option, project would be excluded if it met sector based performance standards. However, the specifics of the Tier 4 compliance options were not adopted by the SCAQMD board to allow further time to develop the options and coordinate with CARB's GHG significance threshold development efforts. Tier 5 would exclude projects that implement offsite mitigation (GHG reduction projects) or purchase offsets to reduce GHG emission impacts to less than the proposed screening level

While not adopted by the SCAQMD Board, the guidance document prepared for the stationary source threshold (SCAQMD 2008b) also suggested the same tiered approach for residential and commercial projects with a 3,000 MTCO_2EQ/year screening threshold. However, at the time of adoption of the industrial stationary source threshold the SCAQMD felt additional analysis was required along with coordination with CARB's GHG significance threshold development efforts.

At the most recent SCAQMD GHG working group meeting (November, 2009), SCAQMD staff presented two options for screening thresholds for residential and commercial projects. The first option would have different thresholds for specific land uses. The proposed threshold for residential projects is 3,500 MT CO_2EQ/year, the commercial threshold is 1,400 MT CO_2EQ/year, and the mixed-use threshold is 3,000 MT CO_2EQ/year. The second option would apply the 3,000 MT CO_2EQ/year screening threshold for all commercial/residential projects. Lead agencies would be able to select either option. These thresholds are based on capturing 90% of the emissions from projects and requiring them to comply with the higher tiers of the threshold (i.e., performance requirements or GHG reductions outside of the project) to not result in a significant impact.

Staff also presented updated for compliance options for Tier 4 of the significance thresholds. The first option would be a reduction of 23.9% in GHG emissions over the base case. This percentage reduction represents the land use sector portion of the CARB Scoping Plan's overall reduction of 28%. This target would be updated as the AB 32 Scoping Plan is revised. The base case scenario for this reduction still needs to be defined. Residual emissions would need to be less than 25,000 MT CO_2EQ/year to comply with the option. Staff proposed efficiency targets for the third option of 4.6 MT CO_2EQ/year per service population (population employment) for project level analysis and 6.6 MT CO_2EQ/year for plan level analyses. For project level analyses, residual emissions would need to be less than 25,000 MT CO_2EQ/year to comply with this option.

For this project the 3,000 MT CO_2EQ per year screening threshold will be used for the significance threshold for this project. The methodology recommends that total construction emissions be amortized over a 30-year period or the project's expected lifetime if it is less than 30 years. The SCAQMD's working group has not set a date for finalizing the recommendations.

2.2 Project Emissions Calculation Methodology

GHG emissions during construction and operation of the project were estimated using the methodologies presented below. Section 2.2.1 presents the methodologies used to estimate construction related GHG emissions and Section 2.2.2 presents the methodologies used to estimate operational GHG emissions.

2.2.1 Construction Emissions

Emissions during the primary phases of construction were calculated using CalEEMod (v2013.2.1). The sources of GHG emissions during construction include off-road construction vehicles and equipment, on-road haul trucks, and employee vehicles.

The Project Applicant provided project specific construction information. Construction of the Project is anticipated to occur in 2014 and take approximately 4 months to complete. Site preparation and grading are anticipated to take 3 to 4 weeks to complete. On-site grading will involve moving approximately 12,000 CY of material and approximately 3,000 CY of material will be exported. It was assumed that paving would occur during the last month of construction and that painting would occur during the last two weeks. CalEEMod default assumptions were used for all other inputs.

2.2.2 Operational Emissions

GHG emissions due to the operation of the project were calculated using the CalEEMod Program). To determine emissions with the project, the program was set to calculate emissions for a 577 space, 203,800 gross square foot asphalt surface parking lot on a 6.38-acre site. Default CalEEMod factors were used for the calculations except for vehicular emissions to account for the shuttle bus that will transport passengers between the parking lot and the medical center.

The only vehicular emissions associated with the project will be due to emissions from the shuttle bus running between the parking lot and the medical center. Currently shuttles between the existing off-site parking lot and the medical center operate from 5:45 a.m. to 8:45 p.m. Monday through Friday. Assuming shuttle service is provided every 10 minutes there are approximately 90 trips each weekday. With the project, this service will be re-routed to run between the project and the medical center. The existing off-site parking is not available on weekends and the shuttle is not operated on Saturday or Sunday. The Project will be available

seven days a week and it is likely that shuttle operation will be extended to the weekends. It was assumed that the shuttle would operate 11 hours per day on weekends resulting in 66 trips. The round trip travel distance between the project and the medical center is approximately 2 miles.

CallEEMod uses a vehicular emission factor that is representative of the emissions from the average vehicle operated in Orange County, which is primarily passenger vehicles but also includes all sizes of trucks. The shuttle bus would be expected to be a light or medium duty truck, which would be expected to generate more emissions than the average. Therefore, the number of shuttle trips entered into the CalEEMod was doubled from the actual expected number of trips discussed above to provide a conservative estimate of the actual emissions.

3.0 Estimate of Project Greenhouse Gas Emissions

Using the methodologies discussed in Section 2.2, greenhouse gas emissions associated with the project were calculated and are presented below. Emissions associated with construction activities are presented in Section 3.1. Operational emissions are presented in Section 3.2.

3.1 Construction Emissions

Using the methodologies described in Section 2.2.1, CO_2 emissions during construction of the project were calculated and are presented in Table 3. The total annual metric tons of CO_2EQ emissions for each construction activity are presented.

Table 3
Total Construction GHG Emissions

	Total Emissions (MT)			
Activity	**CO_2**	**CH_4**	**N_20**	**CO_2EQ**
Site Preparation	19.8	0.01	0.00	19.9
Grading	21.6	0.00	0.00	21.7
Construction	95.7	0.02	0.00	96.0
Paving	46.1	0.01	0.00	46.3
Painting	4.6	0.00	0.00	4.6
Total Construction Emissions	**187.7**	**0.04**	**0.00**	**188.6**
Project Life Average Annual Emissions*	**6.3**	**0.00**	**0.00**	**6.3**

*Based on 30 Year Project Life Per SCAQMD Significance Thresholds

Table 3 also shows the project lifetime average annual construction emissions. The SCAQMD GHG guidance recommends that construction emissions be amortized over a 30-year project lifetime and added to the operational emissions to determine significance. This is done in the next section.

3.2 Operational Emissions

The impact of the proposed project is measured against the net increase in emissions that will result from the implementation of the project. Using the methodologies described in Section 2.2 the greenhouse GHG emissions associated with the project were calculated. The results of this analysis are presented in Table 4. Table 4 presents the total project CO_2 emissions estimated for the opening year of the project (2012). The annualized construction emissions are added to the operational emissions to give the total increase in annualized emissions due to the project.

Table 4
Annual Project GHG Emissions

Activity	Annual Emissions (MT/yr) CO_2	CH_4	N_20	CO_2EQ
Vehicular Emissions	56.6	0.00	0.00	56.7
Natural Gas Combustion	0.0	0.00	0.00	0.0
Electricity	58.1	0.00	0.00	58.3
Landscaping	0.0	0.00	0.00	0.0
Hearth	0.0	0.00	0.00	0.0
Consumer Products	0.0	0.00	0.00	0.0
Architectural Coatings	0.0	0.00	0.00	0.0
Municipal Waste	0.0	0.00	0.00	0.0
Water	0.0	0.00	0.00	0.0
Total Emissions	**114.7**	**0.0**	**0.0**	**115.0**
Annualized Construction Emissions	6.3	0.0	0.0	6.3
Total Annualized Project Emissions	**121.0**	**0.0**	**0.0**	**121.3**
Screening Threshold:				**3,000**
Exceed Threshold?				**No**

3.3 Impacts From Project

The analysis presented above shows that the net increase in GHG emissions due to the project are below the SCAQMD suggested screening level significance threshold of 3,000 metric tons per year. Thus, no project specific mitigation measures are required to construct the project. Additionally, as discussed in Section 1.4.4, UCI implements a climate action plan which is compliant with AB 32 (described in Section 1.4.2,) and policies contained in the University of California Policy on Sustainable Practices to further reduce GHG emissions on the campus. The proposed project would also incorporate project relevant specific policies contained in these plans. Therefore, the project will not considerably contribute to significant cumulative impacts associated with global climate change due to GHG emissions or interfere with California's ability to achieve its GHG reduction goals.

4.0 References

California Energy Commission, *Inventory of California Greenhouse Gas Emissions and Sinks: 1990 to 2004*, December 2006.

Edmund G. Brown, Jr., Attorney General, State of California, *Comments on Draft Environmental Impact Report for Coyote Valley Specific Plan*, June 19, 2007.

Michael Hendrix et. al., *Alternative Approaches to Analyze Greenhouse Gas Emissions and Global Climate Change in CEQA Documents*, Association of Environmental Professionals, Revised Draft April 27, 2007.

University of New South Wales, Sydney Australia Recycled Organics Unit (ROU), *Life Cycle Inventory and Life Cycle Assessment for Windrow Composting Systems*, 2007

State of California, *Climate Change Portal*, http://www.climatechange.ca.gov/index.html.

United Nations Statistics Division, *Environment Indicators: Greenhouse Gas Emissions*, http://unstats.un.org/unsd/ENVIRONMENT/air_greenhouse_emissions.htm.

United Nations Framework Convention on Climate Change, *National Greenhouse Gas Inventory Data for the Period 1990–2006 and Status of Reporting*, November 17, 2008.

United Nations Framework Convention on Climate Change, *Sixth compilation and synthesis of initial national communications from Parties not included in Annex I to the Convention*, October 25, 2005.

U.S. Environmental Protection Agency, *The U.S. Inventory of Greenhouse Gas Emissions and Sinks: Fast Facts*, April 2007.

U.S. Environmental Protection Agency, *Climate Change*, http://epa.gov/climatechange/index.html.

U.S. Environmental Protection Agency, *AP 42, Fifth Edition Compilation of Air Pollutant Emission Factors, Volume 1: Stationary Point and Area Sources*, http://www.epa.gov/ttn/chief/ap42/.

U.S. Environmental Protection Agency, *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990 – 2005*, April 15, 2007.

California Air Resource Board, *Climate Change Proposed Scoping Plan*, October 2008.

California Air Resource Board, *Staff Proposal-Recommended Approaches for Setting Interim Significance Thresholds for Greenhouse Gases under the CEQA*, December 2008.

California Air Resource Board, *Preliminary Draft Staff Proposal- Recommended Approaches for Setting Interim Significance Thresholds for Greenhouse Gases under the CEQA*, October 24,2008.

SCAQMD, *Interim CEQA GHG Significance Threshold for Stationary Sources, Rules and Plans*, December 5, 2008

State of California Department of Water Resources (DWR), *Climate Change Adaptation Strategies for California's Water*, October 2008

Appendix

CalEEMod Output File

Orangewood Parking Lot

Orange County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	577.00	Space	6.38	230,800.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	30
Climate Zone	8			**Operational Year**	2014
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	630.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Project Specific Lot Acreage

Construction Phase - Schedule adjusted to match guidance from Project Applicant

Trips and VMT - Grading Haul Trips Adjusted for 16 CY truck

Grading -

Construction Off-road Equipment Mitigation -

Vehicle Trips - Modified to include shuttle bus emissions

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	230.00	45.00
tblConstructionPhase	NumDays	20.00	10.00
tblConstructionPhase	NumDays	20.00	40.00
tblConstructionPhase	PhaseEndDate	10/24/2014	9/26/2014
tblConstructionPhase	PhaseEndDate	10/24/2014	9/26/2014
tblConstructionPhase	PhaseStartDate	9/27/2014	9/1/2014
tblConstructionPhase	PhaseStartDate	6/28/2014	6/30/2014
tblConstructionPhase	PhaseStartDate	6/14/2014	6/16/2014
tblConstructionPhase	PhaseStartDate	8/30/2014	8/4/2014
tblGrading	MaterialExported	0.00	3,000.00
tblLandUse	LotAcreage	5.19	6.38
tblTripsAndVMT	HaulingTripNumber	375.00	188.00
tblVehicleTrips	CC_TL	8.40	2.00
tblVehicleTrips	CC_TTP	0.00	100.00
tblVehicleTrips	PR_TP	0.00	100.00
tblVehicleTrips	ST_TR	0.00	0.23
tblVehicleTrips	SU_TR	0.00	0.23
tblVehicleTrips	WD_TR	0.00	0.31

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2014	0.3572	1.8996	1.4154	2.0500e-003	0.1613	0.1119	0.2732	0.0767	0.1042	0.1809	0.0000	187.7462	187.7462	0.0387	0.0000	188.5598
Total	**0.3572**	**1.8996**	**1.4154**	**2.0500e-003**	**0.1613**	**0.1119**	**0.2732**	**0.0767**	**0.1042**	**0.1809**	**0.0000**	**187.7462**	**187.7462**	**0.0387**	**0.0000**	**188.5598**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2014	0.3572	1.8996	1.4154	2.0500e-003	0.0861	0.1119	0.1980	0.0362	0.1042	0.1404	0.0000	187.7461	187.7461	0.0387	0.0000	188.5597
Total	**0.3572**	**1.8996**	**1.4154**	**2.0500e-003**	**0.0861**	**0.1119**	**0.1980**	**0.0362**	**0.1042**	**0.1404**	**0.0000**	**187.7461**	**187.7461**	**0.0387**	**0.0000**	**188.5597**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**46.62**	**0.00**	**27.52**	**52.87**	**0.00**	**22.42**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.8428	8.0000e-005	7.7000e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.0143	0.0143	4.0000e-005	0.0000	0.0152
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	58.1216	58.1216	2.6700e-003	5.5000e-004	58.3491
Mobile	0.1161	0.0998	0.5494	6.8000e-004	0.0455	1.1500e-003	0.0467	0.0122	1.0500e-003	0.0132	0.0000	56.6280	56.6280	3.1000e-003	0.0000	56.6931
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.9589**	**0.0999**	**0.5571**	**6.8000e-004**	**0.0455**	**1.1800e-003**	**0.0467**	**0.0122**	**1.0800e-003**	**0.0133**	**0.0000**	**114.7640**	**114.7640**	**5.8100e-003**	**5.5000e-004**	**115.0574**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.8428	8.0000e-005	7.7000e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.0143	0.0143	4.0000e-005	0.0000	0.0152
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	58.1216	58.1216	2.6700e-003	5.5000e-004	58.3491
Mobile	0.1161	0.0998	0.5494	6.8000e-004	0.0455	1.1500e-003	0.0467	0.0122	1.0500e-003	0.0132	0.0000	56.6280	56.6280	3.1000e-003	0.0000	56.6931
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.9589**	**0.0999**	**0.5571**	**6.8000e-004**	**0.0455**	**1.1800e-003**	**0.0467**	**0.0122**	**1.0800e-003**	**0.0133**	**0.0000**	**114.7640**	**114.7640**	**5.8100e-003**	**5.5000e-004**	**115.0574**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	6/2/2014	6/13/2014	5	10	
2	Grading	Grading	6/16/2014	6/27/2014	5	10	
3	Building Construction	Building Construction	6/30/2014	8/29/2014	5	45	
4	Paving	Paving	8/4/2014	9/26/2014	5	40	
5	Architectural Coating	Architectural Coating	9/1/2014	9/26/2014	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 5

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 10,386; Non-Residential Outdoor: 3,462 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	255	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	162	0.38
Grading	Graders	1	8.00	174	0.41
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	226	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	125	0.42
Paving	Paving Equipment	2	8.00	130	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	188.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	97.00	38.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	19.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Site Preparation - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0903	0.0000	0.0903	0.0497	0.0000	0.0497	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0265	0.2881	0.2148	2.0000e-004		0.0157	0.0157		0.0144	0.0144	0.0000	18.8508	18.8508	5.5700e-003	0.0000	18.9678
Total	**0.0265**	**0.2881**	**0.2148**	**2.0000e-004**	**0.0903**	**0.0157**	**0.1060**	**0.0497**	**0.0144**	**0.0641**	**0.0000**	**18.8508**	**18.8508**	**5.5700e-003**	**0.0000**	**18.9678**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.9200e-003	5.6000e-004	5.8100e-003	1.0000e-005	9.9000e-004	1.0000e-005	1.0000e-003	2.6000e-004	1.0000e-005	2.7000e-004	0.0000	0.9569	0.9569	5.0000e-005	0.0000	0.9579
Total	**1.9200e-003**	**5.6000e-004**	**5.8100e-003**	**1.0000e-005**	**9.9000e-004**	**1.0000e-005**	**1.0000e-003**	**2.6000e-004**	**1.0000e-005**	**2.7000e-004**	**0.0000**	**0.9569**	**0.9569**	**5.0000e-005**	**0.0000**	**0.9579**

3.2 Site Preparation - 2014

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0352	0.0000	0.0352	0.0194	0.0000	0.0194	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0265	0.2881	0.2148	2.0000e-004		0.0157	0.0157		0.0144	0.0144	0.0000	18.8508	18.8508	5.5700e-003	0.0000	18.9678
Total	**0.0265**	**0.2881**	**0.2148**	**2.0000e-004**	**0.0352**	**0.0157**	**0.0509**	**0.0194**	**0.0144**	**0.0338**	**0.0000**	**18.8508**	**18.8508**	**5.5700e-003**	**0.0000**	**18.9678**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.9200e-003	5.6000e-004	5.8100e-003	1.0000e-005	9.9000e-004	1.0000e-005	1.0000e-003	2.6000e-004	1.0000e-005	2.7000e-004	0.0000	0.9569	0.9569	5.0000e-005	0.0000	0.9579
Total	**1.9200e-003**	**5.6000e-004**	**5.8100e-003**	**1.0000e-005**	**9.9000e-004**	**1.0000e-005**	**1.0000e-003**	**2.6000e-004**	**1.0000e-005**	**2.7000e-004**	**0.0000**	**0.9569**	**0.9569**	**5.0000e-005**	**0.0000**	**0.9579**

3.3 Grading - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0329	0.0000	0.0329	0.0169	0.0000	0.0169	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0193	0.2055	0.1338	1.5000e-004		0.0119	0.0119		0.0109	0.0109	0.0000	14.3445	14.3445	4.2400e-003	0.0000	14.4335
Total	**0.0193**	**0.2055**	**0.1338**	**1.5000e-004**	**0.0329**	**0.0119**	**0.0448**	**0.0169**	**0.0109**	**0.0278**	**0.0000**	**14.3445**	**14.3445**	**4.2400e-003**	**0.0000**	**14.4335**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	5.4200e-003	0.0352	0.0238	7.0000e-005	1.6100e-003	6.3000e-004	2.2400e-003	4.4000e-004	5.8000e-004	1.0200e-003	0.0000	6.4744	6.4744	6.0000e-005	0.0000	6.4756
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.6000e-003	4.7000e-004	4.8400e-003	1.0000e-005	8.2000e-004	1.0000e-005	8.3000e-004	2.2000e-004	1.0000e-005	2.2000e-004	0.0000	0.7974	0.7974	4.0000e-005	0.0000	0.7983
Total	**7.0200e-003**	**0.0357**	**0.0286**	**8.0000e-005**	**2.4300e-003**	**6.4000e-004**	**3.0700e-003**	**6.6000e-004**	**5.9000e-004**	**1.2400e-003**	**0.0000**	**7.2718**	**7.2718**	**1.0000e-004**	**0.0000**	**7.2738**

3.3 Grading - 2014

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0128	0.0000	0.0128	6.5800e-003	0.0000	6.5800e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0193	0.2055	0.1338	1.5000e-004		0.0119	0.0119		0.0109	0.0109	0.0000	14.3445	14.3445	4.2400e-003	0.0000	14.4335
Total	**0.0193**	**0.2055**	**0.1338**	**1.5000e-004**	**0.0128**	**0.0119**	**0.0247**	**6.5800e-003**	**0.0109**	**0.0175**	**0.0000**	**14.3445**	**14.3445**	**4.2400e-003**	**0.0000**	**14.4335**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	5.4200e-003	0.0352	0.0238	7.0000e-005	1.6100e-003	6.3000e-004	2.2400e-003	4.4000e-004	5.8000e-004	1.0200e-003	0.0000	6.4744	6.4744	6.0000e-005	0.0000	6.4756
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.6000e-003	4.7000e-004	4.8400e-003	1.0000e-005	8.2000e-004	1.0000e-005	8.3000e-004	2.2000e-004	1.0000e-005	2.2000e-004	0.0000	0.7974	0.7974	4.0000e-005	0.0000	0.7983
Total	**7.0200e-003**	**0.0357**	**0.0286**	**8.0000e-005**	**2.4300e-003**	**6.4000e-004**	**3.0700e-003**	**6.6000e-004**	**5.9000e-004**	**1.2400e-003**	**0.0000**	**7.2718**	**7.2718**	**1.0000e-004**	**0.0000**	**7.2738**

3.4 Building Construction - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0870	0.7032	0.4259	6.0000e-004		0.0501	0.0501		0.0472	0.0472	0.0000	55.2992	55.2992	0.0141	0.0000	55.5945
Total	**0.0870**	**0.7032**	**0.4259**	**6.0000e-004**		**0.0501**	**0.0501**		**0.0472**	**0.0472**	**0.0000**	**55.2992**	**55.2992**	**0.0141**	**0.0000**	**55.5945**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0181	0.1004	0.1155	1.9000e-004	5.2600e-003	1.8400e-003	7.1000e-003	1.5000e-003	1.6900e-003	3.2000e-003	0.0000	17.1741	17.1741	1.5000e-004	0.0000	17.1773
Worker	0.0466	0.0136	0.1409	2.9000e-004	0.0240	1.9000e-004	0.0242	6.3600e-003	1.7000e-004	6.5400e-003	0.0000	23.2037	23.2037	1.2500e-003	0.0000	23.2300
Total	**0.0647**	**0.1140**	**0.2564**	**4.8000e-004**	**0.0292**	**2.0300e-003**	**0.0313**	**7.8600e-003**	**1.8600e-003**	**9.7400e-003**	**0.0000**	**40.3778**	**40.3778**	**1.4000e-003**	**0.0000**	**40.4073**

3.4 Building Construction - 2014

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0870	0.7032	0.4259	6.0000e-004		0.0501	0.0501		0.0472	0.0472	0.0000	55.2991	55.2991	0.0141	0.0000	55.5944
Total	**0.0870**	**0.7032**	**0.4259**	**6.0000e-004**		**0.0501**	**0.0501**		**0.0472**	**0.0472**	**0.0000**	**55.2991**	**55.2991**	**0.0141**	**0.0000**	**55.5944**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0181	0.1004	0.1155	1.9000e-004	5.2600e-003	1.8400e-003	7.1000e-003	1.5000e-003	1.6900e-003	3.2000e-003	0.0000	17.1741	17.1741	1.5000e-004	0.0000	17.1773
Worker	0.0466	0.0136	0.1409	2.9000e-004	0.0240	1.9000e-004	0.0242	6.3600e-003	1.7000e-004	6.5400e-003	0.0000	23.2037	23.2037	1.2500e-003	0.0000	23.2300
Total	**0.0647**	**0.1140**	**0.2564**	**4.8000e-004**	**0.0292**	**2.0300e-003**	**0.0313**	**7.8600e-003**	**1.8600e-003**	**9.7400e-003**	**0.0000**	**40.3778**	**40.3778**	**1.4000e-003**	**0.0000**	**40.4073**

3.5 Paving - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0472	0.5217	0.2993	4.5000e-004		0.0291	0.0291		0.0267	0.0267	0.0000	42.8825	42.8825	0.0127	0.0000	43.1486
Paving	8.3600e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0556**	**0.5217**	**0.2993**	**4.5000e-004**		**0.0291**	**0.0291**		**0.0267**	**0.0267**	**0.0000**	**42.8825**	**42.8825**	**0.0127**	**0.0000**	**43.1486**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.4100e-003	1.8700e-003	0.0194	4.0000e-005	3.2900e-003	3.0000e-005	3.3200e-003	8.7000e-004	2.0000e-005	9.0000e-004	0.0000	3.1895	3.1895	1.7000e-004	0.0000	3.1931
Total	**6.4100e-003**	**1.8700e-003**	**0.0194**	**4.0000e-005**	**3.2900e-003**	**3.0000e-005**	**3.3200e-003**	**8.7000e-004**	**2.0000e-005**	**9.0000e-004**	**0.0000**	**3.1895**	**3.1895**	**1.7000e-004**	**0.0000**	**3.1931**

3.5 Paving - 2014

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0472	0.5217	0.2993	4.5000e-004		0.0291	0.0291		0.0267	0.0267	0.0000	42.8824	42.8824	0.0127	0.0000	43.1485
Paving	8.3600e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0556**	**0.5217**	**0.2993**	**4.5000e-004**		**0.0291**	**0.0291**		**0.0267**	**0.0267**	**0.0000**	**42.8824**	**42.8824**	**0.0127**	**0.0000**	**43.1485**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.4100e-003	1.8700e-003	0.0194	4.0000e-005	3.2900e-003	3.0000e-005	3.3200e-003	8.7000e-004	2.0000e-005	9.0000e-004	0.0000	3.1895	3.1895	1.7000e-004	0.0000	3.1931
Total	**6.4100e-003**	**1.8700e-003**	**0.0194**	**4.0000e-005**	**3.2900e-003**	**3.0000e-005**	**3.3200e-003**	**8.7000e-004**	**2.0000e-005**	**9.0000e-004**	**0.0000**	**3.1895**	**3.1895**	**1.7000e-004**	**0.0000**	**3.1931**

3.6 Architectural Coating - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0802					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.4600e-003	0.0278	0.0192	3.0000e-005		2.4500e-003	2.4500e-003		2.4500e-003	2.4500e-003	0.0000	2.5533	2.5533	3.6000e-004	0.0000	2.5609
Total	**0.0847**	**0.0278**	**0.0192**	**3.0000e-005**		**2.4500e-003**	**2.4500e-003**		**2.4500e-003**	**2.4500e-003**	**0.0000**	**2.5533**	**2.5533**	**3.6000e-004**	**0.0000**	**2.5609**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0600e-003	1.1800e-003	0.0123	2.0000e-005	2.0900e-003	2.0000e-005	2.1000e-003	5.5000e-004	2.0000e-005	5.7000e-004	0.0000	2.0200	2.0200	1.1000e-004	0.0000	2.0223
Total	**4.0600e-003**	**1.1800e-003**	**0.0123**	**2.0000e-005**	**2.0900e-003**	**2.0000e-005**	**2.1000e-003**	**5.5000e-004**	**2.0000e-005**	**5.7000e-004**	**0.0000**	**2.0200**	**2.0200**	**1.1000e-004**	**0.0000**	**2.0223**

3.6 Architectural Coating - 2014

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0802					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.4600e-003	0.0278	0.0192	3.0000e-005		2.4500e-003	2.4500e-003		2.4500e-003	2.4500e-003	0.0000	2.5533	2.5533	3.6000e-004	0.0000	2.5609
Total	**0.0847**	**0.0278**	**0.0192**	**3.0000e-005**		**2.4500e-003**	**2.4500e-003**		**2.4500e-003**	**2.4500e-003**	**0.0000**	**2.5533**	**2.5533**	**3.6000e-004**	**0.0000**	**2.5609**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0600e-003	1.1800e-003	0.0123	2.0000e-005	2.0900e-003	2.0000e-005	2.1000e-003	5.5000e-004	2.0000e-005	5.7000e-004	0.0000	2.0200	2.0200	1.1000e-004	0.0000	2.0223
Total	**4.0600e-003**	**1.1800e-003**	**0.0123**	**2.0000e-005**	**2.0900e-003**	**2.0000e-005**	**2.1000e-003**	**5.5000e-004**	**2.0000e-005**	**5.7000e-004**	**0.0000**	**2.0200**	**2.0200**	**1.1000e-004**	**0.0000**	**2.0223**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.1161	0.0998	0.5494	6.8000e-004	0.0455	1.1500e-003	0.0467	0.0122	1.0500e-003	0.0132	0.0000	56.6280	56.6280	3.1000e-003	0.0000	56.6931
Unmitigated	0.1161	0.0998	0.5494	6.8000e-004	0.0455	1.1500e-003	0.0467	0.0122	1.0500e-003	0.0132	0.0000	56.6280	56.6280	3.1000e-003	0.0000	56.6931

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Parking Lot	178.87	132.71	132.71	120,616	120,616
Total	178.87	132.71	132.71	120,616	120,616

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Parking Lot	16.60	2.00	6.90	0.00	100.00	0.00	100	0	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.511766	0.057390	0.191335	0.154102	0.040813	0.005872	0.014592	0.013169	0.001415	0.002132	0.004680	0.000514	0.002220

4.4 Fleet Mix

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	58.1216	58.1216	2.6700e-003	5.5000e-004	58.3491
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	58.1216	58.1216	2.6700e-003	5.5000e-004	58.3491
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Parking Lot	203104	58.1216	2.6700e-003	5.5000e-004	58.3491
Total		**58.1216**	**2.6700e-003**	**5.5000e-004**	**58.3491**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Parking Lot	203104	58.1216	2.6700e-003	5.5000e-004	58.3491
Total		**58.1216**	**2.6700e-003**	**5.5000e-004**	**58.3491**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.8428	8.0000e-005	7.7000e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.0143	0.0143	4.0000e-005	0.0000	0.0152
Unmitigated	0.8428	8.0000e-005	7.7000e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.0143	0.0143	4.0000e-005	0.0000	0.0152

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	8.0200e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.8340					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	7.8000e-004	8.0000e-005	7.7000e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.0143	0.0143	4.0000e-005	0.0000	0.0152
Total	**0.8428**	**8.0000e-005**	**7.7000e-003**	**0.0000**		**3.0000e-005**	**3.0000e-005**		**3.0000e-005**	**3.0000e-005**	**0.0000**	**0.0143**	**0.0143**	**4.0000e-005**	**0.0000**	**0.0152**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	8.0200e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.8340					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	7.8000e-004	8.0000e-005	7.7000e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.0143	0.0143	4.0000e-005	0.0000	0.0152
Total	**0.8428**	**8.0000e-005**	**7.7000e-003**	**0.0000**		**3.0000e-005**	**3.0000e-005**		**3.0000e-005**	**3.0000e-005**	**0.0000**	**0.0143**	**0.0143**	**4.0000e-005**	**0.0000**	**0.0152**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

APPENDIX D

ENVIRONMENTAL DATA RESOURCES, INC. (EDR) REPORT

U.C. Irvine Medical Center Surface Parking Lots
The City Drive
Orange, CA 92868

Inquiry Number: 3254967.1s
February 08, 2012

The EDR Radius Map™ Report with GeoCheck®

EDR® Environmental Data Resources Inc

440 Wheelers Farms Road
Milford, CT 06461
Toll Free: 800.352.0050
www.edrnet.com

TABLE OF CONTENTS

SECTION	PAGE
Executive Summary	ES1
Overview Map	2
Detail Map	3
Map Findings Summary	4
Map Findings	8
Orphan Summary	404
Government Records Searched/Data Currency Tracking	GR-1

GEOCHECK ADDENDUM

Physical Setting Source Addendum	A-1
Physical Setting Source Summary	A-2
Physical Setting SSURGO Soil Map	A-6
Physical Setting Source Map	A-10
Physical Setting Source Map Findings	A-12
Physical Setting Source Records Searched	A-34

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-05) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

THE CITY DRIVE
ORANGE, CA 92868

COORDINATES

Latitude (North):	33.7917000 - 33° 47' 30.12''
Longitude (West):	117.8900000 - 117° 53' 24.00''
Universal Tranverse Mercator:	Zone 11
UTM X (Meters):	417607.2
UTM Y (Meters):	3739222.8
Elevation:	149 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map:	33117-G8 ANAHEIM, CA
Most Recent Revision:	1981

AERIAL PHOTOGRAPHY IN THIS REPORT

Portions of Photo from:	2009, 2010
Source:	USDA

TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL---------- National Priority List

EXECUTIVE SUMMARY

Proposed NPL ---------- Proposed National Priority List Sites
NPL LIENS ---------- Federal Superfund Liens

Federal Delisted NPL site list

Delisted NPL ---------- National Priority List Deletions

Federal CERCLIS list

CERCLIS ---------- Comprehensive Environmental Response, Compensation, and Liability Information System
FEDERAL FACILITY ---------- Federal Facility Site Information listing

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF ---------- RCRA - Treatment, Storage and Disposal

Federal RCRA generators list

RCRA-CESQG ---------- RCRA - Conditionally Exempt Small Quantity Generator

Federal institutional controls / engineering controls registries

US ENG CONTROLS ---------- Engineering Controls Sites List
US INST CONTROL ---------- Sites with Institutional Controls

State- and tribal - equivalent NPL

RESPONSE ---------- State Response Sites

State and tribal landfill and/or solid waste disposal site lists

SWF/LF ---------- Solid Waste Information System

State and tribal leaking storage tank lists

INDIAN LUST ---------- Leaking Underground Storage Tanks on Indian Land

State and tribal registered storage tank lists

INDIAN UST ---------- Underground Storage Tanks on Indian Land
FEMA UST ---------- Underground Storage Tank Listing

State and tribal voluntary cleanup sites

VCP ---------- Voluntary Cleanup Program Properties
INDIAN VCP ---------- Voluntary Cleanup Priority Listing

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS ---------- A Listing of Brownfields Sites

Local Lists of Landfill / Solid Waste Disposal Sites

DEBRIS REGION 9 ---------- Torres Martinez Reservation Illegal Dump Site Locations

EXECUTIVE SUMMARY

ODI ---------- Open Dump Inventory
WMUDS/SWAT ---------- Waste Management Unit Database
HAULERS ---------- Registered Waste Tire Haulers Listing
INDIAN ODI ---------- Report on the Status of Open Dumps on Indian Lands

Local Lists of Hazardous waste / Contaminated Sites

US CDL ---------- Clandestine Drug Labs
HIST Cal-Sites ---------- Historical Calsites Database
SCH ---------- School Property Evaluation Program
Toxic Pits ---------- Toxic Pits Cleanup Act Sites
US HIST CDL ---------- National Clandestine Laboratory Register

Local Land Records

LIENS 2 ---------- CERCLA Lien Information
LUCIS ---------- Land Use Control Information System
LIENS ---------- Environmental Liens Listing
DEED ---------- Deed Restriction Listing

Records of Emergency Release Reports

HMIRS ---------- Hazardous Materials Information Reporting System
LDS ---------- Land Disposal Sites Listing
MCS ---------- Military Cleanup Sites Listing

Other Ascertainable Records

DOT OPS ---------- Incident and Accident Data
DOD ---------- Department of Defense Sites
FUDS ---------- Formerly Used Defense Sites
CONSENT ---------- Superfund (CERCLA) Consent Decrees
ROD ---------- Records Of Decision
UMTRA ---------- Uranium Mill Tailings Sites
MINES ---------- Mines Master Index File
SSTS ---------- Section 7 Tracking Systems
MLTS ---------- Material Licensing Tracking System
RADINFO ---------- Radiation Information Database
RAATS ---------- RCRA Administrative Action Tracking System
CA BOND EXP. PLAN ---------- Bond Expenditure Plan
Cortese ---------- "Cortese" Hazardous Waste & Substances Sites List
Notify 65 ---------- Proposition 65 Records
DRYCLEANERS ---------- Cleaner Facilities
WIP ---------- Well Investigation Program Case List
ENF ---------- Enforcement Action Listing
INDIAN RESERV ---------- Indian Reservations
SCRD DRYCLEANERS ---------- State Coalition for Remediation of Drycleaners Listing
PCB TRANSFORMER ---------- PCB Transformer Registration Database
FINANCIAL ASSURANCE ---------- Financial Assurance Information Listing
PROC ---------- Certified Processors Database
MWMP ---------- Medical Waste Management Program Listing
COAL ASH DOE ---------- Sleam-Electric Plan Operation Data
COAL ASH EPA ---------- Coal Combustion Residues Surface Impoundments List

EDR PROPRIETARY RECORDS

EDR Proprietary Records

Manufactured Gas Plants ---------- EDR Proprietary Manufactured Gas Plants

EXECUTIVE SUMMARY

EDR Historical Auto Stations EDR Proprietary Historic Gas Stations
EDR Historical Cleaners EDR Proprietary Historic Dry Cleaners

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property.
Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

STANDARD ENVIRONMENTAL RECORDS

Federal CERCLIS NFRAP site List

CERC-NFRAP: Archived sites are sites that have been removed and archived from the inventory of CERCLIS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list this site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. This decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be a potential NPL site.

A review of the CERC-NFRAP list, as provided by EDR, and dated 02/25/2011 has revealed that there is 1 CERC-NFRAP site within approximately 1 mile of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
ORANGE EMPIRE HEAT TREATING	***1000 E KATELLA ST***	***NNW 1/2 - 1 (0.888 mi.)***	***AT271***	***340***

Federal RCRA CORRACTS facilities list

CORRACTS: CORRACTS is a list of handlers with RCRA Corrective Action Activity. This report shows which nationally-defined corrective action core events have occurred for every handler that has had corrective action activity.

A review of the CORRACTS list, as provided by EDR, and dated 08/19/2011 has revealed that there is 1 CORRACTS site within approximately 1.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
DATA CIRCUITS SYSTEMS INC	***1607 WEST ORANGE GROVE***	***ENE 1 - 2 (1.212 mi.)***	***AY290***	***378***

EXECUTIVE SUMMARY

Federal RCRA generators list

RCRA-LQG: RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

A review of the RCRA-LQG list, as provided by EDR, and dated 06/15/2011 has revealed that there are 7 RCRA-LQG sites within approximately 0.75 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
SOUTHERN CALIFORNIA GAS CO.	1919 STATE COLLEGE BLVD	N 1/2 - 1 (0.649 mi.)	AF220	241

Lower Elevation	Address	Direction / Distance	Map ID	Page
UNIVERSITY OF CALIFORNIA IRVIN	***101 THE CITY DRIVE***	***S 1/4 - 1/2 (0.303 mi.)***	***K78***	***82***
APW ENCLOSURE SYSTEMS	***2100 E. ORANGEWOOD***	***NNE 1/4 - 1/2 (0.361 mi.)***	***O123***	***134***
AMF ACCURATE METAL FABRICATIOR	2100 EAST ORANGEWOOD AV	NNE 1/4 - 1/2 (0.361 mi.)	O133	148
PLATINUM TRIANGLE PARTNERS LLC	***2125 E ORANGEWOOD AVE***	***NNE 1/4 - 1/2 (0.366 mi.)***	***O140***	***158***
PACIFIC IMAGE, INC	1875 SOUTH SANTA CRUZ	NNW 1/2 - 1 (0.694 mi.)	AH236	261
PACIFIC IMAGE CO	***1875 S. SANTA CRUZ # A***	***NNW 1/2 - 1 (0.694 mi.)***	***AH237***	***263***

RCRA-SQG: RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

A review of the RCRA-SQG list, as provided by EDR, and dated 06/15/2011 has revealed that there are 25 RCRA-SQG sites within approximately 0.75 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
CALIFORNIA CUSTOM SHAPES INC	***1800 TALBOT WAY***	***N 1/2 - 1 (0.714 mi.)***	***242***	***273***

Lower Elevation	Address	Direction / Distance	Map ID	Page
BEACH CITIES AUTO	***538 ANAHEIM BLVD***	***NNW 0 - 1/8 (0.100 mi.)***	***A21***	***30***
CREATIVE TECH SYSTEMS INC	***190 STATE COLLEGE BLVD***	***SSW 1/8 - 1/4 (0.129 mi.)***	***B26***	***35***
AMS UHAUL RENTALS	***320 N STATE COLLEGE***	***N 1/8 - 1/4 (0.139 mi.)***	***C29***	***37***
PENTAFLEX, INC	***2165D S DUPONT DRIVE***	***ENE 1/4 - 1/2 (0.290 mi.)***	***I55***	***58***
ALPHA LAP AND HONE	***2165 S DUPONT STE L***	***ENE 1/4 - 1/2 (0.290 mi.)***	***I58***	***62***
JENSON CUSTOM FURNITURE INC	***2161 S DUPONT DR***	***NE 1/4 - 1/2 (0.294 mi.)***	***I64***	***68***
500 S MAIN ST ASSOC INC	***500 530 550 600 S MAIN***	***N 1/4 - 1/2 (0.301 mi.)***	***J74***	***77***
AMI MAGNETIC IMAGING CTR UCI	***101 THE CITY DR BLDG 22***	***S 1/4 - 1/2 (0.303 mi.)***	***K75***	***78***
SERVICE MANUFACTURING AND ENER	***2230 SOUTH DUPONT DR***	***ENE 1/4 - 1/2 (0.324 mi.)***	***I96***	***109***
THRIFTY CLEAN	***4010 CHAPMAN UNIT E***	***WSW 1/4 - 1/2 (0.417 mi.)***	***W182***	***190***
SANHER WIRE WHEEL INC	***2300 E ORANGEWOOD***	***NE 1/4 - 1/2 (0.447 mi.)***	***Y193***	***200***
ONE HOUR PHOTO PRO	***16 CITY BLVD E #119***	***S 1/4 - 1/2 (0.487 mi.)***	***201***	***211***
PACIFIC BELL	***4245 CHAPMAN***	***WSW 1/2 - 1 (0.542 mi.)***	***AB207***	***217***
COOPER POWER TOOLS	***2000 S SANTA CRUZ ST***	***NNW 1/2 - 1 (0.543 mi.)***	***208***	***223***
ANAHEIM STADIUM	***2000 S STATE COLLEGE BL***	***N 1/2 - 1 (0.544 mi.)***	***209***	***225***
MILLENNIUM CIRCUITS	***1200 E GENE AUTRY WAY***	***NNW 1/2 - 1 (0.619 mi.)***	***AE216***	***232***
ROCKY MOUNTAIN INDUSTRIES INC	***1880 CHRIS LANE***	***N 1/2 - 1 (0.648 mi.)***	***218***	***236***

Lower Elevation	Address	Direction / Distance	Map ID	Page
RYDER STUDENT TRANS	***917 E PACIFICO***	***NNW 1/2 - 1 (0.654 mi.)***	***AE224***	***245***
AIRPORT COACH	***917 E GENE AUTRY WY***	***NNW 1/2 - 1 (0.654 mi.)***	***AE225***	***248***
CITY MALL THE	***1 CITY BLVD***	***SSW 1/2 - 1 (0.685 mi.)***	***229***	***255***
MER CEDES SHOP THE	***1884 S SANTA CRUZ STE B***	***NNW 1/2 - 1 (0.687 mi.)***	***AH231***	***257***
LIFE FLEET	***1890 S BETMOR LN***	***NNW 1/2 - 1 (0.701 mi.)***	***239***	***269***
MALCO SERVICES	***1865 S SANTA CRUZ***	***NNW 1/2 - 1 (0.701 mi.)***	***AH240***	***270***
VETERINARY REFERENCE LABORATOR	***1871 CHRIS LN***	***NNW 1/2 - 1 (0.718 mi.)***	***243***	***280***

Federal ERNS list

ERNS: The Emergency Response Notification System records and stores information on reported releases of oil and hazardous substances. The source of this database is the U.S. EPA.

A review of the ERNS list, as provided by EDR, and dated 10/03/2011 has revealed that there are 7 ERNS sites within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
CINEDOME THEATERS 3001 WEST CH	CINEDOME THEATERS 3001	SE 1/4 - 1/2 (0.253 mi.)	44	50

Lower Elevation	Address	Direction / Distance	Map ID	Page
CORNER OF CHAPMAN & MANCHESTER	CORNER OF CHAPMAN & MAN	SW 1/4 - 1/2 (0.266 mi.)	G50	56
500 STATE COLLEGE BLVD	500 STATE COLLEGE BLVD	N 1/4 - 1/2 (0.301 mi.)	J73	77
2115 E ORANSWOOD AVE	2115 E ORANSWOOD AVE	NNE 1/4 - 1/2 (0.352 mi.)	M111	123
CITY SHOPPING CENTER - 770 CIT	CITY SHOPPING CENTER -	SW 1/4 - 1/2 (0.355 mi.)	Q119	128
2125 EAST ORANGE WOOD AVE	2125 EAST ORANGE WOOD A	NNE 1/4 - 1/2 (0.366 mi.)	O146	163
4105 WEST CHAPMAN AVE	4105 WEST CHAPMAN AVE	WSW 1/4 - 1/2 (0.475 mi.)	Z199	210

State- and tribal - equivalent CERCLIS

ENVIROSTOR: The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifes sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

A review of the ENVIROSTOR list, as provided by EDR, and dated 12/13/2011 has revealed that there are 13 ENVIROSTOR sites within approximately 1.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
CALIFORNIA CUSTOM SHAPES INC	***1800 TALBOT WAY***	***N 1/2 - 1 (0.714 mi.)***	***242***	***273***
Status: Inactive - Needs Evaluation				
ITASCO	***2211 EAST HOWELL STREET***	***NNE 1 - 2 (1.080 mi.)***	***287***	***368***
Status: Refer: RWQCB				

EXECUTIVE SUMMARY

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
INLAND SPECIALTIES CHEMICAL CO Status: Refer: RWQCB	2023 WEST COLLINS AVENU	NE 1 - 2 (1.171 mi.)	288	370
STEVENS METAL FINISHING Status: No Further Action	***1607 W ORANGEGROVE #D***	***ENE 1 - 2 (1.212 mi.)***	***AY289***	***371***
DATA CIRCUITSINC. Status: Inactive - Action Required	***1607 W ORANGE GROVE AVE***	***ENE 1 - 2 (1.212 mi.)***	***AY291***	***383***
SUPERIOR PLATING Status: Inactive - Needs Evaluation	***1901 E CERRITOS AVE***	***N 1 - 2 (1.309 mi.)***	***292***	***386***
GW INVESTIGATION Status: Active Status: Inactive - Needs Evaluation	***2201 EAST CERRITOS AVE.***	***N 1 - 2 (1.346 mi.)***	***293***	***393***
STATEK CORP Status: Inactive - Needs Evaluation	***512 N MAIN ST***	***ENE 1 - 2 (1.378 mi.)***	***294***	***399***
SILGAN PLASTICS CORPORATION Status: Refer: 1248 Local Agency	611 EAST CERRITOS AVENU	NNW 1 - 2 (1.459 mi.)	295	402

Lower Elevation	Address	Direction / Distance	Map ID	Page
THE CITY PLACE NORTH Status: Refer: 1248 Local Agency	***3745 WEST CHAPMAN AVENU***	***SW 1/4 - 1/2 (0.258 mi.)***	***G46***	***50***
PONDEROSA ELEMENTARY SCHOOL Status: No Further Action	***MOUNTAIN VIEW AVENUE/WI***	***W 1/2 - 1 (0.793 mi.)***	***253***	***295***
JAYCOX DISPOSAL Status: Inactive - Action Required	***1016 KATELLA***	***NNW 1/2 - 1 (0.883 mi.)***	***AT270***	***335***
ORANGE EMPIRE HEAT TREATING Status: Refer: Other Agency	***1000 E KATELLA ST***	***NNW 1/2 - 1 (0.888 mi.)***	***AT271***	***340***

State and tribal leaking storage tank lists

LUST: The Leaking Underground Storage Tank Incident Reports contain an inventory of reported leaking underground storage tank incidents. The data come from the State Water Resources Control Board Leaking Underground Storage Tank Information System.

A review of the LUST list, as provided by EDR, and dated 12/19/2011 has revealed that there are 53 LUST sites within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
MOBIL #18-ENA Status: Completed - Case Closed	***3011 W CHAPMAN AVE***	***SE 1/4 - 1/2 (0.341 mi.)***	***L102***	***115***
BP WEST COAST PRODUCTS LLC 059 Status: Completed - Case Closed	***1801 S STATE COLLEGE***	***N 1/2 - 1 (0.796 mi.)***	***AN254***	***298***
ARCO #6220	***1801 STATE COLLEGE***	***N 1/2 - 1 (0.801 mi.)***	***AN255***	***300***
CERTRON CORPORATION Status: Completed - Case Closed	***1701 STATE COLLEGE***	***N 1/2 - 1 (0.935 mi.)***	***274***	***345***
STADIUM MOTORS, INC	***2225 KATELLA AVE***	***NNE 1/2 - 1 (0.943 mi.)***	***AU275***	***347***
STADIUM MOTORS Status: Completed - Case Closed	***2225 E KATELLA AVE***	***NNE 1/2 - 1 (0.943 mi.)***	***AU276***	***349***

EXECUTIVE SUMMARY

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
SHELL OIL PRODUCTS US Status: Completed - Case Closed	2331 KATELLA AVE., E.	NNE 1/2 - 1 (0.997 mi.)	283	361

Lower Elevation	Address	Direction / Distance	Map ID	Page
TAORMINA INDUSTRIES, INC.	***300 ANAHEIM***	***N 0 - 1/8 (0.069 mi.)***	***A1***	***8***
YORBA LINDA DISPOSAL Status: Completed - Case Closed	***301 ANAHEIM***	***NW 0 - 1/8 (0.072 mi.)***	***6***	***12***
CITY DISTRIBUTION SERVICE Status: Completed - Case Closed	***505 ANAHEIM***	***NNW 0 - 1/8 (0.093 mi.)***	***A13***	***20***
CALTRANS/C.O. THOMPSON	***505***	***NNW 0 - 1/8 (0.093 mi.)***	***A14***	***21***
C. O. THOMPSON PETROLEUM CO. Status: Completed - Case Closed	***531 ANAHEIM BLVD***	***NNW 0 - 1/8 (0.098 mi.)***	***A18***	***25***
C. O. THOMPSON PETROLEUM CO.	531 ANAHEIM BLVD	NNW 0 - 1/8 (0.098 mi.)	A19	26
UCI MEDICAL CENTER INC	***101 THE CITY DRIVE***	***S 1/4 - 1/2 (0.303 mi.)***	***K80***	***92***
UCI MEDICAL CENTER Status: Completed - Case Closed Status: Completed - Case Closed	101 THE CITY	S 1/4 - 1/2 (0.303 mi.)	K83	95
LAMCOR, INC. Status: Completed - Case Closed	***2025 ORANGEWOOD***	***NNE 1/4 - 1/2 (0.321 mi.)***	***J93***	***105***
STARWOOD O.C. PORTFOLIO VII, L Status: Completed - Case Closed	2099 STATE COLLEGE BLVD	N 1/4 - 1/2 (0.327 mi.)	J98	111
EVEREST ELECTRONIC	***2100 ORANGEWOOD***	***NNE 1/4 - 1/2 (0.361 mi.)***	***O124***	***136***
A P W ENCLOSURE SYSTEMS Status: Completed - Case Closed	***2100 EAST ORANGEWOOD AV***	***NNE 1/4 - 1/2 (0.361 mi.)***	***O131***	***145***
SAN MIGUEL FOOD FACILITY Status: Completed - Case Closed	***2125***	***NNE 1/4 - 1/2 (0.366 mi.)***	***O147***	***164***
UNOCAL #4961 Status: Completed - Case Closed	***4105***	***WSW 1/4 - 1/2 (0.475 mi.)***	***Z197***	***203***
CRYSTAL CATHEDRAL Status: Completed - Case Closed	***12141 LEWIS ST***	***SW 1/2 - 1 (0.528 mi.)***	***AA204***	***213***
CRYSTAL CATHEDRAL	***12141 LEWIS ST***	***SW 1/2 - 1 (0.528 mi.)***	***AA205***	***215***
RYDER STUDENT BUS SERVICE	***917 GENE COUNTY***	***NNW 1/2 - 1 (0.652 mi.)***	***AE223***	***243***
RYDER STUDENT BUS SERVICE Status: Completed - Case Closed	917 E GENE AUTRY AVE	NNW 1/2 - 1 (0.654 mi.)	AE226	251
GSA SERVICE STATION #2 Status: Completed - Case Closed	***485 CITY***	***S 1/2 - 1 (0.674 mi.)***	***AG228***	***253***
FORMER BRIDGESTONE FIRESTONE Status: Completed - Case Closed	3400 METROPOLITAN	S 1/2 - 1 (0.726 mi.)	AJ245	282
TOSCO - 76 #6297	2345 CHAPMAN AVE	ESE 1/2 - 1 (0.751 mi.)	AM251	290
UNOCAL #6297 Status: Open - Remediation	***2345***	***ESE 1/2 - 1 (0.762 mi.)***	***AM252***	***290***
BEACON STATION #3748 Status: Open - Site Assessment	***2245 W CHAPMAN***	***ESE 1/2 - 1 (0.819 mi.)***	***AO256***	***302***
ULTRAMAR, INC. (FAST GAS) Status: Completed - Case Closed	***2245 CHAPMAN***	***ESE 1/2 - 1 (0.819 mi.)***	***AO257***	***304***
ULTRAMAR #3748	2245 CHAPMAN	ESE 1/2 - 1 (0.819 mi.)	AO258	309
UNOCAL #5618 Status: Completed - Case Closed	591 S THE CITY DR	S 1/2 - 1 (0.851 mi.)	AP259	310

EXECUTIVE SUMMARY

Lower Elevation	Address	Direction / Distance	Map ID	Page
UNOCAL #5618	***591***	***S 1/2 - 1 (0.852 mi.)***	***AP260***	***312***
JOHN DAVID INTERNATIONAL	***1858 ANAHEIM***	***NW 1/2 - 1 (0.855 mi.)***	***AQ261***	***314***
WESTRUX INTERNATIONAL TRUCKS	***1110 E KATELLA AVE***	***NNW 1/2 - 1 (0.860 mi.)***	***AR262***	***316***
Status: Completed - Case Closed				
WESTRUX INTL	***1110 E KATELLA***	***NNW 1/2 - 1 (0.860 mi.)***	***AR263***	***319***
JOHN DAVID INTERNATIONAL	1858 S ANAHEIM BLVD	NW 1/2 - 1 (0.865 mi.)	AQ264	322
Status: Completed - Case Closed				
TOSCO - 76 STATION #8800	1818 LEWIS ST	NNW 1/2 - 1 (0.875 mi.)	AS265	323
TOSCO/76 SS #8800	***1818 SOUTH LEWIS STREET***	***NNW 1/2 - 1 (0.875 mi.)***	***AS266***	***324***
Status: Completed - Case Closed				
TOSCO/76 SS #8800	***1818 SOUTH LEWIS STREET***	***NNW 1/2 - 1 (0.875 mi.)***	***AS267***	***325***
STATION #8800	***1818 S LEWIS ST***	***NNW 1/2 - 1 (0.875 mi.)***	***AS268***	***327***
Status: Completed - Case Closed				
Status: Completed - Case Closed				
JAYCOX DISPOSAL	***1016 E KATELLA AVE***	***NNW 1/2 - 1 (0.883 mi.)***	***AT269***	***330***
JAYCOX DISPOSAL	***1016 KATELLA***	***NNW 1/2 - 1 (0.883 mi.)***	***AT270***	***335***
Status: Completed - Case Closed				
TEXACO SERVICE STATION	818 E KATELLA AVE	NNW 1/2 - 1 (0.931 mi.)	273	344
Status: Completed - Case Closed				
DUNN EDWARDS PAINT CORP.	***1901 MANCHESTER***	***NW 1/2 - 1 (0.944 mi.)***	***277***	***350***
Status: Completed - Case Closed				
AL SAL OIL CO, INC #42	***13002 CHAPMAN AVE***	***WSW 1/2 - 1 (0.945 mi.)***	***AV278***	***352***
99719	***13002 CHAPMAN AVE***	***WSW 1/2 - 1 (0.945 mi.)***	***AV279***	***355***
Status: Completed - Case Closed				
WESTSIDE MATERIALS	***700 KATELLA***	***NW 1/2 - 1 (0.973 mi.)***	***AW281***	***357***
WESTSIDE MATERIALS	***700 E KATELLA AVE***	***NW 1/2 - 1 (0.973 mi.)***	***AW282***	***358***
Status: Completed - Case Closed				
CHEVRON #9-1660	3048 S BRISTOL ST	SSE 1/2 - 1 (0.999 mi.)	AX284	363
Status: Completed - Case Closed				
CHEVRON #9-1660	3048 BRISTOL ST	SSE 1/2 - 1 (0.999 mi.)	AX285	364
PARK CITY CENTER	630 THE CITY	S 1/2 - 1 (0.999 mi.)	286	365
Status: Completed - Case Closed				

SLIC: SLIC Region comes from the California Regional Water Quality Control Board.

A review of the SLIC list, as provided by EDR, and dated 12/19/2011 has revealed that there is 1 SLIC site within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
YELLOW FREIGHT SYSTEM, INC.	700 ECKHOFF STREET N	ENE 1/2 - 1 (0.955 mi.)	280	357
Facility Status: Completed - Case Closed				

State and tribal registered storage tank lists

UST: The Underground Storage Tank database contains registered USTs. USTs are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA). The data come from the State Water Resources Control Board's Hazardous Substance Storage Container Database.

A review of the UST list, as provided by EDR, and dated 12/19/2011 has revealed that there are 15 UST sites within approximately 0.75 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
SOUTHERN CALIFORNIA GAS COMPAN	***1919 S STATE COLLEGE BL***	***N 1/2 - 1 (0.649 mi.)***	***AF219***	***240***

Lower Elevation	Address	Direction / Distance	Map ID	Page
HILTON SUITES	400 NORTH STATE COLLEGE	N 1/8 - 1/4 (0.193 mi.)	E37	44
DOUBLE TREE HOTEL	100 THE CITY DR.	SSW 1/8 - 1/4 (0.201 mi.)	F39	45
LAMCOR INC	2025 E ORANGEWOOD AVE	NNE 1/4 - 1/2 (0.321 mi.)	J92	105
EVEREST ELECTRONIC EQUIP INC	2100 E ORANGEWOOD AVE	NNE 1/4 - 1/2 (0.361 mi.)	O127	142
STATE COLLEGE PLAZA	***2099 S STATE COLLEGE BL***	***N 1/4 - 1/2 (0.364 mi.)***	***R136***	***154***
CITY TOWER	333 CITY BLVD, W. SUITE	SW 1/4 - 1/2 (0.372 mi.)	Q155	172
BETTY LOW HAMOREAUX JURENILE J	341 THE CITY DRIVE SOUT	S 1/4 - 1/2 (0.408 mi.)	T177	189
CRYSTAL CATHEDRAL	***12141 LEWIS ST***	***SW 1/2 - 1 (0.528 mi.)***	***AA204***	***213***
PACIFIC BELL	4245 W. CHAPMAN	WSW 1/2 - 1 (0.542 mi.)	AB206	217
ANAHEIM STADIUM	***2000 S STATE COLLEGE BL***	***N 1/2 - 1 (0.544 mi.)***	***209***	***225***
ROCKY MOUNTAIN INDUSTRIES INC	***1880 CHRIS LANE***	***N 1/2 - 1 (0.648 mi.)***	***218***	***236***
RYDER STUDENT TRANS	***917 E PACIFICO***	***NNW 1/2 - 1 (0.654 mi.)***	***AE224***	***245***
SCOTT'S INDEPENDENT, INC.	1885 S SANTA CRUZ ST	NNW 1/2 - 1 (0.687 mi.)	AH234	260
KEESE TANK CO	***1928 S ANAHEIM BLVD***	***NW 1/2 - 1 (0.701 mi.)***	***241***	***272***

AST: The Aboveground Storage Tank database contains registered ASTs. The data come from the State Water Resources Control Board's Hazardous Substance Storage Container Database.

A review of the AST list, as provided by EDR, and dated 08/01/2009 has revealed that there are 4 AST sites within approximately 0.75 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
Not reported	2000 E GENE AUTRY WAY	NNE 1/2 - 1 (0.605 mi.)	AD215	232

Lower Elevation	Address	Direction / Distance	Map ID	Page
Not reported	345 THE CITY DRIVE S	S 1/4 - 1/2 (0.419 mi.)	T183	193
Not reported	2400 E ORANGEWOOD AVE	ENE 1/2 - 1 (0.548 mi.)	AC211	230
Not reported	501 THE CITY DR S	S 1/2 - 1 (0.699 mi.)	AG238	268

ADDITIONAL ENVIRONMENTAL RECORDS

Local Lists of Hazardous waste / Contaminated Sites

CDL: A listing of drug lab locations. Listing of a location in this database does not indicate

that any illegal drug lab materials were or were not present there, and does not constitute a determination that the location either requires or does not require additional cleanup work.

A review of the CDL list, as provided by EDR, and dated 06/30/2011 has revealed that there are 2 CDL sites within approximately 0.5 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
Not reported	2300 S LEWIS	W 1/4 - 1/2 (0.439 mi.)	186	195
Not reported	2120 LEWIS ST, #101	WNW 1/4 - 1/2 (0.490 mi.)	202	212

Local Lists of Registered Storage Tanks

CA FID UST: The Facility Inventory Database contains active and inactive underground storage tank locations. The source is the State Water Resource Control Board.

A review of the CA FID UST list, as provided by EDR, and dated 10/31/1994 has revealed that there are 26 CA FID UST sites within approximately 0.75 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
MOBIL #18-ENA	***3011 W CHAPMAN AVE***	***SE 1/4 - 1/2 (0.341 mi.)***	***L102***	***115***
SOUTHERN CALIF GAS CO	1919 S STATE COLLEGE BL	N 1/2 - 1 (0.652 mi.)	AF222	243

Lower Elevation	Address	Direction / Distance	Map ID	Page
ROGER'S AUTOMOTIVE INC	***335 N ANAHEIM***	***N 0 - 1/8 (0.072 mi.)***	***A5***	***11***
CALTRANS/C.O. THOMPSON	***505***	***NNW 0 - 1/8 (0.093 mi.)***	***A14***	***21***
C O THOMPSON PETROLEUM CO INC	***505 N ANAHEIM***	***NNW 0 - 1/8 (0.093 mi.)***	***A16***	***23***
C O THOMPSON PETROLEUM CO INC	***531 N ANAHEIM***	***NNW 0 - 1/8 (0.098 mi.)***	***A20***	***28***
HILTON SUITES	***400 N STATE COLLEGE***	***N 1/8 - 1/4 (0.193 mi.)***	***E36***	***43***
DOUBLETREE HOTEL ORANGE COUNTY	***100 THE CITY DRIVE***	***SSW 1/8 - 1/4 (0.200 mi.)***	***F38***	***44***
200 MANCHESTER VENTURE	***200 S MANCHESTER***	***SW 1/4 - 1/2 (0.266 mi.)***	***G49***	***55***
TISHMAN CHAPMAN VENTURE	***3800 W CHAPMAN***	***SW 1/4 - 1/2 (0.296 mi.)***	***G67***	***74***
TRANSWESTERN COMMERCIAL SERVIC	***2099 S STATE COLLEGE BL***	***N 1/4 - 1/2 (0.364 mi.)***	***R135***	***153***
SAN MIGUEL FOOD FACILITY	***2125***	***NNE 1/4 - 1/2 (0.366 mi.)***	***O147***	***164***
CITY TOWER ORANGE	***333 CITY BLVD. WEST***	***SW 1/4 - 1/2 (0.372 mi.)***	***Q157***	***173***
LAMOREAUX JUV JUSTICE CENTER	***341 THE CITY DRIVE SOUT***	***S 1/4 - 1/2 (0.408 mi.)***	***T176***	***188***
UNOCAL #4961	***4105***	***WSW 1/4 - 1/2 (0.475 mi.)***	***Z197***	***203***
CRYSTAL CATHEDRAL	***12141 LEWIS ST***	***SW 1/2 - 1 (0.528 mi.)***	***AA205***	***215***
PACIFIC BELL	***4245 CHAPMAN***	***WSW 1/2 - 1 (0.542 mi.)***	***AB207***	***217***
ANAHEIM STADIUM	***2000 S STATE COLLEGE BL***	***N 1/2 - 1 (0.544 mi.)***	***209***	***225***
NORTH NET FIRE TRAINING CENTER	***2400 E ORANGEWOOD***	***ENE 1/2 - 1 (0.548 mi.)***	***AC210***	***228***
ROCKY MOUNTAIN INDUSTRIES INC	***1880 CHRIS LANE***	***N 1/2 - 1 (0.648 mi.)***	***218***	***236***
RYDER STUDENT TRANS	***917 E PACIFICO***	***NNW 1/2 - 1 (0.654 mi.)***	***AE224***	***245***
FAMILY LIFE CENTER (FLC)	***13280 CHAPMAN AVE***	***WSW 1/2 - 1 (0.685 mi.)***	***230***	***256***
SCOTTS INDEPENDENCE, INC.	***1885 S SANTA CRUZ***	***NNW 1/2 - 1 (0.687 mi.)***	***AH235***	***260***
ORANGE CITY MILLS LLC	***3400 W METROPOLITAN DR***	***S 1/2 - 1 (0.726 mi.)***	***AJ246***	***284***
TISHMAN WEST MANAGEMENT CORP	***600 CITY PARKWAY WEST***	***SW 1/2 - 1 (0.729 mi.)***	***AK247***	***286***
1X TISHMAN WEST MANAGEMENT	***505 CITY PARKWAY WEST***	***SSW 1/2 - 1 (0.742 mi.)***	***AL250***	***288***

HIST UST: Historical UST Registered Database.

A review of the HIST UST list, as provided by EDR, and dated 10/15/1990 has revealed that there are 20 HIST UST sites within approximately 0.75 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
MASOOD T. TABRIZI	3011 W CHAPMAN AVE	SE 1/4 - 1/2 (0.341 mi.)	L101	114
ANAHEIM STADIUM	2000 SOUTH STATE COLLEG	NNE 1/2 - 1 (0.603 mi.)	AD214	231
ANAHEIM	1919 S STATE COLLEGE BL	N 1/2 - 1 (0.649 mi.)	AF221	242

Lower Elevation	Address	Direction / Distance	Map ID	Page
ROGER'S AUTOVOTIVE INC	***335 N ANAHEIM BLVD***	***N 0 - 1/8 (0.071 mi.)***	***A3***	***9***
200 BUILDING	200 S MANCHESTER AVE	SW 1/4 - 1/2 (0.267 mi.)	G53	57
3800 BUILDING	3800 W CHAPMAN AVE	SW 1/4 - 1/2 (0.297 mi.)	G69	75
C O THOMPSON PETROLEUM CO INC	11546 ANAHEIM BLVD	NW 1/4 - 1/2 (0.304 mi.)	85	99
LAMCOR INC.	2025 E ORANGEWOOD AVE	NNE 1/4 - 1/2 (0.321 mi.)	J94	107
EVEREST ELECTRONIC EQUIPMENT,	***2100 E ORANGEWOOD AVE***	***NNE 1/4 - 1/2 (0.361 mi.)***	***O126***	***138***
PINATA FOODS, INC.	2125 E ORANGEWOOD AVE	NNE 1/4 - 1/2 (0.366 mi.)	O141	160
UNION OIL SERVICE STATION	***4105 W CHAPMAN AVE***	***WSW 1/4 - 1/2 (0.475 mi.)***	***Z198***	***208***
STATION #4961	4105 W CHAPMAN AVE	WSW 1/4 - 1/2 (0.475 mi.)	Z200	210
PACIFIC BELL	***4245 CHAPMAN***	***WSW 1/2 - 1 (0.542 mi.)***	***AB207***	***217***
FIRE STATION TRAINING CENTER	2400 E ORANGEWOOD AVE	ENE 1/2 - 1 (0.549 mi.)	AC212	230
GSA/TRANSPORTATION SERVICE STA	485 THE CITY DR S	S 1/2 - 1 (0.674 mi.)	AG227	252
UNION OIL SERVICE STATION #561	591 CITY DR S	SSE 1/2 - 1 (0.687 mi.)	AI232	258
STATION #5618	591 CITY DR S	SSE 1/2 - 1 (0.687 mi.)	AI233	259
FIRESTONE STORE	3400 W METROPOLITAN DR	S 1/2 - 1 (0.726 mi.)	AJ244	281
600 BUILDING	600 CITY PKWY W	SW 1/2 - 1 (0.729 mi.)	AK248	287
505 BUILDING	505 CITY PKWY W	SSW 1/2 - 1 (0.742 mi.)	AL249	288

SWEEPS UST: Statewide Environmental Evaluation and Planning System. This underground storage tank listing was updated and maintained by a company contacted by the SWRCB in the early 1990's. The listing is no longer updated or maintained. The local agency is the contact for more information on a site on the SWEEPS list.

A review of the SWEEPS UST list, as provided by EDR, and dated 06/01/1994 has revealed that there are 23 SWEEPS UST sites within approximately 0.75 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
ANAHEIM STADIUM	2000 S GENE AUTRY WAY	NNE 1/2 - 1 (0.603 mi.)	AD213	231
SOUTHERN CALIFORNIA GAS COMPAN	***1919 S STATE COLLEGE BL***	***N 1/2 - 1 (0.649 mi.)***	***AF219***	***240***

Lower Elevation	Address	Direction / Distance	Map ID	Page
ROGER'S AUTOMOTIVE INC	***335 N ANAHEIM***	***N 0 - 1/8 (0.072 mi.)***	***A5***	***11***
CALTRANS/C.O. THOMPSON	***505***	***NNW 0 - 1/8 (0.093 mi.)***	***A14***	***21***
C O THOMPSON PETROLEUM CO INC	***505 N ANAHEIM***	***NNW 0 - 1/8 (0.093 mi.)***	***A16***	***23***
C O THOMPSON PETROLEUM CO INC	***531 N ANAHEIM***	***NNW 0 - 1/8 (0.098 mi.)***	***A20***	***28***
HILTON SUITES	***400 N STATE COLLEGE***	***N 1/8 - 1/4 (0.193 mi.)***	***E36***	***43***
DOUBLETREE HOTEL ORANGE COUNTY	***100 THE CITY DRIVE***	***SSW 1/8 - 1/4 (0.200 mi.)***	***F38***	***44***
200 MANCHESTER VENTURE	***200 S MANCHESTER***	***SW 1/4 - 1/2 (0.266 mi.)***	***G49***	***55***
TISHMAN CHAPMAN VENTURE	***3800 W CHAPMAN***	***SW 1/4 - 1/2 (0.296 mi.)***	***G67***	***74***
STATE COLLEGE PLAZA	***2099 S STATE COLLEGE BL***	***N 1/4 - 1/2 (0.364 mi.)***	***R136***	***154***
SAN MIGUEL FOOD FACILITY	***2125***	***NNE 1/4 - 1/2 (0.366 mi.)***	***O147***	***164***
CITY TOWER ORANGE	***333 CITY BLVD. WEST***	***SW 1/4 - 1/2 (0.372 mi.)***	***Q157***	***173***
LAMOREAUX JUV JUSTICE CENTER	***341 THE CITY DRIVE SOUT***	***S 1/4 - 1/2 (0.408 mi.)***	***T176***	***188***

Lower Elevation	Address	Direction / Distance	Map ID	Page
UNOCAL #4961	***4105***	***WSW 1/4 - 1/2 (0.475 mi.)***	***Z197***	***203***
CRYSTAL CATHEDRAL	***12141 LEWIS ST***	***SW 1/2 - 1 (0.528 mi.)***	***AA205***	***215***
PACIFIC BELL	***4245 CHAPMAN***	***WSW 1/2 - 1 (0.542 mi.)***	***AB207***	***217***
NORTH NET FIRE TRAINING CENTER	***2400 E ORANGEWOOD***	***ENE 1/2 - 1 (0.548 mi.)***	***AC210***	***228***
ROCKY MOUNTAIN INDUSTRIES INC	***1880 CHRIS LANE***	***N 1/2 - 1 (0.648 mi.)***	***218***	***236***
RYDER STUDENT TRANS	***917 E PACIFICO***	***NNW 1/2 - 1 (0.654 mi.)***	***AE224***	***245***
FAMILY LIFE CENTER (FLC)	***13280 CHAPMAN AVE***	***WSW 1/2 - 1 (0.685 mi.)***	***230***	***256***
SCOTTS INDEPENDENCE, INC.	***1885 S SANTA CRUZ***	***NNW 1/2 - 1 (0.687 mi.)***	***AH235***	***260***
1X TISHMAN WEST MANAGEMENT	***505 CITY PARKWAY WEST***	***SSW 1/2 - 1 (0.742 mi.)***	***AL250***	***288***

Records of Emergency Release Reports

CHMIRS: The California Hazardous Material Incident Report System contains information on reported hazardous material incidents, i.e., accidental releases or spills. The source is the California Office of Emergency Services.

A review of the CHMIRS list, as provided by EDR, and dated 12/31/2010 has revealed that there are 8 CHMIRS sites within approximately 0.5 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
Not reported Date Completed: 03-JUL-88	101 CITY DR.	SSE 1/4 - 1/2 (0.265 mi.)	H48	54
Not reported	500 STATE COLLEGE BLVD.	N 1/4 - 1/2 (0.293 mi.)	J62	66
Not reported Date Completed: 05-JUL-88	2115 E. ORANGEWOOD	NNE 1/4 - 1/2 (0.352 mi.)	M110	122
Not reported	1301 EAST ORANGEWOOD	NNW 1/4 - 1/2 (0.356 mi.)	120	129
Not reported Date Completed: 18-NOV-88	2125 E. ORANGEWOOD	NNE 1/4 - 1/2 (0.366 mi.)	O138	155
Not reported	2125 ORANGEWOOD AVENUE	NNE 1/4 - 1/2 (0.366 mi.)	O139	156
Not reported	2125 EAST ORANGEWOOD AV	NNE 1/4 - 1/2 (0.366 mi.)	O144	162
Not reported	2035 SOUTH STATE COLLEG	N 1/4 - 1/2 (0.445 mi.)	188	196

The Orange County Industrial Site Cleanups list comes from the Health Care Agency.

A review of the Orange Co. Industrial Site list, as provided by EDR, and dated 11/01/2011 has revealed that there are 9 Orange Co. Industrial Site sites within approximately 0.5 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
ROGER'S AUTOVOTIVE INC	***335 N ANAHEIM BLVD***	***N 0 - 1/8 (0.071 mi.)***	***A3***	***9***
CORVETTE MIKE	***407 N ANAHEIM BLVD***	***N 0 - 1/8 (0.077 mi.)***	***A9***	***17***
BOBS AUTO SALON	425 N ANAHEIM BLVD	NNW 0 - 1/8 (0.080 mi.)	A10	19
FIRST PHASE CONTRACTORS INC	477 N ANAHEIM BLVD	NNW 0 - 1/8 (0.088 mi.)	A12	20
ORANGE WELDING	517 N ANAHEIM BLVD	NNW 0 - 1/8 (0.095 mi.)	A17	25
ALL GOLD METAL PLATING	171 STATE COLLEGE BLVD	SSW 0 - 1/8 (0.111 mi.)	B25	35
AMS UHAUL RENTALS	***320 N STATE COLLEGE***	***N 1/8 - 1/4 (0.139 mi.)***	***C29***	***37***
THE CITY PLACE NORTH	3745 W CHAPMAN AVE	SW 1/4 - 1/2 (0.258 mi.)	G45	50
GATEWAY CENTRE	2045 S STATE COLLEGE BL	N 1/4 - 1/2 (0.387 mi.)	R160	176

Other Ascertainable Records

RCRA-NonGen: RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

A review of the RCRA-NonGen list, as provided by EDR, and dated 06/15/2011 has revealed that there are 4 RCRA-NonGen sites within approximately 0.75 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
A & MS MOBIL SERVICE	***3011 WEST CHAPMAN AVE***	***SE 1/4 - 1/2 (0.341 mi.)***	***L104***	***118***

Lower Elevation	Address	Direction / Distance	Map ID	Page
METALCLAD INSULATION CORPORATI	***2198 S DUPONT DR***	***ENE 1/4 - 1/2 (0.295 mi.)***	***I65***	***71***
OSAGE ENGINEERING CONSULTANTS	***300 N RAMPART***	***E 1/4 - 1/2 (0.353 mi.)***	***P114***	***125***
CORE LABORATORIES INC	***1200 PACIFICO AVE***	***NNW 1/2 - 1 (0.619 mi.)***	***AE217***	***235***

TRIS: The Toxic Chemical Release Inventory System identifies facilities that release toxic chemicals to the air, water, and land in reportable quantities under SARA Title III, Section 313. The source of this database is the U.S. EPA.

A review of the TRIS list, as provided by EDR, and dated 12/31/2009 has revealed that there is 1 TRIS site within approximately 0.5 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
AMF ANAHEIM LLC	2100 E ORANGEWOOD AVE	NNE 1/4 - 1/2 (0.361 mi.)	O130	145

TSCA: The Toxic Substances Control Act identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site. The United States Environmental Protection Agency has no current plan to update and/or re-issue this database.

A review of the TSCA list, as provided by EDR, and dated 12/31/2006 has revealed that there is 1 TSCA site within approximately 0.5 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
SHIKOKU INTERNATIONAL CORPORAT	301 N. RAMPART STREET	E 1/4 - 1/2 (0.353 mi.)	P115	126

FTTS: FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act) over the previous five years. To maintain currency, EDR contacts the Agency on a quarterly basis.

A review of the FTTS list, as provided by EDR, and dated 04/09/2009 has revealed that there are 5 FTTS sites within approximately 0.5 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
SPECIALIZED ENVIRONMENTAL, INC	***2130 S DUPONT DR***	***NE 1/4 - 1/2 (0.345 mi.)***	***N107***	***120***
SPECIALIZED ENVIRONMENTAL, INC	***2130 S DUPONT DR***	***NE 1/4 - 1/2 (0.345 mi.)***	***N109***	***121***

Lower Elevation	Address	Direction / Distance	Map ID	Page
SHIKOKU INTERNATIONAL CORPORAT	***301 N RAMPART ST STE C***	***E 1/4 - 1/2 (0.353 mi.)***	***P116***	***126***
APW ENCLOSURES	***2100 E ORANGEWOOD AVE***	***NNE 1/4 - 1/2 (0.361 mi.)***	***O122***	***133***
KARCHER ENVIRONMENTAL INC	***2300 E ORANGEWOOD AVE***	***NE 1/4 - 1/2 (0.447 mi.)***	***Y194***	***202***

HIST FTTS: A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

A review of the HIST FTTS list, as provided by EDR, and dated 10/19/2006 has revealed that there are 5 HIST FTTS sites within approximately 0.5 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
SPECIALIZED ENVIRONMENTAL, INC	***2130 S DUPONT DR***	***NE 1/4 - 1/2 (0.345 mi.)***	***N107***	***120***
SPECIALIZED ENVIRONMENTAL, INC	***2130 S DUPONT DR***	***NE 1/4 - 1/2 (0.345 mi.)***	***N109***	***121***
SHIKOKU INTERNATIONAL CORPORAT	***301 N RAMPART ST STE C***	***E 1/4 - 1/2 (0.353 mi.)***	***P116***	***126***
APW ENCLOSURES	***2100 E ORANGEWOOD AVE***	***NNE 1/4 - 1/2 (0.361 mi.)***	***O122***	***133***
KARCHER ENVIRONMENTAL INC	***2300 E ORANGEWOOD AVE***	***NE 1/4 - 1/2 (0.447 mi.)***	***Y194***	***202***

ICIS: The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

A review of the ICIS list, as provided by EDR, and dated 07/20/2011 has revealed that there is 1 ICIS site within approximately 0.5 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
UNIVERSITY OF CALIFORNIA IRVIN	101 THE CITY DRIVE SOUT	S 1/4 - 1/2 (0.303 mi.)	K79	90

PADS: The PCB Activity Database identifies generators, transporters, commercial storers and/or brokers and disposers of PCBs who are required to notify the United States Environmental Protection Agency of such activities. The source of this database is the U.S. EPA.

A review of the PADS list, as provided by EDR, and dated 11/01/2010 has revealed that there is 1 PADS site within approximately 0.5 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
KARCHER ENVIRONMENTAL, INC.	2300 E. ORANGEWOOD AVE.	NE 1/4 - 1/2 (0.447 mi.)	Y191	199

EXECUTIVE SUMMARY

FINDS: The Facility Index System contains both facility information and "pointers" to other sources of information that contain more detail. These include: RCRIS; Permit Compliance System (PCS); Aerometric Information Retrieval System (AIRS); FATES (FIFRA [Federal Insecticide Fungicide Rodenticide Act] and TSCA Enforcement System, FTTS [FIFRA/TSCA Tracking System]; CERCLIS; DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes); Federal Underground Injection Control (FURS); Federal Reporting Data System (FRDS); Surface Impoundments (SIA); TSCA Chemicals in Commerce Information System (CICS); PADS; RCRA-J (medical waste transporters/disposers); TRIS; and TSCA. The source of this database is the U.S. EPA/NTIS.

A review of the FINDS list, as provided by EDR, and dated 08/02/2011 has revealed that there are 27 FINDS sites within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
A & MS MOBIL SERVICE	***3011 WEST CHAPMAN AVE***	***SE 1/4 - 1/2 (0.341 mi.)***	***L104***	***118***

Lower Elevation	Address	Direction / Distance	Map ID	Page
CREATIVE TECH SYSTEMS INC	***190 STATE COLLEGE BLVD***	***SSW 1/8 - 1/4 (0.129 mi.)***	***B26***	***35***
AMS UHAUL RENTALS	***320 N STATE COLLEGE***	***N 1/8 - 1/4 (0.139 mi.)***	***C29***	***37***
METROPOLITAN LIFE INSURANCE CO	100 THE CITY DRIVE SOUT	SSW 1/8 - 1/4 (0.204 mi.)	F41	48
PENTAFLEX, INC	***2165D S DUPONT DRIVE***	***ENE 1/4 - 1/2 (0.290 mi.)***	***I55***	***58***
ALPHA LAP AND HONE	***2165 S DUPONT STE L***	***ENE 1/4 - 1/2 (0.290 mi.)***	***I58***	***62***
JENSON CUSTOM FURNITURE INC	2161 S DUPONT DR	NE 1/4 - 1/2 (0.294 mi.)	I63	68
METALCLAD INSULATION CORPORATI	***2198 S DUPONT DR***	***ENE 1/4 - 1/2 (0.295 mi.)***	***I65***	***71***
500 S MAIN ST ASSOC INC	***500 530 550 600 S MAIN***	***N 1/4 - 1/2 (0.301 mi.)***	***J74***	***77***
AMI MAGNETIC IMAGING CTR UCI	***101 THE CITY DR BLDG 22***	***S 1/4 - 1/2 (0.303 mi.)***	***K75***	***78***
UCI MEDICAL CENTER	101 THE CITY DRIVE SOUT	S 1/4 - 1/2 (0.303 mi.)	K76	81
UNIV CAL IRVINE MEDICAL CTR	101 THE CITY DRIVE SOUT	S 1/4 - 1/2 (0.303 mi.)	K77	82
SERVICE MANUFACTURING AND ENER	***2230 SOUTH DUPONT DR***	***ENE 1/4 - 1/2 (0.324 mi.)***	***I96***	***109***
OSAGE ENGINEERING CONSULTANTS	***300 N RAMPART***	***E 1/4 - 1/2 (0.353 mi.)***	***P114***	***125***
SHIKOKU INTERNATIONAL CORPORAT	***301 N RAMPART ST STE C***	***E 1/4 - 1/2 (0.353 mi.)***	***P116***	***126***
EVEREST A DIVISION OF WRIGHT	2034 E ORANGEWOOD AV	NNE 1/4 - 1/2 (0.355 mi.)	O118	128
EVEREST ELECTRONIC EQUIP INCOR	***2100 2020 2034 EAST ORA***	***NNE 1/4 - 1/2 (0.361 mi.)***	***O121***	***130***
AMF ANAHEIM LLC	2100 E ORANGEWOOD AVE	NNE 1/4 - 1/2 (0.361 mi.)	O129	144
APW ENCLOSURE SYSTEMS	2100 E. ORANGEWOOD AVE.	NNE 1/4 - 1/2 (0.361 mi.)	O134	152
PLATINUM TRIANGLE PARTNERS LLC	2125 E ORANGEWOOD AVE	NNE 1/4 - 1/2 (0.366 mi.)	O143	161
DON MIGUEL MEXICAN FOODS, INC.	2125 E. ORANGEWOOD AVE.	NNE 1/4 - 1/2 (0.366 mi.)	O145	163
ALEX FOODS - ALEX SNACKS DIVIS	2125 EAST ORANGEWOOD AV	NNE 1/4 - 1/2 (0.366 mi.)	O148	167
SENTINEL CREMATION SOCIETIES I	2299 S MANCHESTER AVE	NW 1/4 - 1/2 (0.368 mi.)	S151	170
THRIFTY CLEAN	***4010 CHAPMAN UNIT E***	***WSW 1/4 - 1/2 (0.417 mi.)***	***W182***	***190***
KARCHER ENVIRONMENTAL INC	2300 EAST ORANGEWOOD AV	NE 1/4 - 1/2 (0.447 mi.)	Y190	199
SANHER WIRE WHEEL INC	***2300 E ORANGEWOOD***	***NE 1/4 - 1/2 (0.447 mi.)***	***Y193***	***200***
ONE HOUR PHOTO PRO	***16 CITY BLVD E #119***	***S 1/4 - 1/2 (0.487 mi.)***	***201***	***211***

NPDES: A listing of NPDES permits, including stormwater.

A review of the NPDES list, as provided by EDR, and dated 11/21/2011 has revealed that there are 5 NPDES sites within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
THE PINNACLE AT ORANGE	3001 W CHAPMAN AVE	SE 1/4 - 1/2 (0.344 mi.)	L105	119

Lower Elevation	Address	Direction / Distance	Map ID	Page
ARCHSTONE GATEWAY	291 STATE COLLEGE BLVD	NNE 1/8 - 1/4 (0.131 mi.)	C27	36
UCI MEDICAL CENTER INC	***101 THE CITY DRIVE***	***S 1/4 - 1/2 (0.303 mi.)***	***K80***	***92***

Lower Elevation	Address	Direction / Distance	Map ID	Page
EVEREST ELECTRONIC EQUIPMENT,	***2100 E ORANGEWOOD AVE***	***NNE 1/4 - 1/2 (0.361 mi.)***	***O126***	***138***
GATEWAY CENTRE	2045 SOUTH STATE COLLEG	N 1/4 - 1/2 (0.387 mi.)	R161	176

WDS: California Water Resources Control Board - Waste Discharge System.

A review of the WDS list, as provided by EDR, and dated 06/19/2007 has revealed that there are 2 WDS sites within approximately 0.5 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
ORANGEWOOD FACILITY	2100 E ORANGEWOOD AVE	NNE 1/4 - 1/2 (0.361 mi.)	O132	147
DON MIGUEL MEXICAN FOODS INC	2125 E ORANGEWOOD AVE.	NNE 1/4 - 1/2 (0.366 mi.)	O142	160

HIST CORTESE: The sites for the list are designated by the State Water Resource Control Board [LUST], the Integrated Waste Board [SWF/LS], and the Department of Toxic Substances Control [CALSITES].

A review of the HIST CORTESE list, as provided by EDR, and dated 04/01/2001 has revealed that there are 8 HIST CORTESE sites within approximately 0.5 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
TAORMINA INDUSTRIES, INC.	***300 ANAHEIM***	***N 0 - 1/8 (0.069 mi.)***	***A1***	***8***
YORBA LINDA DISPOSAL	***301 ANAHEIM***	***NW 0 - 1/8 (0.072 mi.)***	***6***	***12***
CITY DISTRIBUTION SERVICE	***505 ANAHEIM***	***NNW 0 - 1/8 (0.093 mi.)***	***A13***	***20***
CALTRANS/C.O. THOMPSON	***505***	***NNW 0 - 1/8 (0.093 mi.)***	***A14***	***21***
LAMCOR, INC.	***2025 ORANGEWOOD***	***NNE 1/4 - 1/2 (0.321 mi.)***	***J93***	***105***
EVEREST ELECTRONIC	***2100 ORANGEWOOD***	***NNE 1/4 - 1/2 (0.361 mi.)***	***O124***	***136***
SAN MIGUEL FOOD FACILITY	***2125***	***NNE 1/4 - 1/2 (0.366 mi.)***	***O147***	***164***
UNOCAL #4961	***4105***	***WSW 1/4 - 1/2 (0.475 mi.)***	***Z197***	***203***

HAZNET: The data is extracted from the copies of hazardous waste manifests received each year by the DTSC. The annual volume of manifests is typically 700,000-1,000,000 annually, representing approximately 350,000-500,000 shipments. Data from non-California manifests & continuation sheets are not included at the present time. Data are from the manifests submitted without correction, and therefore many contain some invalid values for data elements such as generator ID, TSD ID, waste category, & disposal method. The source is the Department of Toxic Substance Control is the agency

A review of the HAZNET list, as provided by EDR, and dated 12/31/2010 has revealed that there are 96 HAZNET sites within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
TRAMMELL CROW RESIDENTIAL LLP	3091 W CHAPMAN AVE	SE 1/4 - 1/2 (0.316 mi.)	L90	104
FERNANDO ORTIZ	3063 W CHAPMAN AVE	SE 1/4 - 1/2 (0.326 mi.)	L97	110
MOBIL #18-ENA	***3011 W CHAPMAN AVE***	***SE 1/4 - 1/2 (0.341 mi.)***	***L102***	***115***
A&M MOBIL SERVICE	3011 W CHAPMAN AV	SE 1/4 - 1/2 (0.341 mi.)	L103	117

Lower Elevation	Address	Direction / Distance	Map ID	Page
CALTRANS DISTRICT 12	335-337 NO ANAHEIM BLVD	N 0 - 1/8 (0.071 mi.)	A2	9
INTERSTATE BATTERY ORANGE	337 NO ANAHEIM BLVD	N 0 - 1/8 (0.071 mi.)	A4	10
ORANGE COUNTY PRINTING INC	357 N ANAHEIM BLVD	N 0 - 1/8 (0.072 mi.)	A7	15
CAL DEPT OF TRANSPORTATION	407-425 N ANAHEIM BLVD	N 0 - 1/8 (0.077 mi.)	A8	17

EXECUTIVE SUMMARY

Lower Elevation	Address	Direction / Distance	Map ID	Page
CORVETTE MIKE	***407 N ANAHEIM BLVD***	***N 0 - 1/8 (0.077 mi.)***	***A9***	***17***
1X CAL TRANS	477 NORTH ANAHIEM BLVD	NNW 0 - 1/8 (0.088 mi.)	A11	19
C.O. THOMPSON OIL CO.	505 N. ANAHEIM BLVD	NNW 0 - 1/8 (0.093 mi.)	A15	23
C. O. THOMPSON PETROLEUM CO.	***531 ANAHEIM BLVD***	***NNW 0 - 1/8 (0.098 mi.)***	***A18***	***25***
BEACH CITIES AUTO	***538 ANAHEIM BLVD***	***NNW 0 - 1/8 (0.100 mi.)***	***A21***	***30***
DOT - CAL TRANS - DISTRICT 12	235 STATE COLLEGE BLVD	SSW 0 - 1/8 (0.108 mi.)	B22	32
CALIFORNIA CHEMICAL SPECIALTIE	187 N STATE COLLEGE BLV	SSW 0 - 1/8 (0.110 mi.)	B23	33
ALL GOLD	179 N STATE COLLEGE	SSW 0 - 1/8 (0.111 mi.)	B24	33
ARCHSTONE GATEWAY APARTMENTS	299 N STATE COLLEGE BLV	NNE 1/8 - 1/4 (0.132 mi.)	C28	37
CAL TRANS DIST 12/ORANGE COUNT	320 N STATE COLLEGE	N 1/8 - 1/4 (0.140 mi.)	C30	39
HENSEL PHAPLES	3451 W CHAPMAN AVE	S 1/8 - 1/4 (0.173 mi.)	D31	39
KONE ELEVATOR COMPANY INC	3440 W CHAPMAN AVE	S 1/8 - 1/4 (0.184 mi.)	D33	41
RAMONA BOTTLING	440 N COUNTRY LN	NNW 1/8 - 1/4 (0.185 mi.)	34	42
ANAHEIM ORANGE HILTON SUITES	400 N STATE COLLEGE BLV	N 1/8 - 1/4 (0.193 mi.)	E35	42
DOUBLE TREE HOTEL	***100 THE CITY DR***	***SSW 1/8 - 1/4 (0.204 mi.)***	***F40***	***45***
DOUBLETREE HOTEL	100 THE CITY DR S	SSW 1/8 - 1/4 (0.204 mi.)	F42	48
INTOWN PROPERTIES INC/HUD	3745 SHERINGHAM STREET	WSW 1/8 - 1/4 (0.230 mi.)	43	50
THE CITY PLACE NORTH	***3745 WEST CHAPMAN AVENU***	***SW 1/4 - 1/2 (0.258 mi.)***	***G46***	***50***
U C IRVINE MEDICAL CENTER	101 CITY DR/SO RTE 129	SSE 1/4 - 1/2 (0.265 mi.)	H47	52
CUSHMAN & WAKEFIELD OF CA	200 S MANCHESTER AVE B1	SW 1/4 - 1/2 (0.267 mi.)	G51	56
PENTAFLEX INC	2165 D S DUPONT DR	ENE 1/4 - 1/2 (0.282 mi.)	I54	57
PENTAFLEX, INC	***2165D S DUPONT DRIVE***	***ENE 1/4 - 1/2 (0.290 mi.)***	***I55***	***58***
WESTERN BUSINESS PRINTERS	2165 SOUTH DUPONT DRIVE	ENE 1/4 - 1/2 (0.290 mi.)	I56	61
ALPHA LAP AND HONE	***2165 S DUPONT STE L***	***ENE 1/4 - 1/2 (0.290 mi.)***	***I58***	***62***
ALPHA LAP AND HONE	2165 S DUPONT DR STE L	ENE 1/4 - 1/2 (0.290 mi.)	I59	64
J&B GROUP TRUST IV	2165 S. DUPONT DR.	ENE 1/4 - 1/2 (0.290 mi.)	I60	65
500 ORANGE TOWER/EQUITY OFFICE	500 N STATE COLLEGE BLV	N 1/4 - 1/2 (0.290 mi.)	J61	66
JENSON CUSTOM FURNITURE INC	***2161 S DUPONT DR***	***NE 1/4 - 1/2 (0.294 mi.)***	***I64***	***68***
METALCLAD INSULATION CORPORATI	***2198 S DUPONT DR***	***ENE 1/4 - 1/2 (0.295 mi.)***	***I65***	***71***
INDUSTRIAL SPECIALIST	2181 DUPONT	NE 1/4 - 1/2 (0.296 mi.)	I66	73
MAJESTIC PAINTING & TINTING IN	3800 W CHAPMAN AVE	SW 1/4 - 1/2 (0.297 mi.)	G70	76
TOM CLARKE	3800 CHAPMAN AVE	SW 1/4 - 1/2 (0.297 mi.)	G71	76
CALTRANS	2415 SO. MANCHESTER AVE	NW 1/4 - 1/2 (0.298 mi.)	72	77
AMI MAGNETIC IMAGING CTR UCI	***101 THE CITY DR BLDG 22***	***S 1/4 - 1/2 (0.303 mi.)***	***K75***	***78***
UNIVERSITY OF CALIFORNIA IRVIN	***101 THE CITY DRIVE***	***S 1/4 - 1/2 (0.303 mi.)***	***K78***	***82***
UCI MEDICAL CENTER INC	***101 THE CITY DRIVE***	***S 1/4 - 1/2 (0.303 mi.)***	***K80***	***92***
UCI MEDICAL CENTER INC	101 THE CITY DR S	S 1/4 - 1/2 (0.303 mi.)	K81	94
UCI MEDICAL CENTER INC	101 THE CITY DR SOUTH	S 1/4 - 1/2 (0.303 mi.)	K82	95
DAVID PITTENGER	3842 W CHAPMAN AVE	SW 1/4 - 1/2 (0.305 mi.)	G86	101
MILLER ENVIRONMENTAL INC	2210 S DUPONT DR	ENE 1/4 - 1/2 (0.306 mi.)	I87	101
SPEEDY METALS DBA PACIFIC META	2181 S DUPONT DR	ENE 1/4 - 1/2 (0.307 mi.)	I88	102
ADTECH POWER, INC	2220 S DUPONT DR	ENE 1/4 - 1/2 (0.315 mi.)	I89	103
LAMBCOR INC	2010 E ORANGEWOOD AVE	NNE 1/4 - 1/2 (0.319 mi.)	M91	105
SERVICE MANUFACTURING & ENGINE	2230 SOUTH DUPONT DR	ENE 1/4 - 1/2 (0.324 mi.)	I95	108
TOBISHIMA DEVELOPMENT CO	2099 SOUTH STATE COLLEG	N 1/4 - 1/2 (0.327 mi.)	J99	113
TAIT ENVIRONMENTAL	2131 S DUPONT DR	NE 1/4 - 1/2 (0.337 mi.)	N100	113
STEALTH INDUSTRIES	2130 E ORANGEWOOD AVE	NE 1/4 - 1/2 (0.345 mi.)	N106	120
C B COMMERCIAL	2130 & 2210 E ORANGEWOO	NE 1/4 - 1/2 (0.345 mi.)	N108	121
OKEH CATERERS INC	2115 E ORANGEWOOD	NNE 1/4 - 1/2 (0.353 mi.)	O112	123
PARK ROYALE MOBIL HOME PARK	300 N RAMPART	E 1/4 - 1/2 (0.353 mi.)	P113	124
EVEREST ELECTRONIC EQUIPMENT,	***2100 E ORANGEWOOD AVE***	***NNE 1/4 - 1/2 (0.361 mi.)***	***O126***	***138***
AMF ANAHEIM LLC	2100 E ORANGEWOOD AVE	NNE 1/4 - 1/2 (0.361 mi.)	O128	143
A P W ENCLOSURE SYSTEMS	***2100 EAST ORANGEWOOD AV***	***NNE 1/4 - 1/2 (0.361 mi.)***	***O131***	***145***
TRANSWESTERN COMMERCIAL SERVIC	***2099 S STATE COLLEGE BL***	***N 1/4 - 1/2 (0.364 mi.)***	***R135***	***153***
DON GARRETT TRUCKING INC	2125 E ORANGEWOOD AVE	NNE 1/4 - 1/2 (0.366 mi.)	O137	154
PLATINUM TRIANGLE PARTNERS LLC	***2125 E ORANGEWOOD AVE***	***NNE 1/4 - 1/2 (0.366 mi.)***	***O140***	***158***

EXECUTIVE SUMMARY

Lower Elevation	Address	Direction / Distance	Map ID	Page
DON MIGUEL FOODS, INC	2125 E ORANGEWOOD AVE	NNE 1/4 - 1/2 (0.366 mi.)	O149	168
ORANGE CNTY/JUVENILE JUSTICE C	341 CITY BLVD W	SW 1/4 - 1/2 (0.369 mi.)	Q152	170
MELROSE ABBEY FUNERAL HOME	2303 S MANCHESTER RD	NW 1/4 - 1/2 (0.371 mi.)	S153	171
MELROSE ABBEY FUNERAL HOME	2303 MANCHESTER	NW 1/4 - 1/2 (0.371 mi.)	S154	172
ASHWELL HAWKINS	333 CITY BLVD. WEST	SW 1/4 - 1/2 (0.372 mi.)	Q158	174
SPEIKER PROPERTIES LP	333 CITY BLVD STE 160	SW 1/4 - 1/2 (0.374 mi.)	Q159	175
COATAL SFA ANAHEIM I LLC	2045 S STATE COLLEGE BL	N 1/4 - 1/2 (0.387 mi.)	R162	177
COUNTY OF ORANGE SOCIAL SERVIC	301 THE CITY DR S 3RD F	S 1/4 - 1/2 (0.391 mi.)	T163	177
THE COUNTY OF ORANGE	301 THE CITY DRIVE	S 1/4 - 1/2 (0.391 mi.)	T164	177
COUNTY OF ORANGE/PROBATION DEP	301 THE CITY DR,RM 2024	S 1/4 - 1/2 (0.391 mi.)	T165	178
TIMBERLINE	2211 ORANGEWOOD	NE 1/4 - 1/2 (0.395 mi.)	U166	179
GOLDEN WEST TOWING EQUIPMENT	2210 EAST ORANGE WOOD A	NE 1/4 - 1/2 (0.397 mi.)	U168	181
WINDOR INC	2220 E ORANGEWOOD AVE	NE 1/4 - 1/2 (0.402 mi.)	U169	182
COUNTY OF ORANGE, PROBATION DE	331 THE CITY DR S	S 1/4 - 1/2 (0.404 mi.)	T170	184
STEPHEN M. GOLD DDS INC	321 N RAMPART ST STE 20	E 1/4 - 1/2 (0.405 mi.)	V171	185
CNTY ORANGE HEALTH CARE AGCY J	331 THE CITY DRIVE	S 1/4 - 1/2 (0.407 mi.)	T172	185
COUNTY OF ORANGE/PROBATION JUV	331 THE CITY DR	S 1/4 - 1/2 (0.407 mi.)	T173	187
COUNTY OF ORANGE (PROBATION DE	331 THE CITY DR	S 1/4 - 1/2 (0.407 mi.)	T174	187
STEPHEN M. GOLD DDS INC	321 N RAMPART STE 205	E 1/4 - 1/2 (0.407 mi.)	V175	187
ORANGE CNTY/JUVENILE JUSTICE C	341 THE CITY DR	S 1/4 - 1/2 (0.411 mi.)	T178	189
COUNTY OF ORANGE PFDR	343 THE CITY DRIVE	S 1/4 - 1/2 (0.411 mi.)	T179	189
SPIEKER PROPERTIES LP	333 CITY BLVD	SW 1/4 - 1/2 (0.412 mi.)	180	190
ORANGE COUNTY GENERAL SERVS/JU	341 CITY DR/JUVENILE JU	S 1/4 - 1/2 (0.414 mi.)	T181	190
THRIFTY CLEAN	***4010 CHAPMAN UNIT E***	***WSW 1/4 - 1/2 (0.417 mi.)***	***W182***	***190***
BIG RED Q QUICKPRINT CENTER	TWO CITY BOULEVARD EAST	SSW 1/4 - 1/2 (0.435 mi.)	X185	194
KAISER PERMANENTE	200 N LEWIS ST	W 1/4 - 1/2 (0.441 mi.)	187	195
KARCHER ENVIRONMENTAL, INC.	2300 E ORANGEWOOD	NE 1/4 - 1/2 (0.447 mi.)	Y189	198
SHUR-FLO	2300 ORANGEWOOD AVE	NE 1/4 - 1/2 (0.447 mi.)	Y192	200
UNOCAL #4961	***4105***	***WSW 1/4 - 1/2 (0.475 mi.)***	***Z197***	***203***
UNION OIL SERVICE STATION	***4105 W CHAPMAN AVE***	***WSW 1/4 - 1/2 (0.475 mi.)***	***Z198***	***208***
ONE HOUR PHOTO PRO	***16 CITY BLVD E #119***	***S 1/4 - 1/2 (0.487 mi.)***	***201***	***211***
ORANGEWOOD CHILDRENS HOME	401 THE CITY DR	S 1/4 - 1/2 (0.493 mi.)	203	213

EMI: Toxics and criteria pollutant emissions data collected by the ARB and local air pollution agencies

A review of the EMI list, as provided by EDR, and dated 12/31/2008 has revealed that there are 18 EMI sites within approximately 0.5 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
BEEF RIGGER RESTAURANT	105 N STATE COLLEGE BLV	SSW 1/8 - 1/4 (0.179 mi.)	D32	41
HILTON SUITES	***400 N STATE COLLEGE***	***N 1/8 - 1/4 (0.193 mi.)***	***E36***	***43***
DOUBLE TREE HOTEL	***100 THE CITY DR***	***SSW 1/8 - 1/4 (0.204 mi.)***	***F40***	***45***
200 MANCHESTER VENTURE	200 S MANCHESTER AVENUE	SW 1/4 - 1/2 (0.267 mi.)	G52	56
JENSON CUSTOM FURNITURE INC	2165 S DUPONT DR UNIT B	ENE 1/4 - 1/2 (0.290 mi.)	I57	61
TISHMAN WEST MANAGEMENT CORP	3800 WEST CHAPMAN	SW 1/4 - 1/2 (0.296 mi.)	G68	75
UNIV CAL IRVINE MEDICAL CTR	101 THE CITY DR ROUTE 1	S 1/4 - 1/2 (0.303 mi.)	K84	98
EVEREST ELECTRONIC EQUIPMENT I	2034 E ORANGEWOOD AV	NNE 1/4 - 1/2 (0.355 mi.)	O117	127
EVEREST ELECTRONIC EQUIP INCOR	***2100 2020 2034 EAST ORA***	***NNE 1/4 - 1/2 (0.361 mi.)***	***O121***	***130***
APW ENCLOSURE SYSTEMS	***2100 E. ORANGEWOOD***	***NNE 1/4 - 1/2 (0.361 mi.)***	***O123***	***134***
EVEREST ELECTRONIC EQUIP INC	2100 E. ORANGEWOOD	NNE 1/4 - 1/2 (0.361 mi.)	O125	137
EVEREST ELECTRONIC EQUIPMENT,	***2100 E ORANGEWOOD AVE***	***NNE 1/4 - 1/2 (0.361 mi.)***	***O126***	***138***
SAN MIGUEL FOOD FACILITY	***2125***	***NNE 1/4 - 1/2 (0.366 mi.)***	***O147***	***164***
CREMAR CREMATORY (TELOPHASE SO	2299 S MANCHESTER AV	NW 1/4 - 1/2 (0.368 mi.)	S150	169

Lower Elevation	Address	Direction / Distance	Map ID	Page
TISHMAN WEST COMPANIES	333 CITY BLVD WEST	SW 1/4 - 1/2 (0.372 mi.)	Q156	173
RICHLIFE INC	2211 E ORANGEWOOD AV	NE 1/4 - 1/2 (0.395 mi.)	U167	180
HOF'S HUT THE CITY (ORANGE) IN	4050 W. CHAPMAN AVE.	WSW 1/4 - 1/2 (0.428 mi.)	W184	194
J C PENNEY CO	8 CITY BLVD EAST	SSW 1/4 - 1/2 (0.461 mi.)	X196	203

HWP: Detailed information on permitted hazardous waste facilities and corrective action ("cleanups") tracked in EnviroStor.

A review of the HWP list, as provided by EDR, and dated 08/09/2010 has revealed that there is 1 HWP site within approximately 1.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
DATA CIRCUITSINC.	***1607 W ORANGE GROVE AVE***	***ENE 1 - 2 (1.212 mi.)***	***AY291***	***383***

HWT: A listing of hazardous waste transporters. In California, unless specifically exempted, it is unlawful for any person to transport hazardous wastes unless the person holds a valid registration issued by DTSC. A hazardous waste transporter registration is valid for one year and is assigned a unique registration number.

A review of the HWT list, as provided by EDR, and dated 10/20/2011 has revealed that there is 1 HWT site within approximately 0.75 miles of the target property.

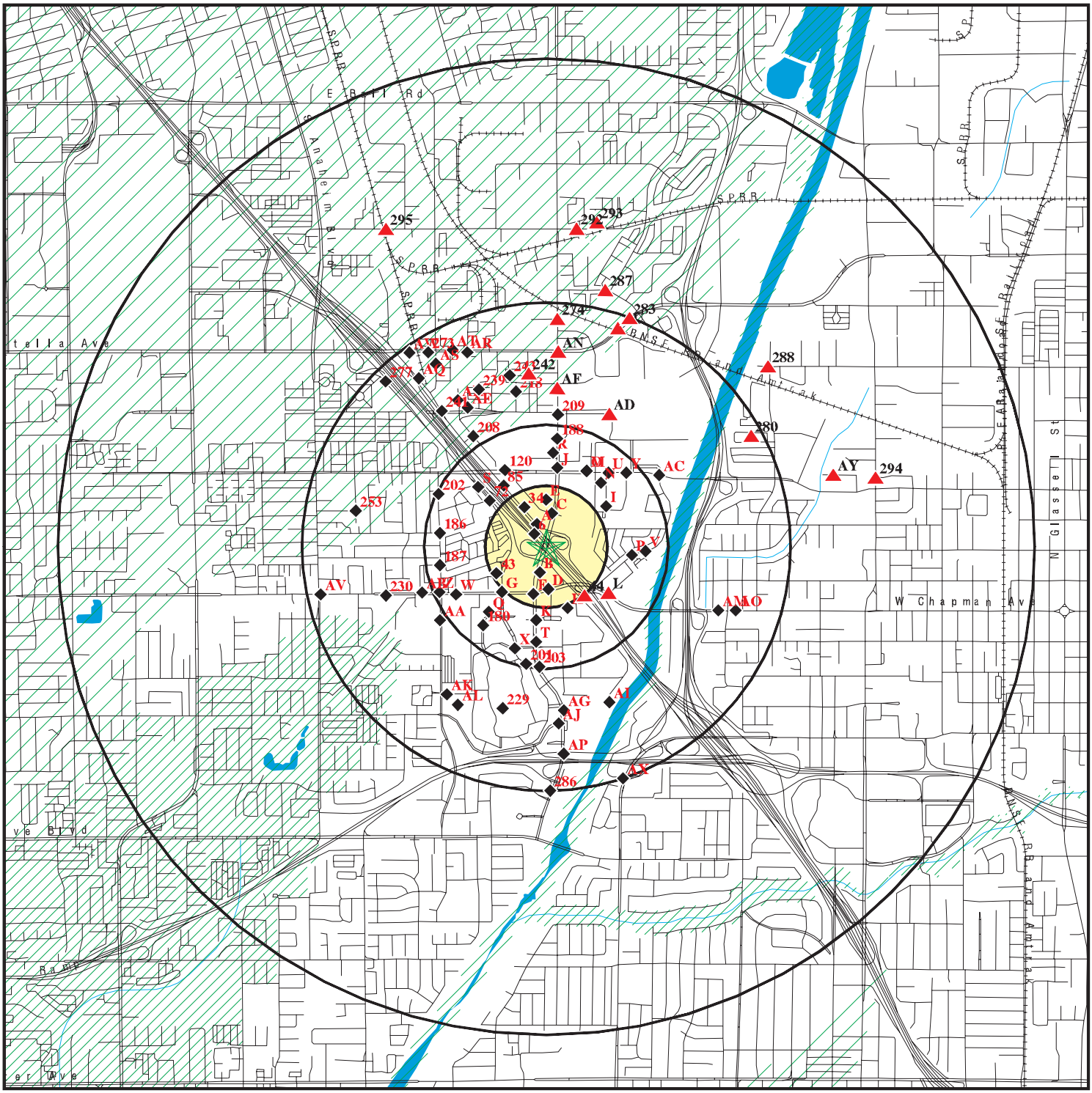
Lower Elevation	Address	Direction / Distance	Map ID	Page
KARCHER ENVIRONMENTAL, INC.	2300 E. ORANGEWOOD AVE.	NE 1/4 - 1/2 (0.447 mi.)	Y195	203

EXECUTIVE SUMMARY

Due to poor or inadequate address information, the following sites were not mapped. Count: 28 records.

Site Name	Database(s)
A TOWN METRO	NPDES
LA PALMA AVE IMPROVEMENT PROJECT	NPDES
ANAHEIM CITY 69 KV SUBSTATION	NPDES
AMERICAN FABRICATION	NPDES
SANTIAGO CANYON COLLEGE	NPDES
IMPERIAL HIGHWAY SMART STREET IMPR	NPDES
A TOWN STADIUM	NPDES
MANCHESTER AFFORDABLE HOUSING	NPDES
NORTH BASIN BARRIER PROJECT- WELL	NPDES
SUCCESS DISTRIBUTION AND SALES	FTTS,HIST FTTS INSP
6000 BLOCK OF E LA PALM RD	CDL
COORS DISRIBUTING COMPANY	LUST SAN MATEO
SHELL OIL PRODUCTS US	LUST SAN MATEO
ANAHEIM LA PALMA RADIATOR	HAZNET
BLACK & DECKER SERVICE CENTER	HAZNET
STATER BROS MARKETS #131 STATE COL	HAZNET
3G FITTINGS	HAZNET
PACIFIC TELEPHONE AND TELEGRAPH CO	HAZNET
CALTRANS DISTRICT 12 EA 071611	HAZNET
ABANDONED RAILROAD BRIDGE	HAZNET
ALL GOLD AND CHROME	HAZNET
A PROFESSIONAL	RCRA-SQG,FINDS
415 W. TAFT - IN PARKING LOT	ERNS
EL MORRO CONVERSION TO CAMPGRO	WDS
FOGERTY & EXXON ET AL TRUST	WDS
JENSON CUSTOM FURNITURE INC, I	EMI
EQUITY OFFICE PROPERTIES	EMI
STATE OF CALIF DEPT OF TRANSPO	EMI

OVERVIEW MAP - 3254967.1s

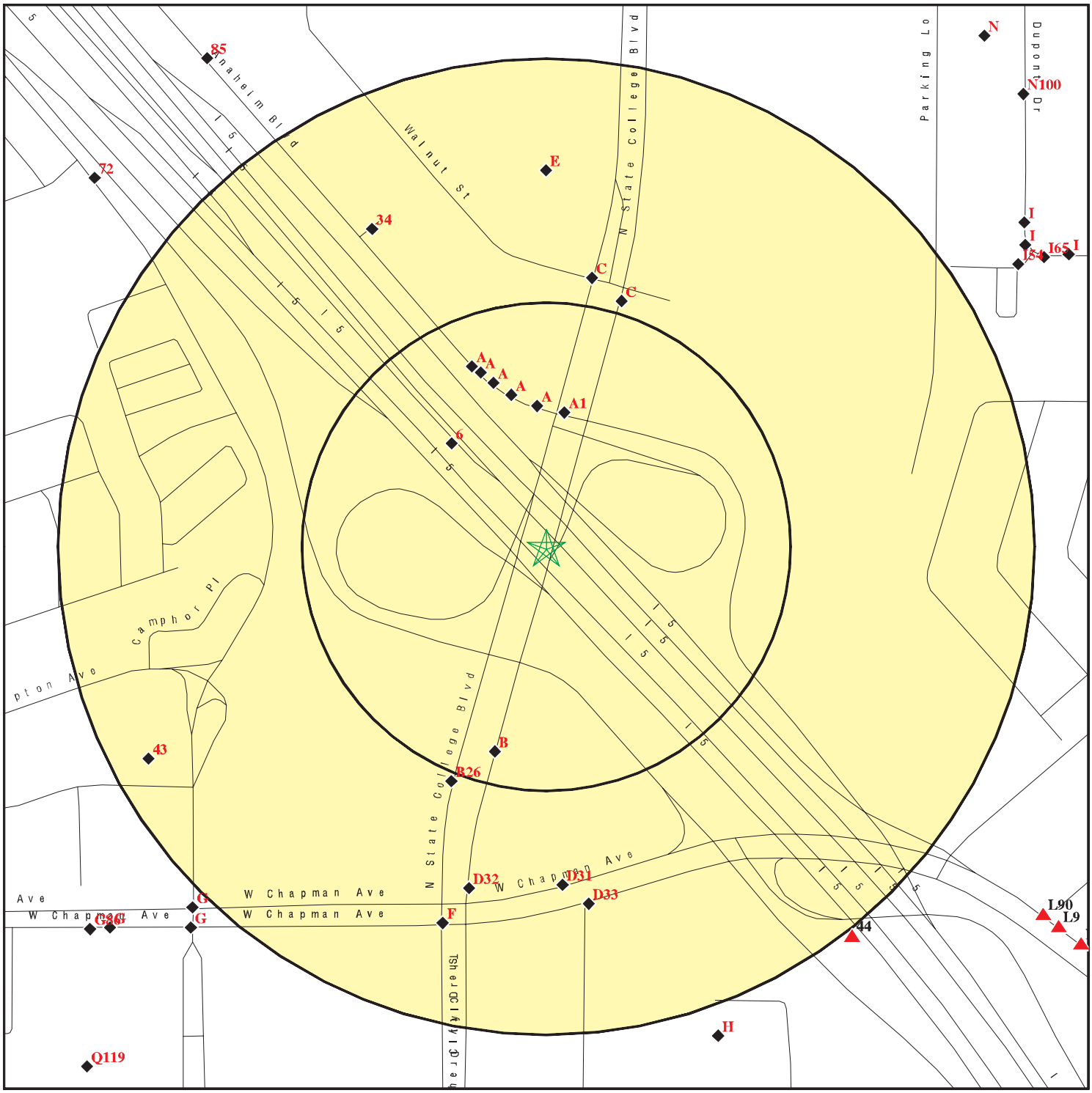


- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- National Priority List Sites
- Dept. Defense Sites
- Indian Reservations BIA
- Oil & Gas pipelines from USGS
- 100-year flood zone
- 500-year flood zone
- Areas of Concern

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME:	U.C. Irvine Medical Center Surface Parking Lots	CLIENT:	Bonterra Consulting
ADDRESS:	The City Drive Orange CA 92868	CONTACT:	Megan Larum
LAT/LONG:	33.7917 / 117.89	INQUIRY #:	3254967.1s
		DATE:	February 08, 2012 2:50 pm

DETAIL MAP - 3254967.1s



- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- Sensitive Receptors
- National Priority List Sites
- Dept. Defense Sites
- Indian Reservations BIA
- Oil & Gas pipelines from USGS
- 100-year flood zone
- 500-year flood zone
- Areas of Concern

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME:	U.C. Irvine Medical Center Surface Parking Lots	CLIENT:	Bonterra Consulting
ADDRESS:	The City Drive Orange CA 92868	CONTACT:	Megan Larum
LAT/LONG:	33.7917 / 117.89	INQUIRY #:	3254967.1s
		DATE:	February 08, 2012 2:51 pm

The EDR Report in its entirety is on file at:

University of California, Irvine
Office of Environmental Planning and Sustainability
750 University Tower
Irvine, CA 92697-2325

APPENDIX E

TRAFFIC MEMORANDUM

Stantec Consulting Services Inc.
38 Technology Drive, Suite 100
Irvine CA 92618-5312
Tel: (949) 923-6000
Fax: (949) 923-6121

January 7, 2014
File: 2073006820

Attention: Alex Marks
University of California – Irvine
Environmental Planning and Sustainability
750 University Tower
Irvine, CA 92697-2325

Dear Mr. Marks,

Reference: UCI Medical Center – Orangewood Avenue Parking Lot

Stantec Consulting Services, Inc. (Stantec) has performed an analysis of the proposed relocation of the UCI Medical Center off-site parking in the City of Orange. This letter summarizes the results of our analysis.

The project consists of relocating off-site parking for UCI Medical Center from its current location on Crystal Cathedral property to a future location along Orange Center Drive between Orangewood Avenue and State College Boulevard. The analysis looked at the impact of relocating the off-site parking from its current location to a surface lot containing 575 spaces.

A parking lot by itself does not generate any new vehicle trips; it is the associated land uses (in this case hospital and medical office uses) that generate the vehicle trips. The 575-space parking lot would attract trips generated by the existing UCI Medical Center that are currently on the circulation system.

Peak hour trips from the existing parking on Crystal Cathedral property were relocated to the proposed surface parking lot. The peak hour analysis reveals that the surface lot could be developed with up to 630 spaces without creating significant impacts to the surrounding circulation system.

The proposed 575-space surface parking lot on Orange Center Drive would have no significant impact to the surrounding circulation system.

Sincerely,

STANTEC CONSULTING SERVICES INC.

Cathy Lawrence
Transportation Engineer
Phone: (949) 923-6064
Cathy.Lawrence@stantec.com

Attachment: ICU Worksheets

cal v:\2073\active\2073006820\uci_medctr_parking\report\let_6820orangewoodlot_010614.docx

1. Orange Center & Orangewood

Existing

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	45	.03*	87	.05*
NBT	1	1700	1	.03	0	.04
NBR	0	0	52		74	
SBL	0	0	7		50	
SBT	1	1700	0	.01*	1	.07*
SBR	0	0	11		74	
EBL	1	1700	79	.05	8	.00
EBT	3	5100	1125	.23*	562	.13
EBR	0	0	71		76	
WBL	2	3400	22	.01*	33	.01
WBT	4	6800	559	.10	1397	.21*
WBR	0	0	102		8	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.33**		**.38**

Existing + 630 Space Lot

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	58	.03*	125	.07*
NBT	1	1700	1	.04	0	.06
NBR	0	0	62		103	
SBL	0	0	7		50	
SBT	1	1700	0	.01*	1	.07*
SBR	0	0	11		74	
EBL	1	1700	79	.05	8	.00
EBT	3	5100	1125	.24*	562	.13
EBR	0	0	124		91	
WBL	2	3400	62	.02*	44	.01
WBT	4	6800	559	.10	1397	.21*
WBR	0	0	102		8	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.35**		**.40**

2. State College & Orangewood

Existing

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	129	.04*	99	.03
NBT	4	6800	677	.12	941	.15*
NBR	0	0	148		90	
SBL	2	3400	233	.07	143	.04*
SBT	4	6800	869	.16*	836	.15
SBR	0	0	216		204	
EBL	2	3400	226	.07	218	.06*
EBT	3	5100	921	.19*	474	.11
EBR	0	0	36		71	
WBL	2	3400	104	.03*	176	.05
WBT	3	5100	414	.10	1031	.23*
WBR	0	0	71		150	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.47**		**.53**

Existing + 630 Space Lot

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	129	.04*	99	.03
NBT	4	6800	674	.12	931	.15*
NBR	0	0	151		100	
SBL	2	3400	233	.07	143	.04*
SBT	4	6800	856	.16*	832	.15
SBR	0	0	229		208	
EBL	2	3400	229	.07	228	.07*
EBT	3	5100	928	.19*	493	.11
EBR	0	0	36		71	
WBL	2	3400	117	.03*	180	.05
WBT	3	5100	441	.10	1038	.23*
WBR	0	0	71		150	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.47**		**.54**

3. State College & Orange Center

Existing

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	96	.03*	90	.03*
NBT	4	6800	738	.11	1010	.17
NBR	0	0	22		140	
SBL	1	1700	16	.01	37	.02
SBT	4	6800	1144	.17*	1130	.17*
SBR	0	0	10		29	
EBL	2	3400	36	.01*	11	.00
EBT	1	1700	2	.00	3	.00*
EBR	1	1700	51	.03	110	.06
WBL	1	1700	124	.07*	50	.03*
WBT	1	1700	0	.02	4	.02
WBR	0	0	31		25	
Right Turn Adjustment					EBR	.04*
Clearance Interval				.05*		.05*

Note: Assumes E/W Split Phasing

TOTAL CAPACITY UTILIZATION **.33** **.32**

Existing + 630 Space Lot

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	241	.07*	131	.04*
NBT	4	6800	732	.11	991	.17
NBR	0	0	22		140	
SBL	1	1700	16	.01	37	.02
SBT	4	6800	1118	.17*	1123	.17*
SBR	0	0	36		36	
EBL	2	3400	42	.01*	30	.01*
EBT	1	1700	2	.00	3	.00
EBR	1	1700	86	.05	214	.13
WBL	1	1700	124	.07*	50	.03*
WBT	1	1700	0	.02	4	.02
WBR	0	0	31		25	
Right Turn Adjustment					EBR	.09*
Clearance Interval				.05*		.05*

Note: Assumes E/W Split Phasing

TOTAL CAPACITY UTILIZATION **.37** **.39**

4. State College & I-5 NB Ramps

Existing

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	28	.01*	95	.03*
NBT	4	6800	540	.08	980	.14
NBR	f		151		390	
SBL	1	1700	39	.02	23	.01
SBT	4	6800	1250	.18*	1250	.18*
SBR	1	1700	21	.01	14	.01
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	1.5		100		80	.05
WBT	1.5	5100	109	.04*	569	.17*
WBR	2	3400	316	.09	258	.08
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION **.28** **.43**

Existing + 630 Space Lot

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	28	.01*	95	.03*
NBT	4	6800	613	.09	983	.14
NBR	f		135		343	
SBL	1	1700	45	.03	42	.02
SBT	4	6800	1253	.18*	1328	.20*
SBR	1	1700	21	.01	14	.01
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	1.5		100		80	.05
WBT	1.5	5100	109	.04*	569	.17*
WBR	2	3400	382	.11	277	.08
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION **.28** **.45**

5. State College & I-5 SB Ramps

Existing

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	0		0	
NBT	5	8500	690	.08	1410	.17*
NBR	0	0	0		8	
SBL	0	0	0		0	
SBT	4	6800	1080	.16*	1040	.15
SBR	f		270		290	
EBL	1.5		32	.02	61	.04
EBT	0.5	3400	172	.10*	129	.08*
EBR	2	3400	420	.12	347	.10
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Right Turn Adjustment			EBR	.02*		
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.33**		**.30**

Existing + 630 Space Lot

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	0		0	
NBT	5	8500	721	.08	1359	.16
NBR	0	0	0		8	
SBL	0	0	0		0	
SBT	4	6800	1067	.16*	1070	.16*
SBR	f		286		338	
EBL	1.5		58	.03	68	.04
EBT	0.5	3400	172	.10*	129	.08*
EBR	2	3400	354	.10	328	.10
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Right Turn Adjustment					EBR	.02*
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.31**		**.31**

6. Manchester & Chapman

Existing

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	34	.02*	100	.06*
NBT	1	1700	11	.01	19	.01
NBR	2	3400	157	.05	277	.08
SBL	1	1700	157	.09*	168	.10*
SBT	2	3400	184	.06	49	.03
SBR	0	0	28		102	.06
EBL	1	1700	22	.01	82	.05*
EBT	3	5100	1455	.30*	1047	.22
EBR	0	0	54		80	
WBL	2	3400	236	.07*	121	.04
WBT	3	5100	674	.13	1363	.27*
WBR	1	1700	18	.01	27	.02
Clearance Interval				.05*		.05*
Note: Assumes N/S Split Phasing						
TOTAL CAPACITY UTILIZATION				**.53**		**.53**

Existing + 630 Space Lot

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	34	.02*	100	.06*
NBT	1	1700	11	.01	19	.01
NBR	2	3400	157	.05	277	.08
SBL	1	1700	157	.09*	168	.10*
SBT	2	3400	184	.06	49	.03
SBR	0	0	28		102	.06
EBL	1	1700	22	.01	82	.05*
EBT	3	5100	1410	.29*	880	.19
EBR	0	0	54		80	
WBL	2	3400	236	.07*	121	.04
WBT	3	5100	439	.09	1305	.26*
WBR	1	1700	18	.01	27	.02
Clearance Interval				.05*		.05*
Note: Assumes N/S Split Phasing						
TOTAL CAPACITY UTILIZATION				**.52**		**.52**

7. State College/The City Dr & Chapman

Existing

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	102	.03*	87	.03
NBT	3	5100	451	.09	1203	.24*
NBR	2	3400	300	.09	800	.24
SBL	2	3400	195	.06	112	.03*
SBT	3	5100	950	.19*	852	.17
SBR	1	1700	354	.21	437	.26
EBL	2	3400	218	.06	177	.05
EBT	3	5100	1430	.28*	1220	.24*
EBR	1	1700	112	.07	81	.05
WBL	2	3400	390	.11*	280	.08*
WBT	3	5100	830	.16	1080	.21
WBR	1	1700	58	.03	89	.05
Clearance Interval				.05*		.05*

Note: Assumes Right-Turn Overlap for SBR NBR EBR

TOTAL CAPACITY UTILIZATION **.66** **.64**

Existing + 630 Space Lot

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	75	.02*	80	.02
NBT	3	5100	478	.09	1210	.24*
NBR	2	3400	300	.09	800	.24
SBL	2	3400	198	.06	121	.04*
SBT	3	5100	957	.19*	871	.17
SBR	1	1700	265	.16	420	.25
EBL	2	3400	209	.06	115	.03
EBT	3	5100	1401	.27*	1134	.22*
EBR	1	1700	105	.06	62	.04
WBL	2	3400	390	.11*	280	.08*
WBT	3	5100	711	.14	1046	.21
WBR	1	1700	71	.04	93	.05
Clearance Interval				.05*		.05*

Note: Assumes Right-Turn Overlap for SBR NBR EBR

TOTAL CAPACITY UTILIZATION **.64** **.63**

8. I-5 SB Ramps & Chapman

Existing

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	491	.14*	440	.13*
NBT	0	0	0		0	
NBR	1	1700	112	.07	115	.07
SBL	2	3400	174	.05	143	.04
SBT	0	0	0		0	
SBR	1	1700	5	.00	5	.00
EBL	0	0	0		0	
EBT	3.5	8500	1170	{.20}*	1090	.21*
EBR	1.5		750		1040	.31
WBL	2	3400	176	.05*	182	.05*
WBT	3	5100	783	.15	1010	.20
WBR	0	0	0		0	
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION **.44** **.44**

Existing + 630 Space Lot

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	425	.13*	421	.12*
NBT	0	0	0		0	
NBR	1	1700	112	.07	115	.07
SBL	2	3400	174	.05	143	.04
SBT	0	0	0		0	
SBR	1	1700	5	.00	5	.00
EBL	0	0	0		0	
EBT	3.5	8500	1160	{.20}*	1061	.21*
EBR	1.5		734		992	.29
WBL	2	3400	176	.05*	182	.05*
WBT	3	5100	743	.15	999	.20
WBR	0	0	0		0	
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION **.43** **.43**

9. SR-57 SB Ramps/Anita & Chapman

Existing

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	11	{.01}*	124	
NBT	1	1700	3	.01	26	.09*
NBR	1	1700	6	.00	85	.05
SBL	0	0	247		230	{.14}*
SBT	1	1700	59	.18*	8	.14
SBR	1	1700	270	.16	298	.18
EBL	1	1700	8	.00	1	.00
EBT	3	5100	1376	.29*	1180	.24
EBR	0	0	114		28	
WBL	1	1700	76	.04*	30	.02
WBT	2	3400	600	.18	1020	.30*
WBR	f		130		80	
Right Turn Adjustment					SBR	.02*
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.57**		**.60**

Existing + 630 Space Lot

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	11	{.01}*	124	
NBT	1	1700	3	.01	26	.09*
NBR	1	1700	6	.00	85	.05
SBL	0	0	247		230	{.14}*
SBT	1	1700	59	.18*	8	.14
SBR	1	1700	230	.14	287	.17
EBL	1	1700	8	.00	1	.00
EBT	3	5100	1366	.29*	1151	.23
EBR	0	0	114		28	
WBL	1	1700	76	.04*	30	.02
WBT	2	3400	600	.18	1020	.30*
WBR	f		130		80	
Right Turn Adjustment					SBR	.01*
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				**.57**		**.59**

10. SR-57 NB Ramps/Driveway & Chapman

Existing

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	50	.03*	25	.01*
NBT	0	0	0		0	
NBR	1	1700	140	.08	18	.01
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	1	1700	1	.00	1	.00
EBL	1	1700	2	.00	3	.00
EBT	2	3400	1160	.34*	1170	.34*
EBR	f		464		420	
WBL	0	0	0		0	
WBT	3	5100	1113	.22	1212	.24
WBR	0	0	1		1	
Right Turn Adjustment			NBR	.05*		
Clearance Interval				.05*		.05*
Note: Assumes N/S Split Phasing						
TOTAL CAPACITY UTILIZATION				**.47**		**.40**

Existing + 630 Space Lot

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	50	.03*	25	.01*
NBT	0	0	0		0	
NBR	1	1700	140	.08	18	.01
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	1	1700	1	.00	1	.00
EBL	1	1700	2	.00	3	.00
EBT	2	3400	1160	.34*	1170	.34*
EBR	f		454		391	
WBL	0	0	0		0	
WBT	3	5100	1113	.22	1212	.24
WBR	0	0	1		1	
Right Turn Adjustment			NBR	.05*		
Clearance Interval				.05*		.05*
Note: Assumes N/S Split Phasing						
TOTAL CAPACITY UTILIZATION				**.47**		**.40**

APPENDIX F

PUBLIC REVIEW/RESPONSE TO COMMENTS

Orangewood Surface Parking Lot Project

Draft Initial Study
Public Review/Response to Comments

Public Review

The Draft Initial Study/Mitigated Negative Declaration (IS/MND), along with a Notice of Completion (NOC) and Notice of Intent to Adopt a Mitigated Negative Declaration (NOI), were circulated for public review and comment from April 28, 2014 through May 27, 2014. Copies of the document were submitted to the State Clearinghouse; local agencies; UCI faculty, staff, and other members of the campus community; and additional interested groups and persons. On April 28, 2014, a notice regarding the availability of the Draft IS/MND was published in the Orange County Register. Copies of the distribution list and notices are provided in this appendix.

Comments and Responses

Written comments were submitted by the agencies identified below. The letters and the responses to comments are presented on the pages following the Draft IS/MND distribution list.

Commenting Agency	Date
California Department of Transportation District 12	May 21, 2014
Native American Heritage Commission via State Clearinghouse	May 28, 2014

UNIVERSITY OF CALIFORNIA, IRVINE

BERKELEY • DAVIS • IRVINE • LOS ANGELES • MERCED • RIVERSIDE • SAN DIEGO • SAN FRANCISCO SANTA BARBARA • SANTA CRUZ

Environmental Planning and Sustainability

750 University Tower
Irvine, CA 92697-2325
(949) 824-6316
(949) 824-1213 Fax

April 25, 2014

State of California
Office of Planning and Research
1400 Tenth Street, Room 222
PO Box 3044
Sacramento, CA 95812- 3044

NOTICE OF COMPLETION – MITIGATED NEGATIVE DECLARATION

Project Title: Orangewood Surface Parking Lot Project
Project Location: University of California, Irvine
Lead Agency: University of California
County: Orange

In accordance with State CEQA guidelines and University of California Procedures for implementation of the California Environmental Quality Act, an Initial Study for the above named project was prepared. Based on the Initial Study, it has been determined that a Mitigated Negative Declaration is appropriate for this project. Transmitted herewith are 15 CD copies of the proposed Mitigated Negative Declaration/Initial Study and 15 paper copies of the issue summary for this project at the University of California, Irvine.

Implementation of the proposed project would construct an approximately 628 space surface parking lot for the University of California, Irvine Medical Center in Orange, California. The proposed Orangewood Surface Parking Lot Project would be constructed on a predominately undeveloped approximately 6.2 acre land parcel owned by the University, which is generally bound by East Orangewood Avenue to the north, Orange Center Drive to the east, and North Anaheim Boulevard to the west.

It has been determined that this project will not have a significant effect on the environment, and this letter is intended to serve as the Mitigated Negative Declaration for the project. The enclosed Notice of Completion and Environmental Document Transmittal Form will serve as the Notice of Completion of the environmental document. The project's anticipated environmental effects are discussed in the enclosed Initial Study. Copies of the Initial Study and all documents referenced therein are available for review at the University of California, Irvine's Office of Environmental Planning and Sustainability.

We shall appreciate your prompt acknowledgment and processing of the Negative Declaration/Initial Study. We expect that the State review period will extend from approximately, April 28, 2014 through May 27, 2014.

Sincerely,

Richard Demerjian
Director

Enclosures: 15 IS/MND CDs/Issue Summaries, and one completed transmittal form

Notice of Completion & Environmental Document Transmittal

Mail to: State Clearinghouse, P.O. Box 3044, Sacramento, CA 95812-3044 (916) 445-0613
For Hand Delivery/Street Address: 1400 Tenth Street, Sacramento, CA 95814

SCH #

Project Title: UCI Orangewood Surface Parking Lot Project

Lead Agency: University of California, Irvine — Contact Person: Richard Demerjian
Mailing Address: 750 University Tower — Phone: 949.824.8692
City: Irvine — Zip: 92697-2325 — County: Orange

Project Location: County: Orange — City/Nearest Community: Orange
Cross Streets: East Orangewood Avenue/Orange Center Drive — Zip Code: 92697-2325
Longitude/Latitude (degrees, minutes and seconds): 33 ° 47 '40.54" N / 117 ° 53 '30.34" W Total Acres: 6.2
Assessor's Parcel No.: _____ Section: _____ Twp.: _____ Range: _____ Base: _____
Within 2 Miles: State Hwy #: SR-22 & SR-57 Waterways: _____
Airports: _____ Railways: _____ Schools: _____

Document Type:

CEQA: ☐ NOP ☐ Draft EIR — NEPA: ☐ NOI — Other: ☐ Joint Document
☐ Early Cons ☐ Supplement/Subsequent EIR ☐ EA ☐ Final Document
☐ Neg Dec (Prior SCH No.) _____ ☐ Draft EIS ☐ Other: _____
☑ Mit Neg Dec Other: _____ ☐ FONSI

Local Action Type:

☐ General Plan Update ☐ Specific Plan ☐ Rezone ☐ Annexation
☐ General Plan Amendment ☐ Master Plan ☐ Prezone ☐ Redevelopment
☐ General Plan Element ☐ Planned Unit Development ☐ Use Permit ☐ Coastal Permit
☐ Community Plan ☐ Site Plan ☐ Land Division (Subdivision, etc.) ☑ Other: Design Approval

Development Type:

☐ Residential: Units _____ Acres _____
☐ Office: Sq.ft. _____ Acres _____ Employees _____
☐ Commercial: Sq.ft. _____ Acres _____ Employees _____
☐ Industrial: Sq.ft. _____ Acres _____ Employees _____
☑ Educational: _____
☐ Recreational: _____
☐ Water Facilities: Type _____ MGD _____
☑ Transportation: Type surface parking lot
☐ Mining: Mineral _____
☐ Power: Type _____ MW _____
☐ Waste Treatment: Type _____ MGD _____
☐ Hazardous Waste: Type _____
☐ Other: _____

Project Issues Discussed in Document:

☑ Aesthetic/Visual ☐ Fiscal ☑ Recreation/Parks ☑ Vegetation
☑ Agricultural Land ☑ Flood Plain/Flooding ☑ Schools/Universities ☑ Water Quality
☑ Air Quality ☐ Forest Land/Fire Hazard ☑ Septic Systems ☑ Water Supply/Groundwater
☑ Archeological/Historical ☑ Geologic/Seismic ☑ Sewer Capacity ☑ Wetland/Riparian
☑ Biological Resources ☑ Minerals ☑ Soil Erosion/Compaction/Grading ☑ Growth Inducement
☐ Coastal Zone ☑ Noise ☑ Solid Waste ☑ Land Use
☑ Drainage/Absorption ☑ Population/Housing Balance ☑ Toxic/Hazardous ☑ Cumulative Effects
☐ Economic/Jobs ☑ Public Services/Facilities ☑ Traffic/Circulation ☑ Other: Greenhouse Gas

Present Land Use/Zoning/General Plan Designation:

Project Description: *(please use a separate page if necessary)*

Implementation of the proposed project would construct an approximately 628 space surface parking lot for the University of California, Irvine Medical Center in Orange, California. The proposed Orangewood Surface Parking Lot Project would be constructed on a predominately undeveloped approximately 6.2 acre land parcel owned by the University, which is generally bound by East Orangewood Avenue to the north, Orange Center Drive to the east, and North Anaheim Boulevard to the west.

Note: The State Clearinghouse will assign identification numbers for all new projects. If a SCH number already exists for a project (e.g. Notice of Preparation or previous draft document) please fill in.

Reviewing Agencies Checklist

Lead Agencies may recommend State Clearinghouse distribution by marking agencies below with and "X".
If you have already sent your document to the agency please denote that with an "S".

_____	Air Resources Board	_____	Office of Emergency Services
_____	Boating & Waterways, Department of	_____	Office of Historic Preservation
_____	California Highway Patrol	_____	Office of Public School Construction
X	Caltrans District # 12	_____	Parks & Recreation, Department of
_____	Caltrans Division of Aeronautics	_____	Pesticide Regulation, Department of
_____	Caltrans Planning	_____	Public Utilities Commission
_____	Central Valley Flood Protection Board	X	Regional WQCB # 8
_____	Coachella Valley Mtns. Conservancy	X	Resources Agency
_____	Coastal Commission	_____	S.F. Bay Conservation & Development Comm.
_____	Colorado River Board	_____	San Gabriel & Lower L.A. Rivers & Mtns. Conservancy
_____	Conservation, Department of	_____	San Joaquin River Conservancy
_____	Corrections, Department of	_____	Santa Monica Mtns. Conservancy
_____	Delta Protection Commission	_____	State Lands Commission
_____	Education, Department of	_____	SWRCB: Clean Water Grants
_____	Energy Commission	_____	SWRCB: Water Quality
X	Fish & Game Region # 5	_____	SWRCB: Water Rights
_____	Food & Agriculture, Department of	_____	Tahoe Regional Planning Agency
_____	Forestry and Fire Protection, Department of	X	Toxic Substances Control, Department of
_____	General Services, Department of	X	Water Resources, Department of
_____	Health Services, Department of		
_____	Housing & Community Development	_____	Other: _____
_____	Integrated Waste Management Board	_____	Other: _____
X	Native American Heritage Commission		

Local Public Review Period (to be filled in by lead agency)

Starting Date April 28, 2014 Ending Date May 27, 2014

Lead Agency (Complete if applicable):

Consulting Firm: _____
Address: _____
City/State/Zip: _____
Contact: _____
Phone: _____

Applicant: University of California, Irvine
Address: 750 University Tower
City/State/Zip: Irvine, CA 92697-2325
Phone: 949.824.6316

Signature of Lead Agency Representative: _____ **Date:** 4/23/14

Authority cited: Section 21083, Public Resources Code. Reference: Section 21161, Public Resources Code.

UNIVERSITY OF CALIFORNIA, IRVINE

BERKELEY • DAVIS • IRVINE • LOS ANGELES • MERCED • RIVERSIDE • SAN DIEGO • SAN FRANCISCO SANTA BARBARA • SANTA CRUZ

Environmental Planning and Sustainability

750 University Tower
Irvine, CA 92697-2325
(949) 824-6316
(949) 824-1213 Fax

April 25, 2014

State of California
Office of Planning and Research
1400 Tenth Street, Room 222
PO Box 3044
Sacramento, CA 95812-3044

NOTICE OF INTENT TO ADOPT A MITIGATED NEGATIVE DECLARATION

Project Title: Orangewood Surface Parking Lot Project
Project Location: University of California, Irvine
Lead Agency: University of California
County: Orange

In accordance with State CEQA guidelines and University of California procedures for implementation of CEQA, an Initial Study for the above named project was prepared. Based on the Initial Study, it has been determined that a Mitigated Negative Declaration is appropriate for this project.

Implementation of the proposed project would construct an approximately 628 space surface parking lot for the University of California, Irvine Medical Center in Orange, California. The proposed Orangewood Surface Parking Lot Project would be constructed on a predominately undeveloped approximately 6.2 acre land parcel owned by the University, which is generally bound by East Orangewood Avenue to the north, Orange Center Drive to the east, and North Anaheim Boulevard to the west.

A Mitigated Negative Declaration has been deemed appropriate for this project and this letter is intended to serve as the Negative Declaration for this project. This proposed Mitigated Negative Declaration is being circulated for public review and comment. The Initial Study and the proposed Mitigated Negative Declaration may be reviewed at: *http://www.ceplanning.uci.edu/current_projects.html* and the address above. Background material incorporated into the document is available for review at the University's Environmental Planning and Sustainability Office during normal business hours. We expect the State & public review period will extend from approximately April 28, 2014 through May 27, 2014.

The proposed Mitigated Negative Declaration along with any comments will be considered by the University in conjunction with consideration of the project for approval. The Mitigated Negative Declaration will become Final if adopted by the University.

Sincerely,

Richard Demerjian
Director

NOTICE OF COMPLETION
AND
NOTICE OF INTENT
TO ADOPT A MITIGATED NEGATIVE DECLARATION
UNIVERSITY OF CALIFORNIA, IRVINE

UCI ORANGEWOOD SURFACE PARKING LOT PROJECT

The University of California is considering the adoption of an Initial Study/Mitigated Negative Declaration for the approval of the Orangewood Surface Parking Lot Project. In accordance with the State of California Environmental Quality Act (CEQA) Guidelines and the University of California Procedures for the Implementation of CEQA, an Initial Study for the above-named project was prepared. Based on the Initial Study, it has been determined that a Mitigated Negative Declaration is appropriate for this project. The site does not contain any known hazardous waste materials, as set forth in Government Code Section 65962.5.

Implementation of the proposed project would construct an approximately 628 space surface parking lot for the University of California, Irvine Medical Center in Orange, California. The proposed Orangewood Surface Parking Lot Project would be constructed on a predominately undeveloped approximately 6.2 acre land parcel owned by the University, which is generally bound by East Orangewood Avenue to the north, Orange Center Drive to the east, and North Anaheim Boulevard to the west. The Initial Study is available for review at: http://www.ceplanning.uci.edu/current_projects.html. Background material that has been incorporated into this document is available for review at the UCI Office of Environmental Planning and Sustainability by appointment (see address below) during regular business hours.

A 30-day public review period will commence on April 28, 2014 and extend through May 27, 2014. Written comments may be submitted to: Richard Demerjian, Director, Office of Environmental Planning and Sustainability, University of California, Irvine, 750 University Tower, Irvine, California 92697-2325. Comments may also be submitted via email to ceplanning@uci.edu. Your response may be sent at the earliest possible date, but no later than 5:00 p.m. on May 27, 2014. If you have any questions regarding the project, please contact (949) 824-8613.

Published: Orange County Register April 28, 2014. R-676 9882250

Orangewood Surface Parking Lot Project

Draft IS/MND 30-day Review Mailing List

NOC Overnight Delivery (15 Issue Summaries and Draft IS/MND CDs)

State Clearinghouse
Office of Planning & Research
1400 Tenth Street, Room 222
Sacramento, CA 95814

NOI via Certified Mail (Link to electronic version of Draft IS/MND provided)

City of Orange
Community Development Department
Orange Civic Center
300 East Chapman Avenue
Orange, CA 92866-1591

Orange County Transportation Auth.
550 S. Main St.
Orange, CA 92868

California Dept. of Fish & Wildlife
4949 Viewridge Ave.
San Diego, CA 92133

Santa Ana Regional Water Quality
Control Board
3737 Main St., Suite 500
Riverside, CA 92501-3348

Ix Cw 500 Orange Tower Lp
3520 W Orangewood Ave
Orange, CA 92868

CA Dept. of Toxic Substances Control
5796 Corporate Avenue
Cypress, California 90630

Irvine Ranch Water District
15600 Sand Canyon Ave.
Irvine, CA 92618

South Coast Air Quality
Mgmt. District (SCAQMD)
21865 E. Copley Dr.
Diamond Bar, CA 91765-4182

CA Anaheim Holdings LLC
400 N State College Blvd
Orange, CA 92868

California Dept. of Transportation
District 12
3337 Michelson Dr., Suite 380
Irvine, CA 92612-1699

Southern California Assoc. of
Governments (SCAG)
818 West 7th Street, 12th Fl.
Los Angeles, CA 90017

Orange Redevelopment Agency
11726 Cypress St
Orange, CA 92868

Air Conditioning & Refrigeration
3500 W Orangewood Ave
Orange, CA 92868

DEPARTMENT OF TRANSPORTATION
DISTRICT 12
3347 MICHELSON DRIVE, SUITE 100
IRVINE, CA 92612-8894
PHONE (949) 724-2000
FAX (949) 724-2019
TTY 711
www.dot.ca.gov

Flex your power!
Be energy efficient!

May 21, 2014

Richard Demerjian
University of California, Irvine
750 University Tower
Irvine, Ca 92697-2325

File: IGR/CEQA
Log #: 3813
I-5

Subject: Orange Surface Parking Lot Project

Dear Mr. Demerjian,

Thank you for the opportunity to review and comment on the **Draft Initial Study (DIS) and Mitigated Negative Declaration (MND) for the Orangewood Surface Parking Lot.** The proposed project would construct a new off-campus surface parking lot, located approximately 0.30 miles north of the UCIMC campus. The new lot would provide approximately 628 parking spaces. Site development would include site development and construction of the new surface parking lot. Site development would also involve demolition of existing parking surfaces, removal of vegetation, connection to utility and drainage systems and site landscaping. The nearest State Highway located near the project site is I-5.

The Department of Transportation (Department) is a commenting agency on this project and we have the following comments:

1. For the Intersection Capacity Utilization Summary, located on page 52, table 12, please provide us with the LOS for :
   State College/City Drive and I-5 NB on/off Ramps
   State College/City Drive and I-5 SB on/off Ramps

2. For the above intersections and ramps and for Traffic Memorandum Sections 4, 8 and 10, located in Appendix E; the Department's Traffic Operations Branch requests the applicant use the method outlined in the latest version of the Highway Capacity Manual (HCM) when analyzing traffic impacts on State Transportation Facilities. The use of HCM is preferred by the Department because it is an operational analysis as opposed to the Intersection Capacity Utilization (ICU) method, which is a planning analysis. In the case of projects that have direct impacts on State Facilities or may require an encroachment permit, and the traffic impact analysis is not based on HCM methodology, Traffic Operations staff may find the Traffic Impact Study inadequate resulting in possible delay or denial of a permit by the Department.

3. Traffic Operations requests that the Highway Capacity Manual (HCM) method, outlined in the latest version, should be used when analyzing the Level of Service (LOS) for the signalized and un-signalized intersections near I-5. The use of HCM is preferred by Caltrans because it is an operational analysis as opposed to the Intersection Capacity Utilization (ICU) method, which is a planning analysis. Should a subsequent Encroachment Permit be required, analysis not using this methodology may be deemed inadequate. For more information about permits, please see: http://www.dot.ca.gov/hq/traffops/developserv/permits/

4. A Traffic Management Plan (TMP) for construction vehicles should be submitted to Caltrans in order to minimize the impacts to State highway facilities, particularly the intersections of Interstate 5 at State College Blvd. Coordination of this project with other construction activities on mainline I-5 may be needed. Any hauling of materials should not occur during A.M and P.M peak periods of travel on State facilities during demolition and construction of the proposed project. All vehicle loads should be covered so that materials do not blow over or onto the Department's Right-of-Way.

Please continue to keep us informed of this project and any future developments that could potentially impact State transportation facilities. If you have any questions or need to contact us, please do not hesitate to call Miya Edmonson at (949) 724-2228.

Sincerely,

MAUREEN EL HARAKE
Branch Chief, Regional-Community-Transit Planning
District 12

c: Raouf Fam, Traffic Operations

Response to the California Department of Transportation District 12

Comments 1, 2, and 3: Please refer to the following letter from Stantec dated June 24, 2014.

Comment 4: Construction activities, including staging, for the proposed project would occur within the boundaries of the project site. Lane closures are not expected within the City or Caltrans right-of-way, and no obstruction of traffic at the I-5 ramp and State College Boulevard intersection would occur. The proposed project would adopt best management practices (BMPs) and would not allow construction-related hauling to occur during peak travel periods or material blow-over within the public right-of-way.

Stantec Consulting Services Inc.
38 Technology Drive, Suite 100, Irvine CA 92618-5312

June 24, 2014
File: 2073008130

Attention: Richard Demerjian
University of California, Irvine
750 University Tower
Irvine, CA 92697-2325

Dear Mr. Demerjian,

Reference: Orangewood Avenue Surface Parking Lot MND – Response to Caltrans Comments

Stantec Consulting Services Inc. (Stantec) provided a peak hour intersection analysis of the proposed Orangewood Avenue parking lot in January 2014. The proposed parking lot would replace existing off-site parking spaces for UCI Medical Center. Ten intersections along State College Boulevard/The City Drive and Chapman Avenue were analyzed. Five of these intersections are freeway ramp intersections. The 10 study intersections were analyzed using the intersection capacity utilization (ICU) methodology. The study intersections currently operate at level of service (LOS) A or B, and the proposed parking lot would have no significant impact on the intersections, which would continue to operate at LOS A or B.

In response to Caltrans comments in their May 21, 2014 letter, Stantec has provided a supplemental analysis of the five study intersections under Caltrans jurisdiction using their preferred analysis methodology. This supplemental analysis provides the LOS at Caltrans intersections based on the Highway Capacity Manual (HCM) delay methodology and assuming 110-second cycle length, 0.95 peak hour factor (PHF), 6 percent truck traffic, and minimum pedestrian crossing times at 3.5 feet per second. It should be noted that the most recent HCM 2010 methodology could not be used on several of the study intersections because of limitations of the methodology. For example, HCM 2010 methodology cannot be used for non-traditional signal phasing or for turning movements with exclusive and shared lanes. Therefore, the methodology based on the older HCM 2000 was used in this analysis.

The results of the peak hour delay analysis are summarized in the attached table. Caltrans endeavors to maintain a target LOS on its facilities at the transition between LOS C and D. As this table shows, the Caltrans study intersections currently operate at LOS B and C during the AM and PM peak hour using the HCM delay methodology. With the proposed project, the traffic redirected from the existing off-site parking lot to the proposed Orangewood Avenue surface parking lot would increase the peak hour average intersection delay at 2 of the Caltrans study

Reference: Orangewood Avenue Surface Parking Lot MND – Response to Caltrans Comments

intersections and would actually decrease the average delay at 3 of the Caltrans intersections. However, the difference in the average delay as a result of the project is negligible (i.e., less than 0.5 seconds per vehicle), and the project would have no significant impact on the roadway system.

The results of the HCM delay analysis verify the original conclusion that the proposed Orangewood Avenue surface parking lot would have no significant impact on the surrounding roadway system.

If you have any questions regarding this supplemental analysis, please contact me at (949) 923-6064.

Sincerely,

STANTEC CONSULTING SERVICES INC.

Cathy Lawrence, PE
Phone: (949) 923-6064
Cathy.Lawrence@stantec.com

Attachment: Table 1 – Average Intersection Delay and LOS Summary
HCM Delay Calculation Worksheets

cal v:\2073\active\2073008130\correspondence\letters\let_ucimc_orangewood_parking_lot-caltrans_rtc.docx

Reference: Orangewood Avenue Surface Parking Lot MND – Response to Caltrans Comments

ATTACHMENT

Table 1 Average Intersection Delay (sec/veh) and LOS Summary

	Existing				Existing + 630 Space Lot			
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
Intersection	**Delay**	**LOS**	**Delay**	**LOS**	**Delay**	**LOS**	**Delay**	**LOS**
4. State College & I-5 NB	14	B	21	C	14	B	21	C
5. State College & I-5 SB	15	B	10	B	15	B	10	B
8. I-5 SB & Chapman	28	C	27	C	28	C	27	C
9. SR-57 SB/Anita & Chapman	28	C	29	C	28	C	29	c
10. SR-57 NB & Chapman	13	B	13	B	13	B	13	B

LOS ranges:		
	0 – 10 sec/veh	A
	10 – 20 sec/veh	B
	20 – 35 sec/veh	C
	35 – 55 sec/veh	D
	55 – 80 sec/veh	E
	Above 80 sec/veh	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	100	109	316	28	540	151	39	1250	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor				0.91	0.91	0.88	0.97	0.86	1.00	1.00	0.86	1.00
Frpb, ped/bikes				1.00	1.00	1.00	1.00	1.00	0.97	1.00	1.00	0.96
Flpb, ped/bikes				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt				1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected				0.95	0.99	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)				1550	3225	2682	3303	6166	1480	1703	6166	1461
Flt Permitted				0.95	0.99	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)				1550	3225	2682	3303	6166	1480	1703	6166	1461
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	105	115	333	29	568	159	41	1316	22
RTOR Reduction (vph)	0	0	0	0	0	281	0	0	50	0	0	7
Lane Group Flow (vph)	0	0	0	71	149	52	29	568	109	41	1316	15
Confl. Peds. (#/hr)									20			20
Turn Type				Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases				3	8		5	2		1	6	
Permitted Phases						8			2			6
Actuated Green, G (s)				17.2	17.2	17.2	4.2	75.2	75.2	5.6	76.6	76.6
Effective Green, g (s)				17.2	17.2	17.2	4.2	75.2	75.2	5.6	76.6	76.6
Actuated g/C Ratio				0.16	0.16	0.16	0.04	0.68	0.68	0.05	0.70	0.70
Clearance Time (s)				4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)				3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)				242	504	419	126	4215	1011	86	4293	1017
v/s Ratio Prot				0.05	c0.05		0.01	0.09		c0.02	c0.21	
v/s Ratio Perm						0.02			0.07			0.01
v/c Ratio				0.29	0.30	0.12	0.23	0.13	0.11	0.48	0.31	0.02
Uniform Delay, d1				41.0	41.0	39.9	51.3	6.1	5.9	50.8	6.4	5.1
Progression Factor				1.00	1.00	1.00	1.41	0.15	0.18	1.00	1.00	1.00
Incremental Delay, d2				0.7	0.3	0.1	0.9	0.1	0.2	4.1	0.2	0.0
Delay (s)				41.7	41.4	40.1	73.1	1.0	1.3	54.9	6.6	5.2
Level of Service				D	D	D	E	A	A	D	A	A
Approach Delay (s)		0.0			40.6			3.8			8.0	
Approach LOS		A			D			A			A	

Intersection Summary

HCM 2000 Control Delay	13.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.32		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	50.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	32	172	420	0	0	0	0	690	0	0	1080	270
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0					4.0			4.0	4.0
Lane Util. Factor	0.95	0.95	0.88					0.81			0.86	1.00
Frpb, ped/bikes	1.00	1.00	1.00					1.00			1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00					1.00			1.00	1.00
Frt	1.00	1.00	0.85					1.00			1.00	0.85
Flt Protected	0.95	1.00	1.00					1.00			1.00	1.00
Satd. Flow (prot)	1618	1701	2682					7259			6166	1524
Flt Permitted	0.95	1.00	1.00					1.00			1.00	1.00
Satd. Flow (perm)	1618	1701	2682					7259			6166	1524
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	34	181	442	0	0	0	0	726	0	0	1137	284
RTOR Reduction (vph)	0	0	52	0	0	0	0	0	0	0	0	142
Lane Group Flow (vph)	31	184	390	0	0	0	0	726	0	0	1137	142
Confl. Peds. (#/hr)									20			
Turn Type	Prot	NA	Perm					NA			NA	Perm
Protected Phases	7	4						2			6	
Permitted Phases			4									6
Actuated Green, G (s)	47.0	47.0	47.0					55.0			55.0	55.0
Effective Green, g (s)	47.0	47.0	47.0					55.0			55.0	55.0
Actuated g/C Ratio	0.43	0.43	0.43					0.50			0.50	0.50
Clearance Time (s)	4.0	4.0	4.0					4.0			4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0					3.0			3.0	3.0
Lane Grp Cap (vph)	691	726	1145					3629			3083	762
v/s Ratio Prot	0.02	0.11						0.10			c0.18	
v/s Ratio Perm			c0.15									0.09
v/c Ratio	0.04	0.25	0.34					0.20			0.37	0.19
Uniform Delay, d1	18.4	20.2	21.1					15.3			16.9	15.2
Progression Factor	1.00	1.00	1.00					1.00			0.74	0.42
Incremental Delay, d2	0.0	0.2	0.2					0.1			0.3	0.5
Delay (s)	18.4	20.4	21.3					15.4			12.9	7.0
Level of Service	B	C	C					B			B	A
Approach Delay (s)		20.9			0.0			15.4			11.7	
Approach LOS		C			A			B			B	

Intersection Summary

HCM 2000 Control Delay	14.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.36		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	37.0%	ICU Level of Service	A
Analysis Period (min)	15		

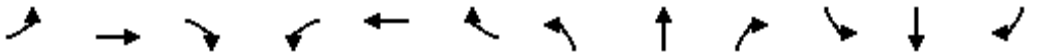
c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (vph)	0	1170	750	176	783	0	174	0	5	491	0	112
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0	4.0		4.0		4.0	4.0		4.0
Lane Util. Factor		0.81	0.81	0.97	0.91		0.97		1.00	0.97		1.00
Frpb, ped/bikes		0.99	0.97	1.00	1.00		1.00		1.00	1.00		1.00
Flpb, ped/bikes		1.00	1.00	1.00	1.00		1.00		1.00	1.00		1.00
Frt		0.96	0.85	1.00	1.00		1.00		0.85	1.00		0.85
Flt Protected		1.00	1.00	0.95	1.00		0.95		1.00	0.95		1.00
Satd. Flow (prot)		5561	1202	3303	4893		3303		1524	3303		1524
Flt Permitted		1.00	1.00	0.95	1.00		0.95		1.00	0.95		1.00
Satd. Flow (perm)		5561	1202	3303	4893		3303		1524	3303		1524
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	1232	789	185	824	0	183	0	5	517	0	118
RTOR Reduction (vph)	0	54	236	0	0	0	0	0	4	0	0	88
Lane Group Flow (vph)	0	1573	158	185	824	0	183	0	1	517	0	30
Confl. Peds. (#/hr)			20									
Turn Type		NA	Perm	Prot	NA		Perm		Perm	Perm		Perm
Protected Phases		4		3	8							
Permitted Phases			4				6		6	2		2
Actuated Green, G (s)		44.1	44.1	8.9	57.0		13.0		13.0	28.0		28.0
Effective Green, g (s)		44.1	44.1	8.9	57.0		13.0		13.0	28.0		28.0
Actuated g/C Ratio		0.40	0.40	0.08	0.52		0.12		0.12	0.25		0.25
Clearance Time (s)		4.0	4.0	4.0	4.0		4.0		4.0	4.0		4.0
Vehicle Extension (s)		3.0	3.0	3.0	3.0		3.0		3.0	3.0		3.0
Lane Grp Cap (vph)		2229	481	267	2535		390		180	840		387
v/s Ratio Prot		c0.28		c0.06	0.17							
v/s Ratio Perm			0.13				c0.06		0.00	c0.16		0.02
v/c Ratio		0.71	0.33	0.69	0.33		0.47		0.00	0.62		0.08
Uniform Delay, d1		27.5	22.7	49.2	15.4		45.3		42.8	36.2		31.2
Progression Factor		1.00	1.00	1.00	1.00		0.58		1.00	1.00		1.00
Incremental Delay, d2		1.0	0.4	7.6	0.1		3.9		0.0	3.4		0.4
Delay (s)		28.6	23.1	56.8	15.4		30.0		42.8	39.6		31.6
Level of Service		C	C	E	B		C		D	D		C
Approach Delay (s)		27.5			23.0			30.4			38.1	
Approach LOS		C			C			C			D	

Intersection Summary

HCM 2000 Control Delay	28.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	58.7%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	8	1376	114	76	600	130	11	3	6	247	59	270
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0		4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.91		1.00	0.95	1.00		1.00	1.00		1.00	1.00
Frpb, ped/bikes	1.00	0.99		1.00	1.00	0.98		1.00	1.00		1.00	0.97
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00	1.00
Frt	1.00	0.99		1.00	1.00	0.85		1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.96	1.00		0.96	1.00
Satd. Flow (prot)	1703	4810		1703	3406	1496		1724	1524		1723	1474
Flt Permitted	0.95	1.00		0.95	1.00	1.00		0.96	1.00		0.96	1.00
Satd. Flow (perm)	1703	4810		1703	3406	1496		1724	1524		1723	1474
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	8	1448	120	80	632	137	12	3	6	260	62	284
RTOR Reduction (vph)	0	8	0	0	0	0	0	0	6	0	0	199
Lane Group Flow (vph)	8	1560	0	80	632	137	0	15	0	0	322	85
Confl. Peds. (#/hr)			20			20						20
Turn Type	Prot	NA		Prot	NA	Free	Split	NA	Perm	Split	NA	Perm
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases						Free			2			6
Actuated Green, G (s)	0.8	45.3		8.3	52.8	110.0		7.4	7.4		33.0	33.0
Effective Green, g (s)	0.8	45.3		8.3	52.8	110.0		7.4	7.4		33.0	33.0
Actuated g/C Ratio	0.01	0.41		0.08	0.48	1.00		0.07	0.07		0.30	0.30
Clearance Time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	12	1980		128	1634	1496		115	102		516	442
v/s Ratio Prot	0.00	c0.32		c0.05	0.19			0.01			c0.19	
v/s Ratio Perm						c0.09			0.00			0.06
v/c Ratio	0.67	0.79		0.62	0.39	0.09		0.13	0.00		0.62	0.19
Uniform Delay, d1	54.5	28.2		49.3	18.3	0.0		48.3	47.9		33.2	28.6
Progression Factor	1.00	1.00		1.28	0.85	1.00		1.00	1.00		1.00	1.00
Incremental Delay, d2	89.5	2.2		8.8	0.1	0.1		2.3	0.1		5.6	1.0
Delay (s)	143.9	30.3		71.9	15.7	0.1		50.6	47.9		38.8	29.6
Level of Service	F	C		E	B	A		D	D		D	C
Approach Delay (s)		30.9			18.5			49.8			34.5	
Approach LOS		C			B			D			C	

Intersection Summary

HCM 2000 Control Delay	28.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	69.3%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	2	1160	464	0	1113	1	50	0	140	0	0	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0		4.0		4.0			4.0
Lane Util. Factor	1.00	0.95	1.00		0.91		1.00		1.00			1.00
Frpb, ped/bikes	1.00	1.00	1.00		1.00		1.00		1.00			1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00		1.00		1.00			1.00
Frt	1.00	1.00	0.85		1.00		1.00		0.85			0.86
Flt Protected	0.95	1.00	1.00		1.00		0.95		1.00			1.00
Satd. Flow (prot)	1703	3406	1524		4892		1703		1524			1550
Flt Permitted	0.18	1.00	1.00		1.00		0.95		1.00			1.00
Satd. Flow (perm)	316	3406	1524		4892		1703		1524			1550
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	2	1221	488	0	1172	1	53	0	147	0	0	1
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	147	0	0	1
Lane Group Flow (vph)	2	1221	488	0	1173	0	53	0	0	0	0	0
Confl. Peds. (#/hr)						20						
Turn Type	Perm	NA	Free		NA		Prot		custom			Perm
Protected Phases		4			8		5					
Permitted Phases	4		Free									6
Actuated Green, G (s)	56.0	56.0	110.0		56.0		7.7		0.0			34.3
Effective Green, g (s)	56.0	56.0	110.0		56.0		7.7		0.0			34.3
Actuated g/C Ratio	0.51	0.51	1.00		0.51		0.07		0.00			0.31
Clearance Time (s)	4.0	4.0			4.0		4.0					4.0
Vehicle Extension (s)	3.0	3.0			3.0		3.0					3.0
Lane Grp Cap (vph)	160	1733	1524		2490		119		0			483
v/s Ratio Prot		c0.36			0.24		0.03					
v/s Ratio Perm	0.01		c0.32									0.00
v/c Ratio	0.01	0.70	0.32		0.47		0.45		0.00			0.00
Uniform Delay, d1	13.3	20.7	0.0		17.4		49.1		55.0			26.1
Progression Factor	0.49	0.29	1.00		1.00		1.00		1.00			1.00
Incremental Delay, d2	0.0	0.8	0.3		0.1		2.6		0.0			0.0
Delay (s)	6.6	6.9	0.3		17.6		51.7		55.0			26.1
Level of Service	A	A	A		B		D		D			C
Approach Delay (s)		5.0			17.6			54.1			26.1	
Approach LOS		A			B			D			C	

Intersection Summary

HCM 2000 Control Delay	13.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	47.4%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	80	569	258	95	980	390	23	1250	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor				0.91	0.91	0.88	0.97	0.86	1.00	1.00	0.86	1.00
Frpb, ped/bikes				1.00	1.00	1.00	1.00	1.00	0.97	1.00	1.00	0.96
Flpb, ped/bikes				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt				1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected				0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)				1550	3260	2682	3303	6166	1480	1703	6166	1461
Flt Permitted				0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)				1550	3260	2682	3303	6166	1480	1703	6166	1461
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	84	599	272	100	1032	411	24	1316	15
RTOR Reduction (vph)	0	0	0	0	0	174	0	0	205	0	0	8
Lane Group Flow (vph)	0	0	0	76	607	98	100	1032	206	24	1316	7
Confl. Peds. (#/hr)									20			20
Turn Type				Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases				3	8		5	2		1	6	
Permitted Phases						8			2			6
Actuated Green, G (s)				39.7	39.7	39.7	8.1	55.1	55.1	3.2	50.2	50.2
Effective Green, g (s)				39.7	39.7	39.7	8.1	55.1	55.1	3.2	50.2	50.2
Actuated g/C Ratio				0.36	0.36	0.36	0.07	0.50	0.50	0.03	0.46	0.46
Clearance Time (s)				4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)				3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)				559	1176	967	243	3088	741	49	2813	666
v/s Ratio Prot				0.05	c0.19		c0.03	0.17		0.01	c0.21	
v/s Ratio Perm						0.04			0.14			0.00
v/c Ratio				0.14	0.52	0.10	0.41	0.33	0.28	0.49	0.47	0.01
Uniform Delay, d1				23.6	27.6	23.3	48.7	16.5	15.9	52.6	20.7	16.3
Progression Factor				1.00	1.00	1.00	1.20	0.74	1.02	1.00	1.00	1.00
Incremental Delay, d2				0.1	0.4	0.0	1.1	0.3	0.9	7.5	0.6	0.0
Delay (s)				23.7	28.0	23.4	59.7	12.4	17.2	60.1	21.2	16.4
Level of Service				C	C	C	E	B	B	E	C	B
Approach Delay (s)		0.0			26.3			16.8			21.9	
Approach LOS		A			C			B			C	

Intersection Summary

HCM 2000 Control Delay	20.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	61.6%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	61	129	347	0	0	0	0	1410	8	0	1040	290
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0					4.0			4.0	4.0
Lane Util. Factor	0.95	0.95	0.88					0.81			0.86	1.00
Frpb, ped/bikes	1.00	1.00	1.00					1.00			1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00					1.00			1.00	1.00
Frt	1.00	1.00	0.85					1.00			1.00	0.85
Flt Protected	0.95	1.00	1.00					1.00			1.00	1.00
Satd. Flow (prot)	1618	1699	2682					7252			6166	1524
Flt Permitted	0.95	1.00	1.00					1.00			1.00	1.00
Satd. Flow (perm)	1618	1699	2682					7252			6166	1524
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	64	136	365	0	0	0	0	1484	8	0	1095	305
RTOR Reduction (vph)	0	0	87	0	0	0	0	1	0	0	0	136
Lane Group Flow (vph)	58	142	278	0	0	0	0	1491	0	0	1095	169
Confl. Peds. (#/hr)									20			
Turn Type	Prot	NA	Perm					NA			NA	Perm
Protected Phases	7	4						2			6	
Permitted Phases			4									6
Actuated Green, G (s)	41.0	41.0	41.0					61.0			61.0	61.0
Effective Green, g (s)	41.0	41.0	41.0					61.0			61.0	61.0
Actuated g/C Ratio	0.37	0.37	0.37					0.55			0.55	0.55
Clearance Time (s)	4.0	4.0	4.0					4.0			4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0					3.0			3.0	3.0
Lane Grp Cap (vph)	603	633	999					4021			3419	845
v/s Ratio Prot	0.04	0.08						c0.21			0.18	
v/s Ratio Perm			c0.10									0.11
v/c Ratio	0.10	0.22	0.28					0.37			0.32	0.20
Uniform Delay, d1	22.4	23.6	24.1					13.7			13.3	12.3
Progression Factor	1.00	1.00	1.00					1.00			0.06	0.07
Incremental Delay, d2	0.1	0.2	0.2					0.3			0.2	0.5
Delay (s)	22.5	23.8	24.3					14.0			1.0	1.3
Level of Service	C	C	C					B			A	A
Approach Delay (s)		24.0			0.0			14.0			1.0	
Approach LOS		C			A			B			A	

Intersection Summary			
HCM 2000 Control Delay	10.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.33		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	33.9%	ICU Level of Service	A
Analysis Period (min)	15		

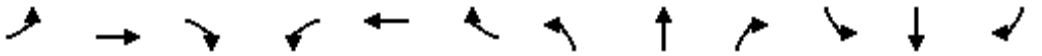
c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (vph)	0	1090	1040	182	1010	0	174	0	5	440	0	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0	4.0		4.0		4.0	4.0		4.0
Lane Util. Factor		0.81	0.81	0.97	0.91		0.97		1.00	0.97		1.00
Frpb, ped/bikes		0.99	0.97	1.00	1.00		1.00		1.00	1.00		1.00
Flpb, ped/bikes		1.00	1.00	1.00	1.00		1.00		1.00	1.00		1.00
Frt		0.95	0.85	1.00	1.00		1.00		0.85	1.00		0.85
Flt Protected		1.00	1.00	0.95	1.00		0.95		1.00	0.95		1.00
Satd. Flow (prot)		5479	1202	3303	4893		3303		1524	3303		1524
Flt Permitted		1.00	1.00	0.95	1.00		0.95		1.00	0.95		1.00
Satd. Flow (perm)		5479	1202	3303	4893		3303		1524	3303		1524
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	1147	1095	192	1063	0	183	0	5	463	0	121
RTOR Reduction (vph)	0	80	318	0	0	0	0	0	4	0	0	94
Lane Group Flow (vph)	0	1615	229	192	1063	0	183	0	1	463	0	28
Confl. Peds. (#/hr)			20									
Turn Type		NA	Perm	Prot	NA		Perm		Perm	Perm		Perm
Protected Phases		4		3	8							
Permitted Phases			4				6		6	2		2
Actuated Green, G (s)		46.0	46.0	10.3	60.3		12.7		12.7	25.0		25.0
Effective Green, g (s)		46.0	46.0	10.3	60.3		12.7		12.7	25.0		25.0
Actuated g/C Ratio		0.42	0.42	0.09	0.55		0.12		0.12	0.23		0.23
Clearance Time (s)		4.0	4.0	4.0	4.0		4.0		4.0	4.0		4.0
Vehicle Extension (s)		3.0	3.0	3.0	3.0		3.0		3.0	3.0		3.0
Lane Grp Cap (vph)		2291	502	309	2682		381		175	750		346
v/s Ratio Prot		c0.29		c0.06	0.22							
v/s Ratio Perm			0.19				c0.06		0.00	c0.14		0.02
v/c Ratio		0.71	0.46	0.62	0.40		0.48		0.00	0.62		0.08
Uniform Delay, d1		26.4	23.0	48.0	14.3		45.6		43.0	38.2		33.4
Progression Factor		1.00	1.00	1.00	1.00		0.64		1.00	1.00		1.00
Incremental Delay, d2		1.0	0.7	3.9	0.1		4.3		0.0	3.8		0.4
Delay (s)		27.4	23.7	51.8	14.4		33.5		43.1	42.0		33.9
Level of Service		C	C	D	B		C		D	D		C
Approach Delay (s)		26.5			20.2			33.7			40.3	
Approach LOS		C			C			C			D	

Intersection Summary

HCM 2000 Control Delay	26.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	57.7%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	1	1180	28	30	1020	80	124	26	85	230	8	298
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0		4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.91		1.00	0.95	1.00		1.00	1.00		1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.98		1.00	1.00		1.00	0.97
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00	1.00
Frt	1.00	1.00		1.00	1.00	0.85		1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.96	1.00		0.95	1.00
Satd. Flow (prot)	1703	4868		1703	3406	1496		1721	1524		1710	1474
Flt Permitted	0.95	1.00		0.95	1.00	1.00		0.96	1.00		0.95	1.00
Satd. Flow (perm)	1703	4868		1703	3406	1496		1721	1524		1710	1474
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1	1242	29	32	1074	84	131	27	89	242	8	314
RTOR Reduction (vph)	0	2	0	0	0	0	0	0	73	0	0	134
Lane Group Flow (vph)	1	1269	0	32	1074	84	0	158	16	0	250	180
Confl. Peds. (#/hr)			20			20						20
Turn Type	Prot	NA		Prot	NA	Free	Split	NA	Perm	Split	NA	Perm
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases						Free			2			6
Actuated Green, G (s)	0.8	39.9		3.6	42.7	110.0		19.5	19.5		31.0	31.0
Effective Green, g (s)	0.8	39.9		3.6	42.7	110.0		19.5	19.5		31.0	31.0
Actuated g/C Ratio	0.01	0.36		0.03	0.39	1.00		0.18	0.18		0.28	0.28
Clearance Time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	12	1765		55	1322	1496		305	270		481	415
v/s Ratio Prot	0.00	0.26		c0.02	c0.32			c0.09			c0.15	
v/s Ratio Perm						0.06			0.01			0.12
v/c Ratio	0.08	0.72		0.58	0.81	0.06		0.52	0.06		0.52	0.43
Uniform Delay, d1	54.2	30.2		52.5	30.1	0.0		41.0	37.6		33.2	32.3
Progression Factor	1.00	1.00		1.51	0.48	1.00		1.00	1.00		1.00	1.00
Incremental Delay, d2	3.0	1.4		14.0	3.7	0.1		6.2	0.4		4.0	3.3
Delay (s)	57.2	31.6		93.0	18.1	0.1		47.2	38.0		37.2	35.6
Level of Service	E	C		F	B	A		D	D		D	D
Approach Delay (s)		31.7			18.9			43.9			36.3	
Approach LOS		C			B			D			D	

Intersection Summary

HCM 2000 Control Delay	28.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	72.3%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	3	1170	420	0	1212	1	25	0	18	0	0	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0		4.0		4.0			4.0
Lane Util. Factor	1.00	0.95	1.00		0.91		1.00		1.00			1.00
Frpb, ped/bikes	1.00	1.00	1.00		1.00		1.00		1.00			1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00		1.00		1.00			1.00
Frt	1.00	1.00	0.85		1.00		1.00		0.85			0.86
Flt Protected	0.95	1.00	1.00		1.00		0.95		1.00			1.00
Satd. Flow (prot)	1703	3406	1524		4892		1703		1524			1550
Flt Permitted	0.15	1.00	1.00		1.00		0.95		1.00			1.00
Satd. Flow (perm)	277	3406	1524		4892		1703		1524			1550
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	3	1232	442	0	1276	1	26	0	19	0	0	1
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	19	0	0	1
Lane Group Flow (vph)	3	1232	442	0	1277	0	26	0	0	0	0	0
Confl. Peds. (#/hr)						20						
Turn Type	Perm	NA	Free		NA		Prot		custom			Perm
Protected Phases		4			8		5					
Permitted Phases	4		Free									6
Actuated Green, G (s)	57.9	57.9	110.0		57.9		4.9		0.0			35.2
Effective Green, g (s)	57.9	57.9	110.0		57.9		4.9		0.0			35.2
Actuated g/C Ratio	0.53	0.53	1.00		0.53		0.04		0.00			0.32
Clearance Time (s)	4.0	4.0			4.0		4.0					4.0
Vehicle Extension (s)	3.0	3.0			3.0		3.0					3.0
Lane Grp Cap (vph)	145	1792	1524		2574		75		0			496
v/s Ratio Prot		c0.36			0.26		0.02					
v/s Ratio Perm	0.01		c0.29									0.00
v/c Ratio	0.02	0.69	0.29		0.50		0.35		0.00			0.00
Uniform Delay, d1	12.5	19.3	0.0		16.7		51.0		55.0			25.4
Progression Factor	0.37	0.53	1.00		1.00		1.00		1.00			1.00
Incremental Delay, d2	0.0	0.9	0.4		0.2		2.8		0.0			0.0
Delay (s)	4.6	11.0	0.4		16.9		53.8		55.0			25.4
Level of Service	A	B	A		B		D		D			C
Approach Delay (s)		8.2			16.9			54.3			25.4	
Approach LOS		A			B			D			C	

Intersection Summary

HCM 2000 Control Delay	12.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	42.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	100	109	382	28	613	135	45	1253	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor				0.91	0.91	0.88	0.97	0.86	1.00	1.00	0.86	1.00
Frpb, ped/bikes				1.00	1.00	1.00	1.00	1.00	0.97	1.00	1.00	0.96
Flpb, ped/bikes				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt				1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected				0.95	0.99	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)				1550	3225	2682	3303	6166	1480	1703	6166	1461
Flt Permitted				0.95	0.99	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)				1550	3225	2682	3303	6166	1480	1703	6166	1461
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	105	115	402	29	645	142	47	1319	22
RTOR Reduction (vph)	0	0	0	0	0	338	0	0	48	0	0	7
Lane Group Flow (vph)	0	0	0	71	149	64	29	645	94	47	1319	15
Confl. Peds. (#/hr)									20			20
Turn Type				Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases				3	8		5	2		1	6	
Permitted Phases						8			2			6
Actuated Green, G (s)				17.4	17.4	17.4	4.2	73.2	73.2	7.4	76.4	76.4
Effective Green, g (s)				17.4	17.4	17.4	4.2	73.2	73.2	7.4	76.4	76.4
Actuated g/C Ratio				0.16	0.16	0.16	0.04	0.67	0.67	0.07	0.69	0.69
Clearance Time (s)				4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)				3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)				245	510	424	126	4103	984	114	4282	1014
v/s Ratio Prot				0.05	c0.05		0.01	0.10		c0.03	c0.21	
v/s Ratio Perm						0.02			0.06			0.01
v/c Ratio				0.29	0.29	0.15	0.23	0.16	0.10	0.41	0.31	0.02
Uniform Delay, d1				40.8	40.9	39.9	51.3	6.9	6.6	49.2	6.5	5.2
Progression Factor				1.00	1.00	1.00	1.39	0.23	0.06	1.00	1.00	1.00
Incremental Delay, d2				0.7	0.3	0.2	0.9	0.1	0.2	2.4	0.2	0.0
Delay (s)				41.5	41.2	40.1	72.0	1.7	0.6	51.6	6.7	5.2
Level of Service				D	D	D	E	A	A	D	A	A
Approach Delay (s)		0.0			40.5			4.0			8.2	
Approach LOS		A			D			A			A	

Intersection Summary

HCM 2000 Control Delay	14.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.32		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	52.5%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	58	172	354	0	0	0	0	721	0	0	1067	286
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0					4.0			4.0	4.0
Lane Util. Factor	0.95	0.95	0.88					0.81			0.86	1.00
Frpb, ped/bikes	1.00	1.00	1.00					1.00			1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00					1.00			1.00	1.00
Frt	1.00	1.00	0.85					1.00			1.00	0.85
Flt Protected	0.95	1.00	1.00					1.00			1.00	1.00
Satd. Flow (prot)	1618	1700	2682					7259			6166	1524
Flt Permitted	0.95	1.00	1.00					1.00			1.00	1.00
Satd. Flow (perm)	1618	1700	2682					7259			6166	1524
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	61	181	373	0	0	0	0	759	0	0	1123	301
RTOR Reduction (vph)	0	0	54	0	0	0	0	0	0	0	0	151
Lane Group Flow (vph)	55	187	319	0	0	0	0	759	0	0	1123	151
Confl. Peds. (#/hr)									20			
Turn Type	Prot	NA	Perm					NA			NA	Perm
Protected Phases	7	4						2			6	
Permitted Phases			4									6
Actuated Green, G (s)	47.0	47.0	47.0					55.0			55.0	55.0
Effective Green, g (s)	47.0	47.0	47.0					55.0			55.0	55.0
Actuated g/C Ratio	0.43	0.43	0.43					0.50			0.50	0.50
Clearance Time (s)	4.0	4.0	4.0					4.0			4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0					3.0			3.0	3.0
Lane Grp Cap (vph)	691	726	1145					3629			3083	762
v/s Ratio Prot	0.03	0.11						0.10			c0.18	
v/s Ratio Perm			c0.12									0.10
v/c Ratio	0.08	0.26	0.28					0.21			0.36	0.20
Uniform Delay, d1	18.7	20.3	20.5					15.4			16.8	15.3
Progression Factor	1.00	1.00	1.00					1.00			0.74	0.44
Incremental Delay, d2	0.0	0.2	0.1					0.1			0.3	0.6
Delay (s)	18.7	20.5	20.6					15.5			12.8	7.3
Level of Service	B	C	C					B			B	A
Approach Delay (s)		20.4			0.0			15.5			11.6	
Approach LOS		C			A			B			B	

Intersection Summary

HCM 2000 Control Delay	14.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.32		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	34.5%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (vph)	0	1160	734	176	743	0	174	0	5	425	0	112
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0	4.0		4.0		4.0	4.0		4.0
Lane Util. Factor		0.81	0.81	0.97	0.91		0.97		1.00	0.97		1.00
Frpb, ped/bikes		0.99	0.97	1.00	1.00		1.00		1.00	1.00		1.00
Flpb, ped/bikes		1.00	1.00	1.00	1.00		1.00		1.00	1.00		1.00
Frt		0.96	0.85	1.00	1.00		1.00		0.85	1.00		0.85
Flt Protected		1.00	1.00	0.95	1.00		0.95		1.00	0.95		1.00
Satd. Flow (prot)		5563	1202	3303	4893		3303		1524	3303		1524
Flt Permitted		1.00	1.00	0.95	1.00		0.95		1.00	0.95		1.00
Satd. Flow (perm)		5563	1202	3303	4893		3303		1524	3303		1524
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	1221	773	185	782	0	183	0	5	447	0	118
RTOR Reduction (vph)	0	54	232	0	0	0	0	0	4	0	0	88
Lane Group Flow (vph)	0	1554	154	185	782	0	183	0	1	447	0	30
Confl. Peds. (#/hr)			20									
Turn Type		NA	Perm	Prot	NA		Perm		Perm	Perm		Perm
Protected Phases		4		3	8							
Permitted Phases			4				6		6	2		2
Actuated Green, G (s)		43.8	43.8	8.9	56.7		13.4		13.4	27.9		27.9
Effective Green, g (s)		43.8	43.8	8.9	56.7		13.4		13.4	27.9		27.9
Actuated g/C Ratio		0.40	0.40	0.08	0.52		0.12		0.12	0.25		0.25
Clearance Time (s)		4.0	4.0	4.0	4.0		4.0		4.0	4.0		4.0
Vehicle Extension (s)		3.0	3.0	3.0	3.0		3.0		3.0	3.0		3.0
Lane Grp Cap (vph)		2215	478	267	2522		402		185	837		386
v/s Ratio Prot		c0.28		c0.06	0.16							
v/s Ratio Perm			0.13				c0.06		0.00	c0.14		0.02
v/c Ratio		0.70	0.32	0.69	0.31		0.46		0.00	0.53		0.08
Uniform Delay, d1		27.6	22.8	49.2	15.4		44.9		42.4	35.4		31.3
Progression Factor		1.00	1.00	1.00	1.00		0.57		1.00	1.00		1.00
Incremental Delay, d2		1.0	0.4	7.6	0.1		3.6		0.0	2.4		0.4
Delay (s)		28.7	23.2	56.8	15.4		29.3		42.5	37.9		31.6
Level of Service		C	C	E	B		C		D	D		C
Approach Delay (s)		27.6			23.3			29.7			36.6	
Approach LOS		C			C			C			D	

Intersection Summary

HCM 2000 Control Delay	28.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	56.7%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	8	1366	114	76	600	130	11	3	6	247	59	230
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0		4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.91		1.00	0.95	1.00		1.00	1.00		1.00	1.00
Frpb, ped/bikes	1.00	0.99		1.00	1.00	0.98		1.00	1.00		1.00	0.97
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00	1.00
Frt	1.00	0.99		1.00	1.00	0.85		1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.96	1.00		0.96	1.00
Satd. Flow (prot)	1703	4809		1703	3406	1496		1724	1524		1723	1474
Flt Permitted	0.95	1.00		0.95	1.00	1.00		0.96	1.00		0.96	1.00
Satd. Flow (perm)	1703	4809		1703	3406	1496		1724	1524		1723	1474
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	8	1438	120	80	632	137	12	3	6	260	62	242
RTOR Reduction (vph)	0	9	0	0	0	0	0	0	6	0	0	169
Lane Group Flow (vph)	8	1549	0	80	632	137	0	15	0	0	322	73
Confl. Peds. (#/hr)			20			20						20
Turn Type	Prot	NA		Prot	NA	Free	Split	NA	Perm	Split	NA	Perm
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases						Free			2			6
Actuated Green, G (s)	0.8	45.2		8.3	52.7	110.0		7.5	7.5		33.0	33.0
Effective Green, g (s)	0.8	45.2		8.3	52.7	110.0		7.5	7.5		33.0	33.0
Actuated g/C Ratio	0.01	0.41		0.08	0.48	1.00		0.07	0.07		0.30	0.30
Clearance Time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	12	1976		128	1631	1496		117	103		516	442
v/s Ratio Prot	0.00	c0.32		c0.05	0.19			0.01			c0.19	
v/s Ratio Perm						c0.09			0.00			0.05
v/c Ratio	0.67	0.78		0.62	0.39	0.09		0.13	0.00		0.62	0.16
Uniform Delay, d1	54.5	28.2		49.3	18.3	0.0		48.2	47.8		33.2	28.3
Progression Factor	1.00	1.00		1.28	0.86	1.00		1.00	1.00		1.00	1.00
Incremental Delay, d2	89.5	2.1		8.8	0.1	0.1		2.2	0.1		5.6	0.8
Delay (s)	143.9	30.3		71.9	15.8	0.1		50.4	47.8		38.8	29.1
Level of Service	F	C		E	B	A		D	D		D	C
Approach Delay (s)		30.8			18.6			49.7			34.6	
Approach LOS		C			B			D			C	

Intersection Summary

HCM 2000 Control Delay	28.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	69.1%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	2	1160	454	0	1113	1	50	0	140	0	0	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0		4.0		4.0			4.0
Lane Util. Factor	1.00	0.95	1.00		0.91		1.00		1.00			1.00
Frpb, ped/bikes	1.00	1.00	1.00		1.00		1.00		1.00			1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00		1.00		1.00			1.00
Frt	1.00	1.00	0.85		1.00		1.00		0.85			0.86
Flt Protected	0.95	1.00	1.00		1.00		0.95		1.00			1.00
Satd. Flow (prot)	1703	3406	1524		4892		1703		1524			1550
Flt Permitted	0.18	1.00	1.00		1.00		0.95		1.00			1.00
Satd. Flow (perm)	316	3406	1524		4892		1703		1524			1550
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	2	1221	478	0	1172	1	53	0	147	0	0	1
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	147	0	0	1
Lane Group Flow (vph)	2	1221	478	0	1173	0	53	0	0	0	0	0
Confl. Peds. (#/hr)						20						
Turn Type	Perm	NA	Free		NA		Prot		custom			Perm
Protected Phases		4			8		5					
Permitted Phases	4		Free									6
Actuated Green, G (s)	56.0	56.0	110.0		56.0		7.7		0.0			34.3
Effective Green, g (s)	56.0	56.0	110.0		56.0		7.7		0.0			34.3
Actuated g/C Ratio	0.51	0.51	1.00		0.51		0.07		0.00			0.31
Clearance Time (s)	4.0	4.0			4.0		4.0					4.0
Vehicle Extension (s)	3.0	3.0			3.0		3.0					3.0
Lane Grp Cap (vph)	160	1733	1524		2490		119		0			483
v/s Ratio Prot		c0.36			0.24		0.03					
v/s Ratio Perm	0.01		c0.31									0.00
v/c Ratio	0.01	0.70	0.31		0.47		0.45		0.00			0.00
Uniform Delay, d1	13.3	20.7	0.0		17.4		49.1		55.0			26.1
Progression Factor	0.49	0.30	1.00		1.00		1.00		1.00			1.00
Incremental Delay, d2	0.0	0.8	0.3		0.1		2.6		0.0			0.0
Delay (s)	6.6	7.0	0.3		17.6		51.7		55.0			26.1
Level of Service	A	A	A		B		D		D			C
Approach Delay (s)		5.1			17.6			54.1			26.1	
Approach LOS		A			B			D			C	

Intersection Summary

HCM 2000 Control Delay	13.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	47.4%	ICU Level of Service	A
Analysis Period (min)	15		

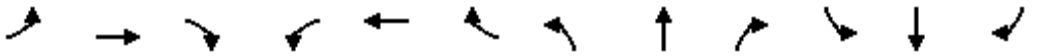
c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	80	569	277	95	983	343	42	1328	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor				0.91	0.91	0.88	0.97	0.86	1.00	1.00	0.86	1.00
Frpb, ped/bikes				1.00	1.00	1.00	1.00	1.00	0.97	1.00	1.00	0.96
Flpb, ped/bikes				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt				1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected				0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)				1550	3260	2682	3303	6166	1480	1703	6166	1461
Flt Permitted				0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)				1550	3260	2682	3303	6166	1480	1703	6166	1461
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	84	599	292	100	1035	361	44	1398	15
RTOR Reduction (vph)	0	0	0	0	0	187	0	0	185	0	0	8
Lane Group Flow (vph)	0	0	0	76	607	105	100	1035	176	44	1398	7
Confl. Peds. (#/hr)									20			20
Turn Type				Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases				3	8		5	2		1	6	
Permitted Phases						8			2			6
Actuated Green, G (s)				39.7	39.7	39.7	8.1	53.5	53.5	4.8	50.2	50.2
Effective Green, g (s)				39.7	39.7	39.7	8.1	53.5	53.5	4.8	50.2	50.2
Actuated g/C Ratio				0.36	0.36	0.36	0.07	0.49	0.49	0.04	0.46	0.46
Clearance Time (s)				4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)				3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)				559	1176	967	243	2998	719	74	2813	666
v/s Ratio Prot				0.05	c0.19		0.03	c0.17		c0.03	c0.23	
v/s Ratio Perm						0.04			0.12			0.00
v/c Ratio				0.14	0.52	0.11	0.41	0.35	0.24	0.59	0.50	0.01
Uniform Delay, d1				23.6	27.6	23.4	48.7	17.4	16.5	51.6	21.0	16.3
Progression Factor				1.00	1.00	1.00	1.20	0.72	0.71	1.00	1.00	1.00
Incremental Delay, d2				0.1	0.4	0.1	1.1	0.3	0.8	12.2	0.6	0.0
Delay (s)				23.7	28.0	23.4	59.5	12.9	12.5	63.8	21.7	16.4
Level of Service				C	C	C	E	B	B	E	C	B
Approach Delay (s)		0.0			26.3			15.9			22.9	
Approach LOS		A			C			B			C	

Intersection Summary

HCM 2000 Control Delay	21.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	61.6%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	68	129	328	0	0	0	0	1359	8	0	1070	338
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0					4.0			4.0	4.0
Lane Util. Factor	0.95	0.95	0.88					0.81			0.86	1.00
Frpb, ped/bikes	1.00	1.00	1.00					1.00			1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00					1.00			1.00	1.00
Frt	1.00	1.00	0.85					1.00			1.00	0.85
Flt Protected	0.95	1.00	1.00					1.00			1.00	1.00
Satd. Flow (prot)	1618	1699	2682					7252			6166	1524
Flt Permitted	0.95	1.00	1.00					1.00			1.00	1.00
Satd. Flow (perm)	1618	1699	2682					7252			6166	1524
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	72	136	345	0	0	0	0	1431	8	0	1126	356
RTOR Reduction (vph)	0	0	80	0	0	0	0	1	0	0	0	159
Lane Group Flow (vph)	65	143	265	0	0	0	0	1438	0	0	1126	197
Confl. Peds. (#/hr)									20			
Turn Type	Prot	NA	Perm					NA			NA	Perm
Protected Phases	7	4						2			6	
Permitted Phases			4									6
Actuated Green, G (s)	41.0	41.0	41.0					61.0			61.0	61.0
Effective Green, g (s)	41.0	41.0	41.0					61.0			61.0	61.0
Actuated g/C Ratio	0.37	0.37	0.37					0.55			0.55	0.55
Clearance Time (s)	4.0	4.0	4.0					4.0			4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0					3.0			3.0	3.0
Lane Grp Cap (vph)	603	633	999					4021			3419	845
v/s Ratio Prot	0.04	0.08						c0.20			0.18	
v/s Ratio Perm			c0.10									0.13
v/c Ratio	0.11	0.23	0.26					0.36			0.33	0.23
Uniform Delay, d1	22.5	23.6	24.0					13.6			13.4	12.5
Progression Factor	1.00	1.00	1.00					1.00			0.05	0.30
Incremental Delay, d2	0.1	0.2	0.1					0.2			0.2	0.6
Delay (s)	22.6	23.8	24.2					13.9			0.9	4.3
Level of Service	C	C	C					B			A	A
Approach Delay (s)		23.9			0.0			13.9			1.7	
Approach LOS		C			A			B			A	

Intersection Summary

HCM 2000 Control Delay	10.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.32		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	33.6%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (vph)	0	1061	992	182	999	0	143	0	5	421	0	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0	4.0		4.0		4.0	4.0		4.0
Lane Util. Factor		0.81	0.81	0.97	0.91		0.97		1.00	0.97		1.00
Frpb, ped/bikes		0.99	0.97	1.00	1.00		1.00		1.00	1.00		1.00
Flpb, ped/bikes		1.00	1.00	1.00	1.00		1.00		1.00	1.00		1.00
Frt		0.95	0.85	1.00	1.00		1.00		0.85	1.00		0.85
Flt Protected		1.00	1.00	0.95	1.00		0.95		1.00	0.95		1.00
Satd. Flow (prot)		5484	1202	3303	4893		3303		1524	3303		1524
Flt Permitted		1.00	1.00	0.95	1.00		0.95		1.00	0.95		1.00
Satd. Flow (perm)		5484	1202	3303	4893		3303		1524	3303		1524
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	1117	1044	192	1052	0	151	0	5	443	0	121
RTOR Reduction (vph)	0	79	306	0	0	0	0	0	4	0	0	94
Lane Group Flow (vph)	0	1560	216	192	1052	0	151	0	1	443	0	28
Confl. Peds. (#/hr)			20									
Turn Type		NA	Perm	Prot	NA		Perm		Perm	Perm		Perm
Protected Phases		4		3	8							
Permitted Phases			4				6		6	2		2
Actuated Green, G (s)		45.5	45.5	10.3	59.8		13.2		13.2	25.0		25.0
Effective Green, g (s)		45.5	45.5	10.3	59.8		13.2		13.2	25.0		25.0
Actuated g/C Ratio		0.41	0.41	0.09	0.54		0.12		0.12	0.23		0.23
Clearance Time (s)		4.0	4.0	4.0	4.0		4.0		4.0	4.0		4.0
Vehicle Extension (s)		3.0	3.0	3.0	3.0		3.0		3.0	3.0		3.0
Lane Grp Cap (vph)		2268	497	309	2660		396		182	750		346
v/s Ratio Prot		c0.28		c0.06	0.21							
v/s Ratio Perm			0.18				c0.05		0.00	c0.13		0.02
v/c Ratio		0.69	0.43	0.62	0.40		0.38		0.00	0.59		0.08
Uniform Delay, d1		26.4	23.1	48.0	14.6		44.6		42.6	37.9		33.4
Progression Factor		1.00	1.00	1.00	1.00		0.57		1.00	1.00		1.00
Incremental Delay, d2		0.9	0.6	3.9	0.1		2.7		0.0	3.4		0.4
Delay (s)		27.3	23.7	51.8	14.7		28.0		42.6	41.3		33.9
Level of Service		C	C	D	B		C		D	D		C
Approach Delay (s)		26.4			20.4			28.4			39.7	
Approach LOS		C			C			C			D	

Intersection Summary

HCM 2000 Control Delay	26.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	56.8%	ICU Level of Service	B
Analysis Period (min)	15		

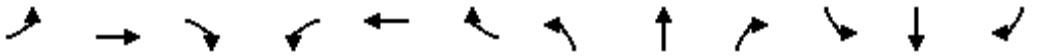
c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	1	1151	28	30	1020	80	124	26	85	230	8	287
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0		4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.91		1.00	0.95	1.00		1.00	1.00		1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.98		1.00	1.00		1.00	0.97
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00	1.00
Frt	1.00	1.00		1.00	1.00	0.85		1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.96	1.00		0.95	1.00
Satd. Flow (prot)	1703	4868		1703	3406	1496		1721	1524		1710	1474
Flt Permitted	0.95	1.00		0.95	1.00	1.00		0.96	1.00		0.95	1.00
Satd. Flow (perm)	1703	4868		1703	3406	1496		1721	1524		1710	1474
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1	1212	29	32	1074	84	131	27	89	242	8	302
RTOR Reduction (vph)	0	3	0	0	0	0	0	0	73	0	0	134
Lane Group Flow (vph)	1	1238	0	32	1074	84	0	158	16	0	250	168
Confl. Peds. (#/hr)			20			20						20
Turn Type	Prot	NA		Prot	NA	Free	Split	NA	Perm	Split	NA	Perm
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases						Free			2			6
Actuated Green, G (s)	0.8	39.7		3.6	42.5	110.0		19.7	19.7		31.0	31.0
Effective Green, g (s)	0.8	39.7		3.6	42.5	110.0		19.7	19.7		31.0	31.0
Actuated g/C Ratio	0.01	0.36		0.03	0.39	1.00		0.18	0.18		0.28	0.28
Clearance Time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	12	1756		55	1315	1496		308	272		481	415
v/s Ratio Prot	0.00	0.25		c0.02	c0.32			c0.09			c0.15	
v/s Ratio Perm						0.06			0.01			0.11
v/c Ratio	0.08	0.71		0.58	0.82	0.06		0.51	0.06		0.52	0.41
Uniform Delay, d1	54.2	30.1		52.5	30.3	0.0		40.8	37.5		33.2	32.0
Progression Factor	1.00	1.00		1.51	0.48	1.00		1.00	1.00		1.00	1.00
Incremental Delay, d2	3.0	1.3		14.0	3.9	0.1		6.0	0.4		4.0	2.9
Delay (s)	57.2	31.4		93.0	18.4	0.1		46.8	37.9		37.2	35.0
Level of Service	E	C		F	B	A		D	D		D	C
Approach Delay (s)		31.5			19.1			43.6			36.0	
Approach LOS		C			B			D			D	

Intersection Summary

HCM 2000 Control Delay	28.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	72.3%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	3	1170	391	0	1212	1	25	0	18	0	0	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0		4.0		4.0			4.0
Lane Util. Factor	1.00	0.95	1.00		0.91		1.00		1.00			1.00
Frpb, ped/bikes	1.00	1.00	1.00		1.00		1.00		1.00			1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00		1.00		1.00			1.00
Frt	1.00	1.00	0.85		1.00		1.00		0.85			0.86
Flt Protected	0.95	1.00	1.00		1.00		0.95		1.00			1.00
Satd. Flow (prot)	1703	3406	1524		4892		1703		1524			1550
Flt Permitted	0.15	1.00	1.00		1.00		0.95		1.00			1.00
Satd. Flow (perm)	277	3406	1524		4892		1703		1524			1550
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	3	1232	412	0	1276	1	26	0	19	0	0	1
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	19	0	0	1
Lane Group Flow (vph)	3	1232	412	0	1277	0	26	0	0	0	0	0
Confl. Peds. (#/hr)						20						
Turn Type	Perm	NA	Free		NA		Prot		custom			Perm
Protected Phases		4			8		5					
Permitted Phases	4		Free									6
Actuated Green, G (s)	57.9	57.9	110.0		57.9		4.9		0.0			35.2
Effective Green, g (s)	57.9	57.9	110.0		57.9		4.9		0.0			35.2
Actuated g/C Ratio	0.53	0.53	1.00		0.53		0.04		0.00			0.32
Clearance Time (s)	4.0	4.0			4.0		4.0					4.0
Vehicle Extension (s)	3.0	3.0			3.0		3.0					3.0
Lane Grp Cap (vph)	145	1792	1524		2574		75		0			496
v/s Ratio Prot		c0.36			0.26		0.02					
v/s Ratio Perm	0.01		c0.27									0.00
v/c Ratio	0.02	0.69	0.27		0.50		0.35		0.00			0.00
Uniform Delay, d1	12.5	19.3	0.0		16.7		51.0		55.0			25.4
Progression Factor	0.39	0.52	1.00		1.00		1.00		1.00			1.00
Incremental Delay, d2	0.0	0.9	0.4		0.2		2.8		0.0			0.0
Delay (s)	5.0	11.0	0.4		16.9		53.8		55.0			25.4
Level of Service	A	B	A		B		D		D			C
Approach Delay (s)		8.3			16.9			54.3			25.4	
Approach LOS		A			B			D			C	

Intersection Summary

HCM 2000 Control Delay	12.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	42.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

STATE OF CALIFORNIA

Governor's Office of Planning and Research

State Clearinghouse and Planning Unit

Edmund G. Brown Jr.
Governor

Ken Alex
Director

May 28, 2014

Richard Demerjian
University of California, Irvine
750 University Tower
Irvine, CA 92697-2325

Subject: UCI Orangewood Surface Parking Lot Project
SCH#: 2014041104

Dear Richard Demerjian:

The State Clearinghouse submitted the above named Mitigated Negative Declaration to selected state agencies for review. On the enclosed Document Details Report please note that the Clearinghouse has listed the state agencies that reviewed your document. The review period closed on May 27, 2014, and the comments from the responding agency (ies) is (are) enclosed. If this comment package is not in order, please notify the State Clearinghouse immediately. Please refer to the project's ten-digit State Clearinghouse number in future correspondence so that we may respond promptly.

Please note that Section 21104(c) of the California Public Resources Code states that:

> "A responsible or other public agency shall only make substantive comments regarding those activities involved in a project which are within an area of expertise of the agency or which are required to be carried out or approved by the agency. Those comments shall be supported by specific documentation."

These comments are forwarded for use in preparing your final environmental document. Should you need more information or clarification of the enclosed comments, we recommend that you contact the commenting agency directly.

This letter acknowledges that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act. Please contact the State Clearinghouse at (916) 445-0613 if you have any questions regarding the environmental review process.

Sincerely,

Scott Morgan
Director, State Clearinghouse

Enclosures
cc: Resources Agency

Document Details Report
State Clearinghouse Data Base

SCH# 2014041104
Project Title UCI Orangewood Surface Parking Lot Project
Lead Agency University of California, Irvine

Type MND Mitigated Negative Declaration

Description Implementation of the proposed project would construct an approximately 628 space surface parking lot from the University of California, Irvine Medical Center in Orange, CA. The proposed Orangewood Surface Parking Lot Project would be constructed on a predominately undeveloped approximately 6.2 acre land parcel owned by the University, which is generally bound by East Orangewood Avenue to the north, Orange Center Drive to the east, and North Anaheim Boulevard to the west.

Lead Agency Contact

Name Richard Demerjian
Agency University of California, Irvine
Phone (949) 824-8613 **Fax**
email
Address 750 University Tower
City Irvine **State** CA **Zip** 92697-2325

Project Location

County Orange
City Orange
Region
Lat / Long 33° 47' 40.54" N / 117° 53' 30.34" W
Cross Streets East Orangewood Avenue/Orange Center Drive
Parcel No.
Township **Range** **Section** **Base**

Proximity to:

Highways SR 22 & 57
Airports
Railways
Waterways
Schools
Land Use Currently, the site is mostly undeveloped; some parking exists on the site. UC Irvine is not subject to local zoning requirements

Project Issues Aesthetic/Visual; Agricultural Land; Air Quality; Archaeologic-Historic; Biological Resources; Drainage/Absorption; Flood Plain/Flooding; Geologic/Seismic; Minerals; Noise; Population/Housing Balance; Public Services; Recreation/Parks; Schools/Universities; Septic System; Sewer Capacity; Soil Erosion/Compaction/Grading; Solid Waste; Toxic/Hazardous; Traffic/Circulation; Vegetation; Water Quality; Water Supply; Wetland/Riparian; Growth Inducing; Landuse; Cumulative Effects; Other Issues

Reviewing Agencies Resources Agency; Department of Conservation; Department of Fish and Wildlife, Region 5; Department of Parks and Recreation; Department of Water Resources; California Highway Patrol; Caltrans, District 12; Air Resources Board; Regional Water Quality Control Board, Region 8; Department of Toxic Substances Control; Native American Heritage Commission

Date Received 04/28/2014 **Start of Review** 04/28/2014 **End of Review** 05/27/2014

STATE OF CALIFORNIA
NATIVE AMERICAN HERITAGE COMMISSION
1550 Harbor Blvd., ROOM 100
West SACRAMENTO, CA 95691
(916) 373-3710
Fax (916) 373-5471

Edmond G. Brown, Jr., *Governor*

Clear
05/27/14
E

May 9, 2014

RECEIVED
MAY 14 2014
STATE CLEARING HOUSE

Richard Demerjian
University of California, Irvine
750 University Tower
Irvine, CA 92697-2325

RE: SCH# 2014041104 UCI Orangewood Surface Parking Lot Project, Orange County.

Dear Mr. Demerjian:

The Native American Heritage Commission (NAHC) has reviewed the Notice of Completion (NOC) referenced above. The California Environmental Quality Act (CEQA) states that any project that causes a substantial adverse change in the significance of an historical resource, which includes archeological resources, is a significant effect requiring the preparation of an EIR (CEQA Guidelines 15064(b)). To comply with this provision the lead agency is required to assess whether the project will have an adverse impact on historical resources within the area of project effect (APE), and if so to mitigate that effect. To adequately assess and mitigate project-related impacts to archaeological resources, the NAHC recommends the following actions:

- ✓ Contact the appropriate regional archaeological Information Center for a record search. The record search will determine:
  - If a part or all of the area of project effect (APE) has been previously surveyed for cultural resources.
  - If any known cultural resources have already been recorded on or adjacent to the APE.
  - If the probability is low, moderate, or high that cultural resources are located in the APE.
  - If a survey is required to determine whether previously unrecorded cultural resources are present.
- ✓ If an archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey.
  - The final report containing site forms, site significance, and mitigation measurers should be submitted immediately to the planning department. All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum, and not be made available for pubic disclosure.
  - The final written report should be submitted within 3 months after work has been completed to the appropriate regional archaeological Information Center.
- ✓ Contact the Native American Heritage Commission for:
  - A Sacred Lands File Check. **USGS 7.5-minute quadrangle name, township, range, and section required**
  - A list of appropriate Native American contacts for consultation concerning the project site and to assist in the mitigation measures. **Native American Contacts List attached**
- ✓ Lack of surface evidence of archeological resources does not preclude their subsurface existence.
  - Lead agencies should include in their mitigation plan provisions for the identification and evaluation of accidentally discovered archeological resources, per California Environmental Quality Act (CEQA) Guidelines §15064.5(f). In areas of identified archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American, with knowledge in cultural resources, should monitor all ground-disturbing activities.
  - Lead agencies should include in their mitigation plan provisions for the disposition of recovered cultural items that are not burial associated, which are addressed in Public Resources Code (PRC) §5097.98, in consultation with culturally affiliated Native Americans.
  - Lead agencies should include provisions for discovery of Native American human remains in their mitigation plan. Health and Safety Code §7050.5, PRC §5097.98, and CEQA Guidelines §15064.5(e), address the process to be followed in the event of an accidental discovery of any human remains and associated grave goods in a location other than a dedicated cemetery.

Sincerely,

Katy Sanchez

Katy Sanchez
Associate Government Program Analyst

CC: State Clearinghouse

Native American Contact List
Orange County
May 9, 2014

Tongva Ancestral Territorial Tribal Nation
John Tommy Rosas, Tribal Admin.
Private Address Gabrielino Tongva
,
tattnlaw@gmail.com
310-570-6567

Gabrieleno/Tongva San Gabriel Band of Mission
Anthony Morales, Chairperson
PO Box 693 Gabrielino Tongva
San Gabriel , CA 91778
GTTribalcouncil@aol.com
(626) 286-1232 - FAX
(626) 286-1758 - Home
(626) 483--3564 cell
(626) 286-1262 -FAX

Gabrielino /Tongva Nation
Sandonne Goad, Chairperson
P.O. Box 86908 Gabrielino Tongva
Los Angeles , CA 90086
sgoad@gabrielino-tongva.com
951-845-0443

Gabrielino /Tongva Nation
Sam Dunlap, Cultural Resorces Director
P.O. Box 86908 Gabrielino Tongva
Los Angeles , CA 90086
samdunlap@earthlink.net
909-262-9351

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of the statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources for the proposed SCH #20140411044 UCI Orangewood Surface Parking Lot Project, Orange County.

Response to the Native American Heritage Commission

As discussed in the Draft IS/MND, an archeological and historical resources records search was previously conducted on February 22, 2012 at the South Central Coastal Information Center (SCCIC), and no sites were identified within the project site. Although the project site has been graded previously, mitigation measures reducing potential impacts regarding the discovery of archeological and/or paleontological resources have been included in the IS/MND. These mitigation measures will be adopted as part of the project-specific Mitigation Monitoring and Reporting Program (refer to Appendix G). If human remains are discovered, the proposed project would comply with section 7050.5 of the California Health and Safety Code that requires the County Coroner and the Native American Heritage Commission, if applicable, to be notified.

APPENDIX G

MITIGATION MONITORING AND REPORTING PROGRAM

ORANGEWOOD SURFACE PARKING LOT PROJECT

MITIGATION MONITORING AND REPORTING PROGRAM - 2014

	Mitigation Measure	Responsible Party	Mitigation Timing	Monitoring and Reporting Procedure	Compliance Notes
Biological Resources					
Bio-1	Any ornamental vegetation should be removed during the non-nesting bird season (July 1 to January 31 for nesting raptors; August 1 to February 29 for nesting birds) to the extent practicable. If construction would be initiated during the raptor nesting season (February 1 to June 30), then the University of California, Irvine shall ensure that a survey for active raptor nests is conducted within seven days prior to commencement of any demolition or construction activities; the survey shall include all ornamental trees immediately adjacent to the project site. If ornamental vegetation would be removed during the nesting bird season (March 1 to July 31), then the University of California, Irvine shall ensure that a survey for active bird nests is conducted within three days prior to commencement of construction. Should an active nest be identified, restrictions may be placed on construction activities in the vicinity of the active nest observed until the nest is no longer active, as determined by a qualified Biologist. These restrictions may include a buffer zone to minimize disturbance to the active nest. Once the nest is no longer active, construction can proceed within the buffer zone. The size of the buffer will depend on the sensitivity of the species and the location of the nest in relation to proposed construction activities and existing development.	D&CS / EPS	Prior to and during construction	D&CS to develop and implement plan EPS to confirm and monitor	**Prior to construction, submit a finalized phasing plan with construction timing to EPS.**
Cultural Resources					
Cul-1	Should archaeological resources be found during ground-disturbing activities related to construction of the UCIMC's Orangewood Surface Parking Lot project, all such activities must be directed away from the immediate area of the discovery and further disturbance to it must be prevented by the on-site contractor in consultation with UCI and a qualified project Archaeologist approved by UCI. The project Archaeologist shall first determine whether the uncovered resource is a "unique archaeological resource" pursuant to Section 21083.2(g) of the *California Public Resources Code* (PRC) or a "historical resource" pursuant to Section 15064.5(a) of the State CEQA Guidelines (*California Code of Regulations* [CCR], Title 14). If the resource is determined to be a "unique archaeological resource" or a "historical resource", the Archaeologist in consultation UCI shall recommend disposition of the site and formulate a mitigation plan that satisfies the requirements of Section 21083.2 of the PRC and Section 15064.5 of the State CEQA Guidelines. The UCIMC shall pay all costs associated with the discovery, evaluation and ultimate disposition of the find. If the Archaeologist determines that the resource is not a "unique archaeological resource" or "historical resource," he/she shall record the site and submit the recordation form to the California Historical Resource Information System (CHRIS) at the South Central Coastal Information Center (SCCIC). The Archaeologist shall prepare a report of the results of any study prepared as part of a testing or mitigation plan, following accepted professional practice. The report shall follow guidelines of the California Office of Historic Preservation. Copies of the report shall be submitted to UCIMC and to the CHRIS at the SCCIC.	D&CS / EPS	During construction and at time of find	On-site construction supervisor to notify D&CS and EPS who will stop/direct work	**If archaeological services are retained, include EPS on contracting and initial meeting. Submit findings report to EPS.**
Cul-2	If fossil resources are discovered by the Contractor or others during project grading, ground-disturbing activities in the vicinity of the discovery shall be halted or diverted until a qualified Paleontologist, approved by UCI, inspects the find and evaluates it for significance. Work may proceed in other areas of the site, subject	D&CS / EPS	During construction and at time of find	On-site construction supervisor to notify	**If paleontological services are retained, include EPS on contracting and initial meeting. Submit findings report to**

	Mitigation Measure	Responsible Party	Mitigation Timing	Monitoring and Reporting Procedure	Compliance Notes
	to the direction of the Paleontologist, in consultation with UCI. If determined to be significant, the Paleontologist shall have the authority to quickly and efficiently salvage and remove the fossil from its locality, as appropriate, before ground-disturbing activities resume in the area. These actions, as well as final disposition of the resources, shall be subject to the approval of UCI.			D&CS and EPS who will stop/direct work	**EPS.**
EPS: Environmental Planning & Sustainability **D&CS: Design & Construction Services**					