City of Agoura Hills

Agoura Park Project

Final

Initial Study-Mitigated Negative Declaration

Report and
Appendices A - F

October 2015

rincon

Environmental Scientists Planners Engineers

Agoura Park

Final
Initial Study – Mitigated Negative Declaration

Prepared by:

City of Agoura Hills
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Prepared with the assistance of:

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October 2015

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Agoura Park

Final
Initial Study – Mitigated Negative Declaration

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1.0 INTRODUCTION

A Draft Initial Study and Mitigated Negative Declaration (IS-MND) that evaluates environmental effects of the Agoura Park Project has been prepared pursuant to CEQA and the CEQA Guidelines. The project consists of a request for approval of a Site Plan/Architectural Review to allow the construction of a new 45,000 square-foot, two-story fitness facility building and a 4,000 square-foot, one-story retail/fast service restaurant as well as a surface parking lot, on a partially developed site; a request for an Oak Tree Permit to remove two oak trees and encroach into the protected zone of one other oak tree during the construction; a Sign Permit to allow for a sign program, a Variance to exceed the maximum allowable height of one of the buildings from 35 to 38 feet, to exceed the maximum allowable signage of the primary and secondary elevations of one of the buildings, reduce the required Freeway Corridor Overlay District rear yard setback from 76 to 35 feet, and allow the encroachment of parking spaces, a public sidewalk, and other amenities in the twenty-foot wide landscape planter required along one street frontage; and a Vesting Tentative Parcel Map to merge two parcels.

The analysis in the IS-MND identifies potentially significant, but mitigable environmental effects in the following areas: biological resources, cultural resources, geology and soils, transportation/traffic, and mandatory findings of significance. Mitigation measures are identified to reduce potentially significant impacts to less than significant levels. Also evaluated in the document as less than significant impacts are aesthetics, air quality, greenhouse gas emissions, hazards and hazardous materials, hydrology/water quality, land use/planning, noise, public services, and utilities and service systems. The IS-MND identifies no impacts to agricultural and forest resources, mineral resources, population and housing, and recreation.

The IS-MND for this project was circulated in September 17, 2015 for public review and ended on October 19, 2015. Three comment letters were received and none resulted in changes to the public review draft of the IS-MND. A Planning Commission public hearing to consider the project and adopt the Final IS-MND will be held at a later date, and a public hearing notice will be distributed separately prior to the hearing date.

The Final IS-MND is available for review at City Hall in the planning Department, located at 30001 Ladyface court between the hours of 7:00 AM and 5:00 PM, Monday through Thursday and 7:00 AM and 4:00 PM on Fridays and on the City's website at www.ci.agoura-hills.ca.us. It is also available at the Los Angeles County Library - Agoura Hills branch – located at 29901 Ladyface Court, Agoura Hills, CA 91301 during its regular business hours.

1.1 ORGANIZATION OF THIS FINAL IS-MND

This document is organized into four sections. Following this introduction (Section 1.0), Section 2.0 includes the final version of the IS-MND, which is unchanged from the Draft IS-MND. Section 3.0, *Response to Comments* contains a list of persons and organizations that submitted written comments on the Draft IS-MND, the comments letters, and responses to those comments. No comment letter resulted in changes to the Final IS-MND since the publication of the Draft IS-MND. Section 4.0, *Mitigation Monitoring and Reporting Program (MMRP)*, presents in a tabular format the mitigation measures, and the responsibility, timing, and verification of monitoring of mitigation measures which are necessary to reduce any environmental impacts

identified in the IS-MND. Finally, the Draft IS-MND and Appendices A-F are collected in the Volume I attachment and Appendices G-H are collected in the Volume II attachment.

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INITIAL STUDY

1. Project Title

Agoura Park Project

2. Lead Agency Name and Address

City of Agoura Hills
30001 Ladyface Court
Agoura Hills, CA 91301

3. Contact Person and Phone Number

Valerie Darbouze, Associate Planner
City of Agoura Hills
30001 Ladyface Court
Agoura Hills, CA 91301
(818)597-7328

4. Project Location

The 3.73-acre project site is located at 29431 and 29439 Agoura Road in the City of Agoura Hills, Los Angeles County. The site is situated immediately west of Roadside Road and immediately south of U.S. Highway 101. Figure 1 illustrates the location of the project site in its regional context and Figure 2 shows the location of the project site in the City of Agoura Hills.

5. General Plan Designation

Planned Office and Manufacturing (POM)

6. Zoning

Planned Office and Manufacturing, Freeway Corridor Overlay District (POM-FC)

7. Site Setting

The 3.73- acre project site is currently a vacant paved lot with mostly grass and some areas of pavement/concrete that is in disrepair (approximately 1 acre). The project site has been previously graded and is currently characterized primarily as an abandoned use with detororated pavement/concrete (approximately 1 acre), a small (less than 50 square foot) wooden shack/shed, and above-ground utility lines, weeds, shrubbery, and a chain link fence to prevent trespassers. There are no buildings or structures currently onsite other than the small wooden shack/shed. Current site conditions are shown on Figure 3. The project site consists of a concrete area that is in disrepair along with ruderal vegetation and a separate concrete channel approximately 240 feet in length and three feet wide located in the northeastern portion of the project site.

Imagery provided by National Geographic Society, ESRI and its licensors © 2015.

★ Project Location

Regional Location

Figure 1

Imagery provided by ESRI and Google and their licensors © 2015.

Project Vicinity Map

Figure 2

Photo 1: View North from Agoura Road toward Project Site.

Photo 2: View Southwest from Roadside Road at Project Site.

Site Photos

Figure 3

8. Surrounding Land Uses and Setting

The property to the east, across Roadside Road, is developed with light industrial uses. The property located to the west of the project site is presently undeveloped. U.S. Highway 101 is located to the north of the project site beyond which are primarily office uses. The surrounding sites General Plan Land Use Designations are as follows:

North - across the freeway, Business Park – Office Retail (BP-OR)
West - Planned Office and Manufacturing (POM-FC)
East - Planned Office and Manufacturing – Mixed Use (POM-FC-MXD)
South - Planned Development, (PD) (Agoura Village Specific Plan)

9. Description of Project

The proposed project consists of the construction, use, and maintenance of an approximately 49,000-square foot commercial development comprised of two buildings. An approximately 45,000-square foot, two-story LA Fitness Building would be located on the north portion of the project site oriented toward Agoura Road. An approximately 4,000-square foot, one-story retail/restaurant building would be located on the southeast portion of the project site with frontage at the intersection of Agoura Road and Roadside Road. Figure 4 shows the elevations for the LA fitness building. Figure 5 shows the elevations for the retail/restaurant building. Figure 6 shows the proposed site plan.

The project would require variances for the proposed building height. The majority of the building would be approximately 35 feet high with the exception of certain features which would be at approximately 38 feet. Other variances would be required for a reduced rear yard setback (proposed 36 feet instead of the required 76 feet) at the northeast corner of the building, a proposed larger sized primary and secondary signs for increased visibility of the business, and for a reduction in the size of the required landscape planter (proposed 0 feet instead of the required 20 feet) along the frontages to accommodate parking.

The project site is located on the northwest corner of Agoura Road and Roadside Road. The north boundary of the project site is located adjacent to an unimproved portion of Roadside Drive, which abuts U.S. Highway 101. As part of the project request, the applicant is seeking vacation of a segment of Roadside Drive specifically adjacent to the project site's northern property line. Additionally, the applicant is seeking a Parcel Map to merge both lots into one.

The proposed LA Fitness building would include an approximately 30,000-square foot ground floor with fitness equipment area, cycling studio, lap pool, locker rooms, office space, juice bar, and child care services room. An approximately 15,000-square foot mezzanine level would include a basketball court, aerobics studio, racquetball courts and workout machines. The LA Fitness building would be approximately 35 feet in height, excluding the roof screen around roof top equipment.

The proposed secondary building would provide approximately 4,000 square feet of retail/restaurant space. Although specific tenants have not been identified, it is

anticipated that the space would offer quick serve restaurant uses. As such, the proposed project provides for outdoor patio area along the Agoura Road frontage that would be utilized for seating and/or pedestrian gathering areas. The proposed retail/restaurant building would be approximately 25 feet in height.

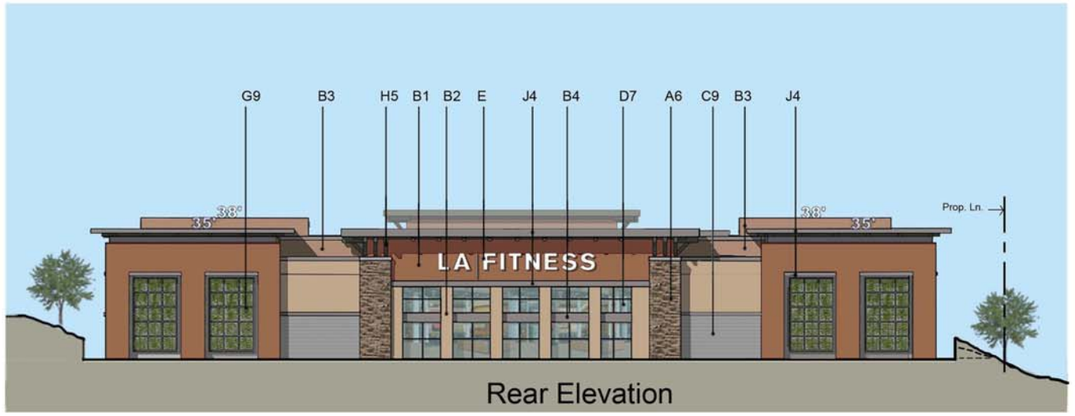
Access to the proposed project would be provided via two new driveways, one on each street frontage. The proposed Agoura Road driveway would be positioned in the southwest corner of the project site and would permit right-in and right-out turns. The proposed driveway along Roadside Road would allow for full access of right and left turns into and out of the project site.

Table 1 shows the Agoura Hills Municipal Code (AHMC) parking requirements for the proposed project. The proposed project would provide 220 parking spaces, thus exceeding the AHMC requirements of 206 spaces. A total of 201 parking stalls would be provided within the on-site parking court 19 parking spaces would be provided along the street frontage of Roadside Road. The loading zone associated with the 45,000-square foot LA Fitness building would be located at the southwest corner of the building, providing a 50-foot by 12-foot loading area. The loading zone associated with the retail/restaurant building would also be 25 feet by 12 feet and located in the parking court, near the Agoura Road driveway.

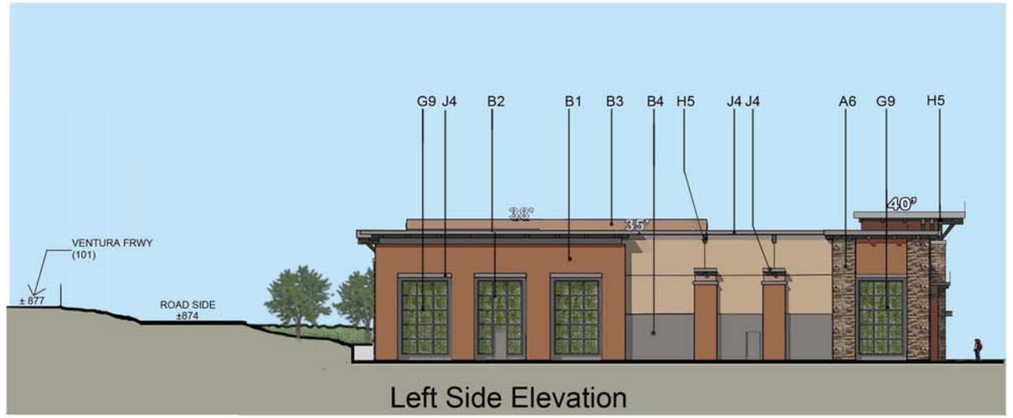
Table 1
Required and Proposed Parking Per AHMC 9654.6.B

Use	Building Area	Parking Ratio	Required Spaces	Proposed Spaces
Retail/Restaurant Building: Restaurant	2,000 SF[2]	15/1000	30	30
LA Fitness Building: Activity Area Office Area Retail Area	 33,219 6,524 570 2,549	 1/220 1/300 1/250	 151 22 3	190
		TOTAL	**206**	**220**

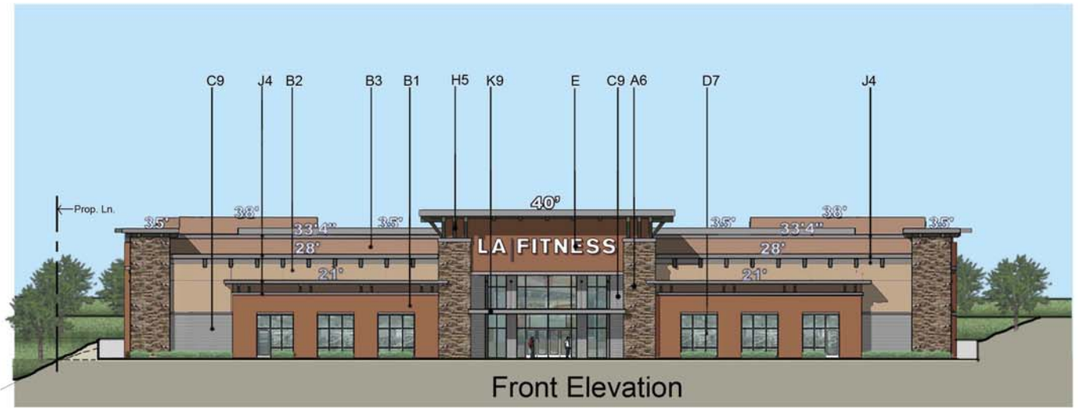
The proposed front yard setback along the Agoura Road street frontage would be a minimum of 25 feet. The front yard would be landscaped with a combination of planters and decorative hardscape, incorporating a public gathering area along the street frontage which is below Agoura Road. The second street frontage setback along Roadside Road would vary, providing a minimum setback of 19 feet adjacent to the LA Fitness building and 17 feet adjacent to the retail/restaurant building. The street frontage would be improved with a variety of landscaped planters, pedestrian walkways and connections to the public right-of-way, and on-street parking. The interior side yard would vary, providing a minimum building setback of 44 feet at the LA Fitness building. The interior side yard would maintain an approximately 10-foot wide planter along the length of the western property line. The rear yard building setback varies from 63 feet to 82 feet and would be improved with landscaping and would provide for future vehicle access to the adjacent property to the west.



Rear Elevation



Left Side Elevation



Front Elevation

Right Side Elevation

MATERIAL:
A. Stone Veneer Finish
B. Textured Stucco Finish
C. Corrugated Metal Finish
D. Aluminum w/ Clear Glazing Storefront system
E. Individual Letter Sign (Illuminated) (See Sht. 4 for Signage DImensions)
F. Glass Blocks
G. Metal Grid
H. Wood Bracket
J. Foam Form Cornice &Trim
K. Metal Canopy

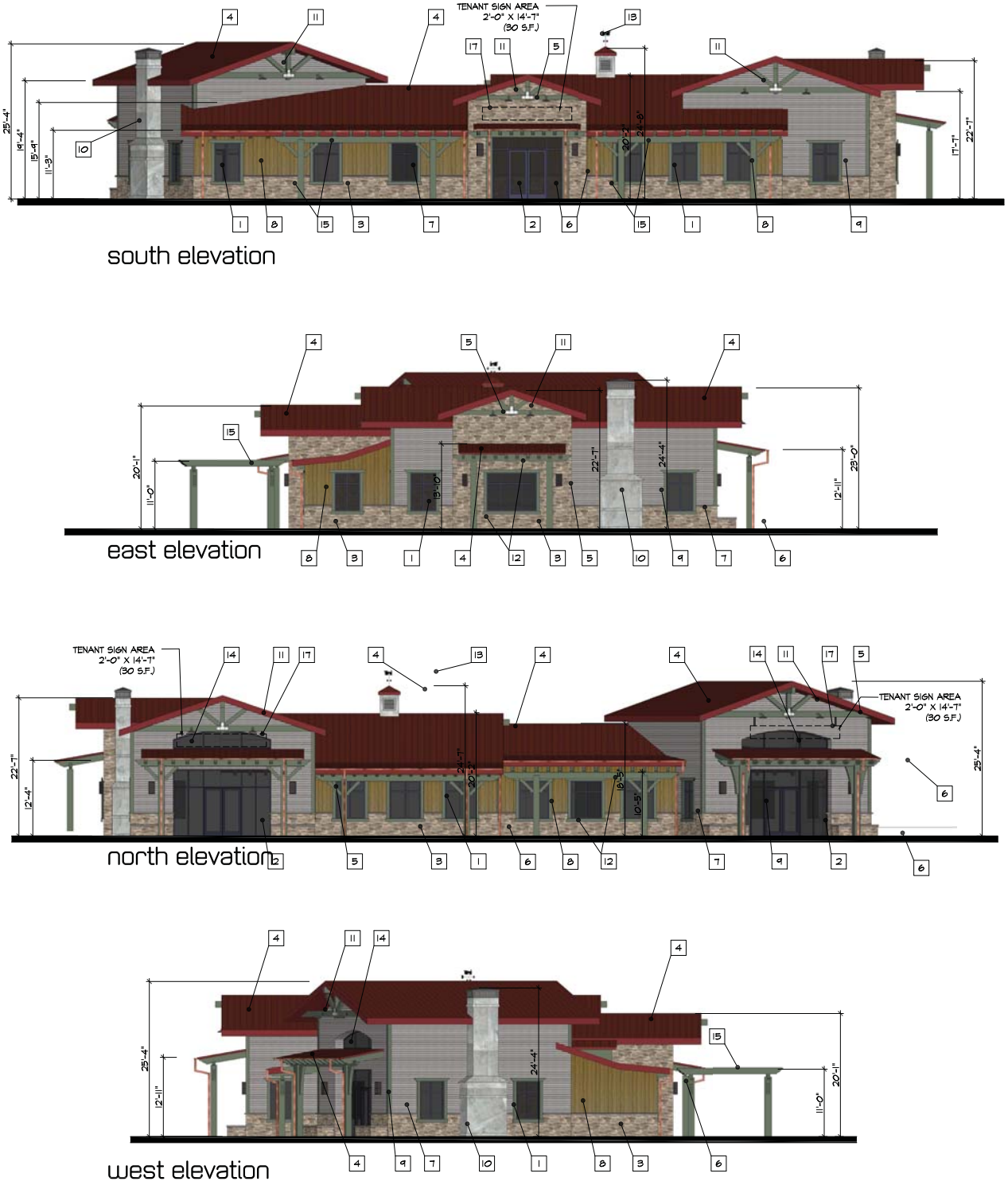
COLOR:
1. A0552 - Padre Island. By GLIDDEN - The Master Palette
2. A1768 - Highland plains. By GLIDDEN - The Master Palette
3. A0572 - Nutria. By GLIDDEN - The Master Palette
4. A1699 - Ominous. By GLIDDEN - The Master Palette
5. A1932 - Covered Bridge. By GLIDDEN - The Master Palette
6. Rocky Mountain Legestone - Sandy Peaks. By CORONADO.
7. Dark Medium Bronze AB-5. By Arcadia
8. Essex AA Pattern. By PITTSBURGH CORNING
9. Old Town Grey W25 - Kynar 500

0 20 40 Feet

Fitness Facility Elevation

Source: Architects Orange 2015

Figure 4



Source: Selleck Development Group 2015

Retail/Restaurant Elevation

Figure 5

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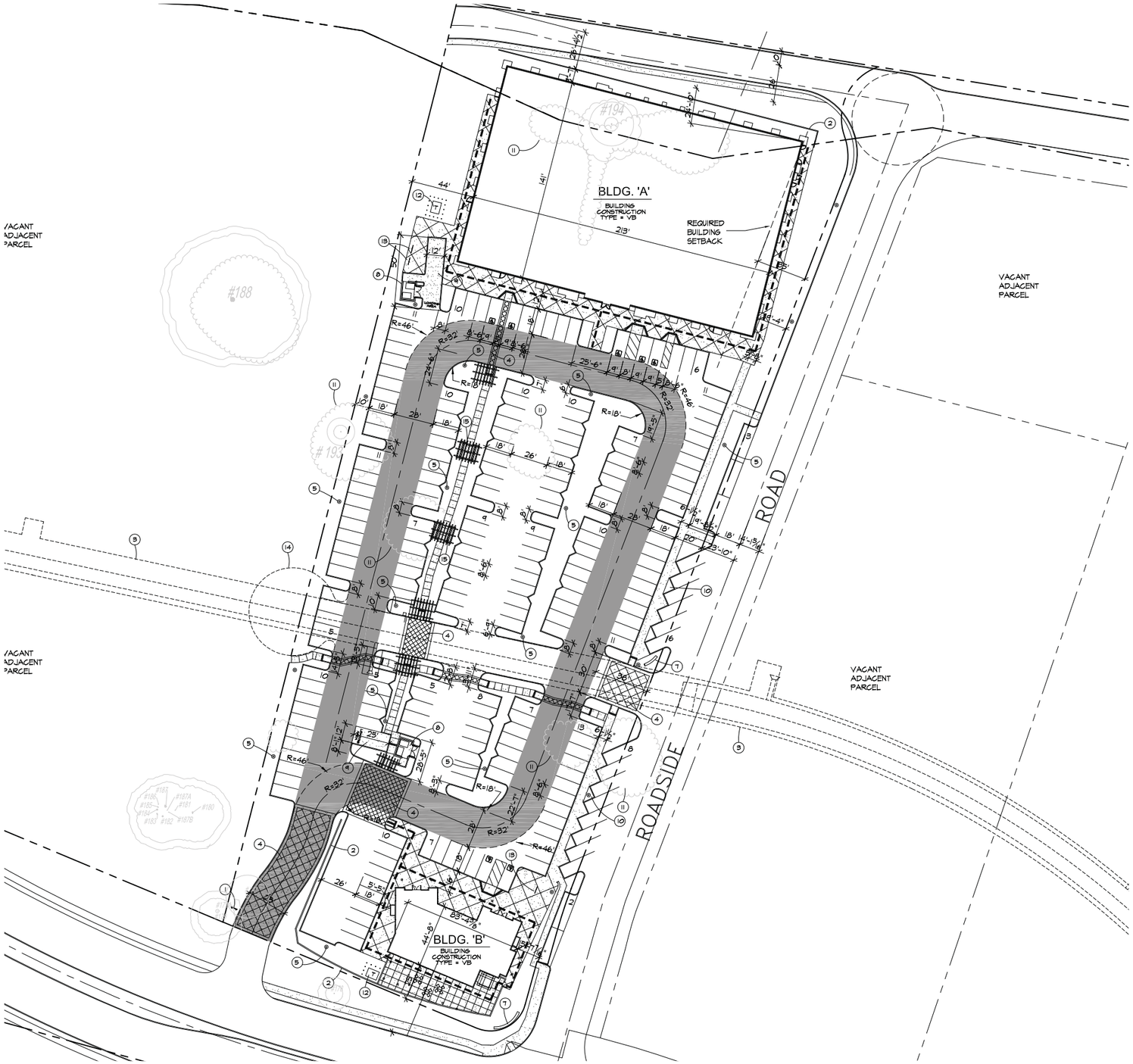

keynotes

1. TRAFFIC SIGN, "RIGHT TURN ONLY"
2. RETAINING WALL
3. EXISTING STORM DRAIN AND EASEMENT
4. CONCRETE CROSSWALK AND ENHANCED ENTRIES. 6" & 12" CONCRETE BAND WITH CONCRETE PAVER IN FILL. PAVERS TO HAVE AN ASHLAR PATTERN BY "ANGELUS BLOCK" - ESTATE COBBLE I & II COLOR TO BE TERRACOTTA/BROWN
5. PARKING LOT LIGHT POLES - DARK BRONZE COLOR
6. MONUMENT SIGN
7. PYLON SIGN - REFER TO SHEET ap5
8. TRASH ENCLOSURE - REFER TO SHEET ap5 FOR DETAIL PLAN & ELEVATION
9. LOADING AREA
10. LANDSCAPE PLANTER
11. EXISTING TREE TO BE REMOVED
12. ELECTRICAL TRANSFORMER LOCATION
13. BICYCLE RACKS - REFER TO SHEET ap5 FOR DETAIL
14. FUTURE ROUND-A-BOUT TO CONNECT WITH ADJACENT PROPERTY
15. SEATING AREA UNDER TRELLIS. REFER TO SHEET ap5 FOR DETAIL

site statistics

TOTAL SITE AREA: APPROX. 162,602 S.F. OR 3.73 AC.

BUILDING 'A' AREA: 45,000 S.F.
GROUND FLOOR AREA: 30,000 S.F.
MEZZANINE AREA: 15,000 S.F.

BUILDING 'B' AREA: 4,000 S.F.

TOTAL BUILDING AREA: 49,000 S.F.

BLDG. FOOTPRINT COVERAGE: 30%

LANDSCAPE COVERAGE: 37,559 S.F. - 23%

PARKING LOT LANDSCAPE COVERAGE - 19.6%

PARKING REQUIRED:

BUILDING 'A' HEALTH CLUB:
ACTIVITY AREA: (A3 OCCUPANCY) 33,219 S.F. = 1/220 S.F. = 151 STALLS
OFFICE AREA: (B OCCUPANCY) 6,524 S.F. = 1/300 S.F. = 22 STALLS
RETAIL AREA: (M OCCUPANCY) 570 S.F. = 1/250 S.F. = 3 STALLS
STORAGE/MISC. AREA: (S1 OCCUPANCY) 2,549 S.F. = 1/300 S.F. = 8 STALL

TOTAL HEALTH CLUB PARKING REQUIRED: 184 STALLS

BUILDING 'B' RESTAURANT: (A2 OCCUPANCY)
SEATING AREA (50%) - 2,000 S.F. = 15/1000 S.F. = 30 STALLS

TOTAL RESTAURANT PARKING REQUIRED: 30 STALLS

TOTAL PARKING REQUIRED: 214 STALLS

PARKING PROVIDED:

STANDARDS:	216 (97%)
HANDICAPPED:	7 (3%)

TOTAL PARKING PROVIDED: 221 STALLS

OVERALL PARKING RATIO: 4.4 PER 1,000 S.F.

BICYCLE PARKING: 1 BICYCLE SPACE PER 25 PARKING STALLS
9 BICYCLE SPACES PROVIDED

N

0 45 90 Feet

Project Site Plan

Source: Hardy Engineering 2015

The proposed project includes approximately 23% landscape coverage throughout the project site, including trees within the parking area to provide shade over approximately 58% of the parking lot area. Landscaped planters would be utilized within the parking lot area to create circulation and separate parking aisles. A pathway marked by evenly spaced, overhead trellises would be provided across the western parking area to allow pedestrian connections between the parking area and the two buildings. A pedestrian walkway along the street frontage on Roadside Road and Agoura Road would also be installed. The pathway would connect to the public right-of-way at the intersection of Agoura Road and Roadside Road, continuing northbound along the project site, allowing connection to the street, parking lot and each building.

The proposed project would include the construction of a retaining wall along the northerly portion of the project site, which would be set approximately five feet from the rear-building wall of the LA Fitness building. The retaining wall would be five to six feet in height at the northwest corner of the LA Fitness building, gradually stepping down to two feet in height at the center portion, and then stepping back up to six feet at the northeast corner of the building.

10. City Entitlements

- Site Plan/Architectural Review Case No. 14-SPR-003
- Oak Tree Permit Case No. 14-OTP-016
- Tentative Parcel Map Case No. TPM 73266
- Variance Request Case No. 14-VAR-003
- Sign Permit Case No. 14-SP-040

11. Other Public Agencies Whose Approval is Required

- California Department of Fish and Wildlife
- Army Corps of Engineers
- Regional Water Quality Control Board
- Los Angeles County Flood Control

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

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

☐ Aesthetics (I)	☐ Agriculture and Forest Resources (II)	☐ Air Quality(III)
■ Biological Resources (IV)	■ Cultural Resources (V)	■ Geology/Soils (VI)
☐ Greenhouse Gas Emissions (VII)	☐ Hazards & Hazardous Materials (VIII)	☐ Hydrology/Water Quality (IX)
☐ Land Use/Planning (X)	☐ Mineral Resources (XI)	☐ Noise (XII)
☐ Population/Housing (XIII)	☐ Public Services (XIV)	☐ Recreation (XV)
■ Transportation/Traffic (XVI)	☐ Utilities/Service Systems (XVII)	■ Mandatory Findings of Significance (XVIII)

DETERMINATION

On the basis of this initial evaluation:

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

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

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

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

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

Signature

11/9/2015
Date

Valerie Darbouze, Associate Planner

ENVIRONMENTAL CHECKLIST

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

Discussion:

a) The project site is currently a vacant paved lot. The project site is characterized by weeds and pavement, remnants from previous development, from the perspective of Agoura Road, as shown in the existing site photos in Figure 3. Although the project site is not located in proximity to a state-designated scenic highway, the City of Agoura Hills General Plan recognizes Agoura Road as a local "valuable scenic resource" that provides scenic views of Ladyface Mountain in the Santa Monica Mountains. Views of natural open space on the northwestern slopes of Ladyface Mountain are available in the background behind the project site, south of Agoura Road. The project is located approximately 100 feet south of U.S. Highway 101, which is considered eligible for state designation as a scenic highway in western Los Angeles County (Caltrans, 2013), but has not been designated as such. Figures 7a and 7b show photosimulations of the proposed project.

One of the buildings would partially obstruct views from U.S. Highway 101 toward the mountains to the south by introducing a 45,000 square foot fitness facility that would require a height variance as it would be up to 38 feet high in certain locations. The proposed view through the site from U.S. Highway 101 is shown in Figure 7b. As shown in Figure 7b, views to the Santa Monica Mountains would continue to be available behind the proposed building from the perspective of U.S. Highway 101, and the proposed building would not substantially obstruct views.

Proposed View from Parking

Source: Architects Orange 2015

Photosimulations

Figure 7a

Proposed View from Freeway

Source: Architects Orange 2015

Photosimulations

Figure 7b

The Natural Resources Element of the General Plan contains goals and policies to preserve significant visual resources through integration of natural features in a project, and the use of appropriate scale, materials and design to complement the surrounding natural landscape. Along scenic resources such as Agoura Road in the project area, the General Plan calls for protecting and enhancing the views and developing appropriate landscaping.

As shown in Figure 8, decorative trees and landscaping would occur along U.S. Highway 101 and would likely enhance the appearance of the view from U.S. Highway 101 towards the Santa Monica Mountains. These features would not obstruct views to the Santa Monica Mountains, given their low stature and elevation of the site (approximately 878-880 feet), and the comparative height of the Santa Monica Mountains, which rises to over 2,000 feet. Given the natural themes and materials in the landscape plan, the project could be seen as complementing the natural scenery.

The proposed view through the site looking north from the proposed parking area is shown in Figure 7a.The project would not cause a substantial adverse effect from this view because no scenic vistas would be in view or affected. Therefore, impacts to a scenic vista would be **less than significant.**

b) Since the project is not within a state scenic highway, there would be no impacts to resources within such a highway. In any case, there are no scenic trees, rock outcroppings, or historic buildings on the project site. Existing vegetation (small trees, shrubs and other ruderal vegetation) onsite, including Oak Tree #194 along the eastern project site boundary, would be removed as part of the proposed project as shown on the project's landscape plan in Figure 8. However, vegetation onsite including Oak Tree #194 is not considered a scenic resource. Impacts related to scenic resources in a state scenic highway would be **less than significant.**

c) The project site is currently a vacant paved lot. The project site is characterized by weeds and pavement as seen in the site photos in Figure 6. Because the project site has been previously graded and is currently characterized primarily as an abandoned use with deteriorated pavement, above-ground utility lines, weeds, shrubbery, and a chain link fence to prevent trespassers, development of the proposed project, would introduce an attractively designed building and more trees, including oaks, than currently exist throughout the project site (as shown in Figure 8). The project may be considered to improve the existing aesthetic character of the site from surrounding viewpoints. Therefore, impacts related to existing visual character would **be less than significant, and may be considered a benefit.**

d) The project site is currently undeveloped and does not contain any existing structures. There are no existing sources of light or glare on the project site. Other sources of light and glare in the vicinity of the project include the adjacent industrial uses east of the project site which generate nighttime light via building mounted lighting and daytime glare from windows and parked vehicles.

The proposed project would involve development of a fitness facility and retail/restaurant building that would incorporate exterior lighting in the form of parking lot lighting, pedestrian walkway lighting, building mounted lighting, and other safety related lighting. In addition, the windows proposed on the exterior elevations and on vehicles parked on the project site could increase the reflected sunlight during certain times of the day. However, the overall elevation of

Preliminary Landscape Plan

Figure 8

Source: Wynn Landscape Architects, Inc

the project site is approximately eight feet lower than the elevation on Agoura Road to the south of the project site, and approximately 13 feet below the U.S. Highway 101. Due to the height difference between these two roadways, impacts related to reflection of sunlight or nighttime glare may be less obtrusive from the perspective of adjacent sites as light and glare spillover would be minimized.

Further, Section 9393.15 of the City of Agoura Hills Municipal Code (AHMC) requires lighting fixtures for various commercial uses to be located so as to shield direct rays from adjoining properties in addition to the City's Architectural Design Guidelines and Standards, which recommends that the lighting fixtures not exceed one foot candle at property lines. The project would be required to implement such features on lighting fixtures onsite. Furthermore, new lighting would incorporate LED heads, a lighting control system with motion sensors, and be consistent with Southern California Edison's "Savings by Design" program, which is a new non-residential construction energy efficiency program. With these features implemented, the additional lighting would be designed to minimize light overspill and glare onto areas adjacent to the site. The project's building materials would not be made of reflective materials and would not be a source of glare. The proposed window overhangs would provide shading elements that would further minimize the reflective potential.

Due to the site's overall elevation in comparison to adjacent sites and with adherence to the requirements of the AHMC, City Architectural Design Standards & Guidelines and "Savings by Design" program as part of the overall site features, impacts related to new sources of light or glare would be **less than significant.**

Mitigation Measures:

None required.

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less than Significant Impact	No Impact
II. Agriculture and Forest Resources				
-- In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. -- Would the project:				
a) Convert Prime Farmland, Unique Farmland, Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	■
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	■
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?	☐	☐	☐	■
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	■
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?	☐	☐	☐	■

a) The project site does not contain Prime Farmland, Unique Farmland, or Farmland of Statewide Importance as shown on the maps prepared by the Farmland Mapping and Monitoring Program (California Department of Conservation, 2014). Therefore, there are **no impacts** related to conversion of such lands.

b) The project site is not zoned for agricultural use. Additionally, the City does not have agricultural zoning or Williamson Act contracts. There would be no conflict with zoning for agricultural use or with a Williamson Act contract. Therefore, there would be **no impact**.

c) The project site is within the City of Agoura Hills North Agoura Road Planning Area and is zoned Planned Development (PD). The project would not conflict with existing zoning for, or cause rezoning of, forest land, timberland, or timberland zoned Timberland Production. Therefore, there would be **no impact.**

d) The project site does not contain forest lands. The project would not convert forest lands. Therefore, there would be **no impact.**

e) The project site does not contain agricultural lands and would not result in the conversion of Farmland, to non-agricultural use. Therefore, there would be **no impact** to agricultural lands.

Mitigation Measures:

None required.

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

Discussion:

The project site is within the South Coast Air Basin (the Basin), which is under the jurisdiction of the South Coast Air Quality Management District (SCAQMD). As the local air quality management agency, the SCAQMD is required to monitor air pollutant levels to ensure that state and federal air quality standards are met and, if they are not met, to develop strategies to meet the standards.

Depending on whether or not the standards are met or exceeded, the Basin is classified as being in "attainment" or "nonattainment." The South Coast Air Basin is in nonattainment for both the federal and state standards for ozone and nitrogen dioxide as well as the state standard for PM_{10} (SCAQMD, 2013). Thus, the Basin currently exceeds several state and federal ambient air quality standards and is required to implement strategies to reduce pollutant levels to recognized acceptable standards. This non-attainment status is a result of several factors, including the naturally adverse meteorological conditions that limit the dispersion and diffusion of pollutants, the limited capacity of the local air shed to eliminate pollutants from the air, and the number, type, and density of emission sources within the South Coast Air Basin.

This air quality analysis conforms to the methodologies recommended in the South Coast Air Quality Management District CEQA Air Quality Handbook (1993). A project's impact to air quality is significant if its emissions exceed any of the thresholds for criteria pollutants shown in Table 2, below.

Table 2
Air Quality Thresholds

Pollutant	Construction	Operation
NO_X	100 lbs/day	55 lbs/day
ROG[1]	75 lbs/day	55 lbs/day
PM_{10}	150 lbs/day	150 lbs/day
$PM_{2.5}$	55 lbs/day	55 lbs/day
CO	550 lbs/day	550 lbs/day
SO_X	150 lbs/day	150 lbs/day

[1] Reactive Organic Gases (ROG) are formed during combustion and evaporation of organic solvents. ROG are also referred to as Volatile Organic Compounds (VOC).

Source: SCAQMD, http://www.aqmd.gov/ceqa/handbook/signthres.pdf, March 2011.

In addition to the thresholds shown above, the SCAQMD has developed Localized Significance Thresholds (LSTs). LSTs were devised in response to concern regarding exposure of individuals to criteria pollutants in local communities. LSTs represent the maximum emissions from a project that will not cause or contribute to an air quality exceedance of the most stringent applicable federal or state ambient air quality standard at the nearest sensitive receptor, taking into consideration ambient concentrations in each source receptor area (SRA), project size, distance to the sensitive receptor, and other applicable criteria. However, LSTs only apply to emissions within a fixed stationary location, including idling emissions during both project construction and operation. LSTs have been developed for NO_X, CO, PM_{10} and $PM_{2.5}$. LSTs are not applicable to mobile sources such as cars on a roadway (SCAQMD, 2003). As such, LSTs for operational emissions do not apply to onsite development as the majority of emissions would be generated by vehicle traffic on area roadways.

LSTs have been developed for emissions within areas up to five acres in size, with air pollutant modeling recommended for activity within larger areas. The SCAQMD provides lookup tables for project sites that measure one, two, or five acres. The proposed project involves approximately 3.73 acres of on-site grading and construction. SCAQMD's Sample Construction Scenarios for Projects Less than 5 Acres in Size contains methodology for determining the thresholds for projects that are not exactly 1, 2, or 5 acres in size. This methodology was implemented to determine the thresholds for the proposed project. The project site is located in Source Receptor Area 6 (SRA-6, Agoura Hills). LSTs are provided for sensitive receptors at a distance of 82 to 1,640 feet from the project site boundary. Sensitive receptors typically include residences, schools, hospitals and the elderly. The closest sensitive receptors to the project site are the residential uses approximately 1,000 feet (approximately 300 meters) northwest of the project site, beyond U.S. Highway 101. LSTs for construction on a two-acre site in SRA-6 are shown in Table 3.

Table 3
SCAQMD LSTs for Construction

Pollutant	Allowable emissions[1] (lbs/day)
Gradual conversion of NO_X to NO_2	187
CO	2,629
PM_{10}	66
$PM_{2.5}$	21

[1] Allowable emissions from site involving at least 2 acres of grading in SRA-6 for a receptor 200 meters away.

Source: SCAQMD, Appendix C – Mass Rate LST Look-up Table. Accessed April 2015.

a) According to SCAQMD Guidelines, to be consistent with the Air Quality Management Plan (AQMP), a project must conform to the local General Plan and must not result in or contribute to an exceedance of the City's forecasted future population. Vehicle use, energy consumption, and associated air pollutant emissions are directly related to population growth. A project may be inconsistent with the AQMP if it would generate population, housing or employment growth exceeding the forecasts used in the development of the AQMP.

Currently, the City of Agoura Hills' population is approximately 20,625 people (California Department of Finance, 2014). The proposed project does not involve construction of residential development and would therefore not cause direct population growth in the City of Agoura Hills. Furthermore, as demonstrated in the quantitative analysis below, the vehicle use and energy consumption associated with development of the proposed project would result in less than significant physical impacts on air quality. Also, the project is consistent with the land use designation of the City of Agoura Hills General Plan 2035 and the site zoning, and the buildout of this parcel was anticipated in the General Plan. Therefore, the project would be consistent with the intent of the AQMP and would not obstruct implementation of the plan, resulting in **less than significant impacts.**

b) Emissions generated by the proposed project would include temporary emissions during construction and long-term operational emissions. Both types of impacts are discussed below.

Construction Emissions

Construction of the proposed project would generate temporary air pollutant emissions. These impacts are associated with fugitive dust (PM_{10} and $PM_{2.5}$) and exhaust emissions from heavy construction vehicles, in addition to reactive organic gases (ROGs) that would be released during the drying phase upon application of architectural coatings. For the project, construction would generally consist of demolition (removal of existing concrete and other debris), site preparation, grading, erection of the proposed buildings, paving, and architectural coating.

Temporary emissions from construction of the proposed project were estimated using the California Emissions Estimator Model (CalEEMod) version 2013.2.2 (refer to Appendix A for air

quality modeling assumptions and results). During site preparation, the soils that underlie portions of the site could be turned over and pushed around, exposing the soil to wind erosion and dust entrainment by onsite operating equipment. The majority of emissions associated with construction activities on site come from off-road construction equipment, but some emissions are also associated with construction worker trips. For the purposes of modeling, it was assumed that the project would comply with SCAQMD Rule 403, which is required to be implemented at all construction sites located within the South Coast Air Basin. SCAQMD Rule 403, Table 1, provides measures for construction activities to reduce fugitive dust. The measures, listed below, including the application of water or stabilizing agents to prevent generation of dust plumes, pre-watering materials prior to use, use of tarps to enclose haul trucks, stabilizing sloping surfaces using soil binders until vegetation or ground cover effectively stabilize slopes, hydroseed prior to rain, and washing mud and soils from equipment at the conclusion of trenching activities would be required for all construction activities. Therefore, consistent with SCAQMD Rule 403, the modeling of air pollutants associated with construction assumed the following measures:

1. **Minimization of Disturbance.** Construction contractors should minimize the area disturbed by clearing, grading, earth moving, or excavation operations to prevent excessive amounts of dust.

2. **Soil Treatment.** Construction contractors should treat all graded and excavated material, exposed soil areas, and active portions of the construction site, including unpaved on-site roadways to minimize fugitive dust. Treatment shall include, but not necessarily be limited to, periodic watering, application of environmentally safe soil stabilization materials, and/or roll compaction as appropriate. Watering shall be done as often as necessary, and at least twice daily, preferably in the late morning and after work is done for the day.

3. **Soil Stabilization.** Construction contractors should monitor all graded and/or excavated inactive areas of the construction site at least weekly for dust stabilization. Soil stabilization methods, such as water and roll compaction, and environmentally safe dust control materials, shall be applied to portions of the construction site that are inactive for over four days. If no further grading or excavation operations are planned for the area, the area shall be seeded and watered until landscape growth is evident, or periodically treated with environmentally safe dust suppressants, to prevent excessive fugitive dust.

4. **No Grading During High Winds.** Construction contractors should stop all clearing, grading, earth moving, and excavation operations during periods of high winds (20 miles per hour or greater, as measured continuously over a one-hour period).

5. **Street Sweeping.** Construction contractors should sweep all on-site driveways and adjacent streets and roads at least once per day, preferably at

the end of the day, if visible soil material is carried over to adjacent streets and roads.

Table 4 summarizes the estimated maximum daily emissions of pollutants during each year of construction. For localized significance thresholds, allowable emissions from a site involving at least 2 acres of grading for a receptor at least 200 meters away was used, although the project site is approximately 300 meters away from the nearest sensitive receptor. Therefore, more conservative thresholds were used to compare construction emissions. Nevertheless, as shown in Table 4 construction emissions would not exceed SCAQMD regional thresholds related to ROG, NO_X, CO and SO_X. With adherence to SCAQMD Rule 403 to reduce fugitive dust during the grading phase of construction (see measures listed above), maximum daily emissions of fugitive dust (PM_{10} and $PM_{2.5}$) would not exceed applicable regional thresholds. In addition, the non-attainment basin status and the cumulative impact of all construction suggest that all reasonably available control measures for diesel exhaust shall be implemented even if individual thresholds are not exceeded. With adherence to SCAQMD rules for construction, construction impacts to air quality would be less than significant.

Table 4
Estimated Construction Emissions

	Emissions (lbs/day)					
	ROG	**NO_X**	**CO**	**PM_{10}**	**$PM_{2.5}$**	**SO_X**
Maximum Daily Construction Emissions	11.73	93.28	69.33	29.72	18.1	<0.1
SCAQMD Thresholds	*75*	*100*	*550*	*150*	*55*	*150*
Exceed SCAQMD Threshold?	**No**	**No**	**No**	**No**	**No**	**No**
Localized Significance Thresholds[1]	*N/A*	*187*	*2,629*	*66*	*21*	*N/A*
Exceed LST?	**N/A**	**No**	**No**	**No**	**No**	**N/A**

[1] *See Table 3*
Source: CalEEMod v 2013.2.2. Please see A for complete modeling results. Summer construction and operational emissions were modeled and reported for a conservative estimate of project emissions, since emission estimates are typically higher in the winter months compared to the summer months. Winter emission estimates report the most conservative pounds-per-day of emissions associated with the project, which are then compared to the SCAQMD thresholds measured in pounds-per-day. The annual emissions listed in the tables in Appendix A show the average annual emissions over the year. These estimates are used for analysis of greenhouse gas emissions impacts, since the greenhouse gas emission thresholds are based on metric tons per year.

Long-Term Emissions

Long-term emissions associated with project operation, as shown in Table 5, would include emissions from vehicle trips (Mobile), natural gas and electricity use (Energy), and landscape maintenance equipment, consumer products and architectural coating associated with on-site development (Area). As shown in Table 5, overall emissions for the project would not exceed SCAQMD thresholds for any criteria pollutants.

Table 5
Estimated Maximum Daily Operational Emissions

Sources	Estimated Emissions (lbs/day)					
	ROG	NO_x	CO	PM_{10}	$PM_{2.5}$	SO_x
Area	2.92	<0.1	<0.1	<0.1	<0.1	0.00
Energy	0.06	0.54	0.46	0.04	0.04	<0.1
Mobile	11.8	20.79	94.69	10.72	3.04	0.16
Total Emissions (lbs/day)	**14.78**	**21.34**	**95.18**	**10.76**	**3.08**	0.16
SCAQMD Thresholds	55	55	550	150	55	N/A
Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**N/A**

See Appendix A for CalEEMod winter output, included here because it represents the "worst-case" scenario.

As demonstrated in Tables 4 and 5, no air quality standard would be violated as a result of the proposed project, nor would the proposed project contribute substantially to an existing or projected air quality violation. Impacts related to violating or contributing to a violation of air quality standards **would be less than significant.**

c) As demonstrated in Tables 4 and 5 and discussed above, the proposed project would not result in a project specific or 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). Impacts would be **less than significant.**

d) As demonstrated and discussed above, the closest sensitive receptors to the project site are the residential uses approximately 1,000 feet (approximately 300 meters) northwest of the project site, beyond U.S. Highway 101. As shown in both Tables 4 and 5, the proposed project, either during construction or long-term operations, would not expose the project site or adjacent uses, such as nearby residential uses, to substantial pollutant concentrations. Impacts would be **less than significant.**

e) Figure 5-5, *Land Uses Associated with Odor Complaints,* of the 1993 SCAQMD CEQA Air Quality Handbook identifies the following land uses associated with odor complaints: Agriculture, Wastewater Treatment Plants, Food Processing Plants, Chemical Plants, Composting, Refineries, Landfills, Dairies, and Fiberglass Molding Plants. The proposed project is not associated with uses identified in this list and unlikely to generate objectionable odors affecting a substantial number of people, given that the proposed uses are an enclosed fitness facility and a restaurant. Therefore, there would be **no impacts** related to objectionable odors.

Mitigation Measures:

None required.

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

Discussion:

PCR conducted a biological reconnaissance of the project site on June 20, 2014 (See Appendix B). Survey coverage of the entire project site, with special attention to sensitive habitats or those areas potentially supporting sensitive flora or fauna, was ensured using color aerial

photography (1"= 100'), site-specific topography, and a USGS topographic map. Plant communities were mapped directly in the field utilizing a 100-scale (1"=100') aerial photograph and 7.5' USGS topographic map. The classification of plant communities follows the California Department of Fish and Wildlife *List of California Terrestrial Natural Communities Recognized by the Natural Diversity Database*. Descriptions are based on PCR's findings, Sawyer and Keeler-Wolf, and/or Holland. After completing the fieldwork, the plant community polygons were digitized using Geographic Information System (GIS) technology to calculate acreages. A constraints analysis report by PCR is provided in Appendix B. An additional site reconnaissance by Rincon Consultants, Inc. was conducted on March 5th, 2015 to verify the findings of PCR (See Appendix B). The following analysis is based on the findings from both reports.

Existing Conditions

As described above, the project site consists of formerly graded areas over the majority of the site (approximately 2.49 acres have been previously graded) including some remnant concrete/pavement (approximately 1 acre), a small deteriorated structure (wooden shack/shed) at the center of the site and utility lines. Within the graded area is vegetation (mainly ruderal) growing through the concrete slab, including tree tobacco (*Nicotiana glauca*), shortpod mustard (*Hirschfeldia incana*), telegraph weed (*Heterotheca grandiflora*), Italian thistle (*Carduus pycnocephalus*), red brome (*Bromus madritensis*), crimson fountain grass (*Pennisetum setaceum*), and a few native species, such as doveweed (*Eremocarpus setigerus*), coyote brush (*Baccharis pilularis*), and narrow-leaf milkweed (*Asclepias fascicularis*).

Ruderal vegetation is found in areas heavily disturbed by human activities, such as roadsides, graded fields, and manufactured slopes, and frequently weedy, non-native plants are introduced as a consequence. Within the project site, non-native species observed within this community include shortpod mustard, tocalote (*Centaurea melitensis*), tree of heaven (*Ailanthus altissima*), red brome, redstem filaree (*Erodium cicutarium*), Russian thistle (*Salsola tragus*), Italian thistle, horehound (*Marrubium* vulgare), white mulberry (*Morus alba*), smilo grass (*Stipa miliacea* var. *miliacea*), and native species such as coyote brush, red willow (*Salix laevigata*), arroyo willow (*Salix lasiolepis*), narrow-leaf milkweed, telegraph weed, saw-toothed goldenbush (*Hazardia squarrosa*), laurel sumac (*Malosma laurina*), and blue elderberry (*Sambucus nigra* ssp. *caerulea*). Ruderal vegetation covers 0.97 acre of the project site. None of the wildlife or plant species onsite are considered sensitive species.

A concrete vertical walled channel approximately 240 feet in length and 3 feet wide is located in the northeastern portion of the project site. This channel supports an estimated 0.02 acres of herbaceous wetland habitat which could also be considered a sensitive natural community. The community is dominated by non-native, non-sensitive species such as rabbitfoot grass (*Polypogon monspeliensis*), shortpod mustard, and curly dock (*Rumex crispus*). A mosaic of native species is found within this community with California bulrush (*Schoenoplectus californicus*) being the most dominant. Other native species observed include cattail (*Typha* sp.), red willow, coyote brush, mule fat (*Baccharis salicifolia*), narrow-leaf milkweed, and horseweed. The 0.02 acres of herbaceous wetland habitat is likely regulated by the U.S. Army Corps of Engineers (ACOE), Regional Water Quality Control Board (RWQCB) and California Department of Fish and Wildlife (CDFW).

Plant species observed during the survey were either identified in the field or collected and later identified using taxonomic keys. Plant taxonomy follows Hickman. Seven Common plant names were taken from Hickman, Munz, or McAuley. The wildlife species observed during the field survey by sight, call, tracks, nests, scat (fecal droppings), remains, or other sign were recorded. Binoculars and regional field guides were utilized for the identification of wildlife, as necessary. Any wildlife species observed within the project site, as well as diagnostic signs, were recorded in field notes. Wildlife taxonomy follows Stebbins for amphibians and reptiles, the American Ornithologists' Union for birds, and Jameson and Peeters for mammals.

A total of 29 plants, five invertebrates, five fish, three amphibians, six reptiles, 10 birds, and eight mammals have special status designations listed by the CNDDB in the nine 7.5 minute USGS quadrangles containing and surrounding the project site. These species are associated with a wide range of native vegetation types and habitats, none of which are found in any form onsite.

a) Based on the presence of developed and ruderal areas and a marginal herbaceous wetland habitat, the project site has limited potential to support wildlife and diversity. The project site contains no suitable habitat for sensitive species. Therefore, the proposed project would have a **less than significant impact** to sensitive wildlife species.

b) The project site consists of a large concrete area (approximately 1 acre), a small wood shack/shed (less than 50 square feet), utility lines, with ruderal vegetation and a concrete vertical walled channel approximately 240 feet in length and three feet wide located in the northeastern portion of the project site. The channel contains water and aquatic plants such as curly dock, cattail, and California bulrush throughout which could be considered a sensitive natural community. This channel supports an estimated 0.02 acres of herbaceous wetland habitat within the project site that could likely be regulated by the U.S. Army Corps of Engineers (ACOE), Regional Water Quality Control Board (RWQCB) and the California Department of Fish and Wildlife (CDFW). The project would remove this channel as part of construction and the area would be improved with grading and a retaining wall next to the northeast side of the proposed fitness structure. Thus, impacts to a sensitive natural community are **potentially significant unless mitigation is incorporated.**

If in consultation with state and federal resource agencies, including ACOE, RWQCB and CDFW, it is determined that the drainage channel is under ACOE, RWQB Or CDFW jurisdiction, the Mitigation Measure BIO-1 would be required to reduce impacts to a less than significant level.

c) As discussed above, an onsite drainage channel, including the herbaceous wetland habitat, could potentially be regulated by the ACOE, RWQCB and CDFW, and thus could be considered protected wetlands, including per Section 404 of the federal Clean Air Act. The project would remove this channel as part of construction and the area would be graded and developed including with a retaining wall next to the northeast side of the proposed fitness structure. Thus, impacts to federally protected wetlands are **potentially significant unless mitigation is incorporated.** Mitigation Measure BIO-1 would be required to mitigate impacts to wetlands.

d) The project site contains several trees with the potential to support migratory songbird nests. Project construction would remove one oak tree onsite and may require removal of other trees as part of project construction. Disturbing or destroying active nests is a violation of the Federal Migratory Bird Treaty Act (MBTA). In addition, nests, live young, and eggs are protected under the State of California's Fish and Wildlife Code Section 3503. Should active nests be present within the project site, potentially significant impacts could occur to nesting birds as a result of the proposed project. Mitigation Measure BIO-2 requiring bird nesting surveys would be required. Impacts related to movement of other native resident or migratory fish or wildlife species are not expected. There are no known or expected wildlife corridors or native wildlife nursery sites in or near the project site, and so impacts would be less would be less than significant with mitigation incorporated. Therefore, i**mpacts would be less than significant with mitigation incorporated for bird nesting, and less than significant for other impacts.**

e) The City of Agoura Hills Oak Tree Preservation Guidelines provide for protection and replacement of oak trees that are disturbed or removed by development. These Guidelines requires the preservation of oak trees and scrub oaks (genus *Quercus)* in recognition of their historical, aesthetic, and environmental value to the citizens of Agoura Hills. The policy applies to the removal, cutting, pruning, or encroachment into the root protection zone of an oak species. To qualify, oak trees must have a trunk diameter greater than two inches at 3.5 feet above grade. There are 3 protected oak trees in the public ROW and 11 additional protected trees occurring offsite or in the vicinity of the proposed project.

An original Oak Tree Report prepared by James Dean, ASLA, ISA (see Appendix C) dated June 17 2014 and revised October 13, 2014, November 17, 2014, and May 11, 2015 with a final determination was submitted to the City by the applicant, along with an Oak Tree Inventory Form (also contained in Appendix C). Based on the most recent report, and the memorandum from the City's Oak Tree Consultant dated July 7, 2015 (Appendix C), 14 oak trees on or within the vicinity of the project site are considered as protected oaks by the City's Oak Tree Ordinance and Preservation Guidelines. Three oak trees on or within the vicinity of the site would be impacted by the project. These include Oak Tree Nos. 193, 194 and 195. Oak Tree #194 is a valley oak tree onsite that would be removed as it is within the proposed building footprint at the northern end of the site. Oak Tree #193 is an off-site valley oak tree that would be severely impacted through grading and soil fill in the tree's protected zone along the site's western edge, and would be considered a loss. Oak Tree #195 is a coast live oak offsite within the Caltrans right-of-way on the north that would experience encroachment within its protected zone but outside its drip line; the impact would be considered minor and not a loss of the tree as long as oak tree protection measures are implemented. Oak Tree Nos. 178 and 179, which are coast live oaks, would be removed and mitigated for by the City as part of the Agoura Road Widening Project, and are addressed in the Agoura Road Widening Project's IS/MND (December 2012). They are not considered losses for this project. The remaining nine off-site oak trees are not expected to be impacted by the project. The direct loss of Oak Tree No. 194 would require replacement. Protective measures would be required for Oak Tree No. 195. For Oak Tree No. 193, protective measures would be required, but as the tree is expected to be impacted severely, replacement for its loss is also required. Protective measures are also required for the remainder of the oak trees adjacent to the site to ensure no impacts occur. These requirements are outlined in Mitigation Measures BIO-3 and BIO-4. Therefore, impacts from conflicts with local policies

or ordinances regarding oak tree protection would be **less than significant with mitigation incorporated.**

f) The project site is located within an urbanized area that is not subject to an adopted Habitat Conservation Plan, Natural Conservation Community Plan, or other approved local, regional, or state habitat conservation plan. Therefore, **no impact** would result from the development of this project.

Mitigation Measures:

The following mitigation measures are required to reduce impacts to a less than significant level.

BIO-1 **Habitat Restoration or In-lieu Fee.** To compensate for impacts to 0.02 acres of herbaceous wetland habitat in the channel, the applicant shall follow all requirements, including permits/approvals and identified mitigation, of the appropriate regulatory agencies, including the California Department of Fish and Wildlife (CDFW), the U.S. Army Corps of Engineers (ACOE), and the Regional Water Quality Control Board (RWQCB).

At a minimum, the applicant shall compensate for the loss of habitat at a 1:1 ratio (compensation area: impact area), or as required by the RWQCB, ACOE, and CDFW, as applicable. The same or similar habitat shall be restored as close to the impact area as possible. If a location in the general area of the project is not feasible as determined by the City, then the applicant shall restore another appropriate area within the City limits as close to the impacted area as possible. If a location in the City is determined infeasible by the City, mitigation shall occur elsewhere in the watershed but as close to the project site as possible, or an in-lieu fee to compensate for the loss of habitat may be provided to a qualified agency or other entity acceptable to the City and the regulatory agencies, as applicable. The appropriate in-lieu fee would be determined by the applicant and receiving entity/agency, as approved by the City Environmental Analyst.

Mitigation shall be completed within two (2) years of the completion of the project construction. A mitigation plan and monitoring program shall be prepared and submitted to the City Environmental Analyst and other regulatory agencies, as necessary, for acceptance prior to issuance of a Grading Permit or Building Permit, whichever occurs first, or the start of construction of the project, whichever is sooner. The mitigation and monitoring plan shall outline methods of mitigation; planting sizes, quantities, and receiver sites; performance standards, including maintenance and monitoring (with periodic status reports and documentation).

BIO-2 **Nesting Birds.** To the extent feasible, the applicant shall not remove or otherwise disturb vegetation, prepare the site, or conduct any other construction related activities within the work areas to avoid impacts to

breeding and/or nesting birds from February 1 through September 1, the recognized breeding, nesting and fledging season for raptor and bird species. If such activities in the work areas during the breeding and nesting season cannot be avoided, then prior to any ground or vegetation disturbing activities, the applicant shall have a qualified biologist/ornithologist acceptable to the City Environmental Analyst conduct a survey of all breeding and nesting habitats within the work areas and vicinity within one (1) week of construction or vegetation clearing activities. The extent of the survey buffer area surrounding the site shall be established by the biologist to ensure that direct and indirect effects to nesting/breeding birds are avoided. A report discussing the results of the bird survey shall be submitted for review by the City Environmental Analyst prior to any vegetation removal, site preparation or construction activity. If active nests are found within the survey area, activities within a 300-foot radius (500 feet for raptors) shall not be allowed until an appropriate buffer can be established. Limits of construction to avoid a nest site shall be established in the field with flagging and stakes or construction fencing. Activities within the buffer area shall be postponed or halted at the discretion of a biological monitor until the nest is vacated and juveniles have fledged, and there is no evidence of a second attempt at nesting. If a state or federally listed species is found, the CDFW, and the USFWS, when applicable, shall be notified within 24 hours of the sighting, and construction work shall not occur until concurrence has been received that operations may proceed. The biologist shall record the results of the recommended protective measures described above to document compliance with applicable state and federal laws pertaining to the protection of native birds, and provide the documentation to the City's Environmental Analyst.

BIO-3 **Oak Tree Replacement.** All excavation within the protected zone of Oak Trees Number 193 and 195 shall be performed using only hand tools under the direct observation of the applicant's oak tree consultant. Light construction equipment may be utilized with prior approval of the City Oak Tree Consultant.

Prior to the start of any mobilization or construction activities on the site, Oak Trees Number 193 and 195 shall be fenced at the edge of the approved limits of work in strict accordance with Article IX, Appendix A, Section V.C.1.1 of the City of Agoura Hills Oak Tree Preservation and Protection Guidelines. The City Oak Tree Consultant shall approve the fencing location subsequent to installation and prior to the start of any mobilization or work on the site.

To mitigate the removal of the Tree 194 and the likely decline and early death of Tree 193, the project plans shall include at least eight inches of trunk diameter of new oak trees within the landscape. The exact species, planting sizes and planting locations shall be subject to review and approval by the City Oak Tree Consultant. The applicant shall plant at least eight oak trees within the site, to

include the following six trees: two 36-inch box size trees and four 24-inch box size trees.

Should the Planning Director and the City Oak Tree Consultant determine that the required number of oak trees cannot be planted on the subject site in a practical fashion, equivalent alternative mitigation shall be established through the establishment of an equivalent in-lieu fee which the applicant shall pay into the City Oak Tree Mitigation Fund for the deficit. The amount of the in-lieu fee shall be based upon tree appraisal standards contained in the 9th Edition of the Guide for Plant Appraisal in consultation with the City's Oak Tree Consultant and approved by the Planning Director.

The planting locations, species and quality of all mitigation oak trees are subject to the approval of the City Oak Tree Consultant.

The mitigation oak trees shall be maintained in perpetuity. Should any of the mitigation oak trees decline or die, they shall be replaced in accordance with the provisions of the Oak Tree Preservation and Protection Guidelines.

BIO-4 **Oak Tree Preservation Program.** The project applicant shall submit an Oak Tree Preservation Program prepared by a qualified Oak Tree specialist for review and approval by the City Planning Department and City Oak Tree Consultant prior to the granting of a Grading Permit or Building Permit, whichever occurs first. The Oak Tree Preservation Program shall establish measures to further protect oak trees on and near the site that are not identified for removal during project construction. Preservation Program

The program shall include but not be limited to the following components:

Tree Protection

- An "Oak Tree Protection Zone" shall be delineated for each oak tree present within 50 feet of the construction zone, including but not limited to Oak Tree #195.
- All construction activities shall follow the established "Oak Tree Preservation Program."
- Before any site construction commences, all on-site trees shall be protected with a minimum 5' high chain link fence. To minimize damage that might occur due to equipment storage, debris dumping, parking, etc. within oak tree protection zones. This fence shall remain during all phases of construction and shall not be moved or removed without the approval of the City of Agoura Hills Planning Department.
- Fence posts shall be no closer than 15' from any oak tree trunk as well and no closer than 15' on-center within any dripline. Postholes being dug shall not impact any oak tree roots longer than 2 inches.
- Signs of a minimum size of 2'4' shall be installed on the fence equidistant from each other around each tree. Signs shall be posted 50' apart on a

grove of trees, where fencing cannot be placed around a single tree. The sign must read:

WARNING-THIS FENCE SHALL NOT BE REMOVED OR RELOCATED WITHOUT WRITTEN AUTHORIZATION FROM THE CITY OF AGOURA HILLS PLANNING & COMMUNITY DEVELOPMENT DEPARTMENT.

- Any brush clearance within the dripline of the tree areas shall be completed by hand only.

Pruning and Dead Wood Removal (not anticipated)

- A certified arborist shall perform all pruning cuts according to the International Society of Arborists' Best Management Practices: Tree Pruning and according to American National Standards Institute (ANSI) A300 pruning standard. Work shall be performed in accordance with the ANSI Z133.1 safety standard.

Water & Fertilization

- Watering should not be done during the months of June, July, and August unless the root system has been compromised by damage done to some of the roots. If recommended by an arborist, water should be applied no more than once or twice a week and allowed to drain thoroughly before more water is applied.
- Fertilization of these native oak trees is not ordinarily recommended and should not be done unless approved by the City arborist.

Diseases and Pests

- Prior to construction, the vigor of the saved trees shall be assessed. Any trees in a weakened condition shall be treated, as deemed necessary by the City arborist to invigorate them.
- During all phases of construction, the health of the trees shall be monitored for signs of disease. These problems, if determined to exist, shall be addressed in order to remedy them.

Grading Within the Protected Zone

- Exploratory trenching shall be done by hand or with great care by digging equipment under the observation of the consulting arborist for all trees proposed to be encroached by this project. This shall be done in order to minimize the damage to the root system by digging and to allow the proper pruning of the roots that are found. If any roots 2 inches or larger are encountered, they shall be saved (except in a grading cut situation) and covered with a layer of plastic cloth until backfilled.

Other Considerations

- Grade stakes should not be nailed to trees; nothing that causes damages to the tree should be attached the trees
- No planting, irrigation, or utilities should be installed within 15' of any native oak tree trunk unless approved by the City Planning Department.
- Chemicals or herbicides should not be applied within 100' of the dripline of any native oak tree.
- Dust accumulation onto the tree's foliage from construction shall be hosed off periodically during construction under the recommendation on the consulting arborist.
- Copies of the oak tree report and the oak tree permit and the City approved site plan, as well as landscape and irrigation plans, shall be kept on-site during all site construction for reference.
- A certification letter shall be submitted to the City Planning Department. upon completion of all work to the oak trees. This letter shall be submitted within five (5) working days of project completion.

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less than Significant Impact	No Impact
V. Cultural Resources				
-- Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	☐	☐	☐	■
b) Cause a substantial adverse change in the significance of an archaeological resource as defined in §15064.5?	☐	■	☐	☐
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	■	☐	☐
d) Disturb any human remains, including those interred outside of formal cemeteries?	☐	■	☐	☐

Discussion:

a) The project site is currently vacant and does not contain historic resources. Rincon Consultants, Inc. conducted a Cultural Resources Investigation, including a record search and survey of the site on March 2, 2015. A Cultural Resources Constraints Analysis was then completed on April 22, 2014 by Rincon Consultants, Inc. This investigation did not identify any California Points of Historical Interest, California Historical Landmarks, California Register of Historic Places listings, California Historic Resources Inventory listings, and National Register of Historic Places listings in the vicinity of the project site. Thus, the project would not remove or damage any existing historic resources. There would be **no impact**.

*b)*As part of the Cultural Resources Investigation (Rincon, March 2015), the records search results indicated that there are no known archaeological sites within the project area, however 11 previously recorded cultural resources were identified within 0.5 mile of the project site primarily related to areas along the historic El Camino Real route (current U.S. Highway 101). The survey was negative for cultural and paleontological material. Half of the project site surface is covered by a concrete foundation from the previous building and a paved road. The other half is covered in vegetation and gravel but no cultural material was observed on the surface.

Based on the above, the proposed project would not impact any known archaeological properties. Nonetheless, it is possible that grading could potentially encounter previously unknown archaeological or paleontological resources. Because the possibility exists for encountering subsurface archaeological resources remains during construction activities, impacts to unknown cultural resources could be potentially significant Mitigation Measure CR-1 involving construction monitoring is required.

With adherence to Mitigation Measure CR-1, **impacts would be less than significant with mitigation.**

c) As described above, as part of the Cultural Resources Investigation (Rincon, March 2015), the records search results indicated that there are no known paleontological or unique geological features sites within the project area. The survey was negative for paleontological material. Half of the project site surface is covered by a concrete foundation from the previous building and a paved road. The other half is covered in vegetation and gravel but no cultural material were observed on the surface.

Based on the above, the proposed project would not impact any known paleontological resources. Nonetheless, it is possible that grading could potentially encounter previously unknown paleontological resources. Because the possibility exists for encountering subsurface resources remains during construction activities, impacts to unique geological features and paleontological resources would be potentially significant. Mitigation Measure CR-1 is required to be implemented during construction. **Impacts would be less than significant with mitigation.**

d) There is no evidence of human remains on-site. The potential for unknown burial sites to be encountered during construction is extremely low given the previously disturbed nature of the project site. Nevertheless, ground disturbing activities during project construction have the potential to uncover previously undiscovered human remains, and so impacts would be considered potentially significant. Mitigation Measure CR-2 listed below, which outlines the proper procedures if human remains are found, would be required during construction activities. **Impacts would be less than significant with mitigation incorporated.**

Mitigation Measures:

The following measures are required to reduce potential impacts to cultural resources to a less than significant level.

CR-1 **Archaeological/Paleontological Monitoring.** Archaeological/Paleontological monitoring of all project related ground disturbing activities of sediments that appear to be in a primary context shall be conducted by a qualified archaeologist and/or paleontologist approved by the City Environmental Analyst. A Native American representative shall monitor any archaeological field work associated with Native American materials. Archaeological monitoring is required until excavation is complete or until a soil change to a culturally sterile formation is achieved. Paleontological monitoring is required until excavation is complete or until ground disturbance is no longer occurring within the Topanga or Monterey Formations. Determination of these conditions shall be at the discretion of a qualified archaeologist and/or paleontologist. Archaeological monitoring shall be performed under the direction of an archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for archaeology (NPS 1983). Paleontological monitoring shall be performed by a paleontologist meeting the Society of Vertebrate Paleontology's Paleontological Resource Monitor (SVP 2010). A cross-trained monitor meeting both of these requirements may also be used. The qualified archaeologist/paleontologist may reduce or stop monitoring dependent upon observed conditions. If archaeological/paleontological resources are encountered during ground-disturbing activities, the City Environmental Analyst shall be notified immediately, and work shall stop within a 100-foot radius until a qualified archaeologist or paleontologist (as applicable) has assessed the nature, extent, and potential significance of any remains under CEQA. In the event such resources are determined to be significant, appropriate actions to mitigate impacts shall be implemented. Depending on the nature of the find, mitigation could involve avoidance, documentation, or other appropriate actions to be determined by a qualified archaeologist/paleontologist consistent with CEQA (PRC Section 21083.2), in consultation with the City's Environmental Analyst.

CR-2 **Human Remains.** In accordance with California HSC Section 7050.5, PRC Section 5097.98, and the City's General Plan Policy HR-3.3, if human remains are uncovered during construction, the County Coroner shall be notified of the find immediately, and no further disturbance shall occur until the County Coroner has made a determination of origin and disposition. The location and nature of the find will be kept confidential on a need-to-know basis. The City's Environmental Analyst shall also be notified. If the human remains are determined to be prehistoric, the Coroner will notify the Native American Heritage Commission (NAHC), which will determine and notify the Most Likely Descendent (MLD) or MLDs. The MLD or MLDs shall complete inspection and make recommendations within 48 hours of notification by the NAHC. In-situ preservation of human remains is preferred.

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less than Significant Impact	No Impact
VI. Geology and Soils				
-- Would the project:				
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?	☐	☐	■	☐
ii) Strong seismic ground shaking?	☐	☐	■	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☐	■	☐
iv) Landslides?	☐	☐	■	☐
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	■	☐
c) Be located on a geologic unit or soil that is unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	☐	■	☐	☐
d) Be located on expansive soil, as defined in Table 1-B of the Uniform Building Code, creating substantial risks to life or property?	☐	■	☐	☐
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	■

Discussion:

A *Geotechnical Engineering Update Study* dated July 18, 2014 was prepared by Advanced Geotechnical Services, Inc. (AGS) for the proposed project. In response to the geotechnical study by AGS, Geodynamics, Inc. performed a geotechnical review of the study dated November 28, 2014 and recommended that AGS review final development/grading plans when they become available and provide additional geotechnical recommendations as necessary. The analysis contained in this section is partially based on the geotechnical engineering study and the City's Geotechnical Consultant (Geodynamics) memorandums dated October 24, 2014, November 28,

2014 and December 4, 2014. The full study and the memorandums are contained in Appendix D.

a.i) As shown in the USGS Thousand Oaks Quadrangle, which includes the project site, the project site is not underlain by any Alquist-Priolo Earthquake Hazard Zones. The active fault nearest to the project site is the Malibu Coast fault, located about eight miles to the south. Since there are no known active or potentially active faults passing through the site, the potential of on-site ground rupture due to movement on an underlying fault is not considered a significant hazard. Impacts would be **less than significant.**

a.ii) The project site is subject to seismic groundshaking from faults in the region. The project site is situated in the seismically active Transverse Ranges Geomorphic province. Like any other area in the region, the project site would experience ground motion from earthquakes generated on regional faults, including the Malibu, San Fernando, Northridge, San Andreas, Newport-Inglewood and Malibu Coast Faults.

Pursuant to Section 8100 of the City of AHMC, which adopts the 2013 California Building Code (CBC) by reference, the proposed fitness facility and retail/restaurant buildings would be designed and engineered to withstand the expected ground acceleration that may occur at the site. Modifications of seismic requirements in the CBC, as set in Section 8204(d) of the AHMC, which requires adequate concrete footing for support and seismic reinforcement, also would apply to the proposed buildings. The project would be required to comply with local and state standards for building, and so impacts would be **less than significant.**

a.iii) Liquefaction describes the phenomenon in which groundshaking works cohesion-less soil particles into a tighter packing which induces excess pore pressure. These soils may acquire a high degree of mobility and lead to structurally damaging deformations. Liquefaction begins below the water table, but after liquefaction has developed, the groundwater table will rise and cause the overlying soil to mobilize. Liquefaction typically occurs in areas where groundwater is less than 30 feet from the surface and where the soils are composed of poorly consolidated fine to medium sand. According to the Department of Conservation Seismic Hazard Zones Map for the Thousand Oaks Quadrangle, the project site and its vicinity are not located within a "Zone of Required Investigation" for liquefaction (California Department of Conservation, 2000). According to the geotechnical engineering update study performed for the project (AGS, 2014, see full report in Appendix D), the site is not located in an area considered to be susceptible to liquefaction. All existing fill material and alluvium within the proposed building areas would be removed and recompacted down to the underlying bedrock. Therefore, the subject site is not considered prone to liquefaction and associated hazards**.** Impacts would be **less than significant.**

a.iv) The geologic character of an area determines its potential for landslides. Steep slopes, the extent of erosion, and the rock composition of a hillside all contribute to the potential for slope failure and landslide events. In order to fail, unstable slopes need to be disturbed; common triggering mechanisms of slope failure include undercutting slopes by erosion or grading, saturation of marginally stable slopes by rainfall or irrigation; and, shaking of marginally stable slopes during earthquakes. As shown in the Department of Conservation Seismic Hazard Zones Map for the Thousand Oaks Quadrangle, the project site and its vicinity are not located within a "Zone of Required Investigation" for earthquake-induced landslides. AGS concludes that the

project's risk of landslide is very low, given the proposed improvements and existing site conditions. Therefore, impacts would be **less than significant.**

b) Construction activities have the potential to expose surficial soils to wind and water erosion. Manufactured slopes from proposed cut and fill on the project site could be subject to erosion, unless such slopes are maintained properly. Cut slopes along the north end of the site are designated as such due to the proposed new grade being lower than the current, existing grade. The existing earth materials below the area would be removed and recompacted as part of the required grading for support of the proposed structure, retaining wall, paving and concrete flatwork. New fill slopes would be constructed along the north end of the site, and the northern 200 feet of the east end of the site during the required removal and recompaction operations. The existing soils present on the faces of the slopes and all existing fill material in the vicinity will be removed as part of the removal and recompaction operations.

As noted in Section II, *Air Quality*, the proposed project would have to comply with SCAQMD Rule 403 by incorporating measures to reduce fugitive dust, which would also help reduce the potential for construction-related erosion. SCAQMD Rule 403, Table 1, provides measures for construction activities to reduce fugitive dust. This includes measures for the application of water or stabilizing agents to prevent generation of dust plumes, pre-watering materials prior to use, use of tarps to enclose haul trucks, stabilizing sloping surfaces using soil binders until vegetation or ground cover effectively stabilize slopes, hydroseed prior to rain, washing mud and soils from equipment at the conclusion of trenching activities. Water erosion will be also be prevented during construction activities through the City's standard erosion control practices required pursuant to the California Building Code and the National Pollution Discharge Elimination System (NPDES), such as silt fencing or sandbags. Construction activities would be required to comply with the General Construction Activities Stormwater Permit (GCASP) approved by the State Water Resources Control Board by Water Quality Order 99-08-DWQ and the proposed project would be required to develop a Stormwater Pollution Prevention Plan (SWPPP). The standard requirements of SCAQMD Rule 403, the GCASP, SWPPP, and project components would serve to reduce the potential for soil loss on the project site due to erosion. Therefore, impacts related to soil erosion and loss of topsoil would be **less than significant.**

c) The presence of unstable geologic units or soils can result in surficial instability from landslides, lateral spreading, subsidence, liquefaction, or collapse. As discussed in Item *a.)iv)* and iii), the proposed project site would be subject to less than significant impacts from landslides and liquefaction. Lateral spreading is the horizontal movement or spreading of soil toward an open face. Lateral spreading may occur when soils liquefy during an earthquake event, and the liquefied soils with overlying soils move laterally to unconfined spaces. Because soils in the vicinity of the project site are not susceptible to liquefaction, the potential for lateral spreading also is low. Subsidence is the sudden sinking or gradual downward settling of the earth's surface with little or no horizontal movement. Subsidence is typically associated with regional changes in ground surface elevation associated with withdrawal of groundwater, pumping of oil and gas from underground, the collapse of underground mines, liquefaction, or hydrocompaction. Slope and soil instabilities can result from manufactured features (undercutting natural slopes, improper construction of cut or fill slopes).

As discussed in the geotechnical engineering update study (AGS, 2014 contained in Appendix D), cut slopes occur along the north end of the site, and wrap around the northern 200 feet of the east end of the site. The existing earth materials underlying this area will be removed and recompacted as part of the required grading for support of the proposed structures, retaining wall, paving, and concrete flatwork. New fill slopes will be constructed along the north end of the site, and the northern 200 feet of the east end of the site, during the required removal and recompaction operations. Mitigation Measure GEO-1 would be required to protect manufactured slopes and ensure proper installation of retaining walls.

Additionally, according to Conditions of Approval described by Geodynamics, Inc. in the geotechnical review, dated November 28, 2014, include the following:

1. The applicant should provide a letter from adjacent property owners indicating that they will provide the necessary permission and access for the applicant and his hired consultants and contractors to enter their properties and perform the grading and overexcavation activities recommended in the above referenced reports.

2. The structural engineer for the project should evaluate the impact of the proposed grading and fill on the existing culvert. The structural engineer should provide a letter indicating that proposed grading around the culvert and the proposed fill on the top of the culvert will not adversely impact the stability and/or the structural integrity of the existing culvert, and that the proposed additional loads and stresses due to grading and fill placement ton the top of the culvert area are within the tolerance limits of the culvert.

With adherence to Mitigation Measure GEO-1 and the Conditions of Approval described by Geodynamics, Inc., **i**mpacts relating to slope stability hazards would be **less than significant with mitigation incorporated.**

d) The potential of the soil to swell or expand increases with an increase in soil density, a decrease in initial moisture content, an increase in clay content, and an increase in the activity of the clay content. The test results for a sample of the near surface soils collected at the project site were found to be in a low expansion category. However, tests performed on samples of clayey soils in areas adjacent to the project site as part of the geotechnical engineering study indicate that materials in the high to very high expansion range may be on the project site.

While the proposed project is required to comply with CBC requirements relating to expansive soils, additional measures are recommended by the geotechnical engineering study to mix potential highly expansive soils with less expansive, sandier soils during grading to mitigate the potential effects of expansive soils. Mitigation Measure GEO-1 would be required to be implemented to address impacts from expansive soils. Therefore, impacts would be **less than significant with mitigation incorporated.**

e) The proposed project would be connected to the City's sewer system and would not use a septic system. Thus, there would be **no impact** related to the use of septic systems.

Mitigation Measures:

Implementation of the following mitigation measure would reduce geology and soils impacts to a less than significant level.

GEO-1 Geotechnical Recommendations. The applicant shall comply with all recommendations included in the Geotechnical Engineering Update Study (AGS, July 2014) regarding site preparation, grading, fill materials, excavation, drainage, foundation design and retaining walls, among others, for the project to reduce the risk of expansive soils and unstable soils.

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less than Significant Impact	No Impact
VII. Greenhouse Gas Emissions				
-- Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	■	☐
b) Conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	■	☐

Discussion:

Greenhouse gases (GHGs) are emitted by both natural processes and human activities. Of these gases, carbon dioxide (CO_2) and methane (CH_4) are emitted in the greatest quantities from human activities. Emissions of CO_2 are largely by-products of fossil fuel combustion, whereas CH_4 results from off-gassing associated with agricultural practices and landfills. Scientific modeling predicts that continued GHG emissions at or above current rates would induce more extreme climate changes during the 21st century than were observed during the 20th century. Different types of GHGs have varying global warming potentials. The global warming potential of a GHG is the potential of a gas or aerosol to trap heat in the atmosphere over a specified timescale (generally, 100 years). Because GHGs absorb different amounts of heat, a common reference gas (CO_2) is used to relate the amount of heat absorbed to the amount of the gas emissions, referred to as "carbon dioxide equivalent" (CO_2E), and is the amount of a GHG emitted multiplied by its global warming potential.

According to the CalEPA's 2010 Climate Action Team Biennial Report, potential impacts of climate change in California may include loss in snow pack, sea level rise, more extreme heat days per year, more high ozone days, more large forest fires, and more drought years (CalEPA, April 2010). While these potential impacts identify the possible effects of climate change at a global and potentially statewide level, in general, scientific modeling tools are currently unable to precisely predict what impacts would occur locally.

The City of Agoura Hills is within the South Coast Air Basin, which is under the jurisdiction of the South Coast Air Quality Management District (SCAQMD). The SCAQMD has not adopted GHG emissions thresholds that apply to land use projects where the SCAQMD is not the lead agency and the City has not adopted any specific GHG emissions reduction plan or GHG emissions thresholds. Therefore, the currently proposed project is evaluated based on the SCAQMD's recommended/preferred option threshold for all land use types of 3,000 metric tons of CO_2E per year (SCAQMD, 2010).

a) GHG emissions associated with short-term construction and long-term operation of the project were estimated using the California Emissions Estimator Model (CalEEMod) (see Appendix A for forecast assumptions and results).

Construction Emissions

Based on the CalEEMod results, construction activity for the proposed project would result in an estimated 447.6 metric tons of CO_2E. Because climate change represents a long-term cumulative impact, emissions associated with construction activity are amortized over a 30-year period (the anticipated life of the project) in order to more accurately compare them to the annual threshold. Therefore, project construction would generate approximately 15 metric tons of CO_2E per year.

Operational Emissions

Operation of the proposed project would consume both electricity and natural gas, as the proposed buildings would utilize lighting, HVAC, and other appliances that use energy. Other sources of GHG emissions include area sources (consumer products, landscape maintenance, and architectural coating), solid waste, water transportation, and vehicle trips to and from the site. Motor vehicle trip GHG emissions were estimated using trip rates in the Institute of Transportation Engineers' Trip Generation manual (9th Edition) for Health/Fitness Clubs and Fast Food Restaurant without Drive-Throughs, consistent with the methodology of the traffic impact study for the proposed project, prepared by LSA Associates, Inc. in September 2014.

Based on the CalEEMod estimate, operational emissions resulting from on site development would be about 2,723 metric tons CO_2E per year.

Combined Construction, Stationary and Mobile Source Emissions

Table 6 combines the construction, operational (energy use, area source, solid waste, and water use emissions), and mobile GHG emissions associated with the proposed project. The combined annual emissions would total approximately 2,723 metric tons CO_2E per year. Based on the 3,000 metric tons CO_2E per year threshold, the project's emissions would have **a less than significant impact.**

Table 6
Combined Annual Emissions of Greenhouse Gases

Emission Source	Annual Emissions (CO_2E)
Construction	19.56 metric tons
Operation Energy Area Sources Solid Waste Water	 293 metric tons <0.1 metric tons 52.3 metric tons 21 metric tons
Mobile	2,337 metric tons
Total	**2,723 metric tons**

See Appendix A for CalEEMod output.

b) Senate Bill 375, signed in August 2008, requires the inclusion of sustainable communities' strategies (SCS) in regional transportation plans (RTPs) for the purpose of reducing GHG emissions. In April 2012, the South Coast Association of Government (SCAG) adopted the *2012-2035 Regional Transportation Plan/Sustainable Communities Strategy* (RTP/SCS). SCAG's RTP/SCS includes a commitment to reduce emissions from transportation sources by promoting compact and infill development in order to comply with SB 375. A goal of the SCS is to "promote the development of better places to live and work through measures that encourage more compact development, varied housing options, bike and pedestrian improvements, and efficient transportation infrastructure." The project is infill and is proposed within the vicinity of future development including residential uses. The Los Angeles County Metropolitan Transportation Authority (Metro) bus line 161 provides service in Westlake Village, Thousand Oaks, Agoura Hills, Calabasas, and Woodland Hills. The nearest stop to the project is at the corner of Kanan Road/Roadside Drive, a half-mile away. The proposed project would be accessible by existing bicycle and pedestrian paths as well as include pedestrian walkways adjacent to the project and nearby roadways. The project's pedestrian paths would connect with those of adjacent parcels to create an integrated POM district, encouraging walking. Therefore, it would be consistent with the SB 375 goal of alternative transportation options. Another goal of the RTP/SCS is to "create more compact neighborhoods and place everyday destinations closer to homes and closer to one another." The proposed project would place retail/restaurant uses within the vicinity of future residences (since the parcel across Roadside Road is zoned POM-MXD which accommodates residential units, and the project site is located across Agoura Road from the Agoura Village Specific Plan area, which allows residential use), thereby meeting this RTP/SCS goal.

In April 2015, the Governor issued Executive Order (EO) B-30-15, setting a GHG emission reduction target of 40 percent below 1990 levels by 2030. Similarly, Assembly Bill 32, the "California Global Warming Solutions Act of 2006," requires achievement of a statewide GHG emissions limit equivalent to 1990 emissions by 2020 (essentially a 25% reduction below 2005 emission levels). Both the California Environmental Protection Agency (CalEPA) and California Attorney General have published documents identifying methods and strategies to reduce GHG emissions at the state and local levels in response to these targets (CalEPA 2006; Office of

the California Attorney General 2008). Tables 7 and 8 illustrate the GHG reduction strategies set forth by CalEPA that the proposed project would be consistent with.

Table 7
Project Consistency with Applicable Climate Action Team Greenhouse Gas Emission Reduction Strategies

Strategy	*Project Consistency*
California Air Resources Board	
Vehicle Climate Change Standards AB 1493 (Pavley) required the state to develop and adopt regulations that achieve the maximum feasible and cost-effective reduction of climate change emissions emitted by passenger vehicles and light duty trucks. Regulations were adopted by the ARB in September 2004.	**Consistent** The vehicles that travel to and from the project site on public roadways would be in compliance with ARB vehicle standards that are in effect at the time of vehicle purchase.
Diesel Anti-Idling The ARB adopted a measure to limit diesel-fueled commercial motor vehicle idling in July 2004.	**Consistent** Current State law restricts diesel truck idling to five minutes or less. Diesel trucks operating from and making deliveries to the project site are subject to this state-wide law. Construction vehicles are also subject to this regulation.
Hydrofluorocarbon Reduction 1) Ban retail sale of HFC in small cans. 2) Require that only low GWP refrigerants be used in new vehicular systems. 3) Adopt specifications for new commercial refrigeration. 4) Add refrigerant leak-tightness to the pass criteria for vehicular inspection and maintenance programs. 5) Enforce federal ban on releasing HFCs.	**Consistent** This strategy applies to consumer products. All applicable products would be required to comply with the regulations that are in effect at the time of manufacture.
Alternative Fuels: Biodiesel Blends ARB would develop regulations to require the use of 1 to 4% biodiesel displacement of California diesel fuel.	**Consistent** The diesel vehicles such as construction vehicles that travel to and from the project site on public roadways could utilize this fuel once it is commercially available.
Alternative Fuels: Ethanol Increased use of E-85 fuel.	**Consistent** Employees and visitors at the project site could choose to purchase flex-fuel vehicles and utilize this fuel once it is commercially available regionally and locally.
Heavy-Duty Vehicle Emission Reduction Measures Increased efficiency in the design of heavy duty vehicles and an education program for the heavy duty vehicle sector.	**Consistent** The heavy-duty vehicles for construction activities that travel to and from the project site on public roadways would be subject to all applicable ARB efficiency standards that are in effect at the time of vehicle manufacture.
Achieve 50% Statewide Recycling Goal Achieving the State's 50% waste diversion mandate as established by the Integrated Waste Management Act of 1989, (AB 939, Sher, Chapter 1095, Statutes of 1989), will reduce climate change emissions associated with energy intensive material extraction and production as well as methane emission from landfills. A diversion	**Consistent** Businesses in the City of Agoura Hills are serviced by several refuse and recycling collectors for their business refuse needs. The City of Agoura Hills has instituted a mandatory commercial sector recycling program in conformance with California Assembly Bill 939.

Table 7
Project Consistency with Applicable Climate Action Team Greenhouse Gas Emission Reduction Strategies

Strategy	*Project Consistency*
rate of 48% has been achieved on a statewide basis. Therefore, a 2% additional reduction is needed.	
Department of Forestry	
Urban Forestry A new statewide goal of planting 5 million trees in urban areas by 2020 would be achieved through the expansion of local urban forestry programs.	**Consistent** Landscaping for the project would result in additional planted trees compared to existing conditions.
Department of Water Resources	
Water Use Efficiency Approximately 19% of all electricity, 30% of all natural gas, and 88 million gallons of diesel are used to convey, treat, distribute and use water and wastewater. Increasing the efficiency of water transport and reducing water use would reduce greenhouse gas emissions.	**Consistent** The proposed project may serve to increase rainwater infiltration and lower strain on wastewater infrastructure during storm events through use of catch basins, detention chambers, and underground cisterns.
Energy Commission (CEC)	
Building Energy Efficiency Standards in Place and in Progress Public Resources Code 25402 authorizes the CEC to adopt and periodically update its building energy efficiency standards (that apply to newly constructed buildings and additions to and alterations to existing buildings).	**Consistent** The proposed project would be required to comply with the standards of Title 24 that are in effect at the time of development.
Fuel-Efficient Replacement Tires & Inflation Programs State legislation established a statewide program to encourage the production and use of more efficient tires.	**Consistent** Visitors of the project site could purchase tires for their vehicles that comply with state programs for increased fuel efficiency.
Alternative Fuels: Non-Petroleum Fuels Increasing the use of non-petroleum fuels in California's transportation sector, as recommended as recommended in the CEC's 2003 and 2005 Integrated Energy Policy Reports.	**Consistent** Visitors of the project site could purchase alternative fuel vehicles and utilize these fuels once they are commercially available regionally and locally.
Business, Transportation and Housing	
Smart Land Use and Intelligent Transportation Systems (ITS) Smart land use strategies encourage jobs/housing proximity, promote transit-oriented development, and encourage high-density residential/commercial development along transit corridors. ITS is the application of advanced technology systems and management strategies to improve operational efficiency of transportation systems and movement of people, goods and services.	**Consistent** Extending the available park and recreation resources near existing residential areas may reduce the number of vehicle trips residents take to access outdoor recreation opportunities. The project is infill and is proposed within the vicinity of future development including residential uses. The Los Angeles County Metropolitan Transportation Authority (Metro) bus line 161 provides service in Westlake Village, Thousand Oaks, Agoura Hills, Calabasas, and Woodland Hills. The nearest stop to the project is at the corner of Kanan Road/Roadside

Table 7
Project Consistency with Applicable Climate Action Team Greenhouse Gas Emission Reduction Strategies

Strategy	*Project Consistency*
The Governor is finalizing a comprehensive 10-year strategic growth plan with the intent of developing ways to promote, through state investments, incentives and technical assistance, land use, and technology strategies that provide for a prosperous economy, social equity and a quality environment. Smart land use, demand management, ITS, and value pricing are critical elements in this plan for improving mobility and transportation efficiency. Specific strategies include: promoting jobs/housing proximity and transit-oriented development; encouraging high density residential/commercial development along transit/rail corridor; valuing and congestion pricing; implementing intelligent transportation systems, traveler information/traffic control, incident management; accelerating the development of broadband infrastructure; and comprehensive, integrated, multimodal/intermodal transportation planning.	Drive, a half-mile away. The proposed project would be accessible by existing bicycle and pedestrian paths as well as include pedestrian walkways adjacent to the project and nearby roadways. The project's pedestrian paths would connect with those of adjacent parcels to create an integrated POM district, encouraging walking.

Table 8
Project Consistency with Applicable Attorney General Greenhouse Gas Reduction Measures

Strategy	*Project Consistency*
Transportation-Related Emissions	
Diesel Anti-Idling Set specific limits on idling time for commercial vehicles, including delivery vehicles.	**Consistent** Currently, the California Air Resources Board's (CARB) Airborne Toxic Control Measure (ATCM) to Limit Diesel-Fueled Commercial Motor Vehicle Idling restricts diesel truck idling to five minutes or less. Diesel trucks operating from and making deliveries to the project site are subject to this state-wide law. Construction vehicles are also subject to this regulation.
Solid Waste and Energy Emissions	
Water Use Efficiency Require measures that reduce the amount of water sent to the sewer system – see examples in CAT standard above. (Reduction in water volume sent to the sewer system means less water has to be treated and pumped to the end user, thereby saving energy.	**Consistent** As described above, the proposed project may serve to increase rainwater infiltration and lower strain on wastewater infrastructure during storm events through use of catch basins, detention chambers, and underground cisterns.

Table 8
Project Consistency with Applicable Attorney General Greenhouse Gas Reduction Measures

Strategy	*Project Consistency*
Land Use Measures, Smart Growth Strategies and Carbon Offsets	
Smart Land Use and Intelligent Transportation Systems Require pedestrian-only streets and plazas within the project site and destinations that may be reached conveniently by public transportation, walking or bicycling.	**Consistent** Extending the available park and recreation resources near existing residential areas may reduce the number of vehicle trips residents take to access outdoor recreation opportunities. The project is infill and is proposed within the vicinity of future development including residential uses. The Los Angeles County Metropolitan Transportation Authority (Metro) bus line 161 provides service in Westlake Village, Thousand Oaks, Agoura Hills, Calabasas, and Woodland Hills. The nearest stop to the project is at the corner of Kanan Road/Roadside Drive, a half-mile away. The proposed project would be accessible by existing bicycle and pedestrian paths as well as include pedestrian walkways adjacent to the project and nearby roadways. The project's pedestrian paths would connect with those of adjacent parcels to create an integrated POM district, encouraging walking.
NR-10.1 Climate Change Comply with all state requirements regarding climate change and greenhouse gas reduction and review the progress toward meeting the emission reductions targets.	**Consistent** As demonstrated in Tables 5 and 6, the project would be consistent with state requirements regarding climate change.
NR-10.2 Regional Coordination Ensure that that any plans prepared by the City, including the General Plan, are aligned with, and support any regional plans to help achieve reductions in greenhouse gas emissions.	**Consistent** The proposed project is consistent with the emissions reduction goals included in the SCAG 2012 RTP/SCS, as discussed previously.

As indicated in Tables 7 and 8, the proposed project would be consistent with applicable plans, policies, or regulations adopted for the purpose of reducing the emissions of GHGs and would be consistent with the objectives of AB 32, SB 97, SB 375, the SCAG RTP/SCS,.

The City of Agoura Hills General Plan (March 2010) identifies goals and policies generally related to reduction of GHG emissions. The project would be consistent with these items, including Policy LU-1.2, Development Locations (prioritize future growth as infill or existing developed areas re-using and, where appropriate, increasing the intensity of development on vacant and underutilized properties) and Policy LU-24.5, Connectivity (new buildings, pedestrian walkways, and open spaces located and designed to promote connectivity internally and with adjoining land uses, including Agoura Village).

As demonstrated above, the proposed project would not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs and would be consistent with the objectives of the RTP/SCS, AB 32, SB 97, SB 375, and the City of Agoura Hills General Plan. **Impacts would be less than significant.**

Mitigation Measures:

None required.

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less than Significant Impact	No Impact
VIII. Hazards and Hazardous Materials				
-- Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	■	☐
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	■	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within ¼ mile of an existing or proposed school?	☐	☐	☐	■
d) Be located on a site which is included on a list of hazardous material 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?	☐	☐	■	☐
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	■
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	■
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	■	☐
h) Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	■	☐

Discussion:

A Phase I Environmental Site Assessment (ESA) was prepared by Batchelor Environmental Services, Inc. (BESI) on February 1st, 2012. Based on the findings and recommendations of the Phase I ESA, BESI performed a Soil Gas Survey and Analysis on February 24, 2012. The analysis contained in this section is partially based on the BESI Phase I ESA dated February 1t, 2012, and Soil Gas Survey and Analysis dated February 24, 2012. The Phase I ESA and Soil Gas Survey and Analysis are both available in Appendix G.

a) The proposed project would involve the construction of an approximately 45,000 square foot fitness facility and 4,000 square foot retail/restaurant building. The proposed facility would not involve the transport, use, or disposal of hazardous materials other than for routine maintenance. The proposed facility may involve the use of small amounts of hazardous materials, such as solvents and reagents used for cleaning purposes, such as pool chlorination. However, proper handling, transportation, and disposal of the limited quantities of hazardous materials to be used onsite in accordance with federal, state, and local laws and regulations would avoid significant exposure and hazards to people and the environment from potential hazardous materials contamination. Therefore, project impacts related to transport, use, or disposal of hazardous materials would be **less than significant.**

b) As discussed above, only small amounts of hazardous materials would be used on the project facility, the use and handling of which would be subject to federal, state, and local laws and regulations. Therefore, impacts related to accidental release of hazardous materials into the environment would be **less than significant.**

c) There are no schools, or proposed schools, within 0.25 miles of the project site; the nearest school is Tutor Time, located north of U.S. Highway 101, about 0.75 miles away from the project site. Therefore, the project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within ¼ mile of an existing or proposed school. There would be **no impact.**

d) A government records search was conducted by Environmental Data Resources (EDR) by BESI as part of the Phase I ESA. The records search was performed to aid in the identification of facilities located within a one-mile radius of the project site that were potential threats of hazardous waste. The facilities were identified for their potential impact to surface, subsurface or air quality contamination. Review of database information indicated that the former Agoura Equipment Rental and Supply Company that previously existed on the project site at 29439 Agoura Road and the former Hillside Rubbish Company that previously existed at the project site at 29431 Agoura Road were noted on a variety of database lists including Leaking Underground Storage Tank (LUST), Historical Underground Storage Tank (UST), California Facility Inventory Database Underground Storage Tank (CA FID UST), Statewide Environmental Evaluation and Planning System (SWEEPS) UST, Historical Cortese, Haznet, LA County HMS. Both facilities had been granted regulatory case closure on the LUST areas.

As part of the Phase I ESA performed for the project site, Batchelor Environmental Services, Inc. (February 1, 2012) included a Vapor Encroachment/Intrusion Survey, which consisted of a report on facilities located adjacent to, up gradient from and generally within a 300-500 foot radius of the subject site which could pose a vapor encroachment/intrusion health risk to the subject site. Based on the survey, no immediately adjacent and/or up gradient facilities would

pose a vapor intrusion/health risk at the subject site. However, based upon reported shallow (1-2' to 8' seasonal depth) to groundwater and reported residual concentrations of total petroleum hydrocarbons and volatile organic compounds (VOCs) in both the soil and groundwater at the eastern portion (former Hillside Rubbish) of the project site, Batchelor Environmental Services concluded that there may be a health risk to the proposed project from the vapor intrusion of VOCs remaining at the project site, and conducted a soil vapor gas survey/health risk assessment (See Appendix G). Based upon laboratory analytical results for twenty-seven soil gas samples collected at the property site on February 15 and 16 of 2012, there are no VOCs in the soil gas that exceed the California Human Health Screening Levels (CHHSLs) for soil gas in residential land use sites, which are the most conservative thresholds for VOC levels (and thus more stringent than thresholds for commercial or retail sites). Therefore, impacts related to hazardous sites would be **less than significant.** No mitigation measures are required.

e) The closest airport is the Van Nuys Airport, located about 19.3 miles away from the project site. There are no airports or airstrips located within the project vicinity. The project site is not within an area covered by an airport land use plan. There would be **no impact** related to airports.

f) The project site is not located in the vicinity of a private air strip. There would be **no impacts** related to airports**.**

g) The proposed project would involve the construction of an approximately 45,000 square foot fitness facility and a 4,000 square foot retail/restaurant building with access that would be provided via two new driveways. The proposed Agoura Road driveway is positioned in the southwest corner of the project site and would permit right-in and right-out turns. The proposed driveway along Roadside Road would allow for full access of right and left turns into and out of the project site. Implementation of the project would not interfere with existing emergency evacuation plans, or emergency response plans in the area as there are no such plans. Moreover, the project would be required to comply with the State Fire Code, City Municipal Code, and Los Angeles County Fire Department (LACFD) standards, including particular construction specifications, access design, location of fire hydrants, and other design requirements. Therefore, impacts would be **less than significant.**

h) The City of Agoura Hills is susceptible to the hazard of wildland fires from the native vegetation that surrounds the developed portion of Agoura Hills (Agoura Hills, February 2010). Wildland fires are also a major concern due to the hilly, mountainous, and undeveloped character of much of the surrounding area. As shown in Figure 8, the project site is located within a Very High Fire Hazard Severity Zone, as determined by the California Department of Forestry and Fire Protection (CAL FIRE). Section 8200(a) of the Municipal Code designates the entire City of Agoura Hills as subject to very high fire hazard (Agoura Hills, October 2014). However, the proposed project would be subject to design standards in the 2013 CBC to prevent loss during a wildland fire (as modified in Section 8200 of the Municipal Code) and the design requirements of the Los Angeles County Fire Department. Compliance with the required provisions and building standards of the City of Agoura Hills, Los Angeles County Fire Code, and the 2013 CBC would reduce potential impacts to a **less than significant level.**

Mitigation Measures:

None required.

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

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less than Significant Impact	No Impact
IX. Hydrology and Water Quality				
-- Would the project:				
i) Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	■	☐
j) Result in inundation by seiche, tsunami, or mudflow?	☐	☐	■	☐

a) The proposed project would introduce impervious surfaces to the project site and would reduce the amount of water that percolates into the ground and potentially increase the amount of stormwater runoff. In addition, construction activities and operation of the project could result in an increase in pollutants in runoff during storm events. If large amounts of bare soil are exposed during the rainy season, or in the event of a storm, finely grained soils could be entrained, eroded from the site, and transported to drainages. The amount of material that could potentially erode from the site during temporary construction activities would be greater than under existing conditions due to the loss of vegetation and movement of soils. Further, replacing natural vegetated cover with pavement would increase pollutant loads. Natural vegetated ground cover can both absorb water and filter out pollutants. In contrast, paved surfaces accumulate pollutants such as deposits of oil, grease, and other vehicle fluids and hydrocarbons. Traces of heavy metals deposited on the proposed driveways and surface parking areas from auto operation and/or fall out of airborne contaminants could be transported during storm events into drainage systems by surface runoff. In addition to motor vehicle-related contaminants, the project would introduce landscaping and associated maintenance chemicals such as fertilizers, pesticides, and herbicides. Irrigation and storms could wash some of these landscape chemicals into and through local drainage systems and into the watershed.

Regulations under the federal Clean Water Act require that a National Pollutant Discharge Elimination System (NPDES) storm water permit be obtained for projects that would disturb greater than one acre during construction. The developer would be required to obtain a NPDES General Permit for Stormwater Discharges associated with Construction and Disturbance Activities (Order No. 2009-0009-DWQ) (State Water Resources Control Board) (City of Agoura Hills Ordinance No. 97-272), which requires the preparation of a Storm Water Pollution Prevention Plan (SWPPP) that addresses potential pollutants during construction, and a Standard Urban Storm Water Mitigation Plan (SUSMP) to address pollutants during the life of the project. The SWPPP and SUSMP are required to be provided to the City Public Works Department prior to the issuance of a Grading Permit or start of construction.

Hardy Engineering prepared a Hydrology Study for the proposed project on August 14, 2015 (see Appendix H). The Hydrology Study estimates that the impervious surface on-site after

construction of the proposed fitness facility and restaurant would increase from approximately 50% of the site to approximately 70% of the site. Although this increase in impervious surfaces would generate a greater volume of stormwater runoff from the project site, best management practices (BMPs) identified in the Hydrology Report would detain and treat stormwater runoff before discharge to public storm drains.

The BMPs identified in the Hydrology Report include: a runoff detention chamber, two continuous deflective separation (CDS) units to treat stormwater, two Contech underground cisterns to store stormwater, and six catch basins. The runoff from the proposed fitness facility and the north and north-west area of the project site, which makes up subarea 1, would be conveyed to a detention chamber would be located at the northwest corner of the site. The detention chamber is covered by a bioswale that would filter runoff into the chamber for gradual controlled release into the drainage system. The detention chamber dimensions would be 30-feet x 50-feet x 2.5-feet. The runoff from the rest of subarea 1, together with the flow from the west portion of subarea 4 would drain along grades into catch basin #1. The runoff of subarea 2, together with the mid-portion of subarea 4, would follow street grades and drains into catch basin #2. The south portion of subarea 3 and the east portion of subarea 4 would drain into catch basin #3. The flow from these three catch basins, combined with the flow from the detention chamber, would be conveyed via proposed storm drains through CDS unit #1, where the water would be pretreated and discharged to underground cistern #1 (by CONTECH, Inc.) for rainfall harvest. The dimensions for cistern #1 would be 23' x 43' x 13'.The excessive overflow would bypass the cistern and discharge via an overflow pipe into the public storm drain box via an inlet connector on the north side of the drain. The runoff of subarea 5 would drain northeast into catch basin #4. The runoff of subareas 6 and 7 would drain overland through streets into catch basins #5 and #6, respectively. The combined flow from these three catch basins would flow through CDS unit #2, and discharge to underground cistern #2 for rainfall harvest. The dimensions for cistern #2 would be 23-feet x 19-feet x 18-feet.The excessive overflow would bypass the cistern and discharge via an overflow pipe into the public storm drain box via an inlet connector on the south side of the drain.

According to the Hardy Hydrology Study (See Appendix H), the pre- and post-construction conditions have peak runoff of 12.97 cubic feet per second (cfs) and 14.67 cfs, respectively. The increased flow of 1.70 cfs would need to be detained to prevent post-construction runoff from exceeding the existing runoff to meet the Los Angeles County Low Impact Development (LID) requirement of no increase in existing runoff. Release of the runoff would be moderated by the detention chamber. The detention chamber would be designed to store the runoff from the fitness facility, and the north and northwest portion of Subarea 1. An outflow pipe would be installed at the bottom of the basin and the downstream end would be directed to Cistern #1. The resulting peak outflow would be moderated from 4.13 cfs to 2.06 cfs with a reduction of 2.07 cfs, which would exceed the required 1.70 cfs reduction in flow and ensure that post-construction peak runoff would be less than under existing conditions. The catch basins and storm drain pipes would be sized to ensure adequate capacity to convey the runoff to the public storm drain system, which would then be transported to Lindero Canyon Creek just south of Agoura Road via the underground concrete flood control channel that crosses the project site.

Compliance with the required NPDES permit and implementation of the permanent best management practices (BMPs) as identified in the Hydrology Study, including installation of

the proposed catch basins, CDS units, storage cisterns, and detention chamber would reduce impacts related to water quality standards and waste discharge requirements to a less than significant level. No water quality standards or waste discharge requirements would be violated as a result of the proposed project. Impacts would be **less than significant.**

b) The proposed project would receive water from the Las Virgenes Municipal Water District (LVMWD). LVMWD's potable water is provided almost entirely through wholesale purchases from Metropolitan Water District of Southern California (MWDSC), which imports water from the State Water Project (SWP) and the Colorado River. Although the geotechnical engineering study performed for the proposed project found that groundwater can be found at depths ranging from 6 to 10 feet below the existing ground surface, groundwater underlying LVMWD's service area is of poor quality and is not currently used for the potable water supply system (Batchelor Environmental Services, Inc., February 2012). The proposed project would not use groundwater.

Groundwater recharge is dependent on the amount of area and water available for infiltration. As discussed above, development of the proposed project would introduce impervious surfaces. However, as discussed above under Item *a)*, the detention of stormwater runoff in underground cisterns would ensure infiltration on the project site. The proposed project would include installation of a detention chamber, CDS units, and underground cisterns to treat, store, and reuse stormwater and rainfall. Therefore, development of the proposed project would not affect groundwater supplies or groundwater recharge. Impacts related to groundwater would be **less than significant.**

c) The project would not alter the course of any stream. The project would alter the site drainage pattern by reducing infiltration during storm events and altering existing flow paths. Any increases in runoff over existing conditions could result in increased channel erosion, and sediment transport downstream, which could result in greater siltation in downstream catchments. However, as discussed above, adherence to the NPDES permit requirements and requirements for implementation of design features to capture and treat stormwater runoff would reduce the quantity and level of pollutants (including sediment) within runoff leaving the site. Based on design features for stormwater, runoff from the site would enter the storm drain system through six catch basins and a detention chamber, treated in one of two CDS units, and would then be conveyed into one of two underground cisterns. Excessive overflow not detained in the cisterns would discharge via an overflow pipe into the public storm drain and then be transported to Lindero Canyon Creek just south of Agoura Road via the underground concrete flood control channel that crosses the project site. Therefore, impacts related to erosion and siltation would be **less than significant.**

d) The project would not alter the course of any stream, as discussed above under Item *c)*. However, the proposed project would alter the drainage pattern of the project site by reducing infiltration during storm events and altering flow paths. Any increases in runoff over existing conditions could result in increased flows downstream, which could result in greater surface runoff which could result in flooding downstream. The site would replace the existing pervious surfaces (approximately 2.73 acres) and impervious surfaces (remnant concrete areas - approximately 1 acre) with impervious surfaces (including the two proposed buildings and

pavement for driveways and parking areas) and some pervious surfaces for landscaping (see Figure 8, Landscaping Plan).

As discussed above in item *a)*, The increased flow of 1.70 cfs would need to be detained to prevent post-construction runoff from exceeding the existing runoff to meet the Los Angeles County Low Impact Development (LID) requirement of no increase in existing runoff. The resulting peak outflow from implementation of the BMPS would be moderated from 4.13 cfs to 2.06 cfs with a reduction of 2.07 cfs, which would exceed the required 1.70 cfs reduction in flow and ensure that post-construction peak runoff would be less than under existing conditions. The catch basins and storm drain pipes would be sized to ensure adequate capacity to convey the runoff to the public storm drain system, which would then be transported to Lindero Canyon Creek just south of Agoura Road via the underground concrete flood control channel that crosses the project site. Therefore, because the increased peak flow of runoff as a result of the proposed project would be detained on-site, would not exceed the existing runoff flow, and would be conveyed via catch basins and storm drain pipes with adequate capacity, the impact would be **less than significant.**

e) As described above, the proposed drainage system would include six catch basins that would initially direct runoff toward the central area of the site to be pre-treated through two inserted CDS units This treatment onsite would reduce impacts related to stormwater pollution and water quality to a less than significant level. However, as discussed above in Item *f)*, the peak runoff volume onsite would increase from an estimated 12.97 cfs (cubic feet per second) to approximately 14.67 cfs once fully operational under the proposed project (Hardy 2015, see Appendix H). The detention chamber, catch basins and storm drain pipes would detain the increase in runoff flow, ensuring that stormwater runoff peak flows would be the same as pre development conditions and thus would not increase stormwater runoff to the offsite stormwater drainage facilities. Furthermore, runoff would also be conveyed offsite via an underground flood control channel 26-feet wide that crosses the project site. Impacts would be **less than significant.**

f) Compliance with the required NPDES permit and implementation of the permanent BMPs, including installation of the proposed grated catch basins, as discussed above, would reduce any remaining impacts related to degradation of water quality to a less than significant level. Therefore, impacts would be **less than significant**.

g, h) The Flood Insurance Rate Map (FIRM) issued by the Federal Emergency Management Agency (FEMA) for the Agoura Hills area (FIRM Map ID # 06037C1244F, published in September 2008) indicates that the entire project site is outside of a 100-year flood zone. Furthermore, the proposed project does not include residential uses. Therefore, impacts related to placing housing or other structures in a 100-year flood hazard area that would impede or redirect flood flows would be **less than significant.**

i) As discussed above, the Flood Insurance Rate Map (FIRM) issued by the Federal Emergency Management Agency (FEMA) for the Agoura Hills area (FIRM Map ID # 06037C1244F, published in September2008) indicates that the entire project site is outside of a 100-year flood zone. The proposed project site would not be within any dam inundation area, and therefore would not be impacted by flooding as a result of dam failure. Therefore, impacts related to flooding, including flooding as a result of dam failure would be **less than significant.**

j) Seismic events can induce oscillations, called seiches, of the surface of an inland body of water that varies in period from a few minutes to several hours. Tsunamis are large sea waves produced by submarine earthquakes or volcanic eruptions. The nearest body of water is Lake Lindero, an inland body of water 1.2 miles to the northwest of the project site. The project site is located about 8.3 miles from the Pacific Ocean and is at an elevation sufficiently above sea level to be outside the zone of a tsunami. Therefore, impacts related to seiches and tsunamis would be **less than significant.**

Mitigation Measures:

None required.

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

a) The proposed project would be constructed on a vacant lot adjacent to another vacant lot to the west, light industrial uses across Roadside Road to the east, undeveloped open space within the Agoura Village Specific Plan area to the south, and U.S. Highway 101 to the north. The project is considered infill development and would be consistent with the Planned Office and Manufacturing District (POM) in terms of land uses, site design and pedestrian vehicular access. It does not involve any new roadways or structures that would divide existing neighborhoods but would allow for vehicle and pedestrian connection to adjacent parcels as called for in the POM zone. Therefore, impacts with regard to physically dividing an established community would be **less than significant.**

b) The project site has a land use designation of Planned Office and Manufacturing (POM) under the City's General Plan and is located within the North Agoura Road Planning Area. The

project site is located at the northwest corner of Agoura Road and Roadside Road. The northern boundary of the project site is located adjacent to an unimproved portion of Roadside Drive, which parallels the U.S. Highway 101. The applicant is seeking vacation of Roadside Drive adjacent to the project site's northerly property line. Additionally, the applicant is seeking a parcel map to merge two lots. The project would be consistent with all applicable goals and policies of the General Plan, particularly Goal LU-24 and Policies LU-24.1 through LU-24.6 that specifically address the POM district area of which this site is a part. These include Policy LU-24.3 (Internal Street Network), LU-24.4 (Site Development), and LU-24.5 (Connectivity).

The project would be consistent with the POM-FC zoning district with regard to allowed land uses, site design, and pedestrian and vehicular circulation as well development standards except as noted below. The project would need variances for building height (38 feet instead of 35), rear yard setback (36 feet instead of 76 feet), signage size (147 square feet instead of 70 in the front and 200 instead of 25 square feet in the rear), and smaller landscape planter (0 feet instead of 20 feet) along the frontages.

With City approval of variances for the building height increase, for the reduced rear yard setback, for increased site signage, and reduced landscape planters as discussed in Section I, Aesthetics, and an Oak Tree Permit for removal of one protected oak tree (#194) and impacts to two other oak tress (#193 and #195) as discussed in Section IV, Biological Resources, the proposed project would be consistent with applicable land use plans and policies. Impacts relating to plan, policy or regulation consistency would be **less than significant.**

c) The project site is located within an urban area that is not subject to an adopted Habitat Conservation Plan, Natural Conservation Community Plan, or other approved local, regional, or state habitat conservation plan. Therefore, there would be **no impact.**

Mitigation Measures:

None required.

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

a) According to the California Division of Mines and Geology, (CDMG) no significant mineral deposits are present within the City of Agoura Hills. The City was surveyed by CDMG as part of a regional study to determine the existence of aggregate construction materials such as sand, gravel, and crushed rock. The survey identified Agoura Hills as being part of the "Simi Production-Consumption Region," and delineated Mineral Resource Zone (MRZ) boundaries within the City. Most of the City north of Agoura Road is classified as MRZ-1 in the CDMG report *Mineral Land Classification of Ventura County* (1981). This classification defines areas where adequate information indicates that no significant mineral deposits are present, or where it is judged that little likelihood exists for their presence. The remaining areas of the City, including Ladyface Mountain, a small portion of Palo Comado Canyon, and the Liberty Canyon area, are classified as MRZ-3. This classification includes areas containing mineral deposits, the significance of which cannot be evaluated from available data. (City of Agoura Hills, General Plan 2035, March 2010).

The proposed project is not located within or in proximity to an area classed as MRZ-1 and there has been no known mining in the area of the project site. Therefore, the proposed project would not affect the availability of mineral resources and **no impact** would occur**.**

b) As discussed above, no significant mineral deposits are present or known within the City of Agoura Hills. Therefore, there would be **no impacts** related to loss of availability of a locally important mineral resource recovery site.

Mitigation Measures:

None required.

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less than Significant Impact	No Impact
XII. Noise				
-- Would the project result in:				
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	■	☐
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	■	☐
c) A substantial permanent increase in ambient noise levels above levels existing without the project?	☐	☐	■	☐
d) A substantial temporary or periodic	☐	☐	■	☐

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less than Significant Impact	No Impact
XII. Noise				
-- Would the project result in:				
increase in ambient noise levels in the project vicinity above levels existing without the project?				
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	■
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the the project area to excessive noise?	☐	☐	☐	■

Discussion:

Noise level (or volume) is generally measured in decibels (dB) using the A-weighted sound pressure level (dBA). The A-weighting scale is an adjustment to the actual sound power levels to be consistent with that of human hearing response, which is most sensitive to frequencies around 4,000 Hertz (about the highest note on a piano) and less sensitive to low frequencies (below 100 Hertz). For the most sensitive uses, such as single family residential, a 60 dBA Day-Night average level (Ldn) is the maximum normally acceptable exterior level. Ldn is the time average of all A-weighted levels for a 24-hour period, with a 10 dB upward adjustment added to those noise levels occurring between 10:00 p.m. and 7:00 a.m. to account for the general increased sensitivity of people to nighttime noise levels. The Community Noise Equivalent Level (CNEL) is similar to the Ldn except that it adds five additional dB to evening noise levels (7:00 p.m. to 10:00 p.m.). The City of Agoura Hills utilizes the CNEL for measuring noise levels.

Noise level allowances for various types of land uses reflect the varying noise sensitivities associated with those uses. In general, noise-sensitive land uses ("sensitive receptors") are any residence, hospital, school, hotel, library, office, or similar facility where quiet is an important attribute of the environment. Such uses have more stringent noise level allowances than most commercial or agricultural uses that are not subject to impacts such as sleep disturbance. Sensitive receptors in proximity of the site included the adjacent single-family residences at the eastern boundary of the site and the multi-family residences located approximately 250 feet south of the site.

The existing ambient noise environment in the project area is primarily defined by roadway noise along US Highway 101 and Agoura Road. Figure N-1 NOISE CONTOURS of the General Plan 2035 shows that the project area is within a portion of the City that experiences up to 70 CNEL along the northern project site boundary adjacent to U.S. Highway 101 and up to 65 CNEL along the southern project site boundary along Agoura Road.

Existing Setting

Three 15-minute ambient noise measurements were taken on the project site during a weekday afternoon on March 5, 2015, using an ANSI Type II integrating sound level meter in accordance with standard protocols. Noise measurements were taken at locations on the project site facing Agoura Road, Roadside Road, and U.S. Highway 101. Table 9 shows the results of the noise measurements.

Table 9
Noise Measurement Results

Measurement Number	Measurement Location	Primary Noise Source	Leq (dBA)
1	Northern boundary of project site	Vehicles on US 101	73.4
2	Along Roadside Road	Vehicles on Agoura Road, US 101	63.6
3	Along Agoura Road	Vehicles on Agoura Road	70.5

The project site is currently undeveloped. As shown in Table 9, the existing noise levels in the vicinity of the project site range from about 63.6 to 73.4 dBA Leq.

Noise Standards

The General Plan 2035 includes a recommended noise/land use compatibility matrix that is designed to minimize noise/land use conflicts (Table N-1, General Plan). The matrix indicates whether specified land uses (e.g., commercial retail, commercial recreation, institutional, residential) are compatible in being located within areas of varying ambient levels of noise (e.g., CNEL 55-60, 60-65, 65-70, 70-75 and 75-80). The project falls within the category of "Commercial -Regional, Village District, Special" in the matrix. Uses in this category are considered "Normally compatible" in a CNEL of 70-75. Figure N-1 NOISE CONTOURS – EXISTING of the General Plan indicates that the project area is within an area of 70 CNEL. Therefore, the project's operational noise impact would be considered significant if the project would result in noise volumes that are inconsistent with the General Plan.

For construction noise, AHMC Section 9656.4 states that activities associated with construction, repair, remodeling, and grading are exempt from the Noise Ordinance provided activities do not take place between the hours of 8:00 PM and 7:00 AM on weekdays and Saturday, or any time on Sunday or a legal holiday. Therefore, construction-related noise would be considered significant if construction-related activities occurred outside these hours.

Vibration is a unique form of noise because its energy is carried through buildings, structures, and the ground, whereas noise is simply carried through the air. Thus, vibration is generally felt rather than heard. The ground motion caused by vibration is measured as particle velocity in inches per second and is referenced as vibration decibels (VdB) in the U.S.

The vibration velocity level threshold of perception for humans is approximately 65 VdB. The vibration thresholds established by the Federal Transit Administration (FTA) are 65 VdB for buildings where low ambient vibration is essential for interior operations (such as hospitals and recording studios), 72 VdB during normal sleep hours for residences and buildings where people normally sleep, including hotels, and 75 VdB for institutional land uses with primary daytime use (such as churches and schools). The thresholds for the proposed project include 72 VdB during normal sleep hours for residences and hotels, as these are the only sensitive receptors in the vicinity of the site, approximately 1,000 feet northwest along Canwood Street. In terms of ground-borne vibration impacts on structures, the FTA states that ground-borne vibration levels in excess of 100 VdB would damage fragile buildings and levels in excess of 95 VdB would damage extremely fragile historic buildings. According to Section 9305.E of the AHMC,"*No operation or activity is permitted which will cause vibration noticeable without instruments at the perimeter of the subject property*".

a) The project would generate vehicle trips to and from the site, which would generate noise. No roadway segment in the vicinity of the project site is near sensitive receptors. As discussed above, noise-sensitive land uses ("sensitive receptors") are any residence, hospital, school, hotel, library, office, or similar facility where quiet is an important attribute of the environment. The nearest sensitive receptors are residential uses 1,000 feet northwest of the project site along Canwood Street.

Table 10 shows noise levels on Agoura Road, Roadside Road, and Canwood Street with and without project-related traffic. Noise levels in Table 10 were based upon the project specific and cumulative scenarios in the project traffic study (See Appendix F) prepared by LSA Associates, Inc. Noise levels were calculated using the Federal Highway Administration's Traffic Noise Model (TNM). Traffic volumes were based upon turn counts provided in the traffic study performed by LSA Associates, Inc. The traffic volume for U.S. Highway 101was used from the 2013 Traffic Volumes on California State Highways report from Caltrans.

Traffic noise impacts would be significant if noise associated with project traffic would generate increases at or exceeding the levels shown in Table 11.

Table 10
Operational Roadway Noise Exposure

Roadway	Projected Noise Level (dBA Leq)				Change In Noise Level (dBA Leq)	
	Existing	Existing + Project	Cumulative Future	Cumulative Future + Project	Change under Existing Conditions	Project's cumulative contribution
Agoura Road	68.0	68.2	68.5	68.6	0.2	0.1
Roadside Road	67.1	67.3	67.1	67.4	0.2	0.3
Canwood Street	73.1	73.1	73.1	73.4	0.0	0.3

Estimates of noise generated by traffic from roadway centerline at 32.8 feet in the PM peak hour (the peak hour with the highest project-related traffic).
Refer to Appendix E for full noise model output. Noise levels presented do not account for attenuation provided by existing barriers or future barriers; therefore, actual noise levels at sensitive receptor locations influenced by study area roadways may in many cases be lower than presented herein.
Source: Federal Highway Administration Traffic Noise Model Version 2.5 Look-Up Tables; ATE, 2014.

Table 11
Significance of Changes in Operational Roadway Noise Exposure

Ldn or Leq in dBA	
Existing Noise Exposure	Significant Noise Exposure Increase
45-50	7
50-55	5
55-60	3
60-65	2
65-75	1
75+	0

Source: Federal Transit Administration (FTA), May 2006

For roadways in the 65-75 dBA range, noise level increases over 1 dBA would be significant. Traffic associated with the proposed project would increase noise levels by an estimated 0.2 dBA in existing conditions and by 0.3 dBA in cumulative conditions (see Table 10), which would be considered less than significant.

Operation of the proposed project could also result in non-traffic associated noise impacts, including loading and unloading or idling of delivery trucks, HVAC equipment, or other general activities associated with the proposed fitness facility and retail/restaurant uses. Noise levels from commercial ventilation and air conditioning equipment can reach 100 dBA at a distance of three feet (USEPA, 1971). These units usually have noise shielding cabinets, placed on the roof or mechanical equipment rooms and are not usually significant sources of noise

impacts. Typically, the shielding and location of these units reduces noise levels to no greater than 55 dBA at 50 feet from the source. Generally, noise generated from delivery trucks for a fitness facility and retail/restaurant uses would occur during typical daytime business hours. The nearest sensitive receptors are 1,000 feet away and also separated by the U.S. 101 Freeway. Therefore, noise generated from non-traffic operations of the proposed project would not be anticipated to significantly impact any adjacent or nearby sensitive noise receptors.

As discussed above, the project falls within the category of "Commercial -Regional, Village District, Special" in the General Plan Noise/Land Use Compatibility Matrix. Uses in this category are considered "Normally compatible" in a CNEL of 70-75. Figure N-1 NOISE CONTOURS – EXISTING of the General Plan indicates that the project area is within an area of 70 CNEL. Therefore, the project would be consistent with the area CNEL. No work within the hours between 7:00 PM and 7:00 AM weekdays and Saturdays is proposed. Consequently, the project impacts with regarding to consistency with the General Plan and the Municipal Code would be **less than significant.**

b) Operation of the proposed project would not perceptibly increase groundborne vibration or groundborne noise on the project site above existing conditions because the proposed fitness facility and retail/restaurant building would not involve vibration creating activities.

Construction of the proposed project could potentially increase groundborne vibration or noise on the project site, but construction effects would be temporary. Based on the information shown in Table 12, loaded trucks traveling on the project site could cause vibration levels no more than 74 VdB at the light industrial buildings over 100 feet east of the project site.

As discussed above, the FTA indicates that 100 VdB is the general threshold where minor damage can occur in fragile buildings. The vibration levels at the light industrial use buildings east of the project site would be no more than 74 VdB. Therefore, vibration levels would not approach levels at which building damage could occur. Vibration would also not exceed the groundborne velocity threshold level of 75 VdB established by the FTA for institutional uses. The nearest residences are 1,000 feet northwest of the project site across U.S. Highway 101 and would not be adversely affected by construction-related vibration. Additionally, in accordance with Section 4100 of the AHMC, construction activity is prohibited on any Sundays or holidays, and between 7:00 PM and 7:00 AM on all other days. Therefore, vibration-related impacts would be **less than significant.**

Table 12
Vibration Source Levels for Construction Equipment

Equipment	Approximate VdB				
	25 Feet	50 Feet	60 Feet	75 Feet	100 Feet
Loaded Trucks	86	80	78	76	74
Jackhammer	79	73	71	69	67
Small Bulldozer	58	52	50	48	46

Source: Federal Railroad Administration, 1998

c) As discussed above, traffic associated with the proposed project would increase noise levels by an estimated 0.2 dBA in existing conditions and by 0.3 dBA in cumulative conditions (see Table 10). These traffic noise increases would not be significant. Operation of the proposed project may result in noise generated from delivery trucks, HVAC equipment, or typical noise associated with fitness facilities and retail/restaurant uses that would occur during typical daytime business hours but would not be considered substantial increases in noise levels. Therefore, the project would not generate a permanent significant increase in noise within the project area. Impacts would be **less than significant.**

d) Sensitive noise receptors include residential units, child care centers, libraries, hospitals, and nursing homes. Grading and construction of the project would generate a temporary increase in noise that would be audible to sensitive receptors in the site vicinity. The closest sensitive receptors to the project site are the residential uses approximately 1,000 feet northwest of the project site across U.S. Highway 101. As shown in Table 13, peak noise levels relating to construction can range from 59 (dB) to 63 (dB) at a distance of 1,000 feet, which corresponds to the closest distance between grading activities on the project site and the nearest residences approximately 1,000 feet northwest of the project site.

Table 13 shows noise levels at various distances from construction activity, based on a standard noise attenuation rate of 6 dBA per doubling of distance from the highest-volume individual pieces of equipment, which can reach up to 89 dBA (FHWA, 2006)

Table 13
Construction Noise Levels at Various Distances from Project Construction

Distance from Construction	Peak Noise Level from Mobile Construction Equipment at Receptor (dBA)	Peak Noise Level from Stationary Construction Equipment at Receptor (dBA)
50 feet	89	85
100 feet	83	79
150 feet	80	76
200 feet	77	73
250 feet	75	71
600 feet	68	65
700 feet	66	62
1,000 feet	**63**	**59**

Source: FHWA, 2006

There are no residences or other sensitive receptors adjacent to the project site that would be disturbed by grading and construction activity. As discussed above, the nearest residences are approximately 1,000 feet northwest of the project site, and peak noise levels related to construction activity can range from 59 db to 63 db 1,000 feet away. Nevertheless, grading and construction would be required to comply with Article IV, Chapter 1, of the AHMC, which

limits the use of construction equipment that generates noise in excess of 60 dBA to between the hours of 7:00 AM and 7:00 PM, Monday through Saturday. No construction activity is permitted between 7:00 PM and 7:00 AM that generates noise in excess of the 50 dBA nighttime standard, and no construction activity is permitted on Sundays or legal holidays. With conformance to Article IV, Chapter 1, the AHMC's temporary construction noise impacts would be **less than significant.**

e) The project site is not located within the vicinity of an airport. The closest airport is the Van Nuys Airport, about 19.3 miles east of the site. Therefore there would be **no impact** related to noise from an airport.

f) The project site is not located within the vicinity of a private airstrip. Therefore, there would be **no impact** related to noise from a private airstrip.

Mitigation Measures:

None required.

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

DISCUSSION:

a) The proposed project involves construction of a fitness facility and retail/restaurant building and does not include any residences. The limited number of long term employees to serve the proposed development would likely come from the surrounding area, and not generate the need for additional housing units. The project site would be considered infill development. No road extensions are necessary to serve the project, and the infrastructure is available in the adjacent roadways to serve the project. The proposed project would not induce population growth in the area. Thus, **no impact** related to population and housing would occur.

b) The project site is a vacant lot and no residences are present on the project site that would be affected. Construction of the proposed project would not displace any housing. **No impacts** would occur.

c) The project site is a vacant lot and no residences are present on the project site that would be affected. Construction of the proposed project would not displace any residents. **No impacts** would occur.

Mitigation Measures:

None required.

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

a.i) Agoura Hills has secured fire protection and emergency services for residents through a contract with the Los Angeles County Fire Department (LACoFD). Agoura Hills is served by the LACoFD Fire Stations #65, #89, and 125. Fire Station #89 is the fire station closest to the project site. Station #89 is located at 29575 Canwood Street, about 500 feet northwest of the project site and across U.S. Highway 101. This station is staffed with a three-person engine company (one Fire Caption, one Fire Fighter Specialist, and 1 Fire Fighter/Paramedic) and a two-person paramedic squad (2 fire fighter/paramedics).

Development of the proposed project would incrementally increase demand for fire protection services compared to existing conditions due to the development of an existing vacant lot with a 45,000 square foot fitness facility and 4,000 square foot retail/restaurant building. The Fire Department would review site plans, site construction, and the actual structure prior to occupancy to ensure that required fire protection safety features, including building sprinklers and emergency access, are implemented. Development with modern materials and in accordance with current standards, inclusive of fire resistant materials, fire alarms and detection systems, and automatic fire sprinklers, would enhance safety from fire and would support fire protection services (Title 24, Cal. Code Regs. Part 9). The project site is located in an urbanized area that is already served by the LACoFD. No new or expanded fire stations would be required.

The proposed project would have to comply with requirements pertaining to building construction, site access, adequacy of flows, and fire hydrants, as dictated by the LACoFD Prevention Bureau. To ensure adequate fire flow, LACoFD Regulation No. 8 requires that the fire district have a fire flow of 5,000 gallons per minute for five hours. Currently, infrastructure is adequate to service the project. Furthermore, the Las Virgenes Municipal Water District (LVMWD) is constructing a five million-gallon tank in Westlake Village, which would provide further water storage to meet fire flow requirements in Agoura Hills. Construction is estimated to be completed in the summer of 2015 (LVMWD, 2014. Impacts are expected to be **less than significant**.

a.ii) The City provides law enforcement and protection services to residents of Agoura Hills through a contract with the Los Angeles County Sheriff's Department (LASD). The proposed project would be served by the LASD's Malibu/Lost Hills Station, which is located at 27050 Agoura Road in Calabasas. The station patrols the cities of Agoura Hills, Calabasas, Hidden Hills, Westlake Village, and Malibu, as well as the adjacent unincorporated area. The Malibu/Lost Hills Station participates in a reciprocal aid agreement with the nearby communities of Westlake and Calabasas, which enables these stations be called upon for assistance, if necessary. The project would incrementally increase the demand for police protection services compared to existing conditions due to the development of an existing vacant lot with a 45,000 square foot fitness facility and 4,000 square foot retail/restaurant building. The project site is located in an urbanized area that is already served by the LASD Department. Furthermore, the proposed project does not include development of residences that would directly induce population growth. Therefore, the proposed project would not significantly increase demand of police protection services or additional police staff, and therefore would not require expansion of existing facilities or construction of new facilities Impacts would be **less than significant.**

a.iii) The project site is located within the Las Virgenes Unified School District (LVUSD), a K-12 school district. The proposed project does not include residences that would directly generate new students within the LVUSD. Therefore, no direct increase in students or impacts related to school capacity would occur. Nevertheless, the applicant would be required to pay state-mandated school impact fees, as per Section 65995.1(a) of the California Government Code (Senate Bill 50, chaptered August 27, 1998). Pursuant to Section 65995 (3)(h) of the California Government Code, the payment of statutory fees "...is deemed to be full and complete mitigation of the impacts of any legislative or adjudicative act, or both, involving, but not

limited to, the planning, use, or development of real property, or any change in governmental organization or reorganization." Impacts would be **less than significant**.

a.iv) The proposed project would involve the addition of new jobs, but would not add residents to the City. See discussion under Section XIV. Public Services, Item *a (i)*. Thus, it would not directly increase demand for parks or cause a decrease in the level of service provided by the City. Impacts would be **less than significant**.

a.v) The proposed project would contribute incrementally toward impact to City public services and facilities such as storm drain usage (discussed in Section IX, *Hydrology and Water Quality*), public parks (discussed above in this section), solid waste disposal (discussed in Section XVII, *Utilities and Service Systems*), and water usage and wastewater disposal (discussed in more detail in Section XVII, *Utilities and Service Systems*). The project's contribution would be offset through payment of fees that are used to fund storm drain improvements, school facility expansions, etc., as well as by the project-specific features described in the individual resource section analyses described in this Initial Study. The project's contribution, taking into account existing capacities and assuming compliance with existing ordinances, would be less than significant. Therefore, impacts to other public services would be **less than significant**.

Mitigation Measures:

None required.

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

DISCUSSION:

a) The proposed project would involve construction of a private 45,000 square foot fitness facility, which would help meet demand for recreational facilities. The project would not result in an increase in residents that would place additional demand upon public recreational facilities, and he project would not increase the use of existing parks or recreational facilities, as discussed above in Section XIV. Public Services, Item *a) iv*), causing substantial deterioration of facilities. Therefore, there would be **no impacts.**

b) See discussion of Item *a)* above. The proposed project would involve construction of a 45,000 square foot private fitness facility. The proposed project would not require the construction or expansion of any existing or other new recreational facilities which could have an adverse physical effect on the environment. Therefore, there would be **no impacts**. Impacts from development of the proposed private fitness facility are addressed throughout this document.

Mitigation Measures:

None required.

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

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less than Significant Impact	No Impact
XVI. Transportation/Traffic				
-- Would the project:				
performance or safety of such facilities?				

Discussion:

A traffic impact analysis dated November 7, 2014 was prepared by LSA Associates, Inc. for the proposed project (see full report in Appendix F). The analysis contained in this section is partially based on the traffic impact analysis.

Methodology

To determine the peak-hour operations at signalized intersections within the study area, the intersection capacity utilization (ICU) methodology was used. The ICU methodology compares the volume-to-capacity (v/c) ratios of conflicting turn movements at an intersection, sums these critical conflicting v/c ratios for each intersection approach, and determines the overall ICU. The resulting ICU is expressed in terms of levels of service (LOS), where LOS A represents free-flow activity and LOS F represents overcapacity operation. Parameters set by the City for ICU calculations, including Peak Hour Factor and Saturation Flow Rate, are included in the analysis. In addition to the ICU methodology of calculating intersection LOS, the 2010 Highway Capacity Manual (HCM 2010) methodology was used to determine the LOS at unsignalized intersections and Caltrans facilities within the study area. The HCM 2010 signalized and unsignalized intersection methodology presents LOS in terms of total intersection delay and approach delay of the major and minor streets (in seconds per vehicle). The resulting delay is expressed in terms of LOS, as in the ICU methodology.

A peak hour signal warrant was prepared for all unsignalized study area intersections for the "With Project" condition. The signal warrant analysis utilized the criteria from Section 4C.04 of the *California Manual on Uniform Traffic Control Devices*. The peak hour warrant is satisfied if all of the following conditions exist for the same 1 hour of an average day:

1. The total stopped time delay experienced by the traffic on one minor-street approach (one direction only) controlled by a stop sign equals or exceeds 4 vehicle-hours for a one-lane approach or 5 vehicles-hours for a two-lane approach; and

2. The volume on the same minor-street approach (one direction only) equals or exceeds 100 vehicles per hour for one moving lane of traffic or 150 vehicles per hour for two moving lanes; and

3. The total entering volume serviced during the hour equals or exceeds 650 vehicles per hour for intersections with three approaches or 800 vehicles per hour for intersections with four or more approaches.

Project Trip Generation

The total vehicle trip generation for the proposed project was developed using rates from the Institute of Transportation Engineers (ITE) Trip Generation (9th Edition) for "Health/Fitness Club" and "Fast Food Restaurant without Drive-Through" land uses. Based on these rates, the project is anticipated to generate 239 trips during the AM peak hour, 263 trips during the PM peak hour, and 4,346 daily trips.

Some of the trips generated by the anticipated quick-serve restaurant use are not new trips, but are trips that are already traveling past the project and stop briefly at the quick-serve restaurant portion of the project. These trips are referred to as pass-by trips and are reduced from the project trip generation as they are already present on the roadway network.

When pass-by trips are accounted for, the project would generate 195 trips during the AM peak hour, 237 trips during the PM peak hour, and 3,630 daily trips. The analysis does not take pass-by credits for intersections adjacent to the project site. Instead, pass-by trips are added to the inbound and outbound movements at the project driveways. Pass-by trips are subtracted from the through traffic on Agoura Road as, by definition, pass-by trips would already be on the roadway and would instead turn into and then out of the driveway. If pass-by trips are not subtracted from the through movements at the driveway, then the trips are double-counted. Table 14 summarizes the project trip generation.

Project trips were distributed to the surrounding roadway network based on the location of the project in relation to surrounding land uses.

Table 14
Project-Generated Trips

Land Use	Size	ADT		AM Peak Hour		PM Peak Hour	
		Rate	Trips	Rate	Trips	Rate	Trips
Health/Fitness Club	45 TSF	32.93 trips/unit	1,482	1.41 trips/unit	63	3.53 trips/unit	159
Fast Food without Drive-Through	4 TSF	716.00 trips/unit	2,864	43.87 trips/unit	175	26.15 trips/unit	105
Pass-by Trips for Fast Food (25%)			*-716*		*-44*		*-26*
Total Net New Project Trips			**3,630**		**195**		**238**

TSF = Thousand Square Feet

Thresholds of Significance

According to the City of Agoura Hills Traffic Impact Analysis Guidelines, a proposed project is considered to result in a significant impact if, prior to mitigation, the proposed project:

i. Degrades operations at a signalized intersection as follows:

Study Intersections		
Pre-Project		Increase in v/c
LOS	v/c	
C	0.71-0.80	0.04 or more
D	0.81-0.90	0.02 or more
E/F	0.91 or more	0.01 or more

or

ii. Degrades the Level of Service (LOS) at an unsignalized intersection to an unacceptable level of LOS D or worse; or

iii. Increases delay at an unsignalized intersection operating at an unacceptable level by five or more seconds; or

iv. Results in satisfying the most recent California Manual on Uniform Traffic Control Devices (CAMUTCD) peak-hour volume warrant or other warrants for traffic signal installation at the intersection; or

v. Increases the volume-to-capacity (v/c) ratio on a roadway segment operating at an unacceptable level (LOS D, E or F) by 0.05 or more

Cumulative Conditions

Cumulative traffic volumes were developed by adding trips from cumulative projects (approved but not yet constructed projects) to the project opening year without project traffic volumes. A list of cumulative projects was provided by the City of Agoura Hills. Figure 14 of the traffic impact analysis shows the location of each cumulative project and trip distribution.

a) As shown in Table 14, the proposed project would generate 3,630 new average daily trips. Access to the site would be provided by a full access driveway on Roadside Road and a right turn in/right turn out driveway on Agoura Road. Also as part of the project, a private driveway would be constructed along the northern portion of the site to eventually provide access from Roadside Road through to the vacant lot to the west of the subject parcel. The project would also install a southbound right turn only lane at the intersection of Agoura Road/Roadside Road, for cars travelling westbound on Agoura Road.

The Traffic Impact Analysis (TIA) performed by LSA Associates analyzed the project in existing, opening year, and cumulative conditions. According to the TIA:

- Table D of the TIA shows that Existing without Project and Existing with Project levels of service at all study area intersections would operate at LOS C or better during the a.m. and p.m. peak hours;
- Table E of the TIA shows that Opening Year without Project and Opening Year with Project levels of service at all study area intersections would operate at LOS C or better during the a.m. and p.m. peak hours; and
- Table G of the TIA shows that Cumulative without Project levels of service at all study area intersections would operate at LOS C or better during the a.m. and p.m. peak hours

Based on the City's Performance criteria, the project would not result in any significant impacts to study area intersections in the conditions discussed above. However, according to Table G of the Traffic Impact Analysis, under Cumulative plus Project levels of service, all intersections would operate at satisfactory LOS C or better except at the intersection of Roadside Road/Agoura Road in the p.m. peak hour where it would operate at LOS D. Based on the City's performance criteria, the project would cause a significant impact at this location.

The improvement required at this intersection is a southbound left-turn lane at the Roadside Road/Agoura Road intersection such that traffic leaving the project site on Roadside Road and turning left (east) onto Agoura Road has a designated left turn lane onto Agoura Road. Mitigation Measure T-1 is required in which the applicant shall pay the "fair share" of the cost of this improvement, which would be implemented at a future date, as determined by the volume of trips in this intersection. Impacts would be **less than significant with mitigation incorporated.**

b) The Los Angeles County Congestion Management Program (CMP) requires an analysis of all arterial segments and arterial monitoring intersections on the CMP roadway network where the project adds 50 or more peak hour trips. Additionally, the CMP would require that all mainline freeway monitoring locations be evaluated where the project adds 150 or more peak hour trips. The proposed project would generate 3,630 new average daily trips. According to the project traffic impact analysis, the project would not add 150 or more peak hour trips to any freeway segment; therefore, a CMP freeway analysis is not required. The nearest CMP arterial to the project is Topanga Canyon Road (State Route 27). The project would not add 50 trips to Topanga Canyon Road. Therefore, a CMP analysis is not required, and **impacts would be less than significant.**

c) Given the fact that the project site is located approximately 19.3 miles from the nearest airport (Van Nuys Airport in the City of Los Angeles), the project would not present any impediments to air traffic, and would not affect air traffic patterns. There would be **no impact**.

d) The proposed project would not introduce any design features such as sharp curves or incompatible uses to the project site that would substantially increase hazards at the site. The project site plan provides vehicular access via a full-access driveway on Roadside Road approximately 255 feet north of Agoura Road as well as right-in/right-out driveway on Agoura Road approximately 200 feet west of Roadside Road. According to the TIA, driveway spacing and throat length have been evaluated using the criteria in the Transportation Research Board's, *Access Management Manual, 2003*.

On local roadways, the Access Management Manual (2003)recommends a minimum access spacing of 100 feet. The main project driveway on Roadside Road is located approximately 255 feet north of Agoura Road and would therefore meet this minimum spacing. The Access Management Manual recommends a throat length of at least 50 feet from the sidewalk to the edge of the first parking stall. The throat shown on the project site plan at the main driveway is approximately 38 feet; however, it should be noted that there are no parking stalls located along the main ingress drive. Rather, the main driveway would provide 38 feet of throat length prior to the first intersecting drive aisle. At that point, an 8-foot wide island separates the main ingress driveway and the parking spaces. Furthermore, on-street angled parking provides an additional buffer of approximately 7 feet from the traveled way. As a result, more than 50 feet between the roadway and the first parking space are provided.

The Access Management Manual recommends a spacing of 660 feet between a right-in/right-out driveway and the nearest intersection on a minor arterial. Although the project only provides 200 feet of spacing between Roadside Road and the right-in/right-out driveway on Agoura Road, it should be noted that additional spacing is not feasible, as the driveway is located at the western boundary of the project site. It should also be noted that a throat length of

approximately 130 feet is provided at this driveway. The provision of a 130-foot driveway throat would allow vehicles to exit Agoura Road fully prior to stopping and minimizes the possibility of queuing onto Agoura Road minimizing any adverse interaction between the driveway and adjacent intersection. Therefore, impacts related to hazardous design features are **less than significant.**

e) The project would not result in inadequate emergency access because it would be subject to Los Angeles County Fire Department review and acceptance of site plans, and structures prior to occupancy to ensure that required fire protection safety features, including adequate driveway access to buildings and adequate emergency access, are implemented. Therefore, impacts would be **less than significant.**

f) The proposed project would not conflict with adopted policies, plans, or programs regarding public transit, bikeways, or pedestrian facilities, or otherwise substantially decrease the performance or safety of such facilities. Alternatives to driving to the site exist. Currently, a Class II bicycle lane is provided along Agoura Road and would provide bicycle access to the site. The project includes the installation of bike racks near the fitness facility. In addition, sidewalks will be provided adjacent to the project with handicap ramps at the corner of Roadside Road/Agoura Road. Pedestrian paths would be provided onsite and within the parking lot, connecting to the buildings, and also connecting to adjacent properties, consistent with the POM district requirements in the Zoning Code and in the Architectural Design Standards and Guidelines. The Los Angeles County Metropolitan Transportation Authority (Metro) bus line 161 provides service in Westlake Village, Thousand Oaks, Agoura Hills, Calabasas, and Woodland Hills. The nearest stop to the project is approximately 0.5 miles east of the project site. Refer to the discussion in Item *d)* above for design safety issues regarding the project. The project would not result in any adverse impacts to pedestrians, bicyclists or transit users from a design or access standpoint, and the project would accommodate each type of alternative transportation user. Therefore, impacts would be **less than significant.**

Mitigation Measures:

The following measure is required to be implemented to reduce impacts in the Cumulative with Project scenario to a less than significant level.

T-1 **Roadside Road/Agoura Road.** The applicant shall pay a "fair share" fee toward adding a southbound left-turn lane at the Roadside Road/Agoura Road intersection such that traffic leaving the project site on Roadside Road and turning left (east) onto Agoura Road has a designated left turn lane onto Agoura Road. The "fair share" fee shall be paid to the City and reviewed and approved by the Public Works Director/City Engineer prior to issuance of a Building Permit. As demonstrated in the Traffic Impact Analysis (Appendix F), the addition of a southbound left-turn lane at the Roadside Road/Agoura Road intersection would reduce traffic levels to operate at LOS C, resulting in less than significant impacts.

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

Discussion:

a) Wastewater generated in the Agoura Hills area is treated at the Tapia Water Reclamation Facility (TWRF), operated by the Las Virgenes Municipal Water District (LVMWD). The TWRF has a capacity of 16 million gallons per day (mgd) and currently treats an average of 9.5 mgd (LVMWD, 2013). Therefore, there is currently a surplus capacity of 6.5 mgd. The project's wastewater generation was calculated from wastewater generation factors cited in the City of Los Angeles CEQA Thresholds Guide, using sewage generation factors of a health club/spa to represent the proposed fitness center and a take-out restaurant to represent the anticipated restaurant use at the proposed retail/restaurant building. As shown in Table 15, the proposed project would generate an estimated total 37,200 gallons per day (gpd) of wastewater.

Table 15
Project Wastewater Generation

Land Use	Size	Generation Factor (gpd)	Flow
Health Club/Spa	45,000 sq. ft.	800/1,000 Gr. Sq. ft.	36,000 gpd[a]
Restaurant: Take-out	4,000 sq. ft.	300/1,000 Gr. Sq. ft.	1,200 gpd[a]

gpd = gallons per day
Source: LA CEQA Thresholds Guide, 2006.

The 37,200 gallons per day of wastewater generated by the proposed project would represent about 0.57% of the TWRF's current 6.5 mgd excess capacity. Because projected generation is within the projected future surplus capacity, impacts to wastewater treatment systems would be **less than significant.**

b) As discussed above, the project is within projected future surplus capacity for wastewater treatment and as described below in Item *d)*, compliance with LVWMD policies on water conservation would ensure the proposed project would not exceed existing water supplies. Furthermore, as discussed above in Section IX, *Hydrology and Water Quality*, underground cisterns would store treated stormwater before being reused onsite for landscaping irrigation. Because existing water supplies are adequate to service the proposed project, existing water and wastewater facilities are adequate to accommodate for the proposed project, and that the proposed project would comply with LVWMD policies on water conservation, the proposed project would not 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. Impacts would be **less than significant.**

c) As discussed in Section IX, *Hydrology and Water Quality,* the project site is currently vacant and covered with permeable and impermeable surfaces, but the proposed project would increase the amount of impervious surfaces with the proposed fitness facility, retail/restaurant building, and associated surface parking and driveways. The peak runoff volume onsite would increase from an estimated 12.97 cfs (cubic feet per second) to approximately 14.67 cfs once fully operational under the proposed project (Hardy, 2015 see Appendix G).The increased flow of 1.70 cfs would need to be detained to satisfy that the developed runoff does not exceed the existing runoff. Since retention is not applicable for this site, release of the runoff is moderated by the detention chamber. The detention chamber is designed to store the runoff from Building A, and the north and northwest portion of Subarea 1. An outflow pipe is installed at the bottom of the basin and the downstream end is directed to Cistern #1. The resulting peak outflow is moderated from 4.13 cfs to 2.06 cfs with a reduction of 2.07 cfs, which exceeds the required 1.70 cfs. The catch basins and storm drain pipes are sized to ensure adequate capacity to convey the runoff to the public storm drain system. Furthermore, an existing underground flood control channel that crosses the project site at the center would also convey runoff offsite. . Thus, because runoff as a result of the proposed project does not exceed existing runoff, the project would not exceed the capacity of an existing stormwater drainage system and would not require the construction of new stormwater drainage systems. Impacts related to the increase in peak stormwater flows would be **less than significant.**

d) The Las Virgenes Municipal Water District (LVMWD) supplies potable water in the City of Agoura Hills. The LVMWD obtains potable water from four sources: treated, potable water imported from Metropolitan Water District of Southern California (MWD), which in turn receives water from the State Water Project; recycled water from the TWRF; groundwater from the Russell Valley Basin (which is only used to supplement the TWRF); and surface runoff into Las Virgenes Reservoir (LVWMD, 2011).

On January 15, 2014, California Governor Jerry Brown declared a State of Emergency related to the California drought. In July, 2014 and in response to recent drought conditions, the State Water Resources Control Board (SWRCB) adopted new water conservation regulations (Resolution 2014-0038), including select prohibitions for all water users and required actions for all water agencies. In February, 2015, the Metropolitan Water District of Southern California (Metropolitan) reevaluated its water supplies and outlined scenarios that could require the agency to limit water deliveries by 5 to 10 percent by July 1, 2015 and prompt mandatory rationing during summer months. More recently, the California Department of Water Resources (DWR) announced that Metropolitan's 15 percent State Water Project allocation would be increased to 20 percent in 2015. Despite this anticipated increase, Metropolitan reiterated its commitment in March 2015 to carefully managing water supplies in case drought conditions continue to persist.

To increase water conservation, Metropolitan has implemented rebate programs to incentivize the use of water efficient fixtures and equipment for residences, businesses, industry, institutions, and large landscapes in southern California (Metropolitan, website, accessed March 9, 2015). Metropolitan's rebate programs include SoCalWater$mart, which assists customers with installing high-efficiency toilets, clothes washers, plumbing fixtures, HVAC, sprinkler controllers, soil moisture sensors and more (Additional information at www.socalwatersmart.com). Metropolitan's Water Savings Incentive Program assists large water volume users in implementing large scale water saving projects, such as projects to overhaul industrial processes to increase water reuse or install valves and pumps to improve agricultural irrigation efficiency (Additional information at http://bewaterwise.com/Water_Saving_Incentive_Program_Brochure_WEB.pdf).

The LVMWD Board has adopted the following policies and water conservation measures that would apply to the proposed project:

- Outdoor Irrigation Restriction to two days a week.
    - Even-numbered addresses may water Mondays and Fridays.
    - Odd-numbered addresses may water Tuesdays and Saturdays (this would apply to the project site)
    - Recycled water users may still irrigate on a three times per week schedule.
- Irrigation is prohibited between the hours of 10 AM and 5 PM
- No more than 15 minutes of irrigation per station is allowed.
- Irrigation may not occur during periods of rain or in the 48 hours following measurable rainfall.
- Irrigation may not run off the property into streets, gutters or onto adjacent properties.

- Using potable water to wash down sidewalks, parking areas and driveways is not permitted.
- A trigger nozzle is required on hoses used for home car washing.
- Fountains or water features must use a recirculating system.
- Restaurants may only serve water upon request.

The LVMWD's 2010 Urban Water Management Plan (UWMP) provides scenarios for water supply in the District. These scenarios include a "multiple dry year" scenario in which drought conditions exist for consecutive years and water supply is diminished. As shown in Table 16, LVMWD's total surplus water supply is anticipated to be 147 acre-feet per year (AFY) in 2017 during the multiple dry year scenario, and is anticipated to increase to 2,755 AFY in 2022 and increase to 2,823 AFY in 2027, followed by smaller surpluses in 2032 and 2037.

Table 16
LVMWD Water Supply and Demand – Multiple Dry Year

Water Sources	2017	2022	2027	2032	2037
Imported – MWD (AFY)	27,474	29,081	30,020	29,465	29,037
Recycled (AFY)	6,366	7,907	9,488	10,496	10,808
Groundwater	0	0	0	0	0
Total Water Supply (AFY)	*33,839*	*36,988*	*39,468*	*39,961*	*39,864*
Total Water Demand (AFY)	*33,639*	*34,233*	*36,645*	*38,523*	*39,653*
Difference	**147**	**2,755**	**2,823**	**1,438**	**192**

AFY = Acre feet per year
Source: 2010 Urban Water Management Plan, LVMWD, 2011.

In its 2010 Regional UWMP, MWD has found that its existing water supplies, when managed according to its water resource plans, will be sufficient to meet projected demand through 2035 (MWD, 2010).

Table 17 shows the estimated water demand from operation of the proposed fitness facility and retail/restaurant, based on water demand rates used in the City's General Plan Final EIR.

Table 17
Projected Potable Water Demand

Land Use	Size	Generation Factor *	Flow	Demand
Commercial/Recreation	45,000 sq. ft.	20 gpd/1,000 sq. ft.	900 gpd	1.01 AFY
Retail/Service	4,000 sq. ft.	20 gpd/1,000 sq. ft.	80 gpd	0.09 AFY

Notes: gpd = gallons per day
AFY = Acre feet per year
** Based on water demand rates cited in Table 4.14-3 of the City's General Plan EIR.*

Water demand anticipated from the proposed fitness facility and retail/restaurant building would total about 1.1 AFY, which would represent approximately 0.7 percent of the total 2017 regional surplus water supply. The anticipated demand of 1.1 AFY from the proposed fitness facility and retail/restaurant building would not exceed available water supplies shown in Table 16. Furthermore, the proposed project would be subject to water conservation measures imposed by the LVWMD as discussed above. Compliance with LVWMD policies on water conservation would ensure the proposed project would not exceed existing water supplies. Therefore, impacts would be **less than significant.**

e) As discussed above in Items *a)* and *b)*, estimated project wastewater generation is within the projected future surplus capacity; therefore impacts to wastewater treatment systems would be **less than significant.**

f) There are two landfills at which waste from the proposed project and the potential future fifteen residences could be disposed. The Calabasas Sanitary Landfill, operated by the Los Angeles County Sanitation Districts, is located at 5300 Lost Hills Road in Calabasas. The Simi Valley Landfill, privately operated, is located at 2801 Madera Road in Simi Valley. Both landfills serve the City of Agoura Hills, as well as other communities. The total remaining capacity of the Calabasas Sanitary Landfill is 15.6 million cubic yards, or 7 million tons. The facility is permitted to accept up to 3,500 tons per day. The average daily tonnage of waste received during 2013 was 741 tons (CalRecycle, 2013 Landfill Summary Tonnage Report, 2014). The expected remaining life of the landfill is to 2048. The Simi Valley Landfill is permitted to accept up to 6,000 tons per day of refuse. It received about 1,834 tons per day during 2013. The landfill has a remaining capacity of 120 million cubic yards, and a remaining life of an estimated 50 years.

According to Table 4.14-5 of the City's General Plan Final EIR (2010), both commercial/ recreational uses and retail/service uses generate approximately 0.005 pounds per square foot per day. Based on these rates, the proposed fitness facility and retail/restaurant building would generate an estimated 0.12 tons of solid waste per day during the operational phase of the project. This is approximately 0.0034 percent of the daily capacity (3,500 tons) permitted at the Calabasas Sanitary Landfill and 0.002 percent of the daily capacity (6,000 tons) at the Simi Valley Landfill. Based on a diversion rate of approximately 61% percent (recycling of waste not including construction and demolition debris), which the City achieved for the year 2013 (the latest year for which data is available) through various programs and policies, the solid waste would equate to 0.0020 percent of the allowed tonnage per day at the Calabasas Landfill, and 0.0011 percent of the allowed daily tonnage at the Simi Valley Landfill. Furthermore, although

the construction phase of the proposed project could generate waste, compliance with the requirements of the City's Construction and Demolition Debris Recycling Program would reduce the amount of waste entering the landfills from this phase of the project. Because both landfills have sufficient capacity for the next 35-50 years, solid waste generated by the project would have a less than significant impact on the permitted remaining capacity of either landfill. Impacts related to solid waste disposal needs would be **less than significant.**

g) The proposed project would comply with federal, state, and local statutes and regulations related to solid waste. During construction, some debris would be generated by the demolition of existing pavement and other materials. This material would either be recycled or disposed of. However, the amount of waste generated would not be expected to exceed the available capacity of local landfills. It is City policy that construction wastes are recycled wherever possible, and the project would be subject to the requirements of the City's Construction and Demolition Debris Re-Use and Recycling Program to reduce the amount of waste entering landfills. Solid waste generated by operation of the proposed project would be subject to the mandatory commercial sector recycling program instituted by the City in conformance with California Assembly Bill 939, which establishes a statewide 50% recycling goal. With adherence to the federal, state, and local statutes and regulations related to solid waste, impacts would be **less than significant.**

Mitigation Measures:

None required.

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less than Significant Impact	No Impact
XVIII. Mandatory Findings of Significance				
a) Does the project have the potential to substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self- sustaining levels, eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	■	☐	☐

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less than Significant Impact	No Impact
XVIII. Mandatory Findings of Significance				
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☐	■	☐
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	■	☐	☐

a) As discussed in Section IV, *Biological Resources*, the proposed project would not adversely impact rare or endangered species. Implementation of BIO-1 would ensure impacts to jurisdictional drainage facilities would be less than significant. Mitigation Measure BIO-2 would reduce impacts related to nesting birds. Implementation of mitigation measures BIO-3 and BIO-4 would protect and replace oak trees on the project site.

Furthermore, as discussed in Section V, *Cultural Resources*, the proposed project would not impair or eliminate any known prehistoric or historic resources. Impacts on unanticipated cultural resources would be less than significant with implementation of mitigation measures CR-1 and CR-2, which provide requirements pertaining to the discovery of any unanticipated cultural resources during construction activity. Therefore, impacts would be **potentially significant unless mitigation is incorporated.**

b) All environmental issues considered in this Initial Study were found to have either no impact, a less than significant impact, or a less than significant impact with mitigation incorporated. Cumulative impacts in the following resource areas have been addressed in the individual resource sections above: Air Quality, Biological Resources, Greenhouse Gases, and Traffic. As discussed in Section III, *Air Quality*, and Section VII, *Greenhouse Gas Emissions*, the project would not exceed state or regional thresholds for the emission of criteria air pollutants or greenhouse gases. With implementation of mitigation measures BIO-1 through BIO-4, and T-1, cumulative impacts to biological resources and traffic would be reduced to a less than significant level. Some of the other resource areas were determined to have no impact and therefore would not contribute to cumulative impacts and did not warrant further analysis, such as Mineral Resources and Agricultural Resources. Therefore, in connection with the effects of any past projects, current projects, and probable future projects, the proposed project would have **less than significant cumulative impacts (i.e., impacts would not be cumulatively considerable).**

c) In general, impacts to human beings are associated with air quality, geology/soils, hazards and hazardous materials, hydrology and water quality, and noise impacts. Impacts related to air quality, hazards/hazardous materials, and noise were found to be less than significant and impacts related to geological hazards and hydrology/water quality (stormwater drainage and flooding) would be reduced to less than significant with mitigation measures GEO-1 as discussed in Section VI, *Geology and Soils*. Thus the project would not result in environmental effects which will cause substantial adverse effects on human beings, and impacts would be **less than significant with mitigation incorporated.**

REFERENCES

Bibliography

Advanced Geotechnical Services, Inc. *Geotechnical Engineering Update Study*. July 18, 2014.

Agoura Hills, City of. City of Agoura Hills Municipal Code. Updated October 31, 2014. Accessed April 1, 2015. Available online at: https://www.municode.com/library/ca/agoura_hills/codes/code_of_ordinances

Agoura Hills, City of. City of Agoura Hills General Plan 2035. March 2010. Available online at: http://www.ci.agoura-hills.ca.us/government/departments/planning-community-development/general-plan

Agoura Hills, City of. *General Plan 2035 EIR*. February 2010.

Batchelor Environmental Services, *Phase I Environmental Site Assessment Update of Prveiously Performed (By Batchelor Environmental Services) Phase I ESA Dated September 2, 1999, and a Phase I ESA Update Dated September 6, 2003 of a Commercial/Light Industrial Facility Property Currently Occupied by J. Fletcher and Company (Formerly Agoura Equiipment Rental and Supply Company & Westlake Truck Leasing Company [DBA Hillside Rubbish]) Containing Approximately 3.45 acres and Located at At 29431 & 29439 Agoura Road Agoura Hills, California 91301* , February 1, 2012.

Batchelor Environmental Services, *Soil Gas Survey and Analysis of Commercial/Light Industrial Facility Properties Currently Occupied by J. Fletcher and Company (Formerly Agoura Equipment Rental and Supply Company * Westlake Truck Leasing Company [DBA Hillside Rubbish]) & Valley Crest Landscape Maintenance Company (Formerly Agoura Building Materials and Supplies) Located Respectively At 29431 & 29439 Agoura Road Agoura Hills, California 91301* , February 24, 2012.

Burroughs, Ann. *14-SPR-003, 14-OTP-016, 14-LLA-002 – Selleck Development Group, Inc. – Agoura Park – 29431 and 29439 Agoura Road.* July 7, 2015.

[Caltrans] California Department of Transportation, Scenic Highway Program. *Eligible (E) and Official Designated (OD) Routes.* December 2013. Available online at: http://www.dot.ca.gov/hq/LandArch/scenic/cahisys.htm

[CalEPA] California Environmental Protection Agency. *2010 Climate Action Team Biennial Report.* April 2010.

CalEPA. *Climate Action Team Report to Governor Schwarzenegger and the Legislature*. March 2006. Available online at: http://www.climatechange.ca.gov/climate_action_team/reports/2006-04-03_FINAL_CAT_REPORT_EXECSUMMARY.PDF.

California Department of Conservation. *State of California Seismic Hazard Zones: Thousand Oaks Quadrangle*. November 2000. Available online at:

http://gmw.consrv.ca.gov/shmp/download/quad/THOUSAND_OAKS/maps/ozn_toaks.pdf

California Department of Finance. *E-5 Population and Housing Estimates for Cities, Counties, and the State, January 2011-2014, with 2010 Benchmark.* May 2014. Available online at: http://www.dof.ca.gov/research/demographic/reports/estimates/e-5/2011-20/view.php

California Department of Conservation, Division of Land Resource Protection, Farmland Mapping and Monitoring Program. California Important Farmland Finder. 2014. Available online at: http://maps.conservation.ca.gov/ciff/ciff.html

CalRecycle. *2013 Landfill Summary Tonnage Report*. 2014. Available online at: http://www.calrecycle.ca.gov/SWFacilities/Landfills/Tonnages/

Dean, James, A.S.L.A. Landscape Architect. *Oak Tree Report*. May 11, 2015+ Revised Reports

Federal Emergency Management Agency (FEMA). *FIRM Map ID # 06037C1244F*. September 2008. Available online at: https://msc.fema.gov/portal

Federal Railroad Administration. *High-Speed Ground Transportation Noise and Vibration Impact Assessment*. September 2012. Available online at: http://www.fra.dot.gov/eLib/Details/L04090

Federal Transit Administration. (FTA). *Transit Noise and Vibration Impact Assessment.* May 2006. Available online at: http://www.fta.dot.gov/documents/FTA_Noise_and_Vibration_Manual.pdf

Hardy Engineering. Hydrology and Low Impact Development (LID) Study. July, 2015.

Institute of Transportation Engineers (ITE). *Trip Generation Manual, 9th Edition*. 2012.

Las Virgenes-Malibu Council of Governments. *Las Virgenes-Malibu Council of Governments Multi-Jurisdictional Hazard Mitigation Plan.* March 2012. Available online at: http://www.ci.agoura-hills.ca.us/government/emergency-services/las-virgenes-malibu-council-of-governments-multi-jurisdictional-hazardous-mitigation-plan

LSA Associates, Inc. Traffic Impact Analysis. LA Fitness at Agoura Park. November 27, 2014.

[LVMWD]. *2010 Urban Water Management Plan*. June 2011. Available online at: http://www.lvmwd.com/home/showdocument?id=1390

LVMWD. *Las Virgenes Reservoir Five Million Gallon Tank.* February 2014. Available online at: http://www.lvmwd.com/home/showdocument?id=3896

LVMWD. *Tapia Water Reclamation Facility*. 2013. Available online at: http://www.lvmwd.com/your-water/wastewater-services/tapia-water-reclamation-facility

[MWD] Metropolitan Water District of Southern California. *2010 Regional Urban Water Management Plan*. November 2010. Available online at: http://www.mwdh2o.com/mwdh2o/pages/yourwater/RUWMP/RUWMP_2010.pdf

Office of Governor Edmund G. Brown Jr. *Governor Brown Establishes Most Ambitious Greenhouse Gas Reduction Target in North America.* April 20, 2015.

PCR Services Corporation. *Agoura Biological Constraints Analysis.* June 20, 2014

[SCAG] Southern California Association of Governments. 2012-2035 Regional Transportation Plan-Sustainable Communities Strategy. April 2012. Accessed November 2014. Available online at: http://www.scagrtp.net/

[SCAQMD] South Coast Air Quality Management District. Appendix C – Mass Rate LST Look-up Table. Accessed November 2014. Available online at: http://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/appendix-c-mass-rate-lst-look-up-tables.pdf?sfvrsn=2

SCAQMD. Final 2012 Air Quality Management Plan. February 2013. Available online at: http://www.aqmd.gov/home/library/clean-air-plans/air-quality-mgt-plan

SCAQMD. *Final Localized Significance Threshold Methodology.* June 2003.

SCAQMD. *CEQA Air Quality Handbook*. 1993.

SCAQMD. *Greenhouse Gas CEQA Significance Threshold Stakeholder Working Group Meeting #15*. September 2010.

U.S. EPA. *Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances. 1971.* Available online at: http://nepis.epa.gov/Exe/ZyPURL.cgi?Dockey=9101NN3I.TXT

Wynn Landscape Architects, Inc. Preliminary Landscape Plan. February 28, 2013.

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3.0 RESPONSES to COMMENTS on the DRAFT IS-MND

This section includes comments received during the circulation of the Draft Initial Study and Mitigated Negative Declaration (IS-MND) prepared for the Agoura Park Project.

The Draft IS-MND was circulated for a 30-day public review period that began on September 17, 2015 and ended on October 19, 2015. The City of Agoura Hills received 3 comment letters on the Draft IS-MND. The commenter and the page number on which each commenter's letter appear are listed below.

[

The comment letters and responses follow. The comment letters have been numbered sequentially and each separate issue raised by the commenter, if more than one, has been assigned a number. The responses to each comment identify first the number of the comment letter, and then the number assigned to each issue (Response 1.1, for example, indicates that the response is for the first issue raised in comment Letter 1).

Letter 1

COUNTY OF LOS ANGELES

FIRE DEPARTMENT

1320 NORTH EASTERN AVENUE
LOS ANGELES, CALIFORNIA 90063-3294

CITY OF AGOURA HILLS
2015 OCT -5 PM 2:55
CITY CLERK

DARYL L. OSBY
FIRE CHIEF
FORESTER & FIRE WARDEN

October 1, 2015

Valerie Darbouze, Associate Planner
City of Agoura Hills
Planning Department
30001 Ladyface Court
Agoura Hills, CA 91301

Dear Ms. Darbouze:

NOTICE OF AVAILABILITY AND INTENT TO ADOPT A MITIGATED NEGATIVE DECLARATION, CASE NO. 14-SPR-003, 14-OTP-016, 14-VAR-003, 14-SP-040, AND VTPM 73266, CONSISTS OF A REQUEST FOR APPROVAL OF A SITE PLAN/ARCHITECTURAL REVIEW TO ALLOW THE CONSTRUCTION OF A NEW 45,000 SQUARE-FOOT, TWO STORY FITNESS FACILITY BUILDING AND A 4,000 SQUARE-FOOT, ONE-STORY RETAIL/FAST SERVICE RESTURANT BUILDING, 29431 AND 29439 AGOURA ROAD, AGOURA HILLS (FFER 201500164)

The Notice of Availability and Intent to Adopt a Mitigated Negative Declaration has been reviewed by the Planning Division, Land Development Unit, Forestry Division, and Health Hazardous Materials Division of the County of Los Angeles Fire Department. The following are their comments:

PLANNING DIVISION:

1. We have no comments at this time

LAND DEVELOPMENT UNIT:

1. The statutory responsibilities of the County of Los Angeles Fire Department's Land Development Unit are to review and comment on all projects within the unincorporated areas of the County of Los Angeles. Our emphasis is on the

1.1

SERVING THE UNINCORPORATED AREAS OF LOS ANGELES COUNTY AND THE CITIES OF:

AGOURA HILLS
ARTESIA
AZUSA
BALDWIN PARK
BELL
BELL GARDENS
BELLFLOWER
BRADBURY
CALABASAS
CARSON
CERRITOS
CLAREMONT
COMMERCE
COVINA
CUDAHY
DIAMOND BAR
DUARTE
EL MONTE
GARDENA
GLENDORA
HAWAIIAN GARDENS
HAWTHORNE
HIDDEN HILLS
HUNTINGTON PARK
INDUSTRY
INGLEWOOD
IRWINDALE
LA CANADA FLINTRIDGE
LA HABRA
LA MIRADA
LA PUENTE
LAKEWOOD
LANCASTER
LAWNDALE
LOMITA
LYNWOOD
MALIBU
MAYWOOD
NORWALK
PALMDALE
PALOS VERDES ESTATES
PARAMOUNT
PICO RIVERA
POMONA
RANCHO PALOS VERDES
ROLLING HILLS
ROLLING HILLS ESTATES
ROSEMEAD
SAN DIMAS
SANTA CLARITA
SIGNAL HILL
SOUTH EL MONTE
SOUTH GATE
TEMPLE CITY
WALNUT
WEST HOLLYWOOI
WESTLAKE VILLAG
WHITTIER

availability of sufficient water supplies for firefighting operations and local/regional access issues. However, we review all projects for issues that may have a significant impact on the County of Los Angeles Fire Department. We are responsible for the review of all projects within contract cities (cities that contract with the County of Los Angeles Fire Department for fire protection services). We are responsible for all County facilities located within non-contract cities. The County of Los Angeles Fire Department's Land Development Unit may also comment on conditions that may be imposed on a project by the Fire Prevention Division, which may create a potentially significant impact to the environment.

1.1 cont.

2. The development of this project must comply with all applicable code and ordinance requirements for construction, access, water mains, fire flows, and fire hydrants.

3. This property is located within the area described by the Forester and Fire Warden as a Fire Zone 4, Very High Fire Hazard Severity Zone (VHFHSZ). All applicable fire code and ordinance requirements for construction, access, water mains, fire hydrants, fire flows, brush clearance, and fuel modification plans, must be met.

4. Every building constructed shall be accessible to Fire Department's apparatus by way of access roadways with an all-weather surface of not less than the prescribed width. The roadway shall be extended to within 150 feet of all portions of the exterior walls when measured by an unobstructed route around the exterior of the building.

5. When involved with subdivision in a city contracting fire protection with the County of Los Angeles Fire Department, Fire Department's requirements for access, fire flows, and hydrants are addressed during the subdivision tentative map stage.

6. The development may require fire flows up to 8,000 gallons per minute at 20 pounds per square inch residual pressure for up to a five-hour duration. Provide the construction type and square footage, per floor, of all proposed structures on the site plan or project data sheet. Fire flow requirements shall be determined utilizing the County of Los Angeles Fire Code Appendix B Table B105.1.

7. Fire hydrant spacing shall be 300 feet and shall meet the following requirements:

    a) No portion of lot frontage shall be more than 200 feet via vehicular access from a public fire hydrant.

b) No portion of a building shall exceed 400 feet via vehicular access from a properly spaced public fire hydrant.

c) Additional hydrants will be required if hydrant spacing exceeds specified distances.

d) When cul-de-sac depth exceeds 200 feet on a commercial street, hydrants shall be required at the corner and midblock.

e) A cul-de-sac shall not be more than 500 feet in length when serving land zoned for commercial use.

1.1 cont.

8. Turning radii shall not be less than 32 feet. This measurement shall be determined at the centerline of the road. A Fire Department approved turning area shall be provided for all driveways exceeding 150 feet in-length and at the end of all cul-de-sacs.

1.2

9. Provide a minimum unobstructed width of 28 feet exclusive of shoulders except for approved security gates in accordance with Section 503.6, and an unobstructed vertical clearance "clear to sky" Fire Department's vehicular access to within 150 feet of all portions of the exterior walls of the first story of the building as measured by an approved route around the exterior of the building when the height of the building above the lowest level of the Fire Department's vehicular access road is more than 30 feet high or the building is more than three stories. The access roadway shall be located a minimum of 15 feet and a maximum of 30 feet from the building and shall be positioned parallel to one entire side of the building. The side of the building on which the aerial fire apparatus access road is positioned shall be approved by the fire code official. Fire Code 503.1.1 and 503.2.2 Cross hatch the Fire Department vehicular's access on the site plan and clearly depict the required width.

10. Disruptions to water service shall be coordinated with the County of Los Angeles Fire Department and alternate water sources shall be provided for fire protection during such disruptions.

1.3

11. The County of Los Angeles Fire Department's Land Development Unit's comments are general requirements. Specific fire and life safety requirements and conditions set during the environmental review process will be addressed and conditions set at the building and fire plan check phase. Once the official plans are submitted for review there may be additional requirements.

12. Should any questions arise regarding subdivision, water systems, or access, please contact the County of Los Angeles Fire Department's Land Development Unit's, Inspector Nancy Rodeheffer at (323) 890-4243.

13. The County of Los Angeles Fire Department's Land Development Unit appreciates the opportunity to comment on this project.

14. All proposals for traffic calming measures (speed humps/bumps/cushions, traffic circles, roundabouts, etc.) shall be submitted to the Fire Department for review prior to implementation.

1.3 cont.

FORESTRY DIVISION – OTHER ENVIRONMENTAL CONCERNS:

1. The statutory responsibilities of the County of Los Angeles Fire Department's Forestry Division include erosion control, watershed management, rare and endangered species, vegetation, fuel modification for Very High Fire Hazard Severity Zones or Fire Zone 4, archeological and cultural resources, and the County Oak Tree Ordinance.

1.4

HEALTH HAZARDOUS MATERIALS DIVISION:

1. The Health Hazardous Materials Division (HHMD) of the Los Angeles County Fire Department has no objection to the project. The Los Angeles Regional Water Quality Control Board (LARWQCB) has cleaned-up three leaking underground petroleum storage tank (LUST) sites at the Project Site as referenced on the State Water Resource Control Board's GeoTracker Internet site. Any questions pertaining to past LUST environmental cleanups at the Project Site should be directed to the LARWQCB

1.5

If you have any additional questions, please contact this office at (323) 890-4330.

Very truly yours,

KEVIN T. JOHNSON, ACTING CHIEF, FORESTRY DIVISION
PREVENTION SERVICES BUREAU

KTJ:ad

Letter 1

COMMENTER: Daryl L. Osby, Fire Chief, Forester & Fire Warden, County of Los Angeles Fire Department

DATE: October 1, 2015

Response 1.1

The commenter describes Los Angeles County project design requirements, such as for construction, access, water mains, fire flows, brush clearance, fuel modification parts, fire hydrant spacing and suggests the project would need to be in compliance with these requirements. According to Section VIII, *Hazards and Hazardous Materials*, and Section XIV, *Public Services*, the project would be required to comply with State Fire Code, City Municipal Code, and Los Angeles County Fire Department (LACFD) standards, which would be addressed and enforced during the building permit phase of the project, and met prior to issuance of a building permit.

Response 1.2

The commenter specifies requirements for emergency vehicle site access, such as for turning radii and minimum unobstructed shoulder width. According to Section XVI, *Transportation and Traffic*, the project site plan would be subject to Los Angeles County Fire Department review and approval for adequate site access, and so these requirements would be addressed and enforced during the building permit phase of the project, and met prior to issuance of a building permit.

Response 1.3

The commenter describes general requirements that would be subject to County of Los Angeles Fire Department review and provides contact information and procedures. As described in Responses 1.1 and 1.2, the project would be subject to Fire Department review and approval prior to issuance of building permits for the proposed project.

Response 1.4

The commenter describes the role of the County of Los Angeles Fire Department Forestry Division. No further response is necessary.

Response 1.5

The commenter states that the Health Hazardous Materials Division of the Los Angeles County Fire Department has no objection to the project. As noted in the comment and in Section VIII, *Hazards and Hazardous Materials*, leaking underground petroleum storage tanks have been noted to previously exist on the project site. However, as stated on page 53 of the Draft IS-MND, the former facilities that were responsible for these LUSTs have been granted regulatory case closure on the LUST areas and thus impacts related to hazardous materials from these units are considered less than significant.

Letter 2

County of Los Angeles
Sheriff's Department Headquarters
4700 Ramona Boulevard
Monterey Park, California 91754-2169

Jim McDonnell, Sheriff

October 20, 2015

Ms. Valerie Darbouze
Associate Planner
City of Agoura Hills
30001 Ladyface Court
Agoura Hills, California 91301

Dear Ms. Darbouze:

REVIEW COMMENTS
INITIAL STUDY AND MITIGATED NEGATIVE DECLARATION
AGOURA PARK PROJECT
CASE NOS. 14-SPR-003, 14-OTP-016, 14-VAR-003, 14-SP-040, VTPM 73266

Thank you for inviting the Los Angeles County Sheriff's Department (Department) to review and comment on the Initial Study and Mitigated Negative Declaration (IS/MND), dated September 2015, for the Agoura Park Project (Project). The proposed Project is located on a partially-developed, 3.73-acre site located at 29431 and 29439 Agoura Road in the City of Agoura Hills. The proposed Project will construct a 49,000-square foot, two-story fitness facility building, a 4,000-square foot, single-story retail/fast service restaurant building, a surface parking lot, and various other site amenities.

The proposed Project is located within the service area of the Department's Malibu/Lost Hills Station (Station). Accordingly, the Station reviewed the IS/MND and authored the attached review comments (see correspondence, dated October 13, 2015, from Captain Patrick S. Davoren). 2.1

Also, for future reference, the Department provides the following updated contact information for all requests for review comments, law enforcement service information, California Environmental Quality Act documents, and other related correspondence:

Tracey Jue, Director
Facilities Planning Bureau
Los Angeles County Sheriff's Department
4700 Ramona Boulevard, Fourth Floor
Monterey Park, California 91754

Attention: Lester Miyoshi, Departmental Facilities Planner

Should you have any questions regarding this matter, please contact me at (323) 526-5657, or your staff may contact Lester Miyoshi, of my staff, at (323) 526-5664.

Sincerely,

JIM McDONNELL, SHERIFF

Tracey Jue, Director
Facilities Planning Bureau

2.1 cont.

COUNTY OF LOS ANGELES
SHERIFF'S DEPARTMENT
"A Tradition of Service"

RECEIVED
#347
OCT 15 2015
Orig Lester, CC: Subj File
DATE: October 13, 2015
FACILITIES PLANNING BUREAU
ADMINISTRATIVE SERVICES DIVISION

OFFICE CORRESPONDENCE

FROM: PATRICK S. DAVOREN, CAPTAIN
MALIBU/LOST HILLS STATION

TO: TRACEY JUE, DIRECTOR
FACILITIES PLANNING BUREAU

SUBJECT: REVIEW COMMENTS ON THE INITIAL STUDY AND MITIGATED NEGATIVE DECLARATION FOR THE AGOURA PARK PROJECT

The Traffic Bureau of the Malibu/Lost Hills Sheriff's Station (Station) reviewed the Initial Study and Mitigated Negative Declaration (IS/MND), dated September 2015, for the Agoura Park Project (Project). The proposed Project is located on a partially developed 3.73-acre site located at 29431 and 29439 Agoura Road in the City of Agoura Hills. The proposed Project will construct a 49,000 square foot, two-story fitness facility building, a 4,000 square foot, single-story retail/fast service restaurant building, a surface parking lot, and various other site amenities. The proposed Project site is located within the Station's service area.

According to Section XIV.a.ii of the IS/MND, the proposed Project is expected to have a less than significant impact on law enforcement services provided by LASD and the Station (see pages 70-71). Based on our review of the IS/MND, the Station generally concurs with this assessment, because the proposed Project site is already within the Station's service area, and, although the proposed Project will increase the local population of our service area, and will result in commensurate increases in daily vehicle trips on local roadways, such increases are expected to be generally manageable.

2.1 cont.

However, although the Station is not overly concerned with the proposed Project itself, we remain concerned that continued growth and intensification of land uses within our service area will ultimately contribute to significant cumulative impacts on our resources and operations. It is reasonable to expect that continued development will ultimately result in increased demands for law enforcement services. Meeting such increased demand will require additional resources, including patrol deputies, other sworn deputies, support personnel, and attendant assets (patrol vehicles, support vehicles, communications equipment, weaponry, office furniture/equipment, etc.). In order to accommodate such additional staff and assets, the Station itself will require substantial modernization and/or expansion.

Thank you for including the Station in the environmental review process for the proposed Project. Should you have any questions regarding this matter, please feel free to contact Sergeant Brad L. Johnson (B1Johnso@lasd.org), (818) 878-1808.

2.1 cont.

PSD:bj

Letter 2

COMMENTER: Patrick S. Davoren, Captain, Malibu/Lost Hills Station

DATE: October 15, 2015

Response 2.1

The commenter reviewed the IS-MND and concurs with the findings of Section XIV.a.ii, Public Services that the proposed project is expected to have a less than significant impact on law enforcement services. The project would incrementally increase the demand for police protection services compared to existing conditions due to the development of an existing vacant lot with a 45,000 square foot fitness facility and 4,000 square foot retail/restaurant building. As discussed in Section XIV.a.ii, Public Services, the proposed project site is located in an urbanized area that is already served by the LASD Department. Furthermore, the proposed project does not include development of residences that would directly induce population growth. Therefore, the proposed project would not significantly increase demand of police protection services or additional police staff, and therefore would not require expansion of existing facilities or construction of new facilities. The commenter states the Malibu/Lost Hills Station is not overly concerned with the proposed project itself.

Letter 3

Letter 3

STATE OF CALIFORNIA

Governor's Office of Planning and Research

State Clearinghouse and Planning Unit

Edmund G. Brown Jr.
Governor

Ken Alex
Director

October 13, 2015

Valerie Darbouze
City of Agoura Hills
30001 Ladyface Court
Agoura Hills, CA 91301

Subject: Agoura Park
SCH#: 2015091028

Dear Valerie Darbouze:

The State Clearinghouse submitted the above named Mitigated Negative Declaration to selected state agencies for review. The review period closed on October 12, 2015, and no state agencies submitted comments by that date. This letter acknowledges that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act.

3.1

Please call the State Clearinghouse at (916) 445-0613 if you have any questions regarding the environmental review process. If you have a question about the above-named project, please refer to the ten-digit State Clearinghouse number when contacting this office.

Sincerely,

Scott Morgan
Director, State Clearinghouse

1400 TENTH STREET P.O. BOX 3044 SACRAMENTO, CALIFORNIA 95812-3044
TEL (916) 445-0613 FAX (916) 323-3018 www.opr.ca.gov

Document Details Report
State Clearinghouse Data Base

SCH# 2015091028
Project Title Agoura Park
Lead Agency Agoura Hills, City of

Type MND Mitigated Negative Declaration

Description A request to build a 45,000 sf two story fitness facility and a 4,000 sf one story retail/restaurant building on a previously developed property including merging two parcels into one. The request includes removing 2 oak trees and impacting one other. The fitness facility design requires a variance for setback, height, and encroachment into the landscape planter on one of the street frontages. A sign permit is required for the signage on the property along with a variance to increase the maximum allowable size of the primary and secondary signs on one of the buildings.

Lead Agency Contact

Name Valerie Darbouze
Agency City of Agoura Hills
Phone (818) 597-7300 **Fax**
email
Address 30001 Ladyface Court
City Agoura Hills **State** CA **Zip** 91301

Project Location

County Los Angeles
City Agoura Hills
Region
Lat / Long 34° 8' 7.6" N / 118° 46' 11" W
Cross Streets Roadside Road and Agoura Road
Parcel No. 2061-004-015, 035, 036
Township **Range** **Section** **Base**

Proximity to:

Highways US 101
Airports
Railways
Waterways Lindero Canyon Creek
Schools Agoura HS
Land Use Various

Project Issues Aesthetic/Visual; Agricultural Land; Air Quality; Archaeologic-Historic; Biological Resources; Drainage/Absorption; Flood Plain/Flooding; Forest Land/Fire Hazard; Geologic/Seismic; Minerals; Noise; Population/Housing Balance; Public Services; Recreation/Parks; Sewer Capacity; Soil Erosion/Compaction/Grading; Solid Waste; Toxic/Hazardous; Traffic/Circulation; Vegetation; Water Quality; Water Supply; Landuse; Cumulative Effects

Reviewing Agencies Resources Agency; Department of Fish and Wildlife, Region 5; Department of Parks and Recreation; Department of Water Resources; California Highway Patrol; Caltrans, District 7; Air Resources Board; Regional Water Quality Control Board, Region 4; Native American Heritage Commission

Date Received 09/11/2015 **Start of Review** 09/11/2015 **End of Review** 10/12/2015

Note: Blanks in data fields result from insufficient information provided by lead agency.

COMMENTER: Scott Morgan, Director, State Clearinghouse

DATE: October 13, 2015

Response 3.1

The commenter states that the State Clearinghouse submitted the IS-MIND to selected state agencies for review. The review period closed on October 12, 2015, and that no state agencies had submitted comments.

CITY OF AGOURA HILLS
AGOURA PARK PROJECT

4.0 MITIGATION MONITORING AND REPORTING PROGRAM

CEQA requires adoption of a monitoring and reporting program (MMRP) for the mitigation measures necessary to mitigate or avoid significant effects on the environment. The MMRP is designed to ensure compliance with adopted mitigation measures during project implementation.

This MMRP includes applicable mitigation measures from the Agoura Park Initial Study-Mitigated Negative Declaration (IS-MND). For each measure, specifications are made herein that identify the action required and the monitoring that must occur. In addition, the party for verifying compliance with individual mitigation measures is identified.

Mitigation Measure/Condition of Approval	Action Required	When Monitoring to Occur	Monitoring Frequency	Responsible Agency or Party	Compliance Verification		
					Initial	Date	Comments
BIOLOGICAL RESOURCES							
Mitigation Measure BIO-1 Habitat Restoration or In-Lieu Fee. To compensate for impacts to 0.02 acres of herbaceous wetland habitat in the channel, the applicant shall follow all requirements, including permits/approvals and identified mitigation, of the appropriate regulatory agencies, including the California Department of Fish and Wildlife (CDFW), the U.S. Army Corps of Engineers (ACOE), and the Regional Water Quality Control Board (RWQCB). At a minimum, the applicant shall compensate for the loss of habitat at a 1:1 ratio (compensation area: impact area), or as required by the RWQCB, ACOE, and CDFW, as applicable. The same or similar habitat shall be restored as close to the impact area as possible. If a location in the general area of the project is not feasible as determined by the City, then the applicant shall restore another appropriate area within the City limits as close to the impacted area as possible. If a location in the City is determined infeasible by the City, mitigation shall occur elsewhere in the watershed but as close to the project site as possible, or an in-lieu fee to compensate for the loss of habitat may be provided to a qualified agency or other entity acceptable to the City and the regulatory agencies, as applicable. The appropriate in-lieu fee would be determined by the applicant and receiving entity/agency, as approved by the City Environmental Analyst. Mitigation shall be completed within two (2) years of the completion of the project construction. A mitigation plan and monitoring program shall be prepared and submitted to the City Environmental Analyst and other regulatory agencies, as necessary, for acceptance prior to issuance of a Grading Permit or Building Permit, whichever occurs first, or the start of construction of the project, whichever is sooner. The mitigation and monitoring plan shall outline methods of mitigation; planting sizes, quantities, and receiver sites; performance standards, including maintenance and monitoring (with periodic status reports and documentation).	Verification of permits/approvals and identified mitigation measures	Prior to issuance of grading permits	Once per individual project component	AHPCD			

Key: **AHPWE – City of Agoura Hills Public Work/Engineering**
AHPCD – City of Agoura Hills Planning & Community Development
OCM – Onsite Construction Manager

Mitigation Measure/Condition of Approval	Action Required	When Monitoring to Occur	Monitoring Frequency	Responsible Agency or Party	Compliance Verification		
					Initial	Date	Comments
Mitigation Measure BIO-2 Nesting Birds. To the extent feasible, the applicant shall not remove or otherwise disturb vegetation, prepare the site, or conduct any other construction related activities within the work areas to avoid impacts to breeding and/or nesting birds from February 1 through September 1, the recognized breeding, nesting and fledging season for raptor and bird species. If such activities in the work areas during the breeding and nesting season cannot be avoided, then prior to any ground or vegetation disturbing activities, the applicant shall have a qualified biologist/ornithologist acceptable to the City Environmental Analyst conduct a survey of all breeding and nesting habitats within the work areas and vicinity within one (1) week of construction or vegetation clearing activities. The extent of the survey buffer area surrounding the site shall be established by the biologist to ensure that direct and indirect effects to nesting/breeding birds are avoided. A report discussing the results of the bird survey shall be submitted for review by the City Environmental Analyst prior to any vegetation removal, site preparation or construction activity. If active nests are found within the survey area, activities within a 300-foot radius (500 feet for raptors) shall not be allowed until an appropriate buffer can be established. Limits of construction to avoid a nest site shall be established in the field with flagging and stakes or construction fencing. Activities within the buffer area shall be postponed or halted at the discretion of a biological monitor until the nest is vacated and juveniles have fledged, and there is no evidence of a second attempt at nesting. If a state or federally listed species is found, the CDFW, and the USFWS, when applicable, shall be notified within 24 hours of the sighting, and construction work shall not occur until concurrence has been received that operations may proceed. The biologist shall record the results of the recommended protective measures described above to document compliance with applicable state and federal laws pertaining to the protection of native birds, and provide the documentation to the City's Environmental Analyst.	Verification that birds during breeding and nesting are not disturbed; if work during breeding and nesting season cannot be avoided, a biological survey must be conducted	Prior to issuance of grading permits	Once per individual project component	AHPCD			

Key: **AHPWE – City of Agoura Hills Public Work/Engineering**
AHPCD – City of Agoura Hills Planning & Community Development
OCM – Onsite Construction Manager

Mitigation Measure/Condition of Approval	Action Required	When Monitoring to Occur	Monitoring Frequency	Responsible Agency or Party	Compliance Verification		
					Initial	Date	Comments
Mitigation Measure BIO-3 Oak Tree Replacement. All excavation within the protected zone of Oak Trees Number 193 and 195 shall be performed using only hand tools under the direct observation of the applicant's oak tree consultant. Light construction equipment may be utilized with prior approval of the City Oak Tree Consultant. Prior to the start of any mobilization or construction activities on the site, Oak Trees Number 193 and 195 shall be fenced at the edge of the approved limits of work in strict accordance with Article IX, Appendix A, Section V.C.1.1 of the City of Agoura Hills Oak Tree Preservation and Protection Guidelines. The City Oak Tree Consultant shall approve the fencing location subsequent to installation and prior to the start of any mobilization or work on the site. To mitigate the removal of the Tree 194 and the likely decline and early death of Tree 193, the project plans shall include at least eight inches of trunk diameter of new oak trees within the landscape. The exact species, planting sizes and planting locations shall be subject to review and approval by the City Oak Tree Consultant. The applicant shall plant at least eight oak trees within the site, to include the following six trees: two 36-inch box size trees and four 24-inch box size trees. Should the Planning Director and the City Oak Tree Consultant determine that the required number of oak trees cannot be planted on the subject site in a practical fashion, equivalent alternative mitigation shall be established through the establishment of an equivalent in-lieu fee which the applicant shall pay into the City Oak Tree Mitigation Fund for the deficit. The amount of the in-lieu fee shall be based upon tree appraisal standards contained in the 9th Edition of the Guide for Plant Appraisal in consultation with the City's Oak Tree Consultant and approved by the Planning Director. The planting locations, species and quality of all mitigation oak trees are subject to the approval of the City	Verification of fencing of Oak Trees Number 193 and 195; planting of new oak trees	Prior to issuance of grading permits	Once per individual project component	AHPCD, City Oak Tree Consultant			

Key: **AHPWE – City of Agoura Hills Public Work/Engineering**
AHPCD – City of Agoura Hills Planning & Community Development
OCM – Onsite Construction Manager

Mitigation Measure/Condition of Approval	Action Required	When Monitoring to Occur	Monitoring Frequency	Responsible Agency or Party	Compliance Verification		
					Initial	Date	Comments
Oak Tree Consultant. The mitigation oak trees shall be maintained in perpetuity. Should any of the mitigation oak trees decline or die, they shall be replaced in accordance with the provisions of the Oak Tree Preservation and Protection Guidelines.							
Mitigation Measure BIO-4 Oak Tree Preservation Program. The project applicant shall submit an Oak Tree Preservation Program prepared by a qualified Oak Tree specialist for review and approval by the City Planning Department and City Oak Tree Consultant prior to the granting of a Grading Permit or Building Permit, whichever occurs first. The Oak Tree Preservation Program shall establish measures to further protect oak trees on and near the site that are not identified for removal during project construction. The program shall include but not be limited to the following components: **Tree Protection** • An "Oak Tree Protection Zone" shall be delineated for each oak tree present within 50 feet of the construction zone, including but not limited to Oak Tree #195. • All construction activities shall follow the established "Oak Tree Preservation Program." • Before any any site construction commences, all on-site trees shall be protected with a minimum 5' high chain link fence. To minimize damage that might occur due to equipment storage, debris dumping, parking, etc. within oak tree protection zones. This fence shall remain during all phases of construction and shall not be moved or removed without the approval of the City of Agoura Hills Planning Department. • Fence posts shall be no closer than 15' from any oak tree trunk as well and no closer than 15' on-center within any dripline. Postholes being dug shall not impact any oak tree roots longer than 2 inches. • Signs of a minimum size of 2'4' shall be installed on the fence equidistant from each other around each tree.	Verification of an approved Oak Tree Preservation Program	Prior to issuance of grading or building permits, whichever occurs first	Once	AHPCD, City Oak Tree Consultant			

Key: **AHPWE – City of Agoura Hills Public Work/Engineering**
AHPCD – City of Agoura Hills Planning & Community Development
OCM – Onsite Construction Manager

Mitigation Measure/Condition of Approval	Action Required	When Monitoring to Occur	Monitoring Frequency	Responsible Agency or Party	Compliance Verification		
					Initial	Date	Comments
Signs shall be posted 50' apart on a grove of trees, where fencing cannot be placed around a single tree. The sign must read: **WARNING**-THIS FENCE SHALL NOT BE REMOVED OR RELOCATED WITHOUT WRITTEN AUTHORIZATION FROM THE CITY OF AGOURA HILLS PLANNING & COMMUNITY DEVELOPMENT DEPARTMENT. • Any brush clearance within the dripline of the tree areas shall be completed by hand only. **Pruning and Dead Wood Removal** • A certified arborist shall perform all pruning cuts according to the International Society of Arborists' Best Management Practices: Tree Pruning and according to American National Standards Institute (ANSI) A300 pruning standard. Work shall be performed in accordance with the ANSI Z133.1 safety standard. Water & Fertilization • Watering should not be done during the months of June, July, and August unless the root system has been compromised by damage done to some of the roots. If recommended by an arborist, water should be applied no more than once or twice a week and allowed to drain thoroughly before more water is applied. • Fertilization of these native oak trees is not ordinarily recommended and should not be done unless approved by the City arborist. **Diseases and Pests** • Prior to construction, the vigor of the saved trees shall be assessed. Any trees in a weakened condition shall be treated, as deemed necessary by the City arborist to invigorate them. • During all phases of construction, the health of the trees shall be monitored for signs of disease. These problems, if determined to exist, shall be addressed in order to remedy them. **Grading Within the Protected Zone**							

Key: **AHPWE – City of Agoura Hills Public Work/Engineering**
AHPCD – City of Agoura Hills Planning & Community Development
OCM – Onsite Construction Manager

Mitigation Measure/Condition of Approval	Action Required	When Monitoring to Occur	Monitoring Frequency	Responsible Agency or Party	Compliance Verification		
					Initial	Date	Comments
• Exploratory trenching shall be done by hand or with great care by digging equipment under the observation of the consulting arborist for all trees proposed to be encroached by this project. This shall be done in order to minimize the damage to the root system by digging and to allow the proper pruning of the roots that are found. If any roots 2 inches or larger are encountered, they shall be saved (except in a grading cut situation) and covered with a layer of plastic cloth until backfilled. **Other Considerations** • Grade stakes should not be nailed to trees; nothing that causes damages to the tree should be attached the trees. • No planting, irrigation, or utilities should be installed within 15' of any native oak tree trunk unless approved by the City Planning Department. • Chemicals or herbicides should not be applied within 100' of the dripline of any native oak tree. • Dust accumulation onto the tree's foliage from construction shall be hosed off periodically during construction under the recommendation on the consulting arborist. • Copies of the oak tree report and the oak tree permit and the City approved site plan, as well as landscape and irrigation plans, shall be kept on-site during all site construction for reference. • A certification letter shall be submitted to the City Planning Department. upon completion of all work to the oak trees. This letter shall be submitted within five (5) working days of project completion.							
CULTURAL RESOURCES							
Mitigation Measure CR-1 Archaeological/Paleontological Monitoring. Archaeological/Paleontological monitoring of all project related ground disturbing activities of sediments that appear to be in a primary context shall be conducted by a qualified archaeologist and/or paleontologist approved by the City Environmental Analyst. A Native	Verification that a qualified archaeologist and/or paleontologist has been retained for individual project components involving	Prior to issuance of grading permits	Once for verification that a monitor has been retained; periodically throughout	AHPCD, OCM			

Key: **AHPWE – City of Agoura Hills Public Work/Engineering**
AHPCD – City of Agoura Hills Planning & Community Development
OCM – Onsite Construction Manager

Mitigation Measure/Condition of Approval	Action Required	When Monitoring to Occur	Monitoring Frequency	Responsible Agency or Party	Compliance Verification		
					Initial	Date	Comments
American representative shall monitor any archaeological field work associated with Native American materials. Archaeological monitoring is required until excavation is complete or until a soil change to a culturally sterile formation is achieved. Paleontological monitoring is required until excavation is complete or until ground disturbance is no longer occurring within the Topanga or Monterey Formations. Determination of these conditions shall be at the discretion of a qualified archaeologist and/or paleontologist. Archaeological monitoring shall be performed under the direction of an archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for archaeology (NPS 1983). Paleontological monitoring shall be performed by a paleontologist meeting the Society of Vertebrate Paleontology's Paleontological Resource Monitor (SVP 2010). A cross-trained monitor meeting both of these requirements may also be used. The qualified archaeologist/paleontologist may reduce or stop monitoring dependent upon observed conditions. If archaeological/paleontological resources are encountered during ground-disturbing activities, the City Environmental Analyst shall be notified immediately, and work shall stop within a 100-foot radius until a qualified archaeologist or paleontologist (as applicable) has assessed the nature, extent, and potential significance of any remains under CEQA. In the event such resources are determined to be significant, appropriate actions to mitigate impacts shall be implemented. Depending on the nature of the find, mitigation could involve avoidance, documentation, or other appropriate actions to be determined by a qualified archaeologist/paleontologist consistent with CEQA (PRC Section 21083.2), in consultation with the City's Environmental Analyst.	excavation of native sediments; field verification of monitoring		construction for field verification				
Mitigation Measure CR-2 Human Remains. In accordance with California HSC Section 7050.5, PRC Section 5097.98, and the City's General Plan Policy HR-3.3, if human remains are uncovered during construction, the County Coroner shall be notified of the find immediately, and no further disturbance shall occur until the County Coroner has made a determination of origin	Verification that County Coroner and/or NAHC consultation has occurred (if human remains unearthed)	Prior to issuance of grading permits	As needed throughout construction	AHPCD, OCM			

Key: **AHPWE – City of Agoura Hills Public Work/Engineering**
AHPCD – City of Agoura Hills Planning & Community Development
OCM – Onsite Construction Manager

Mitigation Measure/Condition of Approval	Action Required	When Monitoring to Occur	Monitoring Frequency	Responsible Agency or Party	Compliance Verification		
					Initial	Date	Comments
and disposition. The location and nature of the find will be kept confidential on a need-to-know basis. The City's Environmental Analyst shall also be notified. If the human remains are determined to be prehistoric, the Coroner will notify the Native American Heritage Commission (NAHC), which will determine and notify the Most Likely Descendent (MLD) or MLDs. The MLD or MLDs shall complete inspection and make recommendations within 48 hours of notification by the NAHC. In-situ preservation of human remains is preferred.							
GEOLOGY AND SEISMICITY							
Mitigation Measure GEO-1 Geotechnical Recommendations. The applicant shall comply with all recommendations included in the Geotechnical Engineering Update Study (AGS, July 2014) regarding site preparation, grading, fill materials, excavation, drainage, foundation design and retaining walls, among others, for the project to reduce the risk of expansive soils and unstable soils.	Verification of compliance with all recommendations in the Geotechnical Engineering Update Study	Prior to issuance of building permits	Once per individual project component	AHPCD, OCM			
Transportation/Traffic							
Mitigation Measure T-1 Roadside Road/Agoura Road. The applicant shall pay a "fair share" fee toward adding a southbound left-turn lane at the Roadside Road/Agoura Road intersection such that traffic leaving the project site on Roadside Road and turning left (east) onto Agoura Road has a designated left turn lane onto Agoura Road. The "fair share" fee shall be paid to the City and reviewed and approved by the Public Works Director/City Engineer prior to issuance of a Building Permit. As demonstrated in the Traffic Impact Analysis (Appendix F), the addition of a southbound left-turn lane at the Roadside Road/Agoura Road intersection would reduce traffic levels to operate at LOS C, resulting in less than significant impacts.	Verification of "fair share" fee payment	Prior to issuance of building permits	Once per individual project component	AHPWE			

Key: **AHPWE – City of Agoura Hills Public Work/Engineering**
AHPCD – City of Agoura Hills Planning & Community Development
OCM – Onsite Construction Manager

Appendix A

CalEEMod Results for Air Quality and GHG

Agoura Park

Los Angeles-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	205.00	Space	2.00	82,000.00	0
Fast Food Restaurant w/o Drive Thru	4.00	1000sqft	0.23	4,000.00	0
Health Club	45.00	1000sqft	1.50	45,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	8			**Operational Year**	2016
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 - 3.73 acre site

Construction Phase - Demo of existing concrete, approx 1 acre

Demolition - 43560 square feet of 6 inch concrete assumed to be removed

Grading - Full site 3.73 acres

Vehicle Trips - Based on traffic s tudy

Area Coating -

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation -

Mobile Commute Mitigation -

Energy Mitigation -

Water Mitigation -

Waste Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	18.00	160.00
tblConstructionPhase	NumDays	8.00	40.00
tblConstructionPhase	NumDays	18.00	20.00
tblConstructionPhase	NumDays	5.00	20.00
tblConstructionPhase	PhaseEndDate	9/28/2017	4/12/2017
tblConstructionPhase	PhaseEndDate	4/21/2016	3/31/2016
tblConstructionPhase	PhaseEndDate	5/10/2017	3/16/2017
tblConstructionPhase	PhaseStartDate	2/17/2017	9/1/2016
tblConstructionPhase	PhaseStartDate	2/26/2016	2/5/2016
tblConstructionPhase	PhaseStartDate	4/13/2017	2/17/2017
tblGrading	AcresOfGrading	20.00	2.73
tblGrading	AcresOfGrading	0.00	1.00
tblLandUse	LotAcreage	1.84	2.00
tblLandUse	LotAcreage	0.09	0.23
tblLandUse	LotAcreage	1.03	1.50
tblProjectCharacteristics	OperationalYear	2014	2016
tblVehicleTrips	DV_TP	37.00	35.00
tblVehicleTrips	PB_TP	12.00	25.00
tblVehicleTrips	PR_TP	51.00	40.00
tblVehicleTrips	ST_TR	696.00	537.00
tblVehicleTrips	SU_TR	500.00	537.00
tblVehicleTrips	WD_TR	716.00	537.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2016	0.8894	4.9223	3.8735	5.5600e-003	0.4058	0.3015	0.7073	0.1913	0.2821	0.4734	0.0000	494.5084	494.5084	0.1026	0.0000	496.6631
2017	0.3650	0.7353	0.6337	1.0400e-003	0.0190	0.0473	0.0663	5.1000e-003	0.0446	0.0497	0.0000	89.8374	89.8374	0.0170	0.0000	90.1941
Total	**1.2545**	**5.6576**	**4.5071**	**6.6000e-003**	**0.4248**	**0.3487**	**0.7736**	**0.1964**	**0.3267**	**0.5230**	**0.0000**	**584.3459**	**584.3459**	**0.1196**	**0.0000**	**586.8572**

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					
2016	0.8894	4.9223	3.8735	5.5600e-003	0.2102	0.3015	0.5117	0.0886	0.2821	0.3707	0.0000	494.5080	494.5080	0.1026	0.0000	496.6626
2017	0.3650	0.7353	0.6337	1.0400e-003	0.0190	0.0473	0.0663	5.1000e-003	0.0446	0.0497	0.0000	89.8374	89.8374	0.0170	0.0000	90.1941
Total	**1.2545**	**5.6576**	**4.5071**	**6.6000e-003**	**0.2293**	**0.3487**	**0.5780**	**0.0937**	**0.3267**	**0.4203**	**0.0000**	**584.3453**	**584.3453**	**0.1196**	**0.0000**	**586.8567**

	ROG	NOx	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**	**46.03**	**0.00**	**25.28**	**52.30**	**0.00**	**19.64**	**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	0.5333	3.0000e-005	3.3300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	6.3000e-003	6.3000e-003	2.0000e-005	0.0000	6.6800e-003
Energy	0.0109	0.0994	0.0835	6.0000e-004		7.5500e-003	7.5500e-003		7.5500e-003	7.5500e-003	0.0000	292.8540	292.8540	0.0106	3.7400e-003	294.2351
Mobile	2.0452	4.4732	18.9785	0.0354	2.3030	0.0572	2.3601	0.6168	0.0526	0.6693	0.0000	2,825.6180	2,825.6180	0.1271	0.0000	2,828.2863
Waste						0.0000	0.0000		0.0000	0.0000	61.4210	0.0000	61.4210	3.6299	0.0000	137.6484
Water						0.0000	0.0000		0.0000	0.0000	1.2295	19.8736	21.1031	0.1272	3.1700e-003	24.7573
Total	**2.5894**	**4.5726**	**19.0653**	**0.0360**	**2.3030**	**0.0647**	**2.3677**	**0.6168**	**0.0601**	**0.6769**	**62.6506**	**3,138.3519**	**3,201.0024**	**3.8947**	**6.9100e-003**	**3,284.9338**

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	0.5333	3.0000e-005	3.3300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	6.3000e-003	6.3000e-003	2.0000e-005	0.0000	6.6800e-003
Energy	0.0109	0.0994	0.0835	6.0000e-004		7.5500e-003	7.5500e-003		7.5500e-003	7.5500e-003	0.0000	291.4825	291.4825	0.0105	3.7300e-003	292.8583
Mobile	1.9407	3.7047	16.4524	0.0279	1.7926	0.0457	1.8383	0.4801	0.0420	0.5221	0.0000	2,228.5615	2,228.5615	0.1030	0.0000	2,230.7238
Waste						0.0000	0.0000		0.0000	0.0000	23.3400	0.0000	23.3400	1.3794	0.0000	52.3064
Water						0.0000	0.0000		0.0000	0.0000	0.9836	16.9854	17.9690	0.1018	2.5400e-003	20.8950
Total	**2.4849**	**3.8041**	**16.5392**	**0.0285**	**1.7926**	**0.0533**	**1.8458**	**0.4801**	**0.0496**	**0.5296**	**24.3236**	**2,537.0357**	**2,561.3593**	**1.5946**	**6.2700e-003**	**2,596.7901**

	ROG	NOx	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	**4.04**	**16.81**	**13.25**	**20.75**	**22.16**	**17.74**	**22.04**	**22.16**	**17.55**	**21.75**	**61.18**	**19.16**	**19.98**	**59.06**	**9.26**	**20.95**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2016	1/28/2016	5	20	
2	Site Preparation	Site Preparation	1/29/2016	2/25/2016	5	20	
3	Grading	Grading	2/5/2016	3/31/2016	5	40	
4	Building Construction	Building Construction	4/1/2016	2/16/2017	5	230	
5	Architectural Coating	Architectural Coating	9/1/2016	4/12/2017	5	160	
6	Paving	Paving	2/17/2017	3/16/2017	5	20	

Acres of Grading (Site Preparation Phase): 1

Acres of Grading (Grading Phase): 2.73

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 77,190; Non-Residential Outdoor: 25,730 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	162	0.38
Demolition	Rubber Tired Dozers	2	8.00	255	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	255	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	162	0.38
Grading	Graders	1	8.00	174	0.41
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	226	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	2	6.00	9	0.56
Paving	Pavers	1	8.00	125	0.42
Paving	Paving Equipment	2	6.00	130	0.36
Paving	Rollers	2	6.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	162.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	55.00	21.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	11.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	20.00	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 Demolition - 2016

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					0.0175	0.0000	0.0175	2.6500e-003	0.0000	2.6500e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0429	0.4566	0.3503	4.0000e-004		0.0229	0.0229		0.0214	0.0214	0.0000	37.0974	37.0974	0.0101	0.0000	37.3092
Total	**0.0429**	**0.4566**	**0.3503**	**4.0000e-004**	**0.0175**	**0.0229**	**0.0404**	**2.6500e-003**	**0.0214**	**0.0240**	**0.0000**	**37.0974**	**37.0974**	**0.0101**	**0.0000**	**37.3092**

3.2 Demolition - 2016

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.4800e-003	0.0239	0.0181	6.0000e-005	1.3900e-003	3.4000e-004	1.7200e-003	3.8000e-004	3.1000e-004	6.9000e-004	0.0000	5.5254	5.5254	4.0000e-005	0.0000	5.5263
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	6.6000e-004	9.6000e-004	9.9800e-003	2.0000e-005	1.6400e-003	2.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.6039	1.6039	9.0000e-005	0.0000	1.6058
Total	**2.1400e-003**	**0.0249**	**0.0281**	**8.0000e-005**	**3.0300e-003**	**3.6000e-004**	**3.3800e-003**	**8.2000e-004**	**3.2000e-004**	**1.1400e-003**	**0.0000**	**7.1293**	**7.1293**	**1.3000e-004**	**0.0000**	**7.1321**

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					6.8200e-003	0.0000	6.8200e-003	1.0300e-003	0.0000	1.0300e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0429	0.4566	0.3503	4.0000e-004		0.0229	0.0229		0.0214	0.0214	0.0000	37.0973	37.0973	0.0101	0.0000	37.3092
Total	**0.0429**	**0.4566**	**0.3503**	**4.0000e-004**	**6.8200e-003**	**0.0229**	**0.0297**	**1.0300e-003**	**0.0214**	**0.0224**	**0.0000**	**37.0973**	**37.0973**	**0.0101**	**0.0000**	**37.3092**

3.2 Demolition - 2016

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.4800e-003	0.0239	0.0181	6.0000e-005	1.3900e-003	3.4000e-004	1.7200e-003	3.8000e-004	3.1000e-004	6.9000e-004	0.0000	5.5254	5.5254	4.0000e-005	0.0000	5.5263
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	6.6000e-004	9.6000e-004	9.9800e-003	2.0000e-005	1.6400e-003	2.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.6039	1.6039	9.0000e-005	0.0000	1.6058
Total	**2.1400e-003**	**0.0249**	**0.0281**	**8.0000e-005**	**3.0300e-003**	**3.6000e-004**	**3.3800e-003**	**8.2000e-004**	**3.2000e-004**	**1.1400e-003**	**0.0000**	**7.1293**	**7.1293**	**1.3000e-004**	**0.0000**	**7.1321**

3.3 Site Preparation - 2016

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					0.1812	0.0000	0.1812	0.0994	0.0000	0.0994	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0508	0.5463	0.4111	3.9000e-004		0.0294	0.0294		0.0270	0.0270	0.0000	36.8771	36.8771	0.0111	0.0000	37.1107
Total	**0.0508**	**0.5463**	**0.4111**	**3.9000e-004**	**0.1812**	**0.0294**	**0.2106**	**0.0994**	**0.0270**	**0.1264**	**0.0000**	**36.8771**	**36.8771**	**0.0111**	**0.0000**	**37.1107**

3.3 Site Preparation - 2016

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	7.9000e-004	1.1500e-003	0.0120	3.0000e-005	1.9700e-003	2.0000e-005	1.9900e-003	5.2000e-004	2.0000e-005	5.4000e-004	0.0000	1.9247	1.9247	1.1000e-004	0.0000	1.9270
Total	**7.9000e-004**	**1.1500e-003**	**0.0120**	**3.0000e-005**	**1.9700e-003**	**2.0000e-005**	**1.9900e-003**	**5.2000e-004**	**2.0000e-005**	**5.4000e-004**	**0.0000**	**1.9247**	**1.9247**	**1.1000e-004**	**0.0000**	**1.9270**

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					0.0707	0.0000	0.0707	0.0388	0.0000	0.0388	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0508	0.5463	0.4111	3.9000e-004		0.0294	0.0294		0.0270	0.0270	0.0000	36.8771	36.8771	0.0111	0.0000	37.1107
Total	**0.0508**	**0.5463**	**0.4111**	**3.9000e-004**	**0.0707**	**0.0294**	**0.1001**	**0.0388**	**0.0270**	**0.0658**	**0.0000**	**36.8771**	**36.8771**	**0.0111**	**0.0000**	**37.1107**

3.3 Site Preparation - 2016

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	7.9000e-004	1.1500e-003	0.0120	3.0000e-005	1.9700e-003	2.0000e-005	1.9900e-003	5.2000e-004	2.0000e-005	5.4000e-004	0.0000	1.9247	1.9247	1.1000e-004	0.0000	1.9270
Total	**7.9000e-004**	**1.1500e-003**	**0.0120**	**3.0000e-005**	**1.9700e-003**	**2.0000e-005**	**1.9900e-003**	**5.2000e-004**	**2.0000e-005**	**5.4000e-004**	**0.0000**	**1.9247**	**1.9247**	**1.1000e-004**	**0.0000**	**1.9270**

3.4 Grading - 2016

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					0.1219	0.0000	0.1219	0.0664	0.0000	0.0664	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0733	0.7689	0.5216	5.9000e-004		0.0440	0.0440		0.0405	0.0405	0.0000	56.1328	56.1328	0.0169	0.0000	56.4883
Total	**0.0733**	**0.7689**	**0.5216**	**5.9000e-004**	**0.1219**	**0.0440**	**0.1659**	**0.0664**	**0.0405**	**0.1068**	**0.0000**	**56.1328**	**56.1328**	**0.0169**	**0.0000**	**56.4883**

3.4 Grading - 2016

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	1.3100e-003	1.9100e-003	0.0200	4.0000e-005	3.2900e-003	3.0000e-005	3.3200e-003	8.7000e-004	3.0000e-005	9.0000e-004	0.0000	3.2078	3.2078	1.8000e-004	0.0000	3.2117
Total	**1.3100e-003**	**1.9100e-003**	**0.0200**	**4.0000e-005**	**3.2900e-003**	**3.0000e-005**	**3.3200e-003**	**8.7000e-004**	**3.0000e-005**	**9.0000e-004**	**0.0000**	**3.2078**	**3.2078**	**1.8000e-004**	**0.0000**	**3.2117**

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					0.0475	0.0000	0.0475	0.0259	0.0000	0.0259	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0733	0.7689	0.5216	5.9000e-004		0.0440	0.0440		0.0405	0.0405	0.0000	56.1327	56.1327	0.0169	0.0000	56.4883
Total	**0.0733**	**0.7689**	**0.5216**	**5.9000e-004**	**0.0475**	**0.0440**	**0.0915**	**0.0259**	**0.0405**	**0.0663**	**0.0000**	**56.1327**	**56.1327**	**0.0169**	**0.0000**	**56.4883**

3.4 Grading - 2016

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	1.3100e-003	1.9100e-003	0.0200	4.0000e-005	3.2900e-003	3.0000e-005	3.3200e-003	8.7000e-004	3.0000e-005	9.0000e-004	0.0000	3.2078	3.2078	1.8000e-004	0.0000	3.2117
Total	**1.3100e-003**	**1.9100e-003**	**0.0200**	**4.0000e-005**	**3.2900e-003**	**3.0000e-005**	**3.3200e-003**	**8.7000e-004**	**3.0000e-005**	**9.0000e-004**	**0.0000**	**3.2078**	**3.2078**	**1.8000e-004**	**0.0000**	**3.2117**

3.5 Building Construction - 2016

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	0.3338	2.7936	1.8137	2.6300e-003		0.1928	0.1928		0.1812	0.1812	0.0000	237.3105	237.3105	0.0589	0.0000	238.5465
Total	**0.3338**	**2.7936**	**1.8137**	**2.6300e-003**		**0.1928**	**0.1928**		**0.1812**	**0.1812**	**0.0000**	**237.3105**	**237.3105**	**0.0589**	**0.0000**	**238.5465**

3.5 Building Construction - 2016

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	0.0185	0.1883	0.2446	4.5000e-004	0.0126	2.8300e-003	0.0155	3.6000e-003	2.6000e-003	6.2000e-003	0.0000	40.9715	40.9715	3.1000e-004	0.0000	40.9779
Worker	0.0235	0.0344	0.3585	7.5000e-004	0.0591	5.7000e-004	0.0596	0.0157	5.2000e-004	0.0162	0.0000	57.6342	57.6342	3.2700e-003	0.0000	57.7029
Total	**0.0420**	**0.2227**	**0.6031**	**1.2000e-003**	**0.0717**	**3.4000e-003**	**0.0751**	**0.0193**	**3.1200e-003**	**0.0224**	**0.0000**	**98.6057**	**98.6057**	**3.5800e-003**	**0.0000**	**98.6808**

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	0.3338	2.7936	1.8137	2.6300e-003		0.1928	0.1928		0.1812	0.1812	0.0000	237.3102	237.3102	0.0589	0.0000	238.5462
Total	**0.3338**	**2.7936**	**1.8137**	**2.6300e-003**		**0.1928**	**0.1928**		**0.1812**	**0.1812**	**0.0000**	**237.3102**	**237.3102**	**0.0589**	**0.0000**	**238.5462**

3.5 Building Construction - 2016

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	0.0185	0.1883	0.2446	4.5000e-004	0.0126	2.8300e-003	0.0155	3.6000e-003	2.6000e-003	6.2000e-003	0.0000	40.9715	40.9715	3.1000e-004	0.0000	40.9779
Worker	0.0235	0.0344	0.3585	7.5000e-004	0.0591	5.7000e-004	0.0596	0.0157	5.2000e-004	0.0162	0.0000	57.6342	57.6342	3.2700e-003	0.0000	57.7029
Total	**0.0420**	**0.2227**	**0.6031**	**1.2000e-003**	**0.0717**	**3.4000e-003**	**0.0751**	**0.0193**	**3.1200e-003**	**0.0224**	**0.0000**	**98.6057**	**98.6057**	**3.5800e-003**	**0.0000**	**98.6808**

3.5 Building Construction - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0527	0.4489	0.3082	4.6000e-004		0.0303	0.0303		0.0284	0.0284	0.0000	40.7115	40.7115	0.0100	0.0000	40.9219
Total	**0.0527**	**0.4489**	**0.3082**	**4.6000e-004**		**0.0303**	**0.0303**		**0.0284**	**0.0284**	**0.0000**	**40.7115**	**40.7115**	**0.0100**	**0.0000**	**40.9219**

3.5 Building Construction - 2017

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	2.9300e-003	0.0298	0.0402	8.0000e-005	2.1900e-003	4.4000e-004	2.6300e-003	6.2000e-004	4.0000e-004	1.0300e-003	0.0000	6.9938	6.9938	5.0000e-005	0.0000	6.9948
Worker	3.6600e-003	5.4000e-003	0.0562	1.3000e-004	0.0103	9.0000e-005	0.0103	2.7200e-003	9.0000e-005	2.8100e-003	0.0000	9.6231	9.6231	5.2000e-004	0.0000	9.6341
Total	**6.5900e-003**	**0.0352**	**0.0963**	**2.1000e-004**	**0.0124**	**5.3000e-004**	**0.0130**	**3.3400e-003**	**4.9000e-004**	**3.8400e-003**	**0.0000**	**16.6169**	**16.6169**	**5.7000e-004**	**0.0000**	**16.6289**

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	0.0527	0.4489	0.3082	4.6000e-004		0.0303	0.0303		0.0284	0.0284	0.0000	40.7114	40.7114	0.0100	0.0000	40.9218
Total	**0.0527**	**0.4489**	**0.3082**	**4.6000e-004**		**0.0303**	**0.0303**		**0.0284**	**0.0284**	**0.0000**	**40.7114**	**40.7114**	**0.0100**	**0.0000**	**40.9218**

3.5 Building Construction - 2017

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	2.9300e-003	0.0298	0.0402	8.0000e-005	2.1900e-003	4.4000e-004	2.6300e-003	6.2000e-004	4.0000e-004	1.0300e-003	0.0000	6.9938	6.9938	5.0000e-005	0.0000	6.9948
Worker	3.6600e-003	5.4000e-003	0.0562	1.3000e-004	0.0103	9.0000e-005	0.0103	2.7200e-003	9.0000e-005	2.8100e-003	0.0000	9.6231	9.6231	5.2000e-004	0.0000	9.6341
Total	**6.5900e-003**	**0.0352**	**0.0963**	**2.1000e-004**	**0.0124**	**5.3000e-004**	**0.0130**	**3.3400e-003**	**4.9000e-004**	**3.8400e-003**	**0.0000**	**16.6169**	**16.6169**	**5.7000e-004**	**0.0000**	**16.6289**

3.6 Architectural Coating - 2016

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	0.3242					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0160	0.1032	0.0820	1.3000e-004		8.5500e-003	8.5500e-003		8.5500e-003	8.5500e-003	0.0000	11.1067	11.1067	1.3100e-003	0.0000	11.1342
Total	**0.3403**	**0.1032**	**0.0820**	**1.3000e-004**		**8.5500e-003**	**8.5500e-003**		**8.5500e-003**	**8.5500e-003**	**0.0000**	**11.1067**	**11.1067**	**1.3100e-003**	**0.0000**	**11.1342**

3.6 Architectural Coating - 2016

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	2.0900e-003	3.0500e-003	0.0318	7.0000e-005	5.2400e-003	5.0000e-005	5.2900e-003	1.3900e-003	5.0000e-005	1.4400e-003	0.0000	5.1165	5.1165	2.9000e-004	0.0000	5.1226
Total	**2.0900e-003**	**3.0500e-003**	**0.0318**	**7.0000e-005**	**5.2400e-003**	**5.0000e-005**	**5.2900e-003**	**1.3900e-003**	**5.0000e-005**	**1.4400e-003**	**0.0000**	**5.1165**	**5.1165**	**2.9000e-004**	**0.0000**	**5.1226**

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	0.3242					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0160	0.1032	0.0820	1.3000e-004		8.5500e-003	8.5500e-003		8.5500e-003	8.5500e-003	0.0000	11.1066	11.1066	1.3100e-003	0.0000	11.1341
Total	**0.3403**	**0.1032**	**0.0820**	**1.3000e-004**		**8.5500e-003**	**8.5500e-003**		**8.5500e-003**	**8.5500e-003**	**0.0000**	**11.1066**	**11.1066**	**1.3100e-003**	**0.0000**	**11.1341**

3.6 Architectural Coating - 2016

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	2.0900e-003	3.0500e-003	0.0318	7.0000e-005	5.2400e-003	5.0000e-005	5.2900e-003	1.3900e-003	5.0000e-005	1.4400e-003	0.0000	5.1165	5.1165	2.9000e-004	0.0000	5.1226
Total	**2.0900e-003**	**3.0500e-003**	**0.0318**	**7.0000e-005**	**5.2400e-003**	**5.0000e-005**	**5.2900e-003**	**1.3900e-003**	**5.0000e-005**	**1.4400e-003**	**0.0000**	**5.1165**	**5.1165**	**2.9000e-004**	**0.0000**	**5.1226**

3.6 Architectural Coating - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.2721					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0121	0.0798	0.0682	1.1000e-004		6.3300e-003	6.3300e-003		6.3300e-003	6.3300e-003	0.0000	9.3194	9.3194	9.8000e-004	0.0000	9.3400
Total	**0.2842**	**0.0798**	**0.0682**	**1.1000e-004**		**6.3300e-003**	**6.3300e-003**		**6.3300e-003**	**6.3300e-003**	**0.0000**	**9.3194**	**9.3194**	**9.8000e-004**	**0.0000**	**9.3400**

3.6 Architectural Coating - 2017

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	1.5700e-003	2.3200e-003	0.0241	6.0000e-005	4.4000e-003	4.0000e-005	4.4400e-003	1.1700e-003	4.0000e-005	1.2100e-003	0.0000	4.1323	4.1323	2.3000e-004	0.0000	4.1370
Total	**1.5700e-003**	**2.3200e-003**	**0.0241**	**6.0000e-005**	**4.4000e-003**	**4.0000e-005**	**4.4400e-003**	**1.1700e-003**	**4.0000e-005**	**1.2100e-003**	**0.0000**	**4.1323**	**4.1323**	**2.3000e-004**	**0.0000**	**4.1370**

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	0.2721					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0121	0.0798	0.0682	1.1000e-004		6.3300e-003	6.3300e-003		6.3300e-003	6.3300e-003	0.0000	9.3194	9.3194	9.8000e-004	0.0000	9.3400
Total	**0.2842**	**0.0798**	**0.0682**	**1.1000e-004**		**6.3300e-003**	**6.3300e-003**		**6.3300e-003**	**6.3300e-003**	**0.0000**	**9.3194**	**9.3194**	**9.8000e-004**	**0.0000**	**9.3400**

3.6 Architectural Coating - 2017

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	1.5700e-003	2.3200e-003	0.0241	6.0000e-005	4.4000e-003	4.0000e-005	4.4400e-003	1.1700e-003	4.0000e-005	1.2100e-003	0.0000	4.1323	4.1323	2.3000e-004	0.0000	4.1370
Total	**1.5700e-003**	**2.3200e-003**	**0.0241**	**6.0000e-005**	**4.4000e-003**	**4.0000e-005**	**4.4400e-003**	**1.1700e-003**	**4.0000e-005**	**1.2100e-003**	**0.0000**	**4.1323**	**4.1323**	**2.3000e-004**	**0.0000**	**4.1370**

3.7 Paving - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0166	0.1680	0.1248	1.9000e-004		0.0101	0.0101		9.2700e-003	9.2700e-003	0.0000	16.9991	16.9991	5.0700e-003	0.0000	17.1055
Paving	2.6200e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0192**	**0.1680**	**0.1248**	**1.9000e-004**		**0.0101**	**0.0101**		**9.2700e-003**	**9.2700e-003**	**0.0000**	**16.9991**	**16.9991**	**5.0700e-003**	**0.0000**	**17.1055**

3.7 Paving - 2017

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	7.8000e-004	1.1500e-003	0.0120	3.0000e-005	2.1900e-003	2.0000e-005	2.2100e-003	5.8000e-004	2.0000e-005	6.0000e-004	0.0000	2.0584	2.0584	1.1000e-004	0.0000	2.0608
Total	**7.8000e-004**	**1.1500e-003**	**0.0120**	**3.0000e-005**	**2.1900e-003**	**2.0000e-005**	**2.2100e-003**	**5.8000e-004**	**2.0000e-005**	**6.0000e-004**	**0.0000**	**2.0584**	**2.0584**	**1.1000e-004**	**0.0000**	**2.0608**

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	0.0166	0.1680	0.1248	1.9000e-004		0.0101	0.0101		9.2700e-003	9.2700e-003	0.0000	16.9991	16.9991	5.0700e-003	0.0000	17.1055
Paving	2.6200e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0192**	**0.1680**	**0.1248**	**1.9000e-004**		**0.0101**	**0.0101**		**9.2700e-003**	**9.2700e-003**	**0.0000**	**16.9991**	**16.9991**	**5.0700e-003**	**0.0000**	**17.1055**

3.7 Paving - 2017

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	7.8000e-004	1.1500e-003	0.0120	3.0000e-005	2.1900e-003	2.0000e-005	2.2100e-003	5.8000e-004	2.0000e-005	6.0000e-004	0.0000	2.0584	2.0584	1.1000e-004	0.0000	2.0608
Total	**7.8000e-004**	**1.1500e-003**	**0.0120**	**3.0000e-005**	**2.1900e-003**	**2.0000e-005**	**2.2100e-003**	**5.8000e-004**	**2.0000e-005**	**6.0000e-004**	**0.0000**	**2.0584**	**2.0584**	**1.1000e-004**	**0.0000**	**2.0608**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Increase Density

Increase Diversity

Improve Walkability Design

Improve Destination Accessibility

Increase Transit Accessibility

Improve Pedestrian Network

Provide Traffic Calming Measures

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.9407	3.7047	16.4524	0.0279	1.7926	0.0457	1.8383	0.4801	0.0420	0.5221	0.0000	2,228.5615	2,228.5615	0.1030	0.0000	2,230.7238
Unmitigated	2.0452	4.4732	18.9785	0.0354	2.3030	0.0572	2.3601	0.6168	0.0526	0.6693	0.0000	2,825.6180	2,825.6180	0.1271	0.0000	2,828.2863

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Fast Food Restaurant w/o Drive Thru	2,148.00	2,148.00	2148.00	3,159,564	2,459,329
Health Club	1,481.85	939.15	1202.85	2,918,276	2,271,517
Parking Lot	0.00	0.00	0.00		
Total	3,629.85	3,087.15	3,350.85	6,077,841	4,730,846

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
Fast Food Restaurant w/o Drive Thru	16.60	8.40	6.90	1.50	79.50	19.00	40	35	25
Health Club	16.60	8.40	6.90	16.90	64.10	19.00	52	39	9
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.533598	0.058434	0.178244	0.125508	0.038944	0.006283	0.016425	0.031066	0.002453	0.003157	0.003691	0.000543	0.001655

4.4 Fleet Mix

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Install Energy Efficient Appliances

	ROG	NOx	CO	SO2	Fugitive 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	183.2863	183.2863	8.4300e-003	1.7400e-003	184.0036
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	184.6578	184.6578	8.4900e-003	1.7600e-003	185.3804
NaturalGas Mitigated	0.0109	0.0994	0.0835	6.0000e-004		7.5500e-003	7.5500e-003		7.5500e-003	7.5500e-003	0.0000	108.1962	108.1962	2.0700e-003	1.9800e-003	108.8547
NaturalGas Unmitigated	0.0109	0.0994	0.0835	6.0000e-004		7.5500e-003	7.5500e-003		7.5500e-003	7.5500e-003	0.0000	108.1962	108.1962	2.0700e-003	1.9800e-003	108.8547

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Health Club	973800	5.2500e-003	0.0477	0.0401	2.9000e-004		3.6300e-003	3.6300e-003		3.6300e-003	3.6300e-003	0.0000	51.9657	51.9657	1.0000e-003	9.5000e-004	52.2819
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
Fast Food Restaurant w/o Drive Thru	1.05372e+006	5.6800e-003	0.0517	0.0434	3.1000e-004		3.9300e-003	3.9300e-003		3.9300e-003	3.9300e-003	0.0000	56.2305	56.2305	1.0800e-003	1.0300e-003	56.5727
Total		**0.0109**	**0.0994**	**0.0835**	**6.0000e-004**		**7.5600e-003**	**7.5600e-003**		**7.5600e-003**	**7.5600e-003**	**0.0000**	**108.1962**	**108.1962**	**2.0800e-003**	**1.9800e-003**	**108.8547**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Health Club	973800	5.2500e-003	0.0477	0.0401	2.9000e-004		3.6300e-003	3.6300e-003		3.6300e-003	3.6300e-003	0.0000	51.9657	51.9657	1.0000e-003	9.5000e-004	52.2819
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
Fast Food Restaurant w/o Drive Thru	1.05372e+006	5.6800e-003	0.0517	0.0434	3.1000e-004		3.9300e-003	3.9300e-003		3.9300e-003	3.9300e-003	0.0000	56.2305	56.2305	1.0800e-003	1.0300e-003	56.5727
Total		**0.0109**	**0.0994**	**0.0835**	**6.0000e-004**		**7.5600e-003**	**7.5600e-003**		**7.5600e-003**	**7.5600e-003**	**0.0000**	**108.1962**	**108.1962**	**2.0800e-003**	**1.9800e-003**	**108.8547**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Fast Food Restaurant w/o Drive Thru	157320	45.0198	2.0700e-003	4.3000e-004	45.1960
Health Club	415800	118.9882	5.4700e-003	1.1300e-003	119.4539
Parking Lot	72160	20.6498	9.5000e-004	2.0000e-004	20.7306
Total		**184.6578**	**8.4900e-003**	**1.7600e-003**	**185.3804**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Fast Food Restaurant w/o Drive Thru	157320	45.0198	2.0700e-003	4.3000e-004	45.1960
Health Club	411008	117.6167	5.4100e-003	1.1200e-003	118.0770
Parking Lot	72160	20.6498	9.5000e-004	2.0000e-004	20.7306
Total		**183.2863**	**8.4300e-003**	**1.7500e-003**	**184.0036**

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	0.5333	3.0000e-005	3.3300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	6.3000e-003	6.3000e-003	2.0000e-005	0.0000	6.6800e-003
Unmitigated	0.5333	3.0000e-005	3.3300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	6.3000e-003	6.3000e-003	2.0000e-005	0.0000	6.6800e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0596					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.4734					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	3.2000e-004	3.0000e-005	3.3300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	6.3000e-003	6.3000e-003	2.0000e-005	0.0000	6.6800e-003
Total	**0.5333**	**3.0000e-005**	**3.3300e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**6.3000e-003**	**6.3000e-003**	**2.0000e-005**	**0.0000**	**6.6800e-003**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0596					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.4734					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	3.2000e-004	3.0000e-005	3.3300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	6.3000e-003	6.3000e-003	2.0000e-005	0.0000	6.6800e-003
Total	**0.5333**	**3.0000e-005**	**3.3300e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**6.3000e-003**	**6.3000e-003**	**2.0000e-005**	**0.0000**	**6.6800e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	17.9690	0.1018	2.5400e-003	20.8950
Unmitigated	21.1031	0.1272	3.1700e-003	24.7573

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Fast Food Restaurant w/o Drive Thru	1.21413 / 0.077498	5.1557	0.0398	9.8000e-004	6.2947
Health Club	2.66144 / 1.63121	15.9475	0.0874	2.1900e-003	18.4626
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**21.1031**	**0.1272**	**3.1700e-003**	**24.7573**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Fast Food Restaurant w/o Drive Thru	0.971308 / 0.077498	4.1738	0.0318	7.8000e-004	5.0848
Health Club	2.12915 / 1.63121	13.7952	0.0700	1.7600e-003	15.8103
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**17.9690**	**0.1018**	**2.5400e-003**	**20.8950**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	23.3400	1.3794	0.0000	52.3064
Unmitigated	61.4210	3.6299	0.0000	137.6484

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Fast Food Restaurant w/o Drive Thru	46.08	9.3538	0.5528	0.0000	20.9625
Health Club	256.5	52.0672	3.0771	0.0000	116.6859
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**61.4210**	**3.6299**	**0.0000**	**137.6484**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Fast Food Restaurant w/o Drive Thru	17.5104	3.5545	0.2101	0.0000	7.9658
Health Club	97.47	19.7855	1.1693	0.0000	44.3407
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**23.3400**	**1.3794**	**0.0000**	**52.3064**

9.0 Operational Offroad

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

10.0 Vegetation

Agoura Park

Los Angeles-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	205.00	Space	2.00	82,000.00	0
Fast Food Restaurant w/o Drive Thru	4.00	1000sqft	0.23	4,000.00	0
Health Club	45.00	1000sqft	1.50	45,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	8			**Operational Year**	2016
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 - 3.73 acre site

Construction Phase - Demo of existing concrete, approx 1 acre

Demolition - 43560 square feet of 6 inch concrete assumed to be removed

Grading - Full site 3.73 acres

Vehicle Trips - Based on traffic s tudy

Area Coating -

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation -

Mobile Commute Mitigation -

Energy Mitigation -

Water Mitigation -

Waste Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	18.00	160.00
tblConstructionPhase	NumDays	8.00	40.00
tblConstructionPhase	NumDays	18.00	20.00
tblConstructionPhase	NumDays	5.00	20.00
tblConstructionPhase	PhaseEndDate	9/28/2017	4/12/2017
tblConstructionPhase	PhaseEndDate	4/21/2016	3/31/2016
tblConstructionPhase	PhaseEndDate	5/10/2017	3/16/2017
tblConstructionPhase	PhaseStartDate	2/17/2017	9/1/2016
tblConstructionPhase	PhaseStartDate	2/26/2016	2/5/2016
tblConstructionPhase	PhaseStartDate	4/13/2017	2/17/2017
tblGrading	AcresOfGrading	20.00	2.73
tblGrading	AcresOfGrading	0.00	1.00
tblLandUse	LotAcreage	1.84	2.00
tblLandUse	LotAcreage	0.09	0.23
tblLandUse	LotAcreage	1.03	1.50
tblProjectCharacteristics	OperationalYear	2014	2016
tblVehicleTrips	DV_TP	37.00	35.00
tblVehicleTrips	PB_TP	12.00	25.00
tblVehicleTrips	PR_TP	51.00	40.00
tblVehicleTrips	ST_TR	696.00	537.00
tblVehicleTrips	SU_TR	500.00	537.00
tblVehicleTrips	WD_TR	716.00	537.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2016	11.6992	93.2639	69.4732	0.0736	24.5826	5.1406	29.7232	13.3523	4.7293	18.0816	0.0000	7,564.3712	7,564.3712	2.1814	0.0000	7,610.1811
2017	11.3143	30.6006	26.1499	0.0440	0.8687	1.9868	2.8556	0.2329	1.8760	2.1089	0.0000	4,157.1298	4,157.1298	0.7235	0.0000	4,172.3235
Total	**23.0135**	**123.8645**	**95.6231**	**0.1176**	**25.4514**	**7.1274**	**32.5788**	**13.5852**	**6.6053**	**20.1905**	**0.0000**	**11,721.5010**	**11,721.5010**	**2.9049**	**0.0000**	**11,782.5046**

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					
2016	11.6992	93.2639	69.4732	0.0736	9.8122	5.1406	14.9528	5.2671	4.7293	9.9964	0.0000	7,564.3712	7,564.3712	2.1814	0.0000	7,610.1811
2017	11.3143	30.6006	26.1499	0.0440	0.8687	1.9868	2.8556	0.2329	1.8760	2.1089	0.0000	4,157.1298	4,157.1298	0.7235	0.0000	4,172.3235
Total	**23.0135**	**123.8645**	**95.6231**	**0.1176**	**10.6810**	**7.1274**	**17.8084**	**5.5000**	**6.6053**	**12.1053**	**0.0000**	**11,721.5010**	**11,721.5010**	**2.9049**	**0.0000**	**11,782.5046**

	ROG	NOx	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**	**58.03**	**0.00**	**45.34**	**59.51**	**0.00**	**40.04**	**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	2.9231	2.5000e-004	0.0266	0.0000		1.0000e-004	1.0000e-004		1.0000e-004	1.0000e-004		0.0556	0.0556	1.6000e-004		0.0589
Energy	0.0599	0.5446	0.4575	3.2700e-003		0.0414	0.0414		0.0414	0.0414		653.5117	653.5117	0.0125	0.0120	657.4889
Mobile	11.6344	23.8990	104.1178	0.2091	13.4361	0.3262	13.7623	3.5925	0.2998	3.8923		18,414.2409	18,414.2409	0.8010		18,431.0624
Total	**14.6175**	**24.4438**	**104.6019**	**0.2124**	**13.4361**	**0.3677**	**13.8038**	**3.5925**	**0.3413**	**3.9338**		**19,067.8082**	**19,067.8082**	**0.8137**	**0.0120**	**19,088.6102**

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	2.9231	2.5000e-004	0.0266	0.0000		1.0000e-004	1.0000e-004		1.0000e-004	1.0000e-004		0.0556	0.0556	1.6000e-004		0.0589
Energy	0.0599	0.5446	0.4575	3.2700e-003		0.0414	0.0414		0.0414	0.0414		653.5117	653.5117	0.0125	0.0120	657.4889
Mobile	11.0273	19.8426	88.7363	0.1649	10.4584	0.2605	10.7188	2.7963	0.2394	3.0357		14,519.0706	14,519.0706	0.6489		14,532.6970
Total	**14.0103**	**20.3874**	**89.2204**	**0.1682**	**10.4584**	**0.3020**	**10.7603**	**2.7963**	**0.2809**	**3.0772**		**15,172.6379**	**15,172.6379**	**0.6616**	**0.0120**	**15,190.2448**

	ROG	NOx	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	**4.15**	**16.59**	**14.70**	**20.81**	**22.16**	**17.87**	**22.05**	**22.16**	**17.70**	**21.78**	**0.00**	**20.43**	**20.43**	**18.70**	**0.00**	**20.42**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2016	1/28/2016	5	20	
2	Site Preparation	Site Preparation	1/29/2016	2/25/2016	5	20	
3	Grading	Grading	2/5/2016	3/31/2016	5	40	
4	Building Construction	Building Construction	4/1/2016	2/16/2017	5	230	
5	Architectural Coating	Architectural Coating	9/1/2016	4/12/2017	5	160	
6	Paving	Paving	2/17/2017	3/16/2017	5	20	

Acres of Grading (Site Preparation Phase): 1

Acres of Grading (Grading Phase): 2.73

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 77,190; Non-Residential Outdoor: 25,730 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	162	0.38
Demolition	Rubber Tired Dozers	2	8.00	255	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	255	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	162	0.38
Grading	Graders	1	8.00	174	0.41
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	226	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	2	6.00	9	0.56
Paving	Pavers	1	8.00	125	0.42
Paving	Paving Equipment	2	6.00	130	0.36
Paving	Rollers	2	6.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	162.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	55.00	21.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	11.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	20.00	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 Demolition - 2016

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					1.7483	0.0000	1.7483	0.2647	0.0000	0.2647			0.0000			0.0000
Off-Road	4.2876	45.6559	35.0303	0.0399		2.2921	2.2921		2.1365	2.1365		4,089.2841	4,089.2841	1.1121		4,112.6374
Total	**4.2876**	**45.6559**	**35.0303**	**0.0399**	**1.7483**	**2.2921**	**4.0404**	**0.2647**	**2.1365**	**2.4013**		**4,089.2841**	**4,089.2841**	**1.1121**		**4,112.6374**

3.2 Demolition - 2016

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	0.1427	2.2706	1.6113	6.0500e-003	0.1411	0.0336	0.1747	0.0386	0.0309	0.0696		609.6744	609.6744	4.5100e-003		609.7690
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	0.0668	0.0841	1.0406	2.1800e-003	0.1677	1.5900e-003	0.1693	0.0445	1.4600e-003	0.0459		184.3532	184.3532	0.0100		184.5639
Total	**0.2095**	**2.3547**	**2.6519**	**8.2300e-003**	**0.3087**	**0.0352**	**0.3439**	**0.0831**	**0.0324**	**0.1155**		**794.0276**	**794.0276**	**0.0146**		**794.3330**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.6818	0.0000	0.6818	0.1032	0.0000	0.1032			0.0000			0.0000
Off-Road	4.2876	45.6559	35.0303	0.0399		2.2921	2.2921		2.1365	2.1365	0.0000	4,089.2841	4,089.2841	1.1121		4,112.6374
Total	**4.2876**	**45.6559**	**35.0303**	**0.0399**	**0.6818**	**2.2921**	**2.9740**	**0.1032**	**2.1365**	**2.2398**	**0.0000**	**4,089.2841**	**4,089.2841**	**1.1121**		**4,112.6374**

3.2 Demolition - 2016

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	0.1427	2.2706	1.6113	6.0500e-003	0.1411	0.0336	0.1747	0.0386	0.0309	0.0696		609.6744	609.6744	4.5100e-003		609.7690
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	0.0668	0.0841	1.0406	2.1800e-003	0.1677	1.5900e-003	0.1693	0.0445	1.4600e-003	0.0459		184.3532	184.3532	0.0100		184.5639
Total	**0.2095**	**2.3547**	**2.6519**	**8.2300e-003**	**0.3087**	**0.0352**	**0.3439**	**0.0831**	**0.0324**	**0.1155**		**794.0276**	**794.0276**	**0.0146**		**794.3330**

3.3 Site Preparation - 2016

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					18.1193	0.0000	18.1193	9.9364	0.0000	9.9364			0.0000			0.0000
Off-Road	5.0771	54.6323	41.1053	0.0391		2.9387	2.9387		2.7036	2.7036		4,065.0053	4,065.0053	1.2262		4,090.7544
Total	**5.0771**	**54.6323**	**41.1053**	**0.0391**	**18.1193**	**2.9387**	**21.0580**	**9.9364**	**2.7036**	**12.6400**		**4,065.0053**	**4,065.0053**	**1.2262**		**4,090.7544**

3.3 Site Preparation - 2016

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	0.0802	0.1009	1.2487	2.6200e-003	0.2012	1.9000e-003	0.2031	0.0534	1.7500e-003	0.0551		221.2238	221.2238	0.0120		221.4767
Total	**0.0802**	**0.1009**	**1.2487**	**2.6200e-003**	**0.2012**	**1.9000e-003**	**0.2031**	**0.0534**	**1.7500e-003**	**0.0551**		**221.2238**	**221.2238**	**0.0120**		**221.4767**

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					7.0665	0.0000	7.0665	3.8752	0.0000	3.8752			0.0000			0.0000
Off-Road	5.0771	54.6323	41.1053	0.0391		2.9387	2.9387		2.7036	2.7036	0.0000	4,065.0053	4,065.0053	1.2262		4,090.7544
Total	**5.0771**	**54.6323**	**41.1053**	**0.0391**	**7.0665**	**2.9387**	**10.0052**	**3.8752**	**2.7036**	**6.5788**	**0.0000**	**4,065.0053**	**4,065.0053**	**1.2262**		**4,090.7544**

3.3 Site Preparation - 2016

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	0.0802	0.1009	1.2487	2.6200e-003	0.2012	1.9000e-003	0.2031	0.0534	1.7500e-003	0.0551		221.2238	221.2238	0.0120		221.4767
Total	**0.0802**	**0.1009**	**1.2487**	**2.6200e-003**	**0.2012**	**1.9000e-003**	**0.2031**	**0.0534**	**1.7500e-003**	**0.0551**		**221.2238**	**221.2238**	**0.0120**		**221.4767**

3.4 Grading - 2016

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					6.0945	0.0000	6.0945	3.3180	0.0000	3.3180			0.0000			0.0000
Off-Road	3.6669	38.4466	26.0787	0.0298		2.1984	2.1984		2.0225	2.0225		3,093.7889	3,093.7889	0.9332		3,113.3860
Total	**3.6669**	**38.4466**	**26.0787**	**0.0298**	**6.0945**	**2.1984**	**8.2929**	**3.3180**	**2.0225**	**5.3406**		**3,093.7889**	**3,093.7889**	**0.9332**		**3,113.3860**

3.4 Grading - 2016

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	0.0668	0.0841	1.0406	2.1800e-003	0.1677	1.5900e-003	0.1693	0.0445	1.4600e-003	0.0459		184.3532	184.3532	0.0100		184.5639
Total	**0.0668**	**0.0841**	**1.0406**	**2.1800e-003**	**0.1677**	**1.5900e-003**	**0.1693**	**0.0445**	**1.4600e-003**	**0.0459**		**184.3532**	**184.3532**	**0.0100**		**184.5639**

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					2.3768	0.0000	2.3768	1.2940	0.0000	1.2940			0.0000			0.0000
Off-Road	3.6669	38.4466	26.0787	0.0298		2.1984	2.1984		2.0225	2.0225	0.0000	3,093.7889	3,093.7889	0.9332		3,113.3860
Total	**3.6669**	**38.4466**	**26.0787**	**0.0298**	**2.3768**	**2.1984**	**4.5752**	**1.2940**	**2.0225**	**3.3166**	**0.0000**	**3,093.7889**	**3,093.7889**	**0.9332**		**3,113.3860**

3.4 Grading - 2016

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	0.0668	0.0841	1.0406	2.1800e-003	0.1677	1.5900e-003	0.1693	0.0445	1.4600e-003	0.0459		184.3532	184.3532	0.0100		184.5639
Total	**0.0668**	**0.0841**	**1.0406**	**2.1800e-003**	**0.1677**	**1.5900e-003**	**0.1693**	**0.0445**	**1.4600e-003**	**0.0459**		**184.3532**	**184.3532**	**0.0100**		**184.5639**

3.5 Building Construction - 2016

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	3.4062	28.5063	18.5066	0.0268		1.9674	1.9674		1.8485	1.8485		2,669.2864	2,669.2864	0.6620		2,683.1890
Total	**3.4062**	**28.5063**	**18.5066**	**0.0268**		**1.9674**	**1.9674**		**1.8485**	**1.8485**		**2,669.2864**	**2,669.2864**	**0.6620**		**2,683.1890**

3.5 Building Construction - 2016

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	0.1769	1.8377	2.1350	4.6100e-003	0.1310	0.0287	0.1597	0.0373	0.0264	0.0637		462.4633	462.4633	3.3900e-003		462.5346
Worker	0.2450	0.3083	3.8153	8.0000e-003	0.6148	5.8100e-003	0.6206	0.1630	5.3400e-003	0.1684		675.9617	675.9617	0.0368		676.7345
Total	**0.4219**	**2.1460**	**5.9504**	**0.0126**	**0.7457**	**0.0345**	**0.7803**	**0.2003**	**0.0318**	**0.2321**		**1,138.4250**	**1,138.4250**	**0.0402**		**1,139.2690**

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	3.4062	28.5063	18.5066	0.0268		1.9674	1.9674		1.8485	1.8485	0.0000	2,669.2864	2,669.2864	0.6620		2,683.1890
Total	**3.4062**	**28.5063**	**18.5066**	**0.0268**		**1.9674**	**1.9674**		**1.8485**	**1.8485**	**0.0000**	**2,669.2864**	**2,669.2864**	**0.6620**		**2,683.1890**

3.5 Building Construction - 2016

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	0.1769	1.8377	2.1350	4.6100e-003	0.1310	0.0287	0.1597	0.0373	0.0264	0.0637		462.4633	462.4633	3.3900e-003		462.5346
Worker	0.2450	0.3083	3.8153	8.0000e-003	0.6148	5.8100e-003	0.6206	0.1630	5.3400e-003	0.1684		675.9617	675.9617	0.0368		676.7345
Total	**0.4219**	**2.1460**	**5.9504**	**0.0126**	**0.7457**	**0.0345**	**0.7803**	**0.2003**	**0.0318**	**0.2321**		**1,138.4250**	**1,138.4250**	**0.0402**		**1,139.2690**

3.5 Building Construction - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.1024	26.4057	18.1291	0.0268		1.7812	1.7812		1.6730	1.6730		2,639.8053	2,639.8053	0.6497		2,653.4490
Total	**3.1024**	**26.4057**	**18.1291**	**0.0268**		**1.7812**	**1.7812**		**1.6730**	**1.6730**		**2,639.8053**	**2,639.8053**	**0.6497**		**2,653.4490**

3.5 Building Construction - 2017

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	0.1618	1.6753	2.0045	4.6100e-003	0.1310	0.0256	0.1566	0.0373	0.0235	0.0608		455.0783	455.0783	3.2900e-003		455.1472
Worker	0.2201	0.2788	3.4568	7.9900e-003	0.6148	5.5700e-003	0.6203	0.1630	5.1400e-003	0.1682		650.6651	650.6651	0.0340		651.3793
Total	**0.3819**	**1.9541**	**5.4614**	**0.0126**	**0.7458**	**0.0312**	**0.7770**	**0.2003**	**0.0287**	**0.2290**		**1,105.7434**	**1,105.7434**	**0.0373**		**1,106.5266**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.1024	26.4057	18.1291	0.0268		1.7812	1.7812		1.6730	1.6730	0.0000	2,639.8053	2,639.8053	0.6497		2,653.4490
Total	**3.1024**	**26.4057**	**18.1291**	**0.0268**		**1.7812**	**1.7812**		**1.6730**	**1.6730**	**0.0000**	**2,639.8053**	**2,639.8053**	**0.6497**		**2,653.4490**

3.5 Building Construction - 2017

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	0.1618	1.6753	2.0045	4.6100e-003	0.1310	0.0256	0.1566	0.0373	0.0235	0.0608		455.0783	455.0783	3.2900e-003		455.1472
Worker	0.2201	0.2788	3.4568	7.9900e-003	0.6148	5.5700e-003	0.6203	0.1630	5.1400e-003	0.1682		650.6651	650.6651	0.0340		651.3793
Total	**0.3819**	**1.9541**	**5.4614**	**0.0126**	**0.7458**	**0.0312**	**0.7770**	**0.2003**	**0.0287**	**0.2290**		**1,105.7434**	**1,105.7434**	**0.0373**		**1,106.5266**

3.6 Architectural Coating - 2016

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	7.4537					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.3685	2.3722	1.8839	2.9700e-003		0.1966	0.1966		0.1966	0.1966		281.4481	281.4481	0.0332		282.1449
Total	**7.8221**	**2.3722**	**1.8839**	**2.9700e-003**		**0.1966**	**0.1966**		**0.1966**	**0.1966**		**281.4481**	**281.4481**	**0.0332**		**282.1449**

3.6 Architectural Coating - 2016

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	0.0490	0.0617	0.7631	1.6000e-003	0.1230	1.1600e-003	0.1241	0.0326	1.0700e-003	0.0337		135.1923	135.1923	7.3600e-003		135.3469
Total	**0.0490**	**0.0617**	**0.7631**	**1.6000e-003**	**0.1230**	**1.1600e-003**	**0.1241**	**0.0326**	**1.0700e-003**	**0.0337**		**135.1923**	**135.1923**	**7.3600e-003**		**135.3469**

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	7.4537					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.3685	2.3722	1.8839	2.9700e-003		0.1966	0.1966		0.1966	0.1966	0.0000	281.4481	281.4481	0.0332		282.1449
Total	**7.8221**	**2.3722**	**1.8839**	**2.9700e-003**		**0.1966**	**0.1966**		**0.1966**	**0.1966**	**0.0000**	**281.4481**	**281.4481**	**0.0332**		**282.1449**

3.6 Architectural Coating - 2016

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	0.0490	0.0617	0.7631	1.6000e-003	0.1230	1.1600e-003	0.1241	0.0326	1.0700e-003	0.0337		135.1923	135.1923	7.3600e-003		135.3469
Total	**0.0490**	**0.0617**	**0.7631**	**1.6000e-003**	**0.1230**	**1.1600e-003**	**0.1241**	**0.0326**	**1.0700e-003**	**0.0337**		**135.1923**	**135.1923**	**7.3600e-003**		**135.3469**

3.6 Architectural Coating - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	7.4537					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.3323	2.1850	1.8681	2.9700e-003		0.1733	0.1733		0.1733	0.1733		281.4481	281.4481	0.0297		282.0721
Total	**7.7860**	**2.1850**	**1.8681**	**2.9700e-003**		**0.1733**	**0.1733**		**0.1733**	**0.1733**		**281.4481**	**281.4481**	**0.0297**		**282.0721**

3.6 Architectural Coating - 2017

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	0.0440	0.0558	0.6914	1.6000e-003	0.1230	1.1100e-003	0.1241	0.0326	1.0300e-003	0.0336		130.1330	130.1330	6.8000e-003		130.2759
Total	**0.0440**	**0.0558**	**0.6914**	**1.6000e-003**	**0.1230**	**1.1100e-003**	**0.1241**	**0.0326**	**1.0300e-003**	**0.0336**		**130.1330**	**130.1330**	**6.8000e-003**		**130.2759**

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	7.4537					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.3323	2.1850	1.8681	2.9700e-003		0.1733	0.1733		0.1733	0.1733	0.0000	281.4481	281.4481	0.0297		282.0721
Total	**7.7860**	**2.1850**	**1.8681**	**2.9700e-003**		**0.1733**	**0.1733**		**0.1733**	**0.1733**	**0.0000**	**281.4481**	**281.4481**	**0.0297**		**282.0721**

3.6 Architectural Coating - 2017

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	0.0440	0.0558	0.6914	1.6000e-003	0.1230	1.1100e-003	0.1241	0.0326	1.0300e-003	0.0336		130.1330	130.1330	6.8000e-003		130.2759
Total	**0.0440**	**0.0558**	**0.6914**	**1.6000e-003**	**0.1230**	**1.1100e-003**	**0.1241**	**0.0326**	**1.0300e-003**	**0.0336**		**130.1330**	**130.1330**	**6.8000e-003**		**130.2759**

3.7 Paving - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6554	16.8035	12.4837	0.0186		1.0056	1.0056		0.9269	0.9269		1,873.8264	1,873.8264	0.5588		1,885.5609
Paving	0.2620					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.9174**	**16.8035**	**12.4837**	**0.0186**		**1.0056**	**1.0056**		**0.9269**	**0.9269**		**1,873.8264**	**1,873.8264**	**0.5588**		**1,885.5609**

3.7 Paving - 2017

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	0.0801	0.1014	1.2570	2.9100e-003	0.2236	2.0300e-003	0.2256	0.0593	1.8700e-003	0.0612		236.6055	236.6055	0.0124		236.8652
Total	**0.0801**	**0.1014**	**1.2570**	**2.9100e-003**	**0.2236**	**2.0300e-003**	**0.2256**	**0.0593**	**1.8700e-003**	**0.0612**		**236.6055**	**236.6055**	**0.0124**		**236.8652**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6554	16.8035	12.4837	0.0186		1.0056	1.0056		0.9269	0.9269	0.0000	1,873.8264	1,873.8264	0.5588		1,885.5609
Paving	0.2620					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.9174**	**16.8035**	**12.4837**	**0.0186**		**1.0056**	**1.0056**		**0.9269**	**0.9269**	**0.0000**	**1,873.8264**	**1,873.8264**	**0.5588**		**1,885.5609**

3.7 Paving - 2017

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	0.0801	0.1014	1.2570	2.9100e-003	0.2236	2.0300e-003	0.2256	0.0593	1.8700e-003	0.0612		236.6055	236.6055	0.0124		236.8652
Total	**0.0801**	**0.1014**	**1.2570**	**2.9100e-003**	**0.2236**	**2.0300e-003**	**0.2256**	**0.0593**	**1.8700e-003**	**0.0612**		**236.6055**	**236.6055**	**0.0124**		**236.8652**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Increase Density

Increase Diversity

Improve Walkability Design

Improve Destination Accessibility

Increase Transit Accessibility

Improve Pedestrian Network

Provide Traffic Calming Measures

	ROG	NOx	CO	SO2	Fugitive 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	11.0273	19.8426	88.7363	0.1649	10.4584	0.2605	10.7188	2.7963	0.2394	3.0357		14,519.0706	14,519.0706	0.6489		14,532.6970
Unmitigated	11.6344	23.8990	104.1178	0.2091	13.4361	0.3262	13.7623	3.5925	0.2998	3.8923		18,414.2409	18,414.2409	0.8010		18,431.0624

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Fast Food Restaurant w/o Drive Thru	2,148.00	2,148.00	2148.00	3,159,564	2,459,329
Health Club	1,481.85	939.15	1202.85	2,918,276	2,271,517
Parking Lot	0.00	0.00	0.00		
Total	3,629.85	3,087.15	3,350.85	6,077,841	4,730,846

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
Fast Food Restaurant w/o Drive Th	16.60	8.40	6.90	1.50	79.50	19.00	40	35	25
Health Club	16.60	8.40	6.90	16.90	64.10	19.00	52	39	9
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.533598	0.058434	0.178244	0.125508	0.038944	0.006283	0.016425	0.031066	0.002453	0.003157	0.003691	0.000543	0.001655

4.4 Fleet Mix

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Install Energy Efficient Appliances

	ROG	NOx	CO	SO2	Fugitive 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	0.0599	0.5446	0.4575	3.2700e-003		0.0414	0.0414		0.0414	0.0414		653.5117	653.5117	0.0125	0.0120	657.4889
NaturalGas Unmitigated	0.0599	0.5446	0.4575	3.2700e-003		0.0414	0.0414		0.0414	0.0414		653.5117	653.5117	0.0125	0.0120	657.4889

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Health Club	2667.95	0.0288	0.2616	0.2197	1.5700e-003		0.0199	0.0199		0.0199	0.0199		313.8759	313.8759	6.0200e-003	5.7500e-003	315.7861
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
Fast Food Restaurant w/o Drive Thru	2886.9	0.0311	0.2830	0.2378	1.7000e-003		0.0215	0.0215		0.0215	0.0215		339.6358	339.6358	6.5100e-003	6.2300e-003	341.7027
Total		**0.0599**	**0.5446**	**0.4575**	**3.2700e-003**		**0.0414**	**0.0414**		**0.0414**	**0.0414**		**653.5117**	**653.5117**	**0.0125**	**0.0120**	**657.4888**

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					
Health Club	2.66795	0.0288	0.2616	0.2197	1.5700e-003		0.0199	0.0199		0.0199	0.0199		313.8759	313.8759	6.0200e-003	5.7500e-003	315.7861
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
Fast Food Restaurant w/o Drive Thru	2.8869	0.0311	0.2830	0.2378	1.7000e-003		0.0215	0.0215		0.0215	0.0215		339.6358	339.6358	6.5100e-003	6.2300e-003	341.7027
Total		**0.0599**	**0.5446**	**0.4575**	**3.2700e-003**		**0.0414**	**0.0414**		**0.0414**	**0.0414**		**653.5117**	**653.5117**	**0.0125**	**0.0120**	**657.4888**

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	2.9231	2.5000e-004	0.0266	0.0000		1.0000e-004	1.0000e-004		1.0000e-004	1.0000e-004		0.0556	0.0556	1.6000e-004		0.0589
Unmitigated	2.9231	2.5000e-004	0.0266	0.0000		1.0000e-004	1.0000e-004		1.0000e-004	1.0000e-004		0.0556	0.0556	1.6000e-004		0.0589

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	0.3267					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.5938					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.5900e-003	2.5000e-004	0.0266	0.0000		1.0000e-004	1.0000e-004		1.0000e-004	1.0000e-004		0.0556	0.0556	1.6000e-004		0.0589
Total	**2.9231**	**2.5000e-004**	**0.0266**	**0.0000**		**1.0000e-004**	**1.0000e-004**		**1.0000e-004**	**1.0000e-004**		**0.0556**	**0.0556**	**1.6000e-004**		**0.0589**

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	0.3267					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.5938					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.5900e-003	2.5000e-004	0.0266	0.0000		1.0000e-004	1.0000e-004		1.0000e-004	1.0000e-004		0.0556	0.0556	1.6000e-004		0.0589
Total	**2.9231**	**2.5000e-004**	**0.0266**	**0.0000**		**1.0000e-004**	**1.0000e-004**		**1.0000e-004**	**1.0000e-004**		**0.0556**	**0.0556**	**1.6000e-004**		**0.0589**

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

9.0 Operational Offroad

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

10.0 Vegetation

Agoura Park

Los Angeles-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	205.00	Space	2.00	82,000.00	0
Fast Food Restaurant w/o Drive Thru	4.00	1000sqft	0.23	4,000.00	0
Health Club	45.00	1000sqft	1.50	45,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	8			**Operational Year**	2016
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 - 3.73 acre site

Construction Phase - Demo of existing concrete, approx 1 acre

Demolition - 43560 square feet of 6 inch concrete assumed to be removed

Grading - Full site 3.73 acres

Vehicle Trips - Based on traffic s tudy

Area Coating -

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation -

Mobile Commute Mitigation -

Energy Mitigation -

Water Mitigation -

Waste Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	18.00	160.00
tblConstructionPhase	NumDays	8.00	40.00
tblConstructionPhase	NumDays	18.00	20.00
tblConstructionPhase	NumDays	5.00	20.00
tblConstructionPhase	PhaseEndDate	9/28/2017	4/12/2017
tblConstructionPhase	PhaseEndDate	4/21/2016	3/31/2016
tblConstructionPhase	PhaseEndDate	5/10/2017	3/16/2017
tblConstructionPhase	PhaseStartDate	2/17/2017	9/1/2016
tblConstructionPhase	PhaseStartDate	2/26/2016	2/5/2016
tblConstructionPhase	PhaseStartDate	4/13/2017	2/17/2017
tblGrading	AcresOfGrading	20.00	2.73
tblGrading	AcresOfGrading	0.00	1.00
tblLandUse	LotAcreage	1.84	2.00
tblLandUse	LotAcreage	0.09	0.23
tblLandUse	LotAcreage	1.03	1.50
tblProjectCharacteristics	OperationalYear	2014	2016
tblVehicleTrips	DV_TP	37.00	35.00
tblVehicleTrips	PB_TP	12.00	25.00
tblVehicleTrips	PR_TP	51.00	40.00
tblVehicleTrips	ST_TR	696.00	537.00
tblVehicleTrips	SU_TR	500.00	537.00
tblVehicleTrips	WD_TR	716.00	537.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2016	11.7294	93.2841	69.3335	0.0734	24.5826	5.1406	29.7232	13.3523	4.7293	18.0816	0.0000	7,541.6044	7,541.6044	2.1814	0.0000	7,587.4143
2017	11.3403	30.6782	26.3420	0.0434	0.8687	1.9871	2.8558	0.2329	1.8763	2.1092	0.0000	4,109.4581	4,109.4581	0.7236	0.0000	4,124.6539
Total	**23.0696**	**123.9622**	**95.6756**	**0.1168**	**25.4514**	**7.1277**	**32.5790**	**13.5852**	**6.6056**	**20.1908**	**0.0000**	**11,651.0625**	**11,651.0625**	**2.9050**	**0.0000**	**11,712.0682**

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					
2016	11.7294	93.2841	69.3335	0.0734	9.8122	5.1406	14.9528	5.2671	4.7293	9.9964	0.0000	7,541.6044	7,541.6044	2.1814	0.0000	7,587.4143
2017	11.3403	30.6782	26.3420	0.0434	0.8687	1.9871	2.8558	0.2329	1.8763	2.1092	0.0000	4,109.4581	4,109.4581	0.7236	0.0000	4,124.6539
Total	**23.0696**	**123.9622**	**95.6756**	**0.1168**	**10.6810**	**7.1277**	**17.8086**	**5.5000**	**6.6056**	**12.1056**	**0.0000**	**11,651.0625**	**11,651.0625**	**2.9050**	**0.0000**	**11,712.0682**

	ROG	NOx	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**	**58.03**	**0.00**	**45.34**	**59.51**	**0.00**	**40.04**	**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	2.9231	2.5000e-004	0.0266	0.0000		1.0000e-004	1.0000e-004		1.0000e-004	1.0000e-004		0.0556	0.0556	1.6000e-004		0.0589
Energy	0.0599	0.5446	0.4575	3.2700e-003		0.0414	0.0414		0.0414	0.0414		653.5117	653.5117	0.0125	0.0120	657.4889
Mobile	12.3944	25.0972	108.7996	0.1998	13.4361	0.3287	13.7648	3.5925	0.3021	3.8946		17,607.2765	17,607.2765	0.8020		17,624.1186
Total	**15.3775**	**25.6420**	**109.2837**	**0.2030**	**13.4361**	**0.3701**	**13.8063**	**3.5925**	**0.3436**	**3.9361**		**18,260.8437**	**18,260.8437**	**0.8147**	**0.0120**	**18,281.6664**

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	2.9231	2.5000e-004	0.0266	0.0000		1.0000e-004	1.0000e-004		1.0000e-004	1.0000e-004		0.0556	0.0556	1.6000e-004		0.0589
Energy	0.0599	0.5446	0.4575	3.2700e-003		0.0414	0.0414		0.0414	0.0414		653.5117	653.5117	0.0125	0.0120	657.4889
Mobile	11.8014	20.7903	94.6924	0.1576	10.4584	0.2629	10.7213	2.7963	0.2417	3.0380		13,883.6061	13,883.6061	0.6499		13,897.2532
Total	**14.7844**	**21.3351**	**95.1764**	**0.1609**	**10.4584**	**0.3044**	**10.7628**	**2.7963**	**0.2832**	**3.0795**		**14,537.1733**	**14,537.1733**	**0.6626**	**0.0120**	**14,554.8009**

	ROG	NOx	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	**3.86**	**16.80**	**12.91**	**20.76**	**22.16**	**17.75**	**22.04**	**22.16**	**17.59**	**21.76**	**0.00**	**20.39**	**20.39**	**18.68**	**0.00**	**20.39**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2016	1/28/2016	5	20	
2	Site Preparation	Site Preparation	1/29/2016	2/25/2016	5	20	
3	Grading	Grading	2/5/2016	3/31/2016	5	40	
4	Building Construction	Building Construction	4/1/2016	2/16/2017	5	230	
5	Architectural Coating	Architectural Coating	9/1/2016	4/12/2017	5	160	
6	Paving	Paving	2/17/2017	3/16/2017	5	20	

Acres of Grading (Site Preparation Phase): 1

Acres of Grading (Grading Phase): 2.73

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 77,190; Non-Residential Outdoor: 25,730 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	162	0.38
Demolition	Rubber Tired Dozers	2	8.00	255	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	255	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	162	0.38
Grading	Graders	1	8.00	174	0.41
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	226	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	2	6.00	9	0.56
Paving	Pavers	1	8.00	125	0.42
Paving	Paving Equipment	2	6.00	130	0.36
Paving	Rollers	2	6.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	162.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	55.00	21.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	11.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	20.00	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 Demolition - 2016

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					1.7483	0.0000	1.7483	0.2647	0.0000	0.2647			0.0000			0.0000
Off-Road	4.2876	45.6559	35.0303	0.0399		2.2921	2.2921		2.1365	2.1365		4,089.2841	4,089.2841	1.1121		4,112.6374
Total	**4.2876**	**45.6559**	**35.0303**	**0.0399**	**1.7483**	**2.2921**	**4.0404**	**0.2647**	**2.1365**	**2.4013**		**4,089.2841**	**4,089.2841**	**1.1121**		**4,112.6374**

3.2 Demolition - 2016

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	0.1511	2.3504	1.8676	6.0400e-003	0.1411	0.0337	0.1748	0.0386	0.0310	0.0696		608.2431	608.2431	4.5700e-003		608.3390
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	0.0695	0.0932	0.9771	2.0600e-003	0.1677	1.5900e-003	0.1693	0.0445	1.4600e-003	0.0459		174.0047	174.0047	0.0100		174.2154
Total	**0.2206**	**2.4437**	**2.8447**	**8.1000e-003**	**0.3087**	**0.0353**	**0.3440**	**0.0831**	**0.0325**	**0.1155**		**782.2478**	**782.2478**	**0.0146**		**782.5544**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.6818	0.0000	0.6818	0.1032	0.0000	0.1032			0.0000			0.0000
Off-Road	4.2876	45.6559	35.0303	0.0399		2.2921	2.2921		2.1365	2.1365	0.0000	4,089.2841	4,089.2841	1.1121		4,112.6374
Total	**4.2876**	**45.6559**	**35.0303**	**0.0399**	**0.6818**	**2.2921**	**2.9740**	**0.1032**	**2.1365**	**2.2398**	**0.0000**	**4,089.2841**	**4,089.2841**	**1.1121**		**4,112.6374**

3.2 Demolition - 2016

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	0.1511	2.3504	1.8676	6.0400e-003	0.1411	0.0337	0.1748	0.0386	0.0310	0.0696		608.2431	608.2431	4.5700e-003		608.3390
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	0.0695	0.0932	0.9771	2.0600e-003	0.1677	1.5900e-003	0.1693	0.0445	1.4600e-003	0.0459		174.0047	174.0047	0.0100		174.2154
Total	**0.2206**	**2.4437**	**2.8447**	**8.1000e-003**	**0.3087**	**0.0353**	**0.3440**	**0.0831**	**0.0325**	**0.1155**		**782.2478**	**782.2478**	**0.0146**		**782.5544**

3.3 Site Preparation - 2016

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					18.1193	0.0000	18.1193	9.9364	0.0000	9.9364			0.0000			0.0000
Off-Road	5.0771	54.6323	41.1053	0.0391		2.9387	2.9387		2.7036	2.7036		4,065.0053	4,065.0053	1.2262		4,090.7544
Total	**5.0771**	**54.6323**	**41.1053**	**0.0391**	**18.1193**	**2.9387**	**21.0580**	**9.9364**	**2.7036**	**12.6400**		**4,065.0053**	**4,065.0053**	**1.2262**		**4,090.7544**

3.3 Site Preparation - 2016

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	0.0834	0.1119	1.1725	2.4700e-003	0.2012	1.9000e-003	0.2031	0.0534	1.7500e-003	0.0551		208.8056	208.8056	0.0120		209.0585
Total	**0.0834**	**0.1119**	**1.1725**	**2.4700e-003**	**0.2012**	**1.9000e-003**	**0.2031**	**0.0534**	**1.7500e-003**	**0.0551**		**208.8056**	**208.8056**	**0.0120**		**209.0585**

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					7.0665	0.0000	7.0665	3.8752	0.0000	3.8752			0.0000			0.0000
Off-Road	5.0771	54.6323	41.1053	0.0391		2.9387	2.9387		2.7036	2.7036	0.0000	4,065.0053	4,065.0053	1.2262		4,090.7544
Total	**5.0771**	**54.6323**	**41.1053**	**0.0391**	**7.0665**	**2.9387**	**10.0052**	**3.8752**	**2.7036**	**6.5788**	**0.0000**	**4,065.0053**	**4,065.0053**	**1.2262**		**4,090.7544**

3.3 Site Preparation - 2016

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	0.0834	0.1119	1.1725	2.4700e-003	0.2012	1.9000e-003	0.2031	0.0534	1.7500e-003	0.0551		208.8056	208.8056	0.0120		209.0585
Total	**0.0834**	**0.1119**	**1.1725**	**2.4700e-003**	**0.2012**	**1.9000e-003**	**0.2031**	**0.0534**	**1.7500e-003**	**0.0551**		**208.8056**	**208.8056**	**0.0120**		**209.0585**

3.4 Grading - 2016

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					6.0945	0.0000	6.0945	3.3180	0.0000	3.3180			0.0000			0.0000
Off-Road	3.6669	38.4466	26.0787	0.0298		2.1984	2.1984		2.0225	2.0225		3,093.7889	3,093.7889	0.9332		3,113.3860
Total	**3.6669**	**38.4466**	**26.0787**	**0.0298**	**6.0945**	**2.1984**	**8.2929**	**3.3180**	**2.0225**	**5.3406**		**3,093.7889**	**3,093.7889**	**0.9332**		**3,113.3860**

3.4 Grading - 2016

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	0.0695	0.0932	0.9771	2.0600e-003	0.1677	1.5900e-003	0.1693	0.0445	1.4600e-003	0.0459		174.0047	174.0047	0.0100		174.2154
Total	**0.0695**	**0.0932**	**0.9771**	**2.0600e-003**	**0.1677**	**1.5900e-003**	**0.1693**	**0.0445**	**1.4600e-003**	**0.0459**		**174.0047**	**174.0047**	**0.0100**		**174.2154**

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					2.3768	0.0000	2.3768	1.2940	0.0000	1.2940			0.0000			0.0000
Off-Road	3.6669	38.4466	26.0787	0.0298		2.1984	2.1984		2.0225	2.0225	0.0000	3,093.7889	3,093.7889	0.9332		3,113.3860
Total	**3.6669**	**38.4466**	**26.0787**	**0.0298**	**2.3768**	**2.1984**	**4.5752**	**1.2940**	**2.0225**	**3.3166**	**0.0000**	**3,093.7889**	**3,093.7889**	**0.9332**		**3,113.3860**

3.4 Grading - 2016

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	0.0695	0.0932	0.9771	2.0600e-003	0.1677	1.5900e-003	0.1693	0.0445	1.4600e-003	0.0459		174.0047	174.0047	0.0100		174.2154
Total	**0.0695**	**0.0932**	**0.9771**	**2.0600e-003**	**0.1677**	**1.5900e-003**	**0.1693**	**0.0445**	**1.4600e-003**	**0.0459**		**174.0047**	**174.0047**	**0.0100**		**174.2154**

3.5 Building Construction - 2016

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	3.4062	28.5063	18.5066	0.0268		1.9674	1.9674		1.8485	1.8485		2,669.2864	2,669.2864	0.6620		2,683.1890
Total	**3.4062**	**28.5063**	**18.5066**	**0.0268**		**1.9674**	**1.9674**		**1.8485**	**1.8485**		**2,669.2864**	**2,669.2864**	**0.6620**		**2,683.1890**

3.5 Building Construction - 2016

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	0.1952	1.8838	2.5994	4.5800e-003	0.1310	0.0290	0.1600	0.0373	0.0267	0.0640		458.6234	458.6234	3.4900e-003		458.6968
Worker	0.2548	0.3419	3.5826	7.5400e-003	0.6148	5.8100e-003	0.6206	0.1630	5.3400e-003	0.1684		638.0171	638.0171	0.0368		638.7899
Total	**0.4500**	**2.2257**	**6.1820**	**0.0121**	**0.7457**	**0.0348**	**0.7806**	**0.2003**	**0.0320**	**0.2323**		**1,096.6405**	**1,096.6405**	**0.0403**		**1,097.4866**

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	3.4062	28.5063	18.5066	0.0268		1.9674	1.9674		1.8485	1.8485	0.0000	2,669.2864	2,669.2864	0.6620		2,683.1890
Total	**3.4062**	**28.5063**	**18.5066**	**0.0268**		**1.9674**	**1.9674**		**1.8485**	**1.8485**	**0.0000**	**2,669.2864**	**2,669.2864**	**0.6620**		**2,683.1890**

3.5 Building Construction - 2016

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	0.1952	1.8838	2.5994	4.5800e-003	0.1310	0.0290	0.1600	0.0373	0.0267	0.0640		458.6234	458.6234	3.4900e-003		458.6968
Worker	0.2548	0.3419	3.5826	7.5400e-003	0.6148	5.8100e-003	0.6206	0.1630	5.3400e-003	0.1684		638.0171	638.0171	0.0368		638.7899
Total	**0.4500**	**2.2257**	**6.1820**	**0.0121**	**0.7457**	**0.0348**	**0.7806**	**0.2003**	**0.0320**	**0.2323**		**1,096.6405**	**1,096.6405**	**0.0403**		**1,097.4866**

3.5 Building Construction - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.1024	26.4057	18.1291	0.0268		1.7812	1.7812		1.6730	1.6730		2,639.8053	2,639.8053	0.6497		2,653.4490
Total	**3.1024**	**26.4057**	**18.1291**	**0.0268**		**1.7812**	**1.7812**		**1.6730**	**1.6730**		**2,639.8053**	**2,639.8053**	**0.6497**		**2,653.4490**

3.5 Building Construction - 2017

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	0.1777	1.7164	2.4656	4.5800e-003	0.1310	0.0259	0.1569	0.0373	0.0238	0.0611		451.2914	451.2914	3.3800e-003		451.3624
Worker	0.2285	0.3092	3.2327	7.5400e-003	0.6148	5.5700e-003	0.6203	0.1630	5.1400e-003	0.1682		614.0945	614.0945	0.0340		614.8087
Total	**0.4062**	**2.0256**	**5.6983**	**0.0121**	**0.7458**	**0.0314**	**0.7772**	**0.2003**	**0.0289**	**0.2292**		**1,065.3858**	**1,065.3858**	**0.0374**		**1,066.1711**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.1024	26.4057	18.1291	0.0268		1.7812	1.7812		1.6730	1.6730	0.0000	2,639.8053	2,639.8053	0.6497		2,653.4490
Total	**3.1024**	**26.4057**	**18.1291**	**0.0268**		**1.7812**	**1.7812**		**1.6730**	**1.6730**	**0.0000**	**2,639.8053**	**2,639.8053**	**0.6497**		**2,653.4490**

3.5 Building Construction - 2017

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	0.1777	1.7164	2.4656	4.5800e-003	0.1310	0.0259	0.1569	0.0373	0.0238	0.0611		451.2914	451.2914	3.3800e-003		451.3624
Worker	0.2285	0.3092	3.2327	7.5400e-003	0.6148	5.5700e-003	0.6203	0.1630	5.1400e-003	0.1682		614.0945	614.0945	0.0340		614.8087
Total	**0.4062**	**2.0256**	**5.6983**	**0.0121**	**0.7458**	**0.0314**	**0.7772**	**0.2003**	**0.0289**	**0.2292**		**1,065.3858**	**1,065.3858**	**0.0374**		**1,066.1711**

3.6 Architectural Coating - 2016

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	7.4537					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.3685	2.3722	1.8839	2.9700e-003		0.1966	0.1966		0.1966	0.1966		281.4481	281.4481	0.0332		282.1449
Total	**7.8221**	**2.3722**	**1.8839**	**2.9700e-003**		**0.1966**	**0.1966**		**0.1966**	**0.1966**		**281.4481**	**281.4481**	**0.0332**		**282.1449**

3.6 Architectural Coating - 2016

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	0.0510	0.0684	0.7165	1.5100e-003	0.1230	1.1600e-003	0.1241	0.0326	1.0700e-003	0.0337		127.6034	127.6034	7.3600e-003		127.7580
Total	**0.0510**	**0.0684**	**0.7165**	**1.5100e-003**	**0.1230**	**1.1600e-003**	**0.1241**	**0.0326**	**1.0700e-003**	**0.0337**		**127.6034**	**127.6034**	**7.3600e-003**		**127.7580**

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	7.4537					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.3685	2.3722	1.8839	2.9700e-003		0.1966	0.1966		0.1966	0.1966	0.0000	281.4481	281.4481	0.0332		282.1449
Total	**7.8221**	**2.3722**	**1.8839**	**2.9700e-003**		**0.1966**	**0.1966**		**0.1966**	**0.1966**	**0.0000**	**281.4481**	**281.4481**	**0.0332**		**282.1449**

3.6 Architectural Coating - 2016

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	0.0510	0.0684	0.7165	1.5100e-003	0.1230	1.1600e-003	0.1241	0.0326	1.0700e-003	0.0337		127.6034	127.6034	7.3600e-003		127.7580
Total	**0.0510**	**0.0684**	**0.7165**	**1.5100e-003**	**0.1230**	**1.1600e-003**	**0.1241**	**0.0326**	**1.0700e-003**	**0.0337**		**127.6034**	**127.6034**	**7.3600e-003**		**127.7580**

3.6 Architectural Coating - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	7.4537					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.3323	2.1850	1.8681	2.9700e-003		0.1733	0.1733		0.1733	0.1733		281.4481	281.4481	0.0297		282.0721
Total	**7.7860**	**2.1850**	**1.8681**	**2.9700e-003**		**0.1733**	**0.1733**		**0.1733**	**0.1733**		**281.4481**	**281.4481**	**0.0297**		**282.0721**

3.6 Architectural Coating - 2017

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	0.0457	0.0618	0.6466	1.5100e-003	0.1230	1.1100e-003	0.1241	0.0326	1.0300e-003	0.0336		122.8189	122.8189	6.8000e-003		122.9617
Total	**0.0457**	**0.0618**	**0.6466**	**1.5100e-003**	**0.1230**	**1.1100e-003**	**0.1241**	**0.0326**	**1.0300e-003**	**0.0336**		**122.8189**	**122.8189**	**6.8000e-003**		**122.9617**

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	7.4537					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.3323	2.1850	1.8681	2.9700e-003		0.1733	0.1733		0.1733	0.1733	0.0000	281.4481	281.4481	0.0297		282.0721
Total	**7.7860**	**2.1850**	**1.8681**	**2.9700e-003**		**0.1733**	**0.1733**		**0.1733**	**0.1733**	**0.0000**	**281.4481**	**281.4481**	**0.0297**		**282.0721**

3.6 Architectural Coating - 2017

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	0.0457	0.0618	0.6466	1.5100e-003	0.1230	1.1100e-003	0.1241	0.0326	1.0300e-003	0.0336		122.8189	122.8189	6.8000e-003		122.9617
Total	**0.0457**	**0.0618**	**0.6466**	**1.5100e-003**	**0.1230**	**1.1100e-003**	**0.1241**	**0.0326**	**1.0300e-003**	**0.0336**		**122.8189**	**122.8189**	**6.8000e-003**		**122.9617**

3.7 Paving - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6554	16.8035	12.4837	0.0186		1.0056	1.0056		0.9269	0.9269		1,873.8264	1,873.8264	0.5588		1,885.5609
Paving	0.2620					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.9174**	**16.8035**	**12.4837**	**0.0186**		**1.0056**	**1.0056**		**0.9269**	**0.9269**		**1,873.8264**	**1,873.8264**	**0.5588**		**1,885.5609**

3.7 Paving - 2017

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	0.0831	0.1124	1.1755	2.7400e-003	0.2236	2.0300e-003	0.2256	0.0593	1.8700e-003	0.0612		223.3071	223.3071	0.0124		223.5668
Total	**0.0831**	**0.1124**	**1.1755**	**2.7400e-003**	**0.2236**	**2.0300e-003**	**0.2256**	**0.0593**	**1.8700e-003**	**0.0612**		**223.3071**	**223.3071**	**0.0124**		**223.5668**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6554	16.8035	12.4837	0.0186		1.0056	1.0056		0.9269	0.9269	0.0000	1,873.8264	1,873.8264	0.5588		1,885.5609
Paving	0.2620					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.9174**	**16.8035**	**12.4837**	**0.0186**		**1.0056**	**1.0056**		**0.9269**	**0.9269**	**0.0000**	**1,873.8264**	**1,873.8264**	**0.5588**		**1,885.5609**

3.7 Paving - 2017

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	0.0831	0.1124	1.1755	2.7400e-003	0.2236	2.0300e-003	0.2256	0.0593	1.8700e-003	0.0612		223.3071	223.3071	0.0124		223.5668
Total	**0.0831**	**0.1124**	**1.1755**	**2.7400e-003**	**0.2236**	**2.0300e-003**	**0.2256**	**0.0593**	**1.8700e-003**	**0.0612**		**223.3071**	**223.3071**	**0.0124**		**223.5668**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Increase Density

Increase Diversity

Improve Walkability Design

Improve Destination Accessibility

Increase Transit Accessibility

Improve Pedestrian Network

Provide Traffic Calming Measures

	ROG	NOx	CO	SO2	Fugitive 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	11.8014	20.7903	94.6924	0.1576	10.4584	0.2629	10.7213	2.7963	0.2417	3.0380		13,883.6061	13,883.6061	0.6499		13,897.2532
Unmitigated	12.3944	25.0972	108.7996	0.1998	13.4361	0.3287	13.7648	3.5925	0.3021	3.8946		17,607.2765	17,607.2765	0.8020		17,624.1186

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Fast Food Restaurant w/o Drive Thru	2,148.00	2,148.00	2148.00	3,159,564	2,459,329
Health Club	1,481.85	939.15	1202.85	2,918,276	2,271,517
Parking Lot	0.00	0.00	0.00		
Total	3,629.85	3,087.15	3,350.85	6,077,841	4,730,846

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
Fast Food Restaurant w/o Drive Thru	16.60	8.40	6.90	1.50	79.50	19.00	40	35	25
Health Club	16.60	8.40	6.90	16.90	64.10	19.00	52	39	9
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.533598	0.058434	0.178244	0.125508	0.038944	0.006283	0.016425	0.031066	0.002453	0.003157	0.003691	0.000543	0.001655

4.4 Fleet Mix

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Install Energy Efficient Appliances

	ROG	NOx	CO	SO2	Fugitive 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	0.0599	0.5446	0.4575	3.2700e-003		0.0414	0.0414		0.0414	0.0414		653.5117	653.5117	0.0125	0.0120	657.4889
NaturalGas Unmitigated	0.0599	0.5446	0.4575	3.2700e-003		0.0414	0.0414		0.0414	0.0414		653.5117	653.5117	0.0125	0.0120	657.4889

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Health Club	2667.95	0.0288	0.2616	0.2197	1.5700e-003		0.0199	0.0199		0.0199	0.0199		313.8759	313.8759	6.0200e-003	5.7500e-003	315.7861
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
Fast Food Restaurant w/o Drive Thru	2886.9	0.0311	0.2830	0.2378	1.7000e-003		0.0215	0.0215		0.0215	0.0215		339.6358	339.6358	6.5100e-003	6.2300e-003	341.7027
Total		**0.0599**	**0.5446**	**0.4575**	**3.2700e-003**		**0.0414**	**0.0414**		**0.0414**	**0.0414**		**653.5117**	**653.5117**	**0.0125**	**0.0120**	**657.4888**

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					
Health Club	2.66795	0.0288	0.2616	0.2197	1.5700e-003		0.0199	0.0199		0.0199	0.0199		313.8759	313.8759	6.0200e-003	5.7500e-003	315.7861
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
Fast Food Restaurant w/o Drive Thru	2.8869	0.0311	0.2830	0.2378	1.7000e-003		0.0215	0.0215		0.0215	0.0215		339.6358	339.6358	6.5100e-003	6.2300e-003	341.7027
Total		**0.0599**	**0.5446**	**0.4575**	**3.2700e-003**		**0.0414**	**0.0414**		**0.0414**	**0.0414**		**653.5117**	**653.5117**	**0.0125**	**0.0120**	**657.4888**

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	2.9231	2.5000e-004	0.0266	0.0000		1.0000e-004	1.0000e-004		1.0000e-004	1.0000e-004		0.0556	0.0556	1.6000e-004		0.0589
Unmitigated	2.9231	2.5000e-004	0.0266	0.0000		1.0000e-004	1.0000e-004		1.0000e-004	1.0000e-004		0.0556	0.0556	1.6000e-004		0.0589

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	0.3267					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.5938					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.5900e-003	2.5000e-004	0.0266	0.0000		1.0000e-004	1.0000e-004		1.0000e-004	1.0000e-004		0.0556	0.0556	1.6000e-004		0.0589
Total	**2.9231**	**2.5000e-004**	**0.0266**	**0.0000**		**1.0000e-004**	**1.0000e-004**		**1.0000e-004**	**1.0000e-004**		**0.0556**	**0.0556**	**1.6000e-004**		**0.0589**

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	0.3267					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.5938					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.5900e-003	2.5000e-004	0.0266	0.0000		1.0000e-004	1.0000e-004		1.0000e-004	1.0000e-004		0.0556	0.0556	1.6000e-004		0.0589
Total	**2.9231**	**2.5000e-004**	**0.0266**	**0.0000**		**1.0000e-004**	**1.0000e-004**		**1.0000e-004**	**1.0000e-004**		**0.0556**	**0.0556**	**1.6000e-004**		**0.0589**

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

9.0 Operational Offroad

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

10.0 Vegetation

Greenhouse Gas Emission Worksheet

N20 Mobile Emissions Agoura Park Project

From CalEEMod Vehicle Fleet Mix Output:

Annual VMT: 4,730,846

Vehicle Type	Percent Type	CH4 Emission Factor (g/mile)*	CH4 Emission (g/mile)**	N2O Emission Factor (g/mile)*	N2O Emission (g/mile)**
Light Auto	53.5%	0.04	0.0214	0.04	0.0214
Light Truck < 3750 lbs	5.9%	0.05	0.00295	0.06	0.00354
Light Truck 3751-5750 lbs	17.8%	0.05	0.0089	0.06	0.01068
Med Truck 5751-8500 lbs	12.7%	0.12	0.01524	0.2	0.0254
Lite-Heavy Truck 8501-10,000 lbs	3.9%	0.12	0.00468	0.2	0.0078
Lite-Heavy Truck 10,001-14,000 lbs	0.6%	0.09	0.00054	0.125	0.00075
Med-Heavy Truck 14,001-33,000 lbs	1.6%	0.06	0.00096	0.05	0.0008
Heavy-Heavy Truck 33,001-60,000 lbs	3.2%	0.06	0.00192	0.05	0.0016
Other Bus	0.2%	0.06	0.00012	0.05	0.0001
Urban Bus	0.3%	0.06	0.00018	0.05	0.00015
Motorcycle	0.3%	0.09	0.00027	0.01	0.00003
School Bus	0.0%	0.06	0	0.05	0
Motor Home	0.0%	0.09	0	0.125	0
Total	**100.0%**		**0.05716**		**0.07225**

Total Emissions (metric tons) =
Emission Factor by Vehicle Mix (g/mi) x Annual VMT(mi) x 0.000001 metric tons/g

Conversion to Carbon Dioxide Equivalency (CO2e) Units based on Global Warming Potential (GWP)

CH4	21	GWP
N2O	310	GWP
1 ton (short, US) =	0.90718474	metric ton

Annual Mobile Emissions:

	Total Emissions		Total CO2e units	
N20 Emissions:	0.3418	metric tons N2O	**106**	metric tons CO2e
		Project Total:	***106 metric tons CO2e***	

References

* from Table C.4: Methane and Nitrous Oxide Emission Factors for Mobile Sources by Vehicle and Fuel Type (g/mile).
in California Climate Action Registry General Reporting Protocol, Reporting Entity-Wide Greenhouse Gas Emissions, Version 3.1, January 2009.
Assume Model year 2000-present, gasoline fueled.

** Source: California Climate Action Registry General Reporting Protocol, Reporting Entity-Wide Greenhouse Gas Emissions, Version 3.1, January 2009.

*** From URBEMIS 2007 results for mobile sources

Appendix B

Biological Resources Constraints Analysis

July 1, 2014

Mr. Dan Selleck
Selleck Development Group, Inc
2660 Townsgate Road, Suite 250
Westlake Village, CA 91361

Re: RESULTS OF A BIOLOGICAL INITIAL STUDY ANALYSIS CONDUCTED ON THE 29431 & 29439 AGOURA ROAD PROJECT SITE, LOCATED IN AGOURA HILLS, LOS ANGELES COUNTY, CALIFORNIA

Dear Dan:

This letter report presents the findings of a biological Initial Study analysis, conducted by **PCR Services Corporation (PCR)** for the above referenced 3.48-acre property located at 29431 and 29439 Agoura Road, approximately 0.5 mile southwest of U.S. Highway 101 in Los Angeles County, California ("project site").

SITE LOCATION

The project site at the intersection of Agoura Road and Roadside Drive and is bordered by U.S. Highway 101 to the north, development to the east, a vacant lot to the west, and open space to the south. The project site is located within the southeastern portion of Section 28, T. 1 N., R. 18 W., of the U.S. Geological Survey (USGS) 7.5-minute Thousand Oaks topographic quadrangle as shown in **Figure 1**, *Vicinity Map*, attached. Elevations in the project site range between 850 to 865 feet above mean sea level (msl). The project site consists of an large concreted area (developed) with ruderal vegetation and a concrete vertical walled channel approximately 240 feet in length and 3 feet wide located in the northeastern portion of the project site.

METHODOLOGY

Prior to the field investigation, PCR reviewed all available relevant literature and data on sensitive habitats and species potentially occurring within the project site. Items reviewed included, California Department of Fish and Wildlife (CDFW), Natural Diversity Database (CNDDB)[1] and California Native Plant Society (CNPS) Online Inventory of Rare and Endangered Plants.[2]

[1] *California Department of Fish and Wildlife. 2014. CNDDB Inventory for USGS 7.5-minute quadrangle for Thousand Oaks.*
[2] *CNPS. 2009. Online Inventory of Rare and Sensitive Plants.*

A biological reconnaissance of the project site was conducted by PCR Biologist Amy Lee and Intern Lauren Willey on June 20, 2014. Survey coverage of the entire project site, with special attention to sensitive habitats or those areas potentially supporting sensitive flora or fauna, was ensured using color aerial photography (1"= 100'), site-specific topography, and a USGS topographic map. Plant communities were mapped directly in the field utilizing a 100-scale (1"=100') aerial photograph and 7.5' USGS topographic map. The classification of plant communities follows the California Department of Fish and Wildlife *List of California Terrestrial Natural Communities Recognized by the Natural Diversity Database*.[3] Descriptions are based on PCR's findings, Sawyer and Keeler-Wolf, [5] and/or Holland. [6] After completing the fieldwork, the plant community polygons were digitized using Geographic Information System (GIS) technology to calculate acreages.

The plant species observed during the survey were either identified in the field or collected and later identified using taxonomic keys. Plant taxonomy follows Hickman. [7] Common plant names were taken from Hickman, [8] Munz, [9] or McAuley. [10] The wildlife species observed during the field survey by sight, call, tracks, nests, scat (fecal droppings), remains, or other sign were recorded. Binoculars and regional field guides were utilized for the identification of wildlife, as necessary. Any wildlife species observed within the project site, as well as diagnostic signs, were recorded in field notes. Wildlife taxonomy follows Stebbins[11] for amphibians and reptiles, the American Ornithologists' Union[12] for birds, and Jameson and Peeters[13] for mammals.

For the purpose of this analysis, sensitive plant communities included those considered high priority by the CDFW for inclusion in the CNDDB. Sensitive plants included those species listed or candidates for listing by the United States Fish and Wildlife Service (USFWS), CDFW, and those listed by the CNPS (particularly List 1A, 1B, and 2). Sensitive wildlife include those species listed as endangered or threatened under the Federal Endangered Species Act (FESA) or California Endangered Species Act (CESA), candidates for listing by USFWS or CDFW, and species of special concern to CDFW.

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[3] *CDFW. 2009. List of California Terrestrial Natural Communities Recognized by the Natural Diversity Database. July.*
[5] *Sawyer, John O. and T. Keeler-Wolf. 1995. A Manual of California Vegetation. Sacramento: California Native Plant Society.*
[6] *Holland, R. F. Ph. D. 1986. State of California. The Resources Agency. Department of Fish and Wildlife. Preliminary Descriptions of the Terrestrial Natural Communities of California. October.*
[7] *Hickman, J. C. 1993. The Jepson Manual: Higher Plants of California. Berkeley: University of California Press.*
[8] *Hickman, J. C. 1993. The Jepson Manual: Higher Plants of California. Berkeley: University of California Press.*
[9] *Munz, P. A. 1974. A Flora of Southern California. Berkeley: University of California Press.*
[10] *McAuley, M. 1996. Wildflowers of the Santa Monica Mountains. Canoga Park: Canyon Publishing.*
[11] *Stebbins, R. C. 2003. A Field Guide to Western Reptiles and Amphibians, third edition. Boston: Houghton-Mifflin.*
[12] *American Ornithologists' Union. 1998. The American Ornithologists' Union Checklist of North American Birds. 7th Edition. American Ornithologists' Union, Washington, D.C.*
[13] *Jameson, Jr., E. W., and H. J. Peeters. 1988. California Mammals. Berkeley: University of California Press.*

No focused surveys for sensitive plant or wildlife species were conducted by PCR during the field investigation. However, habitat evaluations for special status plants and wildlife were completed using existing site conditions and field observations.

EXISTING CONDITIONS

Vegetation within the project site is mostly comprised of development and ruderal vegetation mainly along the northern and eastern boundary of the site, as shown in **Figure 2**, *Natural Communities,* attached. **Figure 3**, *Site Photographs,* attached, show the character and structure of the vegetation communities. Descriptions of each natural community and acreages are provided below.

Developed areas consist of concreted areas and man-made structures, such as buildings. The developed areas occur over the majority of the site with 2.49 acres. Within the developed area is vegetation (mainly ruderal) growing through the concrete slab, including tree tobacco (*Nicotiana glauca*), shortpod mustard (*Hirschfeldia incana*), telegraph weed (*Heterotheca grandiflora*), Italian thistle (*Carduus pycnocephalus*), red brome (*Bromus madritensis*), crimson fountain grass (*Pennisetum setaceum*), and a few native species, such as doveweed (*Eremocarpus setigerus*), coyote brush (*Baccharis pilularis*), and narrow-leaf milkweed (*Asclepias fascicularis*).

Ruderal vegetation is found in areas heavily disturbed by human activities, such as roadsides, graded fields, and manufactured slopes, and frequently weedy, non-native plants are introduced as a consequence. Within the project site, non-native species observed within this community include shortpod mustard, tocalote (*Centaurea melitensis*), tree of heaven (*Ailanthus altissima*), red brome, redstem filaree (*Erodium cicutarium*), Russian thistle (*Salsola tragus*), Italian thistle, horehound (*Marrubium* vulgare), white mulberry (*Morus alba*), smilo grass (*Stipa miliacea* var. *miliacea*), and native species such as coyote brush, red willow (*Salix laevigata*), arroyo willow (*Salix lasiolepis*), narrow-leaf milkweed, telegraph weed, saw-toothed goldenbush (*Hazardia squarrosa*), laurel sumac (*Malosma laurina*), and blue elderberry (*Sambucus nigra* ssp. *caerulea*). Ruderal vegetation covers 0.97 acre of the project site.

Ruderal/California Bulrush is found within the concrete vertical wall channel along the northeastern portion of the project site. The community is dominated by non-native species such as rabbbtfoot grass (*Polypogon monspeliensis*), shortpod mustard, and curly dock (*Rumex crispus*). A mosaic of native species is found within this community with California bulrush (*Schoenoplectus californicus*) being the most dominant. Other native species observed include cattail (*Typha* sp.), red willow, coyote brush, mule fat (*Baccharis salicifolia*), narrow-leaf milkweed, and horseweed. Ruderal/California bulrush covers 0.02 acre of the project site.

Wildlife

A general assessment for wildlife was performed while visiting the project site. Based on the presence of the developed and ruderal areas and a very marginal riparian habitat, the project site has limited potential to support more than moderately low wildlife abundance and diversity.

Sensitive Biological Resources

Sensitive Plant Species

Several sensitive plant species were reported in the CNDDB and CNPS from the surrounding region. However, based on the lack of suitable habitat, range, elevation restrictions and soil types, these species could not occur in the project site.[4]

Sensitive Wildlife Species

A number of sensitive wildlife species from the region were reported in the CNDDB. However, no suitable habitat occurs within the project site for any of these species.

Oak Tree Preservation Regulation

The City of Agoura Hills requires the preservation of four native oak species with a truck diameter at breast height of 2 inches and greater, under the Agoura Hills Municipal Code Article 11, Part 2, Division 7. No native oak trees were observed on-site.

Jurisdictional Areas

A formal delineation was not conducted for the site. However, a preliminary assessment of jurisdictional features was conducted, and as such, the 0.02-area within the concrete vertical wall channel located adjacent to the northeastern boundary of the project site, could potentially be jurisdictional (e.g. vegetation associated with wetlands as well as standing water was observed). The vertical wall channel appears to contain surface flow entering the site from an off-site location from the north and existing off-site to the east.

IMPACT ANALYSIS

The following discussion examines the potential impacts to biological resources that may occur as a result of project implementation assuming the entire 3.48-acre project site is impacted.

[4] *Habitat and elevation for Coulter goldfields (Lasthenia glabrata ssp. coulteri) (CNPS 1B.2) and California seabile (Suaeda californica) occur in the project site, however are not expected to occur on-site as the closest known occurrence of the species is along the coast of Malibu.*

Impacts to biological resources are assessed using impact significance threshold criteria, which mirror the policy statement contained in California Environmental Quality Act (CEQA), Section 21001(c) of the California Public Resources Code. The questions below model those included in the checklist of questions considered during the Initial Study leading to the preparation of the appropriate environmental documentation for a project (i.e., Negative Declaration, Mitigated Negative Declaration, or Environmental Impact Report).

1. Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

No impact.

The project will not conflict with any adopted Habitat Conservation Plan or Natural Community Conservation Plan.

2. Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

No impact.

The project site contains no suitable habitat for sensitive species.

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

Less than significant with mitigation incorporated.

The project site contains habitat with the potential to support migratory songbird nests. Disturbing or destroying active nests is a violation of the Federal Migratory Bird Treaty Act (MBTA). In addition, nests, live young, and eggs are protected under the State of California's Fish and Wildlife Code Section 3503. Should active nests be present within the project site, potentially significant impacts could occur to nesting birds as a result of the proposed project.

Mitigation for the taking of active nests would be accomplished in one of two ways. First, vegetation removal could be scheduled outside the nesting season (i.e., prior to February 15 or after August 15) to avoid potential impacts to any nesting birds on-site. Second, however, if construction activities must occur during the nesting season (February 15 to August 15) all suitable habitat would be thoroughly surveyed for the presence of nesting birds by a qualified biologist before commencement of disturbance activities. If an active nest is detected, the shrub or tree containing

the nest, along with a 200- to 300-foot buffer around it, would be flagged and avoided until the nest is no longer active as determined by a qualified biologist.

4. **Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?**

Less than significant with mitigation incorporated.

The 0.02 acres of riparian habitat that occurs within the project site could potentially be regulated by the U.S. Army Corps of Engineers (ACOE), Regional Water Quality Control Board (RWQCB) and CDFW. It is recommended that these regulatory agencies be contacted and be given information (including site photos, maps, etc.) to make this determination.

Mitigation for impacts to jurisdictional drainage features, if any, can be accomplished by one of two means. First, the project could be designed such that drainage features are avoided and there would be no impacts. Second, regulation by these agencies could be verified, and if regulated, applications for a CDFW Section 1602 Streambed Alteration Agreement (SAA) and a Clean Water Act Section 404 Nationwide Permit (NP) could be submitted. It is likely that if jurisdictional resources are claimed by one or both of these agencies off-site mitigation would be required, at a ratio of no less than 1:1 for a no net loss.

5. **Would the project have a substantial adverse effect on federally protected wetlands as identified 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?**

Less than significant with mitigation incorporated.

There is the potential for a federally protected wetlands within the project site within the 0.02 acre riparian habitat. A formal jurisdictional delineation will need to be conducted to determine if the 0.02 acre riparian habitat supports federally protected wetlands. In the event that it is determined that a wetland is on-site, mitigation will be the same as number 4, above.

6. **Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?**

No impact.

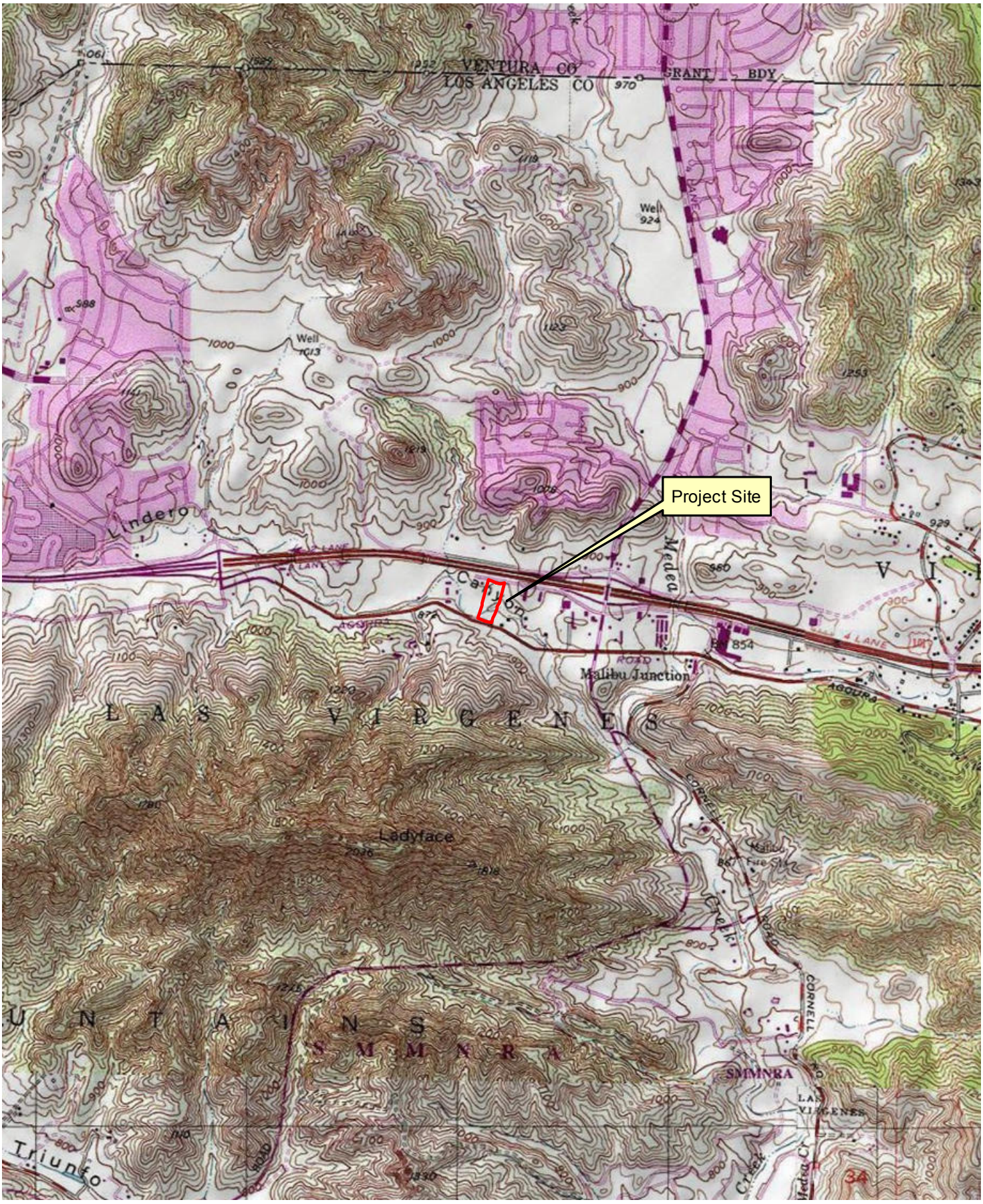
The project site does not conflict with any local policies or ordinances protecting biological resources.

If you have any questions, please do not hesitate to contact the undersigned.

Sincerely,
PCR SERVICES CORPORATION

Steve Nelson
Director of Biological and Archaeological Services

Attachments
Figure 1: Vicinity Map
Figure 2: Natural Communities
Figure 3: Site Photographs



PCR

N

0 2,000 4,000 Feet

Vicinity Map

Selleck Development Group, Inc. – 29431 & 29439 Agoura Road

Source: USGS Topographic Series (Thousand Oaks, Point Dume, Calabasas, CA); PCR Services Corporation, 2014.

FIGURE

1

PCR

N

0 100 200 Feet

Natural Communities

Selleck Development Group, Inc. – 29431 & 29439 Agoura Road

Source: Microsoft, 2010 (Aerial); PCR Services Corporation, 2014.

FIGURE

2

Photograph 1: Ruderal (foreground and background) and developed (middle). Looking north.

Photograph 2: Overview of project site and natural communities. Looking south.

Photograph 3: Ruderal/California bulrush. Looking south.

Photograph 4: Ruderal/California bulrush. Looking north.

PCR

Site Photographs

Selleck Development Group, Inc. – 29431 & 29439 Agoura Road

Source: PCR Services Corporation, 2014.

FIGURE

3

Ken Chen

From: James Rasico
Sent: Thursday, March 05, 2015 12:56 PM
To: Joe Power; Ken Chen
Cc: Holly Harris; Steven Hongola
Subject: City of Agoura Hills Documents for LA Fitness Project
Attachments: 20150305123941867.pdf

Hi,

At 0900 today (3/5/15), I visited the Agoura Hills LA Fitness site and verified the features found by PCR.

Site conditions:

The site is described accurately in the PCR initial study report. A concrete channel (see map from report) does indeed run along the northeast boundary of the site and contains water and aquatic plants such as curly dock, cattail, and CA bulrush throughout. It appears to drain underground and likely empties out into a known JD area located south of Agoura road, across the street from New Hope Lutheran Church.

The ruderal areas were mapped accurately by PCR. Additional ruderal plant species not mentioned in the PCR report include fiddleneck sp., wild cucumber, scrub oak (about 1" diameter, 3ft tall), poison oak, clover sp., Himalayan black berry, and fountain grass. Wildlife species observed include: fence lizard, ground squirrel, mourning dove, northern mockingbird, wrentit, black phoebe, American crow, house finch, Anna's hummingbird, and CA towhee.

I have attached the site map that I marked up in the field today. I was not able to save photos (do not have permissions) so let me know if you need them.

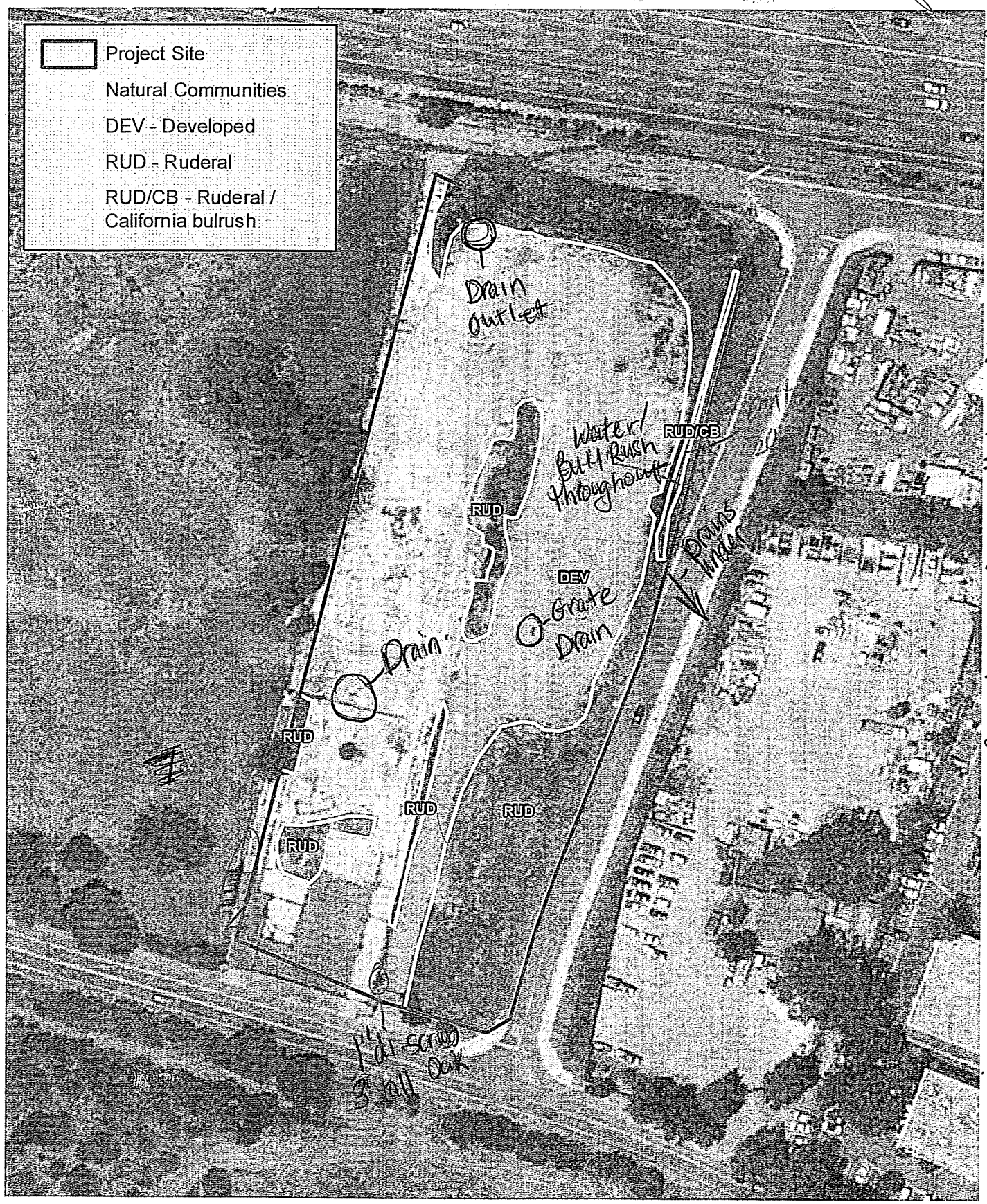
Please let me know if you have any questions about the drainage features, concrete channel, or the site visit.

Thank you,

James Rasico
Associate Biologist

Rincon Consultants, Inc.
805 644 4455 ext. 32
www.rinconconsultants.com
Environmental Scientists Planners Engineers

Ranked "#1 Best Firm to Work For" – *CE News*



PCR

0 100 200 Feet

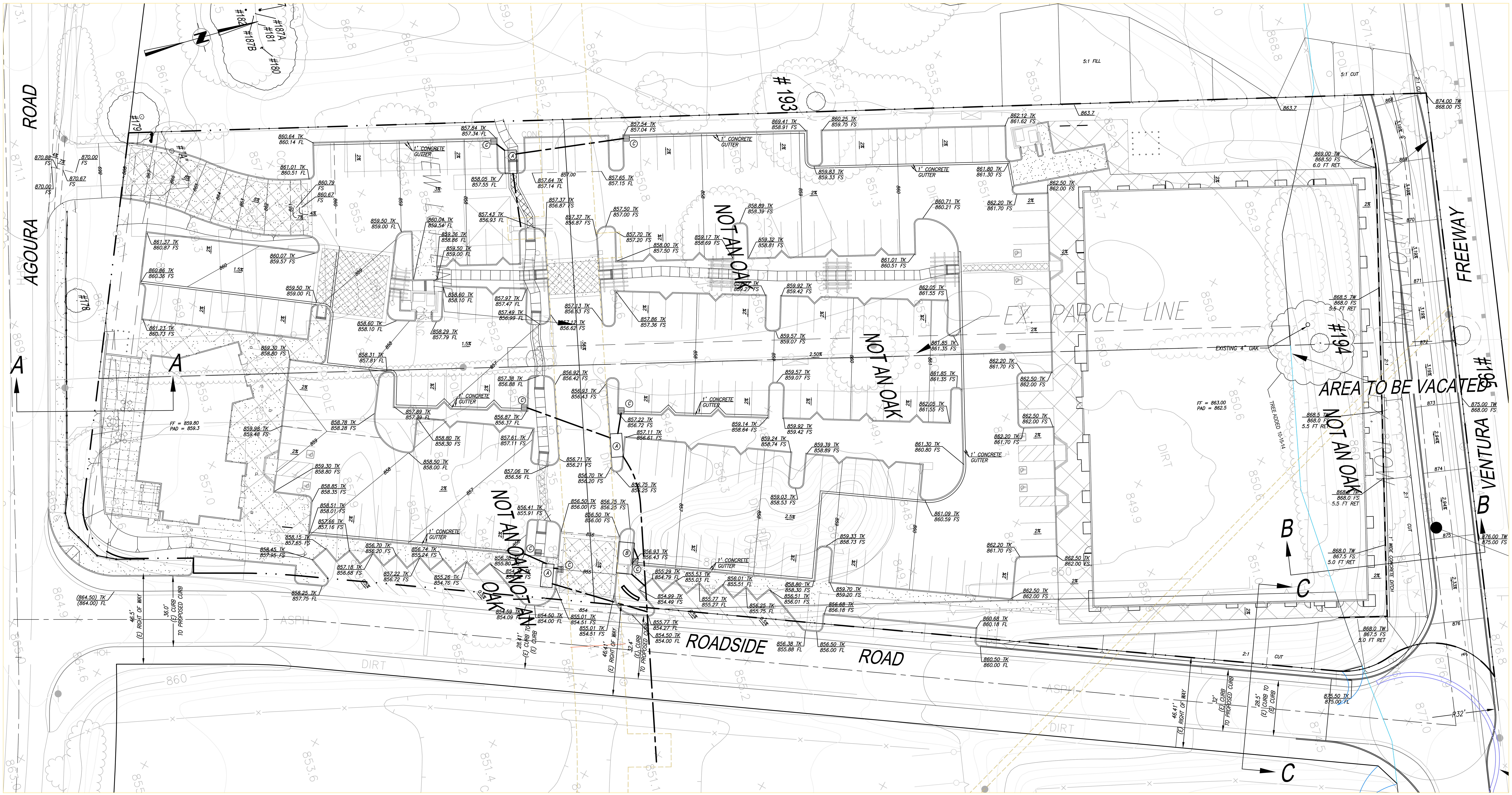
Natural Communities

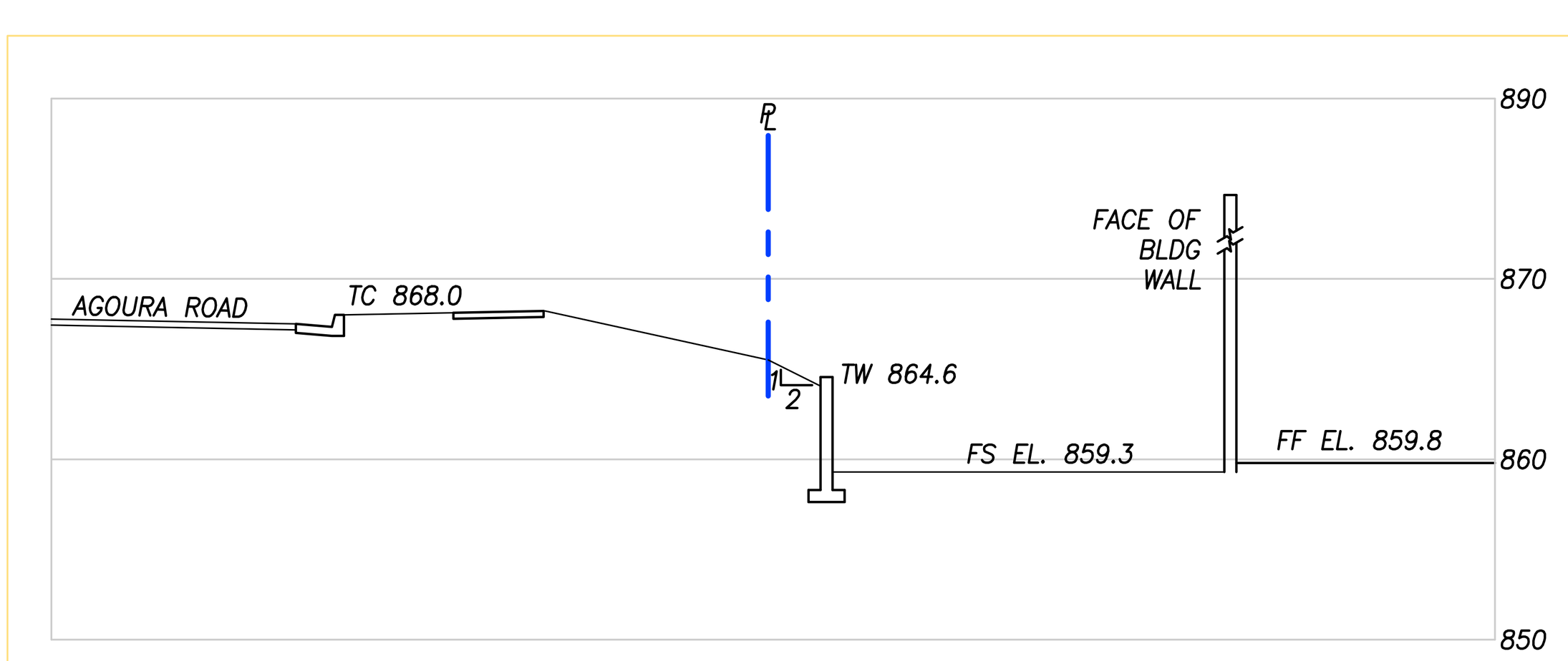
Selleck Development Group, Inc. – 29431 & 29439 Agoura Road
Source: Microsoft, 2010 (Aerial); PCR Services Corporation, 2014.

FIGURE 2

Appendix C

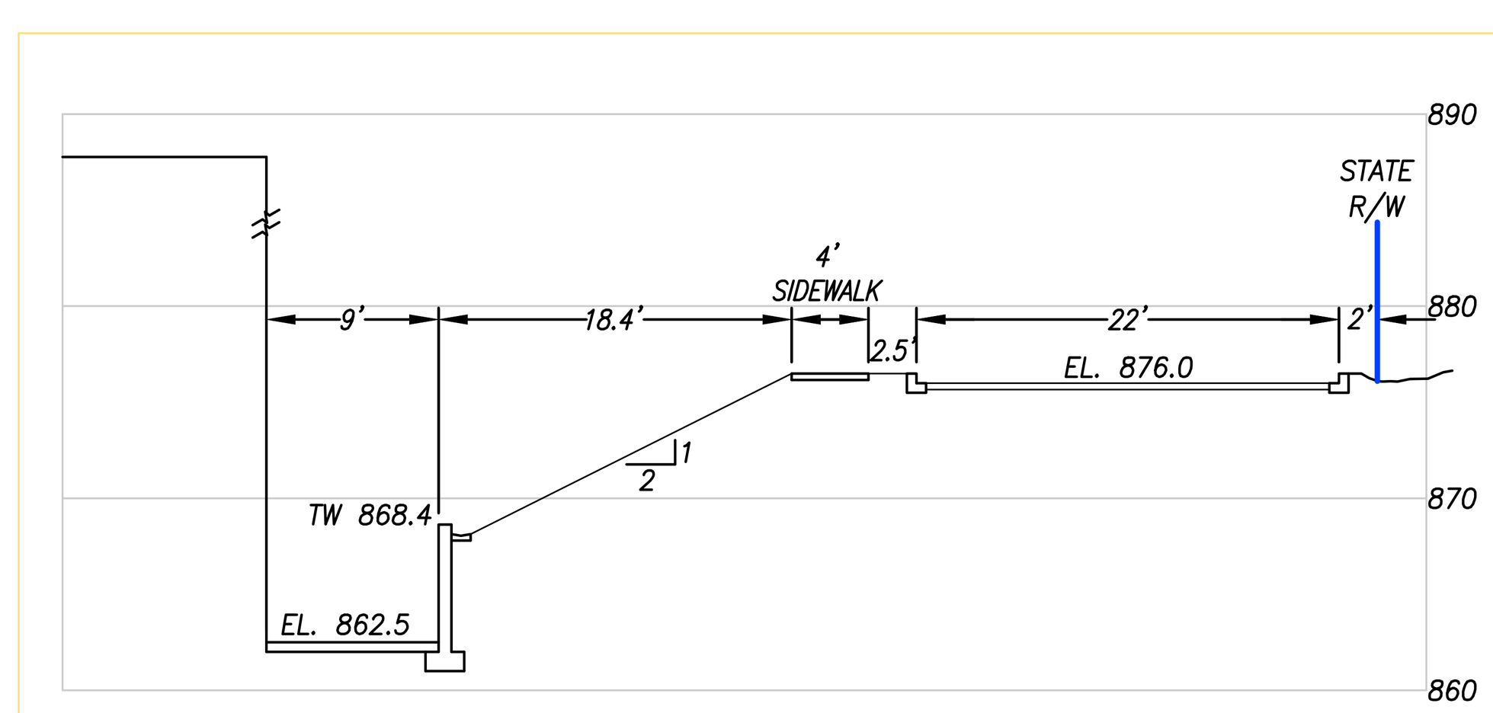
Oak Tree Report





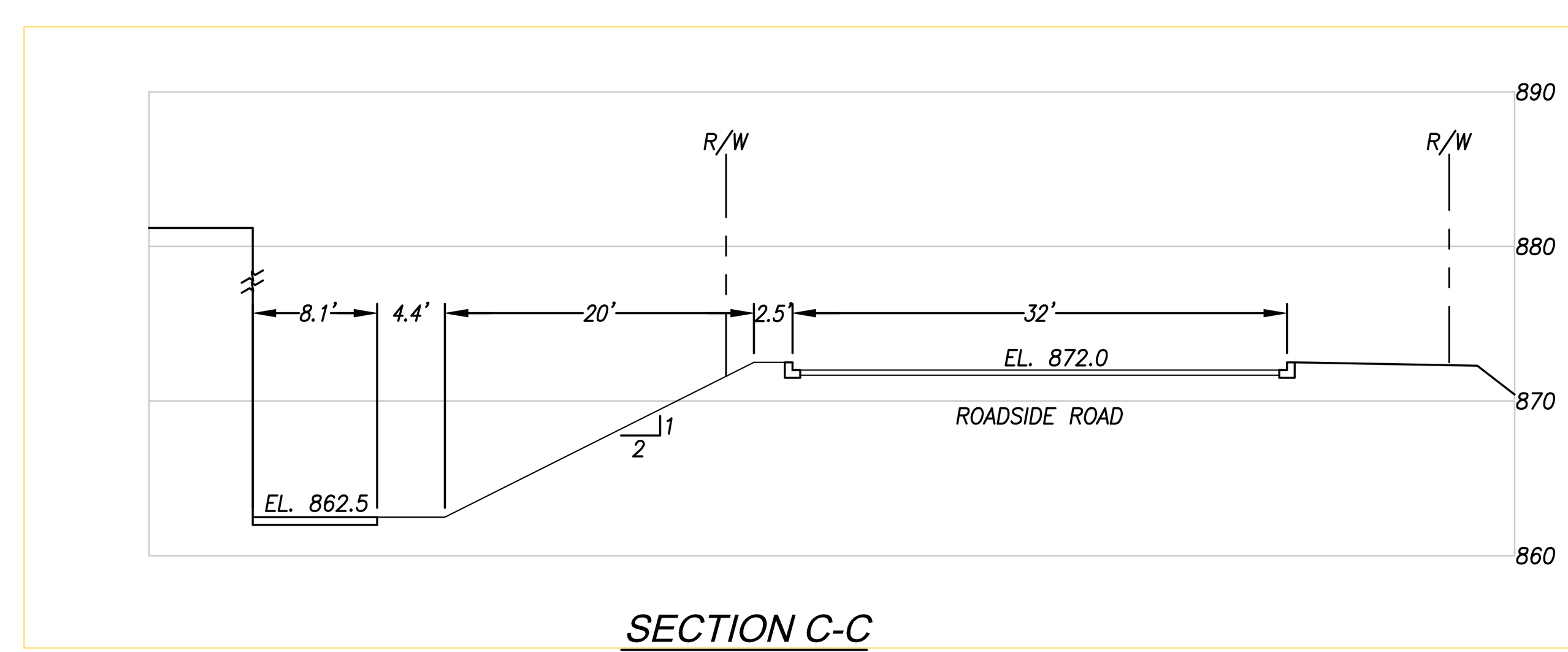
SECTION A-A

SCALE 1" = 10'



SECTION B-B

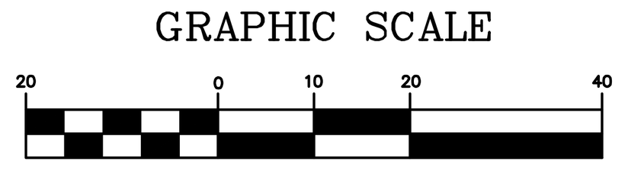
SCALE 1" = 10'



SECTION C-C

SCALE 1" = 10'

GRAPHIC SCALE



(IN FEET)
1 inch = 20 ft.

LEGEND:

Symbol	Description
	PROPERTY / BOUNDARY LINE
	STREET R/W LINE
	CENTER LINE
	EDGE OF ASPHALT PAVING
	BUILDING FOOT PRINT LINE
	WALL (SIZE VARIES)
	CATCH BASIN
LT	LIGHT
MH	MANHOLE (SEWER, STORM DRAIN, POWER, TELEPHONE)
PP/TP	POWER POLE (P.P.) / TELEPHONE POLE (T.P.)
FH	FIRE HYDRANT
GM/WM	GAS / WATER METER
GV/WV	GAS / WATER VALVE
EPB/SLPB/TSPB/UPB	ELEC./STREET LIGHT/TRAFFIC/UNKNOWN PULL BOX
PL	PLANTER
GP	GUARD POST
BC	BUILDING CORNER
BW	BACK OF WALK ELEVATION
EC	EDGE OF CONCRETE ELEVATION
EP	EDGE OF PAVEMENT ELEVATION
FD	FOUND
REF	REFERENCE
CLF	CHAIN LINK FENCE
PWFB	PUBLIC WORKS FIELD BOOK (CORNER RECORD)
CLR	CLEAR
ENC	ENCROACHMENT
PL	PROPERTY LINE
GB	GRADE BREAK
FS	FINISHED SURFACE
FL	FLOWLINE
INV	INVERT ELEVATION
TC	TOP OF CURB
(TYP)	TYPICAL
TW	TOP OF WALL

CONSTRUCTION NOTES:

(A) INSTALL 6'X12' CONTECH UrbanGreen BIOFILTRATION UNIT OR EQUIVALENT.

(B) INSTALL 8'X16' CONTECH UrbanGreen BIOFILTRATION UNIT OR EQUIVALENT.

(C) INSTALL 3'X3' BROOKS CONCRETE GRATING BASIN WITH FLOGARD CATCH BASIN INSERT OR EQUIVALENT.

GRADING AND DRAINAGE PLAN

NO.	DESCRIPTION	DATE

JOB NO. 08-470

AGOURA ROAD GRADING PLAN
29431 AND 29439 AGOURA ROAD
AGOURA HILLS, CA 91301

TITLE:

SHEET 1 OF 1 SHEETS

PREPARED FOR:

SELLECK DEVELOPMENT GROUP, INC.
31770 RUSSELL RANCH ROAD SUITE 1
WESTLAKE VILLAGE, CA 91361
PHONE: (805) 495-5400

HARDY ENGINEERING, INC.
CIVIL ENGINEERS • LAND SURVEYORS • LAND PLANNERS
1552 EIGHTEENTH ST. SANTA MONICA, CA 90404 PHONE 310.449.5511 FAX 310.449.1116
351 ROLLING OAKS DR, STE 202 THOUSAND OAKS, CA 91361 PHONE 818.222.2606

SHEET

C03

OAK TREE INVENTORY FORM

PROJECT: Agoura Roadside		DATE: 6/11/2014	SIZE		PHYSICAL DESCRIPTION DRIPLINE (feet)								CONDITION		
Tree No.	SPECIES	COMMON NAME	TRUNK DIAMETER	TRUNK CIRCUM.	NORTH	NORTHEAST	EAST	SOUTHEAST	SOUTH	SOUTHWEST	WEST	NORTHWEST	HEALTH	APPEARANCE	REMARKS
178	*Quercus agrifolia*	Coast Live Oak	3"	9.4"	6'	6'	6'	6'	6'	6'	6'	6'	A	A	Tree to be removed by city as a part of Agoura Road widening.
179	*Quercus agrifolia*	Coast Live Oak	4.6"	14.5"	13'	13'	13'	13'	13'	13'	13'	13'	A	A	Tree to be removed by city as a part of Agoura Road widening.
179A	*Quercus lobata*	Valley Oak	1"	3.1"	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	A	A	Under thresdhold for protection
A	*Quercus agrifolia*	Coast Live Oak	1.5"	4.7"	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	A	A	Under thresdhold for protection
180	*Quercus agrifolia*	Coast Live Oak	7", 11"	22", 34.6"	18'	20'	22'	21'	24'	sc	sc	sc	A	A	Tree is Off Site; 40' from fence; co-dominant.
181	*Quercus lobata*	Valley Oak	4", 4"	12.6", 12.6"	sc	sc	sc	sc	sc	sc	sc	sc	A	A	Tree is Off Site; 43' from fence; co-dominant at base w/ 2 trunks.
182	*Quercus agrifolia*	Coast Live Oak	12"	37.7"	sc	sc	sc	sc	16'	18'	18'	17'	A	A	Tree is Off Site; 49' from fence.
183	*Quercus agrifolia*	Coast Live Oak	9", 4.5"	28.3", 14.15"	sc	sc	sc	sc	15'	15'	17'	16'	A	A	Tree is Off Site; 57' from fence.
184	*Quercus lobata*	Valley Oak	12"	37.7"	sc	sc	sc	sc	sc	14'	17'	18'	A	A	Tree is Off Site; 70' from fence.
185	*Quercus agrifolia*	Coast Live Oak	7", 5"	22", 15.7"	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	A	A	Tree is Off Site; 70' from fence.
186	*Quercus agrifolia*	Coast Live Oak	3"	9.4"	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	A	A	Tree is Off Site; 70' from fence.
187	*Quercus lobata*	Valley Oak	2.5", 16"	7.9", 50.27"	sc	sc	sc	sc	sc	17'	17'	18'	A	A	Tree is Off Site; 70' from fence; Two 1"-1.5" Coast Live Oak are next to tree
187 A & B	*Quercus agrifolia*	Coast Live Oak	1"-1.5"	3.1"- 4.7"	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	A	A	Under thresdhold for protection
188	*Quercus lobata*	Valley Oak	33.10"	104"	45'	43'	42'	40'	40'+	46'	44'	44'	A	A	Tree is Off Site; 99' to fence.
193 (189)	*Quercus lobata*	Valley Oak	4"	12.6"	6'	6'	6'	6'	6'	6'	6'	6'	A	A	Originally not tagged-later tagged with #193; Off Site; within 5-10' n. of prope
194	*Quercus lobata*	Valley Oak	4"	12.6"	6'	6'	6'	6'	6'	6'	6'	6'	A	A	Not tagged; Tree is Off Site; within 5-10' north of the property line.
195	*Quercus lobata*	Valley Oak	4"	12.6"	6'	6'	6'	6'	6'	6'	6'	6'	A	A	Not tagged due to safety issues since it is inaccessable.

sc: Shared canopy. Tree located in a boscage preventing dripline measurement.

n/a: Not applicable due to size of tree

Note: Tree trunk diameters were measured at 4.5' above grade per standards set forth by the I.S.A., ANSI, and AMF is that trunk measurements be measured at 4.5'. The City of Agoura Hills, for some reason, requires that those measuremants be taken at 3.5' above mean grade.

Except for Tree No. 188 the trunk diameter of the subject oaks will vary less that 1/4" in the one foot of additional trunk height.

Considering tree 188 the trunk will increase 1" over and above our measurement of 33".

OAK TREE REPORT
Revised

CLIENT
Selleck Development Group, Inc.
2660 Townsgate Road, #250
Westlake Village, CA 91361

SITE ADDRESS:
29431 and 29439 Agoura Road
Agoura Hills, CA 91301

REPORT DATE:
June 16, 2014
Oct 13, 2014 (Revision adding tree No. 189)
November 17, 2014 – Revision
May 11, 2015 - Revision

BACKGROUND
The Selleck Development proposes a commercial development upon the referenced site. The project features two access points from Agoura and Roadside Road.

The purpose of this report is to address possible impacts from the development upon oak trees. Note that there is only one protected oak tree located on the site.
There are, however, seventeen (17) off site trees of differing species and sizes located on the parcel west of the referenced site. All of these trees are located within one hundred feet of the common property boundary.

TREE PROTECTION ORDINANCES AND POLICIES
Public law within the City of Agoura Hills affords protection to oak trees and canopy coverage upon and within projects where development is proposed. And, according to the city an Oak Tree report must include trees within one hundred feet of the development of a site.

THE SITE
The site has been mapped by HARDY Engineering of Santa Monica. An undated copy of that revised plat was used by us to create an Oak Tree Location Map.

The site descends from Agoura Road and also from the Ventura Freeway. A significant stand of *Alianthus altissima* commonly known as Tree of Heaven is present throughout the site of differing sizes. This species is considered as a noxious weed tree and will be problematic to the future site development as it spreads radically along roots. Removing a tree accelerates the spread of this tree through rapid sprouting along the roots.

TREE SPECIES
Ten of the off-site trees present are Coast Live Oak and the remaining six are Valley Oak. All but one of the Valley Oaks is larger and more mature than the Coast Live Oaks. While each ancient oak tree is of

major importance to the community and the environment it should be understood that our Valley Oak is really a northern California and Oregon species. We are at the Ecotone or edge of its biological life zone. Valley Oaks in the region exceed the Coast Live Oak by 4:1. At this site the ratio is 3:1. The furthest south that Valley Oaks can be found is Encino within the west San Fernando Valley. This means that extra consideration of their presence in Agoura Hills is warranted.

COLLECTION OF DATA

Specific data was gathered by *James Dean, Landscape Architect and Staff* regarding the status of each tree. During our fieldwork the following tasks were performed:

1. The approximate general position of each tree was verified as shown on site survey maps.
2. Trunk diameter of the off-site and the on-site oak trees were recorded.
3. Data regarding the diameter of the leaf canopy of each tree was recorded.
4. Location of the off-site trees was verified by handheld tape to be within one hundred feet of the common boundary.
5. The trees were not precisely located by field survey.
6. Each tree was assigned a number, photographed and was placed upon a map for future identification. Trees were tagged utilizing a 1.5" metal tag with the tree number stamped on the tag.
7. The drip line of each tree was measured using a laser device in eight compass directions and recorded. The vertical height above grade was determined in four directions.
8. An assessment of tree vigor was noted.
9. Signs and symptoms that are common to plant disease or insect infestation were identified and each tree was rated accordingly (see Definitions enclosed herein for and explanation of the rating system

OBJECTIVE OF REPORT

The objective of this report is to assess potential development impact upon individual on-site and off-site oak trees that are located within one hundred feet (100) of the proposed project boundary.

INTENT

The overall intent was to:

1. Observe and report on the current condition of the subject trees.
2. Review site plans for proposed grading for site improvements and to determine the potential affect upon trees.
3. Determine what, if any, trees must be removed.
4. Ascertain what impacts might occur to trees that remain.
5. Make recommendations to mitigate the affects of development, if any, upon individual trees.

OAK TREE IMPACT

Four of the oaks on the adjacent property are below the threshold of protection but are nonetheless included within the Oak Tree Inventory Form. They are not protected trees due to their size. Tree numbers 178 and 179 listed herein (both immediate to Agoura road) are within the R.O.W. and are to be removed by the city as a part to the roadway realign of the roadway. No mitigation required by the applicant.

The dripline of Oak tree No .193 (on the off-site parcel) extends onto the subject property and should receive only minor impact in the form of disrupting roots. The closest excavation to the tree is 15' horizontal. Excavation at this point will be comprised of preparation and compaction for a paving overlay. This is a young tree and will likely not show any reaction from this disruption. (This tree was previously called #189 and not tagged. Upon an additional site visit to add the two additional trees, this tree was tagged.)

Oak tree No. 194, will be removed as a result of development as it is located well within the future building.

Oak tree No. 195 is a very small and young oak tree that lies within the freeway property just beyond the freeway fence. This tree is at grade with the surrounding improvements. Currently there is as paved roadway south of the tree resting over a minor portion of the tree drip line. There should be no impact to this tree as a result of the impending site improvements.

Tree Removals:
One protected oak tree No 194 will be removed as a result of development as it is located well within the future building.

ADDITIONAL INFORMATION
See the OAK TREE LOCATION MAP, DISPOSITION FORMS for detailed information concerning the description of each tree by number.

CONCLUSION:
The proposed development of the Selleck site does not significantly affect preservation of the oak trees that are located off-site on the adjacent parcel, with the exception of Tree No. 193.

End of Report

Respectfully submitted,

James Dean, A.S.L.A.
Landscape Architect
License No. 1146

NOTICE OF DISCLAIMER:
Opinions given in this report are those of James Dean, A.S.L.A. and are derived from current professional standards based on visual recordings at the time of inspection. This visual record does not include aerial or subterranean inspections, and therefore may not reveal existing hidden hazards. Records may not remain accurate after inspection due to changeable deterioration of the inventoried plant material. James Dean, A.S.L.A. provides no warranty regarding errors of omission resulting from the lack of communication of facts available only to the requester of this report which are expressed or implied as to the fitness of the urban forests for safe uses. This report is offered for your consideration.

APPENDIX "A"

PROGRAM FOR PRESERVATION OF OAK TREES

Oak Tree Protection:

1. All oak trees scheduled to remain shall be fenced at the location of their Protected Zone with a 5' temporary fence, see drawing enclosed, of a material approved by the City of Agoura Hills prior to commencement of grading. The fence is to be embedded into natural grade. The Protected Zone is located five foot beyond the oak tree drip line. Leave a pass-through opening in the fence enclosure for maintenance access. The fence shall remain during all phases of construction. It shall not be relocated or removed without permission of the City. Damaged fencing shall be immediately replaced or repaired.
2. No activity, such as: equipment or material storage, deposit of debris, or parking shall occur within the Protected Zone of any oak tree at any time.
3. Signs must be installed on the fence in four locations (equidistant) around each tree. Each sign must be a minimum of two feet by two feet square and must contain the following language.

WARNING
THIS FENCE SHALL NOT BE
REMOVED OR RELOCATED
WITHOUT WRITTEN AUTHORIZATION
FRM THE DEPARTMENT OF
COMMUNITY DEVELOPMENT.

Pruning:

3. Any pruning shall be by permit after approval by the Landscape Architect and the City of Agoura Hills. Pruning wounds shall not be sealed. Approved pruning shall be performed by an ISA Certified Arborist under the direct supervision of the Landscape Architect / Tree Consultant.
4. Pruning shall be performed to the standards set forth by the International Society of Arboriculture (ISA).

Grading within the Protected Zone:

5. All excavation within the protected zone of any oak tree shall be done by hand with hand tools unless specifically approved by the City.
6. Fence posts of protective fencing shall be embedded into natural soil. Relocation or removal of protective fencing must be approved prior to excavation.
7. All spoils shall be placed outside of the Protected Zone of the tree.
8. Excised roots shall be hand sawn with clean cut at 45 degree angle facing downward and shall not be sealed.

Other protective measures:

9. Protect oak trees by not wounding them. Nailing any thing to an oak tree such as grade stakes should be avoided. The potential for breaking of branches by mechanical equipment should be anticipated and avoided. Notify the Landscape Architect / Tree Consultant with a request for an evaluation and recommendation.
10. It is important to leave the natural leaf litter (duff) that exists beneath the drip line of an oak tree.
11. No chemicals such as herbicides shall be used within twenty-five feet of any oak tree Protected Zone.
12. Although an increase in water and nutrients may improve tree vigor and appearance initially, most often disease problems increase over time. Decay, root and crown rots are favored by high moisture conditions. To avoid disease infestation no irrigation water system should ever be applied any closer to the tree trunk than six feet. In other words, the ground should remain totally dry for at least six feet in all directions in and round the trunk of an oak tree.
13. Many nursery-grown plants carry diseases that oak trees are susceptible to. It has been shown that Azaleas purchased in a retail nursery often carry Avocado Root (*Phytophthora cinnamomi)* with them. Oak trees are susceptible to this aggressive disease organism. Indiscriminate planting beneath the drip line of oak trees is to encourage inoculation of disease.
14. Similarly, oak trees are susceptible to two other important disease organisms, Oak Root Fungus (Armillaria mellea) and Ganoderma Root Rot (Ganoderma spp.). As with Avocado Root Rot these organisms are favored when constant moisture is maintained within the drip line of an oak. It follows that it is best not to apply irrigation within the drip line of an oak tree.
15. If grading is completed other than during the rainy season, dust deposited on the foliage of oaks should be hosed off so that the growth processes of the tree are not disrupted.

APPENDIX “B”
REPORT DEFINITIONS

The following is an explanation of general information and terminology that may be presented within the body of the Oak Tree Report for the subject site.

PHYSICAL DESCRIPTION OF OAK TREES

1. Tree number- each tree in the field has been assigned a number that corresponds to a tree location on the "Oak Tree Location Map".
2. Species - is the classification of tree that is being evaluated.
3. Number of Trunks- as measured in accordance existing measurements at the time of evaluation.
4. Diameter of Trunks- as measured at 4½' above mean natural grade, existing at the time of evaluation. Diameter is referred to as the trunk diameter at breast height (dbh).
5. Height above grade- is the height above the ground to significant branch structure that restricts movement beneath the branch.
6. Tree Height- is the approximate height of each numbered, evaluated tree.
7. Leaning- is the direction the tree is inclined from the natural vertical position.
8. Codominant union – refers to a system of main trunks that are mostly equal in size and relative importance, are generally growing in a vertical configuration, and are crowding each other to gain room for expansion to the extent that a structural defect results. This condition may or not result in a significant hazard.

Plant Disease and Insect Vectors

Plant disease causes a dysfunction in the physiological processes of a tree that result in a loss of plant vigor. The three diseases that are of major importance are: Avocado Root Rot (*Phytophthora cinnamomi*), Oak Root Fungus (*Armillaria mellea*) Butt rot, Ganoderma Root Rot *(Ganodema spp.) and* Hypoxylon (*Annulo-hypoxylon)*

Phytophthora is an aggressive pathogen. It is classified as a water mold that causes crown or root rot. This organism can infect and grow readily through uninjured trunk or root bark. It can infect a tree at any time of the year in California.

Armillaria is a weaker pathogen. It generally infects through the roots or root crown of a weakened or stressed tree. Once infected the tree gradually declines and most often the tree dies from girdling.

Ganoderma causes butt rot ultimately affecting the ability of a tree to support itself resulting in mass failure of the root crown.

Hypoxylon is a canker causing fungus that is pathogenic. It most often enters a tree through open wound causing local cankers that are depressed from the surface. While it primarily attacks the phloem and cambium of a tree in spreading it eventually will kill a tree. Small half domed black bubbles appear on the surface. These are the fruiting bodies of the fungus. As many cankers ultimately join a tree dies for girdling. There is no effective treatment.

While the previous specific disease information is important, a long discourse in plant pathology or entomology is not necessarily a prerequisite to develop a basic understanding of the casual effects of disease and insects upon living plant tissue. Disease and insect infection, along with the disruption and damage caused by the alteration of the natural oak tree environment is the main cause in decline of the oak resource in California. Decline is manifested by changes in plant vigor. Visible signs and symptoms associated with oak tree decline cause a change in visible appearance.

An Oak tree growth is rated as to its state of vigor by its visual appearance as follows:
Vigor Class
Vigor is the capacity of a tree for growth and survival. A vigorous tree has bright green leaves of large size for the species. The bark is relatively smooth, free from cracks and decay. It will more easily ward off disease and insect attacks and will recover from impacts more quickly than a weak tree.

Each tree that is the subject of this report is compared to an index tree of the same species within the same local that is considered to be a near perfect specimen of the species in a similar environment.

A A vigorous tree with a healthy, dense, full leaf canopy, normal yearly growth extension, excellent foliage color, normal leaf size and reasonably free from structural defect.

B Trees with slightly less vigor, slightly thinner foliage density, healthy leaf canopy with good color, normal yearly growth extension, normal leaf size and my have minor structural defects (open cavity exposing decay, etc.)

C Displays plant stress, level of vigor is average or less, fair to poor leaf size or color, may have a minor level of twig or small branch dieback, exudation, insect infestation and/or exfoliating bark. May have significant correctable structural defect.

D Trees with severe conditions of disease, thin to very-thin leaf canopy with dwarfed leaf size, poor to non-existent yearly growth extension, poor callusing at wounds, major cavities with decay, major dieback of main stem or scaffolding branches and limbs, exfoliating bark, wounds with exudation, lesions on stems or distorted bark, fungal conks present, epicormic growth (short, twiggy growth along major branches), thin foliage characterized by small leaves which may be discolored, may have mistletoe: little chance of recovery.

F Dead or almost dead tree.

A basic knowledge of disease and insects should include an understanding of the following information:

Physical Defects of Oak Trees

1. Trunk Cavity- is a hollow area in the trunk, usually due to the decay of wood within a wound. The cavity increases in size and shape over time.
2. Co dominant Trunks – equal in size and relative importance that often creates a hazardous condition due to the expanding growth of both trunks competing for the same physical space.
3. Trunk Damage- is a damaged area on the trunk, usually due to external force onto the tree. This damage may also be described as a lesion.
4. Exposed Roots- roots exposed near tree; e.g. in creek bed.
5. Exfoliating Bark- the flaking off of bark from trunk, branches and/or twigs.
6. Water Pocket- pockets formed at branch crotches that can hold water and possibly weaken the tree's structure (possible hazard).
7. Exudation- the issuance or expelling of liquid, usually from wounds. The cause is generally an agent of a bacteria or fungus. This stain is detrimental to healthy tissue
8. Fruiting Bodies- are the outward signs (i.e. mushrooms, conks, etc.) of decay in the interior wood of the tree.
9. Insect / Mite Damage- are some form of damage to the tree caused by insects or mites (i.e. scale, caterpillars, weevils, borers, mites, etc.)
10. Galls- are an abnormal hypertrophy growth (tumors) on the tree, which may be caused by insects, mites, bacteria, etc.
11. Oak Pit Scale- has a severe weakening effect on the twigs, frequently resulting in their death. When the scale settles on the twigs, a swelling of the twig tissue occurs. So the insect in effect is in a pit; hence, the name.
12. Main stem Dieback- Atrophy or death of healthy main stems from the growing tip back.
13. Branch Cavities- hollow areas in the trunk or limbs in the upper tree, usually due to the decay of wood.
14. Weak Crotches- poorly formed branch attachments.
15. Twig / Branch Dieback- death of unhealthy twigs from the growing tip back.
16. Epicormic Growth- excessive growth along main limbs, rather than on twigs.
17. Thin Foliage- defoliation and twig dieback throughout the canopy.
18. Potential Hazard - any tree may be a hazard to humans, depending on its location and / or health.

Aesthetic Quality

The aesthetic quality of the trees was visually determined from an overall inspection of appearance. The following system was to describe their conditions:

A. OUTSTANDING
The tree is visually symmetrical having the ideal form and appearance for the species. The leaf canopy is dense with large green leaves.

B. AVERAGE
The tree, though non-symmetrical, has an appealing form for the species with very little dieback of foliage or twigs/branches.

C. POOR
The tree may be intermediate, co dominant or suppressed by other trees, may be in debilitated condition with a level of significant decline that affects its visual appearance to a degree that it lacks an overall satisfactory visual quality.

Recommended treatment:

1. Remove Deadwood - if noticeable deadwood, making the tree unattractive, is within the canopy, it should be removed.
2. Remove Wire; etc. - if anything has been physically attached to the tree, it should be removed.
3. Cable/Brace- can extend the time the tree remains healthy, attractive and hazard free.
4. None- no treatment is recommended.
5. Remove Tree - if the tree cannot be saved through any type of treatment, it should be removed.

Remarks (Some other terms that may be used)

1. Basal Growth- leaf growth generating from around base of trunk.
2. Exposed Buttress Roots- soil absent, either all or partial, at basal portion of tree.
3. Heart Rot - decomposition of heartwood (the central portion of a twig / branch/trunk).
4. Powdery Mildew- are leaves that are covered by a white powdery growth generally when new growth becomes wet for long periods of time; leaves may be distorted, stunted and drop prematurely.
5. Cankers - are rough swellings with depressed centers resulting in death (atrophy) of tissue that later cracks open and exposes the wood underneath in twigs, branches, and/or trunks.
6. Chlorotic Leaves- leaf veins remain normally green, but the tissue between veins becomes yellow, which is usually caused by nutrient deficiencies.
7. Mottling- leaves have a variegated pattern of green and yellow.
8. Defoliation- premature leaf drop.
9. Epicormic growth- abundant abnormal shoot growth along major stems on branches.
10. Bark Beetle Frass- is wood fragments mixed in the insect's excrement generally found on the trunk near entry tunnels or on the ground
11. Witches Broom - is an abnormal growth cluster of twigs, which may be caused by insects, mites, fungus, etc.
12. Mistletoe- is a leafy evergreen perennial parasite plant with dark green leathery leaves that occur as bunches on the branches. This plant roots into the cambium layer of a tree trunk.
13. Crowded - is a tree within the canopy of an adjacent tree or canopy.
14. Shading Out - defoliation and twig dieback inside the aerial leaf canopy due to the lack of sunlight.

Kay J. Greeley

Memo

To: Valerie Darbouze, City of Agoura Hills

From: Ann Burroughs for Kay Greeley, Landscape and Oak Tree Consultant

Date: July 7, 2015

Re: 14-SPR-003, 14-OTP-016, 14-LLA-002 – Selleck Development Group, Inc. – Agoura Park – 29431 and 29439 Agoura Road

As requested, we completed a review of the following materials submitted with respect to the subject entitlement request:

- Revised Oak Tree Report prepared by James Dean, ASLA, ISA dated June 17, 2014, revised October 13, 2014, November 17, 2014 and May 11, 2014
- Tree Profile Exhibit prepared by prepared by Hardy Engineering, Inc., undated and received by the City of Agoura Hills June 18, 2015

The above Oak Tree Report addresses 18 oak trees, four of which have not attained the protected size of 3.5 inches in trunk diameter at 42 inches above grade. There is one protected valley oak tree (*Quercus lobata*) located on the property. Two protected coast live oak trees (*Q. agrifolia*) are located within the public right-of-way along Agoura Road to the south of the property and one is located within the Caltrans right-of-way to the north of the property. In addition there are five coast live oak trees and five valley oak trees located on the adjacent property to the west in the vicinity of the work. Construction of the project as proposed would impact three of the oak trees, Trees Number 193, 194 and 195.

Trees 178 and 179, the two coast live oak trees located within the Agoura Road right-of-way, will be removed as a result of the Agoura Road Widening project. Mitigation will be provided as a part of the road widening project.

Nine off-site oak trees would remain and would not experience any direct impacts as a result of the implementation of this project.

Following are our comments:

Oak Trees

1. Oak Tree 194, the on-site valley oak tree, is located within the footprint of the proposed fitness building and would be removed to construct the improvements. Mitigation would be required for this tree.
2. The Grading Plan indicates that fill would be placed within 50 percent of the protected zone of Oak Tree 193, an off-site valley oak, to construct the parking lot. This impact would be considered severe and it is our opinion this tree will likely experience early decline and death as a result of the impact. We recommend mitigation be required for Tree 193.
3. Oak Tree 195, the coast live oak tree located within the Caltrans right-of-way, would experience encroachment within its protected zone but outside its drip line. This impact would be minor and the tree should be able to sustain this level of impact if the work is performed carefully and no roots of a significant number or size are encountered during grading. The tree should be fenced at the

edge of the approved limits of work in strict accordance with the City of Agoura Hills Oak Tree Preservation and Protection Guidelines.

Landscaping

4. Development in the Freeway Corridor is required to utilize naturalistic and native landscaping, particularly native oaks, throughout the development. Only 17 percent of the trees shown on the most recent landscape plans were native trees. Therefore the landscape architect must increase the number of California native trees proposed for the project.

5. The plan proposes western redbuds (*Cercis occidentalis*) as street trees along Roadside Road in lieu of the silk trees (*Albizia julibrissin*) originally proposed. Redbuds are more appropriate as an accent tree since their ultimate height and spread are only 18 to 20 feet. The landscape architect must specify a larger tree species for the street trees where size of planter areas will allow. The following tree species would be acceptable as street trees: Chinese flame tree (*Koelreuteria bipinnata*), goldenrain tree (*K. paniculata*), Chinese pistache (*Pistacia chinensis*) or 'Yarwood' or 'Bloodgood' London plane tree (*Platanus acerifolia*).

6. Four finger planters are between six feet wide and seven feet, seven inches wide. In addition there are six areas with more than ten contiguous parking stalls between finger planters. Finger planters must be at least eight feet wide and must be spaced no further apart than ten parking spaces.

Appendix D

Geotechnical Engineering Study

advanced geotechnical services, inc.

July 18, 2014
Client Number 2738
Report Number 9427

Selleck Development Group, Inc.
2660 Townsgate Road, Suite 250
Westlake Village, CA 91361

Geotechnical Engineering Update Study
Proposed Commercial Development
29431 and 29439 Agoura Road
Agoura Hills, California

In accordance with your request, Advanced Geotechnical Services, Inc., (AGS) has prepared this geotechnical engineering update study report for the proposed commercial development at the subject site. This letter report is issued as an update to our **Geotechnical Engineering Study, Proposed Home Depot Outlet and Restaurant Pad, Ladyface Village Phase I, Agoura Road West of Kanan, Agoura Hills, California** report dated September 18, 2001, (Report No. 4613). This report presents the results of our recent data research, laboratory testing, and our professional opinions regarding the geotechnical engineering factors that may affect the proposed development.

Based on the results of our geotechnical engineering update study, it is our opinion that the site is suitable for construction of the proposed improvements, provided recommendations of this report are properly incorporated in the design and implemented during construction.

This opportunity to be of service is sincerely appreciated. This report should be read from cover to cover to understand its limitations and to avoid taking a recommendation out-of-context. If you have any questions, or if we may be of any further assistance, please do *not* hesitate to call. We look forward to being of continued service.

Respectfully submitted,
Advanced Geotechnical Services, Inc.

Kenneth J. Palos
President

Brett Wanner, CEG
Principal Engineering Geologist

PROFESSIONAL GEOLOGIST
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Enclosure: *Report No. 9427*

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GEOTECHNICAL ENGINEERING UPDATE STUDY

Proposed Commercial Development
29431 and 29439 Agoura Road
Agoura Hills, California

Report to
Selleck Development Group, LLC
Westlake Village, California

July 18, 2014
Client Number 2738
Report Number 9427

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1. INTRODUCTION

1.1 General Remarks

This geotechnical engineering update study report has been prepared for the proposed commercial development at the subject site. The purposes of this study, in addition to evaluating the seismicity of the site, are to (1) identify on-site geologic and soil conditions that may affect the proposed improvements, and (2) provide geotechnical recommendations for site preparation, temporary excavations, foundation design, slabs-on-grade, retaining wall design, and drainage. This report presents the findings of our data review, subsurface exploration, laboratory testing, engineering analyses and evaluations, and our conclusions and recommendations.

Appendices are attached following the main report. Appendix A includes field exploration and logs, Appendix B includes laboratory test results, Appendix C includes the results of the seismicity study, and Appendix D includes the citations of references used in this study and mentioned within this report. Figures referenced in this report are included in Appendix E.

1.2 Site Description and Proposed Development

The subject site is located at 29431 and 29439 Agoura Road, in the City of Agoura Hills, County of Los Angeles, California. The subject site consists of a large parcel which is currently vacant, with remnant concrete and asphalt from previous improvements present at various locations across the site. The majority of the site is generally flat, with the southern portion of the lot sloping gently down to the north, and the northern portion of the site dipping gently to the south. An approximately 25 foot tall 2:1 (Horizontal:Vertical) gradient slope ascends to an unused portion of Roadside Drive and US Highway 101 at the northernmost portion of the property, and a decreasing height approximately 2:1 gradient slope ascends at the northeastern portion of the property, with the ascending slope decreasing in height in a southerly direction until blending into the adjacent grade at approximately the midpoint of the eastern property line. Various forms of naturally occurring vegetation are present across the site. See the *Site Location Map* based on a satellite image included as Figure 1.

We understand that the proposed improvements include the construction of a fitness center at the northern portion of the property, and a restaurant near the southeast corner of the subject site. The remaining portions of the site are anticipated to be landscaped or paved. A *Site Plan* showing the existing topography and the proposed improvements, as well as the locations of the exploratory excavations performed as a part of our report dated September 18, 2001 (Report No. 4613) is included as Plate 1 in Appendix A of this report.

Site grading is expected to consist of removal and recompaction of unsuitable soils for support of the proposed structures, retaining walls, pavement and other miscellaneous site improvements, backfill of retaining walls and related new utilities, and a cut and fill operation to establish grade for the building pads and site drainage. Permanent proposed cut depths up to 6 feet below the existing grade and permanent proposed fill depths of up to 13 above the existing grade are anticipated. Retaining walls up to a maximum of 6 feet in height are anticipated

1.3 Scope of Services

This geotechnical engineering study included:

a. Visiting the site to observe the conditions of the site as compared to the conditions at the time of our original study.

b. Reviewing the *Site Plan* and currently proposed construction.

c. Determination of seismic parameters for potential on-site ground motion.

d. Engineering analysis of the data and information obtained from our field study, laboratory testing, and literature review.

e. Development of geotechnical recommendations for site preparation and grading, and geotechnical design criteria for building foundations, slab-on-grade construction, underground utility trenches, temporary excavations, retaining walls, and drainage.

f. Preparation of this report summarizing our findings, conclusions, and recommendations regarding the geotechnical aspects of the project site with respect to the proposed improvements.

The scope of this geotechnical update study did *not* include an evaluation of environmental issues.

2. GEOLOGIC SETTING

2.1 Geology

Geologic conditions beneath the subject property have been interpreted and characterized based upon our review of published and unpublished references, our observations of isolated exposures available during surface mapping, and our subsurface exploration. Our interpretations involve projections of data and require that geologic conditions are reasonably constant between points of exposure. Work should continue under the review of an Engineering Geologist to ensure that geologic conditions different from those described below are recognized and evaluated as soon as possible. Certain subsurface conditions such as groundwater levels and the consistency of near-surface soils will vary with the seasons.

The subject site is located within the southeast corner of the Thousand Oaks USGS 7.5-minute quadrangle. According to Dibblee (1993), the subject site is underlain by Holocene age Alluvium (Qa) mantling Miocene age siltstone and shale of the Upper Topanga Formation (Ttuc) in the northern portion of the site, and mantling Miocene age basalt of the Conejo Volcanics (Tcvb) in the southern portion of the site. See the *Regional Geological Map,* Figure 2.

2.2 Faulting

Southern California is a tectonically active region subject to hazards associated with earthquakes and faulting. The site is *not* located in an Alquist-Priolo Earthquake Fault Zone. Faults are classified as either active, potentially active, or inactive. Active faults are defined by the State of California as a fault that has exhibited surface displacement within the last 11,000 years. Potentially active faults are defined by the State of California as those with a history of movement between 11,000 and 1.6 million years. Alquist-Priolo Earthquake Fault Zones are zones that have been established by the State as areas that contain active faults, and projects that are located within these zones require that a fault investigation be performed to determine if active faulting affects the site. Other undiscovered active faults without surface expression, called blind faults, are also capable of generating earthquakes, and may be present beneath the subject site. The scope of our study did *not* include a detailed subsurface fault investigation.

3. EARTH MATERIALS AND SUBSURFACE CONDITIONS

3.1 Uncertified Artificial Fill (af)

Artificial fill was encountered in our exploratory excavations within the limits and proximity of the subject site to a maximum depth of 17 feet below the existing ground surface, and is anticipated to some extent across much of the development area. Fill present below the proposed development has been placed for a variety of purposes, and likely under a variety of conditions. We were unable to recover compaction documentation or engineer's

certifications, and therefore all fill is considered uncertified for the purposes of the current project for a majority of the site. Fill material observed in our exploratory excavations included silty and sandy clay, clayey and silty sand, and gravel in a moderately compacted condition. The measured dry densities varied between 82.5 pcf and 114.8 pcf, and the measured moisture contents varied between 9.4% and 31.7%.

The locations where artificial fill is indicated on the attached Plate 1 are based on our subsurface exploration, review of aerial photographs, and geomorphic interpretation of the current surface conditions.

3.2 Quaternary Alluvium (Qa)

Quaternary-aged alluvial sediments were encountered in numerous borings. These sediments are believed to have been deposited as stream-channel, bank and fan deposits with isolated areas of ponding. These deposits were observed to consist of sandy clay, clayey and silty sand, sand and sandy gravel. Sediments encountered in the borings and test pits were observed to be medium dense to dense, or firm to stiff. Cross-bedding was observed in the stream deposits. Prior to development, drainage on the subject site was by sheetflow towards Medea Creek, an incised, sinuous stream channel that meandered through the central portion of the site. A concrete box culvert was installed across the area in the early 1970's to accommodate this drainage, and the incised stream channel was filled. We expect that the majority of coarser-grained alluvial deposits present on the site occur within, or in the vicinity of this buried drainage channel. The measured dry densities of alluvial materials sampled during our study varied between 71.4 pcf and 121.8 pcf, and the measured moisture contents varied between 11.2% and 32.9%.

3.3 Bedrock – Topanga Formation (Tt)

Bedrock assigned to the Miocene age Topanga Formation was encountered in numerous borings; B-14, B-20, B-21, B-22, B-38, B-39, B-55, B-56, B-57, and B-58. The Topanga Formation is a clastic marine sedimentary unit composed of claystone, siltstone, shale, and sandstone. Bedrock encountered in the exploratory borings excavated for this study consisted of olive brown, yellowish brown, and gray siltstone and claystone with isolated thin interbeds of fine-grained sandstone. Bedding is thin, well-developed, and commonly contains thin gypsum stringers and iron oxidation staining along bedding planes and joint surfaces. Overall, the bedrock is dense to very dense, and moist to very moist. The measured dry densities varied between 84.6 pcf and 118.9 pcf, and the measured moisture contents varied between 12.9% and 31.1%.

3.4 Bedrock –Conejo Volcanics (Tcv)

Bedrock assigned to the Tertiary age Conejo Volcanics was encountered in borings B-41, B-42, and B-43. Where encountered, the Conejo Volcanics generally consisted of dark grayish brown to reddish, greenish, and yellowish brown basaltic volcanic rock and agglomerate. Bedrock was observed to be mildly to highly weathered with secondary mineralization fairly common in the weathered section. Weathering extends to varying depths and is characterized by varying degrees of alteration and degradation. Where unweathered, the volcanic rock is generally dark bluish to greenish grey and extremely hard. Textures observed ranged from vesicular to massive and aphanitic. The measured dry densities varied between 102.9 pcf and 120.5 pcf, and the measured moisture contents varied between 6.7% and 14.8%. The contact between the Conejo Volcanics and the overlying Topanga Formation extends across the property in a generally east-west direction, and is buried beneath alluvial deposits. The estimated location of this contact is illustrated on the attached Plate 1.

3.5 Geologic Structure

Geologic cross sections were developed through the property to illustrate the variation in geologic materials across the site. These cross sections are shown on Plate 2, and the locations of the cross sections are shown on Plate 1.

Published studies (Dibblee and Ehrenspeck, 1993; Weber and Blackerby, 1984) indicate that bedding features in the volcanic and sedimentary rocks strike approximately east-west and dip northerly at angles ranging from about 30 to 60 degrees. This trend is consistent with steep bedding inclinations observed in samples retrieved during

our program of subsurface exploration. In constructing geologic cross sections that extend through areas underlain by Topanga Formation, we have assumed an average bedding strike of east-west and a 40 degree northerly dip.

Bedrock of the Conejo Volcanics is most commonly massive to lightly jointed both in outcrops and where exposed in various exploratory excavations. Local areas of greater fracture density and local shearing were observed, but are judged to be uncommon and irrelevant with respect to the development currently proposed. Most joint surfaces were observed to be tight. About 30 joint attitudes where measured in our exploratory excavations and surface mapping along Agoura Road as a part of our previous investigation. Most of these strike between about N20E and N85E, and dip to the south at angles in excess of 50 degrees.

3.6 Soil / Bedrock Parameters

3.6.1 Compaction

A compaction curve was developed in this study for a sample of soils obtained from Boring 13 between the depths of 2 and 4 feet. The maximum dry density was 123.0 pcf at an optimum moisture content of 10.0%.

3.6.2 Shear Strength

Direct shear testing was used to measure the peak and ultimate shear strength of the soils present in the existing slope ascending to the north at the northern portion of the property in terms of a cohesion and friction angle. Direct shear testing was performed on undisturbed samples to evaluate the shear strength properties of the existing artificial fill and the bedrock of the Topanga Formation. The ultimate cohesion was 630 psf, and the ultimate friction angle was 26 degrees for the existing artificial fill encountered at a depth of 10.5 feet below the existing ground surface in Boring B-22, and the ultimate cohesion was 590 psf, and the ultimate friction angle was 26 degrees for the existing artificial fill encountered at a depth of 5.5 feet below the existing ground surface in Boring B-21. The ultimate cohesion ranged between 180 psf and 440 psf, and the ultimate friction angle ranged between 26 and 28 degrees for samples of the Topanga Formation encountered at the subject site at depth in Borings B-21 and B-22.

3.6.3 Compressibility

Consolidation tests were performed on undisturbed samples to evaluate the collapse potential of the existing soils. The purpose of performing consolidation tests is to determine the compressibility characteristics and to determine if the soils would experience hydroconsolidation, which is a decrease in volume (collapse) when subjected to water at a constant load or swell (expansion) when exposed to water at a constant load. The consolidation test results showed a moderate tendency to hydroconsolidate and a very high potential of compressibility on the samples of the existing artificial fill. The consolidation test results showed a very slight tendency to hydroconsolidate and a low potential of compressibility on the undisturbed samples of the bedrock, and the samples of the alluvium tested indicate a very slight tendency to hydroconsolidate and very high potential of compressibility.

3.6.4 Expansion Category

The potential of the soil to swell or expand increases with an increase in soil density, a decrease in initial moisture content (low percent saturation), an increase in clay content, and an increase in the activity of the clay content. Expansive soils change in volume (shrink or swell) due to changes in the soil moisture content. In addition to swell potential of the soil, the amount of volume change depends on (1) the availability of water, (2) the restraining pressure, and (3) time. The sample location, the initial moisture content, the initial dry density, and the final moisture content for each specimen used to perform the expansion index test are provided in the following table. The risk of soil expansion increases with an increase in expansion index. The test results for a sample of the near surface soils collected at the subject site show an expansion category of *low*.

Sample	Depth, Ft	Soil Description	Initial Moisture Content, %	Final Moisture Content, %	Initial Dry Density, pcf	Expansion Index
B-13	2-4	VERY DARK GRAYISH BROWN CLAYEY SAND	10.2	17.2	112.4	38

Tests performed on samples of the more clayey soils in areas adjacent to the subject site as part of the referenced Geotechnical Engineering Study indicate that these materials are in the *high* to *very high* expansion index range. It is anticipated that these materials are also be present on the subject site. Recommendations are provided in subsequent sections of this report for mixing of these highly expansive soils with less expansive, sandier soils during grading to mitigate the potential effects of expansive soils. Tests should be performed subsequent to grading to confirm the expansive nature of the earth materials at the subgrade level after the completion of grading.

3.6.5 Corrosivity

The risk of corrosion of construction materials relates to the potential for soil-induced chemical reaction. The rate of deterioration depends on soil resistivity, texture, acidity, and chemical concentration. To provide a basis for a preliminary corrosion evaluation one sample of the surficial soil was analyzed. The results of these tests are summarized in the following table. Sulfate and chloride concentrations are expressed in ppm on a dry weight basis.

Sample	Depth, Ft	Description	pH	Chloride, ppm	Sulfate, ppm	Resistivity, ohm-cm
T-1	0-2	LIGHT BROWN SILTY SAND WITH GRAVEL	8.6	29.7	72.5	21978.02

A test performed on a sample of more clayey soils in an area adjacent to the site as part of the referenced Geotechnical Engineering Study indicated that this material was in the *severe* sulfate exposure range, making it severely corrosive to concrete. It is anticipated that these materials may also be present on the subject site. Recommendations are provided in subsequent sections of this report for mixing of the more clayey soils with sandier soils during grading, which should reduce the overall corrosivity of the soils. Tests should be performed subsequent to grading to confirm the corrosive nature of the earth materials at the subgrade level after the completion of grading.

3.7 Groundwater

At the time of our field exploration, groundwater and seepage was encountered at depths ranging from 6 to 10 feet below the existing ground surface in borings B-14, B-40, B-55, and B-59 excavated near the central portion of the site, within the proposed parking lot area. Based on the *Depth to Historically High Groundwater Map* (CDMG 2000, Figure 3), the historic high groundwater levels at the site were approximately 10 feet below the existing ground surface.

Groundwater elevations are dependent on seasonal precipitation, irrigation, land use, climatic conditions, among other factors, and as a result fluctuate. Therefore, water levels at the time of construction and during the life of the facility may vary from the observations or conditions at the time of our field exploration.

4. SEISMICITY

4.1 Seismicity Study

Based on the 2008 USGS Interactive Deaggregation (Beta) computer program, the computed site peak ground acceleration and magnitude for a 50-year exposure and 10% exceedance is 0.4001 g and 6.76, respectfully. The results of the analysis are presented in Appendix C.

4.2 Seismic Design Criteria

The 2013 California Building Code (CBC) is utilized in the seismic design of structures, and is based on the *Maximum Considered Earthquake Ground Motion*. The earth materials underlying the site are classified based on parameters such as shear wave velocity, standard penetration test resistance, undrained shear strength, and earth material type. The maximum considered earthquake spectral response accelerations are then adjusted for general type of earth materials underlying the site, or *Site Class*. The remaining seismic parameters used in structural analyses are computed and derived from those shown below by the Structural Engineer.

The following seismic design coefficients and parameters for the project site have been determined utilizing the U.S. Seismic Design Maps web program developed by the United States Geologic Survey (2014). The program incorporates seismic provisions set forth in the 2013 California Building Code (CBC) and 2012 International Building Code (IBC) procedures. Printout data generated by the USGS program is included in Appendix C of this report for reference.

Site Class	Spectral Accelerations, 0.2-Second Period, S_S	Spectral Accelerations, 1-Second Period, S_1	Site Coefficient, F_a	Site Coefficient, F_v	Adjusted Spectral Accelerations, 0.2-Second Period, S_{MS}	Adjusted Spectral Accelerations, 1-Second Period, S_{M1}	Adjusted Spectral Accelerations, 0.2-Second Period, S_{DS}	Adjusted Spectral Accelerations, 1-Second Period, S_{D1}
C	1.575	0.600	1.0	1.3	1.575	0.780	1.050	0.520

Conformance to these criteria for seismic excitation does *not* constitute any kind of guarantee or assurance that significant structural damage or ground failure will *not* occur if a maximum level earthquake occurs. The primary goal of seismic design is to protect life and *not* to avoid all damage, since such design may be economically prohibitive.

4.3 Earthquake Effects

The intensity of ground shaking during an earthquake can result in a number of phenomena classified as ground failure, which include ground rupture due to faulting, landslides, liquefaction, lurching, and seismically induced settlement. Other seismic hazards include Seiches and tsunamis. Descriptions of each of these phenomenon and an assessment of each, as it affects the proposed site, are included in the following paragraphs. The Seismic Hazards Mapping Act of 1990, which became effective in 1991, requires mitigation of seismic hazards to a level that does *not* cause collapse of the building intended for human occupancy, but it does *not* require mitigation to a level of no ground failure or structural damage.

4.3.1 Shallow Ground Rupture

Ground surface rupture occurs when movement along a fault is sufficient to cause a gap or rupture where the upper edge of the fault zone intersects the ground surface. Where associated with reverse faults, such ruptures rarely occur as single breaks or are confined to a narrow zone. More commonly, ground rupture associated with faulting is characterized by relatively short segments of faulting that occur over a broad area of the upper plate. In some cases, particularly in unconsolidated alluvial sediments, *secondary ground ruptures* can develop from a number of causes not necessarily related directly to surface rupture of the causative fault. The secondary processes may include ground shaking, seismic settlement, landslides, and liquefaction.

Since there are *no* known active or potentially active faults passing through the site, the potential of on-site ground rupture due to movement on an underlying fault in *not* considered a significant hazard, although it is a possibility at any site. The potential for ground rupture due to other causes is discussed in the following paragraphs.

4.3.2 Earthquake-Induced Landsliding

Landslides are slope failures that occur where the horizontal seismic forces act to induce soil failure. Seismic Hazard Maps have been released by the California Geological Survey that delineate areas that have been subject to or are potentially subject to landsliding or permanent ground displacement as a result of earthquake-induced ground shaking. Subsequent to construction, the majority of the site will be relatively flat, and the remainder will

contain only minor slopes with gradients of 2:1 or shallower. Therefore, on-site earthquake-induced landsliding is *not* considered to be a hazard. The site is also *not* located in an area designated on the *Seismic Hazard Zones Map* (CDMG 2000, Figure 4) considered to be susceptible to hazards associated with earthquake-induced landslides.

4.3.3 Ground Lurching

Ground lurching is defined as earthquake motion at right angles to a cliff or bluff, or more commonly to a stream bank or artificial embankment that results in yielding of material in the direction to which it is unsupported. The typical effect would be to produce a series of more or less parallel cracks separating the ground into rough blocks, with the cracks generally parallel with the top of the slope or embankment. The topography of the site and surrounding area subsequent to the construction of the proposed improvements would *not* lend itself to this type of lurching.

4.3.4 Seiches and Tsunamis

Seiches are an oscillation of the surface of an inland body of water that varies in period from a few minutes to several hours. Seismic excitations can induce such oscillations. Tsunamis are large sea waves produced by submarine earthquakes or volcanic eruptions. Since the site is *not* located close to an inland body of water and is at an elevation sufficiently above sea level to be outside the zone of a tsunami runup, the risk of these two hazards is *not* pertinent to this site.

4.3.5 A Description of Liquefaction

The shear strength of soils is governed by effective stresses, which are equal to the total stresses minus the pore water pressures. In saturated, cohesionless soils, such as sands, pore water pressures tend to increase with cyclic loading, such as that caused by earthquakes. Liquefaction describes phenomena in which cyclic stresses produced by ground shaking induce excess pore water pressures in cohesionless soils that are about equal to the total stresses, resulting in near zero shear strength in the soil, causing the soil to behave as a viscous fluid. Liquefied soils may thereby acquire a high degree of mobility leading to damaging deformations. Liquefaction susceptibility under a given earthquake is related to the gradation and relative density characteristics of the soil, the in-situ stresses prior to ground motion, and the depth to the water table, as well as other factors.

Liquefaction related or liquefaction-induced phenomena include *lateral spreading*, *ground oscillation*, *flow failure*, *reduction of bearing strength*, *ground fissuring*, *settlement,* and *sand boils*.

4.3.6 Evaluation of Liquefaction Potential

The site is located on the *Seismic Hazard Zones Map* (CDMG 2000, Figure 4) in an area *not* considered to be susceptible to hazards associated with liquefaction. In addition, all existing fill material and alluvium within the proposed building areas will be removed and recompacted, down to the underlying bedrock. Therefore, the subject site is not considered prone to liquefaction and associated hazards.

4.3.7 Dynamic Dry Settlement

Granular soils above the groundwater level can be susceptible to settlement during seismic shaking. All existing fill material and alluvium within the proposed building areas will be removed and recompacted, down to the underlying bedrock. Therefore, the subject site would not be considered prone to Dynamic Dry Settlement.

5. CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusions and Design Requirements

Based on the findings of our data review, subsurface exploration, laboratory testing, field testing, and engineering analysis, and within the scope of this study, the proposed improvements are *feasible* from a geotechnical engineering viewpoint, provided the recommendations in this report are incorporated into the building plans and

implemented during construction. The following paragraphs discuss conditions that should be anticipated and provides recommendations for specific mitigation during the design and construction phase of improvements.

5.1.1 Addendum - Statement 111

The Building and Safety Department has required that a statement satisfying Section 111 of the County of Los Angeles Building Code be incorporated into our geotechnical report for this proposed commercial development. For the purpose of complying with this mandate, it is our opinion, within the scope of this study and the state-of-the-practice as of this date, that (1) the building site for the proposed structure will be geologically safe from landslides, settlement, or slippage, and (2) the proposed building and grading will *not* negatively impact the geologic stability of adjacent properties surrounding the project site, provided all recommendations in the geotechnical reports for this site are followed and the site is properly maintained. The use of the word *will* here does *not* include a futurity that is beyond our control, as we have *no* control over future events, such as maintenance or modifications to the site subsequent to the proposed work or modifications to adjacent sites that may negatively affect the site. The scope of this statement is limited to this proposed commercial development detailed within this report only.

5.1.2 Faults / Seismicity

Although no known active faults traverse through the subject site, like most of Southern California, the site lies within a seismically active area. Earthquake resistant structural design is recommended. Designing structures to be earthquake-proof is generally considered to be impractical, especially for private projects, due to cost limitations. Significant damage to structures may be unavoidable during large earthquakes. Structural design based on the 2013 CBC (California Building Code) structural analysis procedures calls for the seismic parameters given previously in the *Seismic Design Criteria* section. These minimum code values are intended to protect life and may not provide an acceptable level of protection against significant cosmetic damage and serious economic loss. Significantly higher than code parameter would be necessary to further reduce potential economic loss during a major seismic event. Structural Engineers, however, often regard higher than code values or procedures as impractical for use in structural design. The Structural Engineer and project Owner must decide if the level of risk associated with code values is acceptable and, if not, to assign appropriate seismic values above code values for use in structural design.

5.1.3 Hazardous Materials

AGS has *not* been retained to provide any type of environmental assessment of the subject property, *nor* to provide recommendations with respect to any contamination that might be present.

5.1.4 Landslides

Based on the results of our analysis of the proposed improvements with respect to the existing conditions of the subject site, it is our professional opinion that the risk of landsliding as a result of the construction of the proposed improvements at the subject site is *very low*, provided the recommendations presented within this report are incorporated into the design and construction.

5.1.5 Cut Slopes

The proposed Grading Plan, which was utilized as the base map for the enclosed Plate 1, shows 'cut slopes' along the north end of the site, and wrapping around the northern 200 feet of the east end of the site. This area has been designated as a 'cut slope' since the proposed new grade will be lower than the current, existing grade. The existing earth materials underlying this entire area, however, will be removed and recompacted as part of the required grading for support of the proposed structure, retaining wall, paving and concrete flatwork. Therefore, these slopes will actually be reconstructed as certified compacted fill slopes during the required removal and recompaction operations. Recommendations for construction of fill slopes are provided below, and in subsequent sections of this report.

5.1.6 Fill Slopes

New fill slopes will be constructed along the north end of the site, and the northern 200 feet of the east end of the site, during the required removal and recompaction operations. The existing soils present on the faces of the slopes and all existing fill material in the vicinity will be removed as part of the removal and recompaction necessary for support of the proposed building, retaining wall, paving and hardscape. The proposed fill slopes will be constructed during the placement and recompaction of this fill. The fill slopes will be constructed at a maximum 2:1 gradient, and a maximum of 15 feet in height.

At the perimeter of the site in these areas, it is anticipated that the excavations made for removal of the existing fill would be made at a 1:1 gradient extending down into the site from the site perimeter. Portions of the existing artificial fill soils are anticipated to remain in place below the proposed temporary 1:1 cuts. The newly placed compacted fill would then be benched into the existing fill material at the site perimeter. The new mass of fill to be placed in the building pad area, and for support of adjacent flatwork and retaining walls below the toe of the slopes, would extend vertically and horizontally beyond the normal limits of a keyway, and would therefore act as such. Bench drains would not be required.

5.1.7 Rockfall

Damage to life or property due to rockfall is *not* considered to be a risk at the subject site.

5.1.8 Slope Setback

When located next to an ascending 3(H):1(V) slope or steeper, the building should be a minimum of 5 feet or ½ the slope height from the toe of slope, whichever is greater, but need *not* exceed 15 feet from the toe of slope. *Examples of Slope Setbacks* are included in Figure 5.

5.1.9 Foundation Type

With proper site preparation, conventional, shallow spread footings can be utilized for foundation support for the proposed structures and walls. Foundations for each structure should be totally founded in newly placed compacted fill, with a relatively uniform thickness, and a minimum thickness of 3 feet below the bottom of footings.

5.1.10 Removal Depths

Our exploration indicated that the strength and compressibility of the upper soils consisting of uncertified artificial fill and Quaternary age alluvium are variable, based on visual observations and on measured moisture and dry density variations. In our opinion, these near-surface soils are *not* suitable in their present condition for the support of structures, without the potential for detrimental foundation movements occurring. Therefore, to mitigate these geotechnical hazards, the upper soils will require removal, moisture conditioning, and recompaction *prior* to construction of the improvements. Detailed recommendations for minimum removal depths are given below in the *Site Preparation* section of this report.

5.1.11 Site Grade Adjustments

Based on the most recent plans as provided to AGS, maximum cuts of up to 6 feet below the existing grade are anticipated, and maximum fills of up to 13 feet above the existing grade are anticipated.

5.1.12 Exploratory Excavations

The locations and dimensions of excavations completed during site exploration should be noted relative to the future grading/building plans. Although boring backfill was tamped during placement, these materials are essentially uncompacted. Removal and recompaction of these materials will be required for improvements over these excavations.

5.1.13 Excavation Characteristics

Difficult excavation in the locations of the proposed improvements should not be anticipated.

5.1.14 Shrinkage / Bulking

Shrinkage results when the soil/bedrock being placed as fill is compacted to a dry density greater than the in-place source materials, and bulking occurs when the soil/bedrock is compacted to a dry density less than the in-place source materials. Based on experience, we estimate an average shrinkage factor of about 15% resulting from recompaction of on-site soils or fills. This estimate is based on an average relative compaction of 92% for recompacted materials and average densities of the undisturbed ring samples. The above shrinkage figures do not account for the effects of fill settlement losses due to clearing and grubbing and stripping operations, or uncertainty in the density of the in-place materials. If the actual average degree of compaction differs from that used to estimate shrinkage, the actual shrinkage may also differ. Variations in the estimated shrinkage/bulking factors shall be anticipated and provisions for such variations shall be included in the project specifications.

5.1.15 Drainage

All surface runoff must be carefully controlled and must remain a crucial element of site maintenance. Proper drainage and irrigation are important to reduce the potential for damaging ground/foundation movements due to hydroconsolidation and soil expansion or shrinkage. Final grading shall provide positive drainage away from footings in compliance with the building code and/or the local jurisdiction's grading requirements. All pad drainage shall be collected and diverted away from proposed buildings and foundations in non-erosive devices. Gutters and roof drains should be provided, properly maintained, and discharge directly into glue-joined, watertight subsurface piping. A drainage system consisting of area drains, catch basins, and connecting lines should be provided to capture landscape/hardscape sheetflow discharge water. All drainage piping should be watertight and discharge directly to an approved disposal area.

All retaining walls should be waterproofed, and should be provided with a gravel and perforated pipe subdrain system in accordance with the attached Figure 6. A perforated subdrain pipe of schedule 40 or better should be installed at the base of the wall, and outlet to a suitable location. *Accordion* type pipe is *not* acceptable. Your project architect or Civil Engineer should provide detailed specifications for all waterproofing.

All underground plumbing fixtures should be absolutely leak-free. As part of the maintenance program, utility lines should be checked for leaks for early detection of water infiltrating the soils that could cause detrimental soil movements. Detected leaks should be promptly repaired. Proper drainage shall also be provided away from the building footings during construction. This is especially important when construction takes place during the rainy season.

Seepage of surface irrigation water or the spread of extensive root systems into the subgrade of footings, slabs, or pavements can cause differential movements and consequent distress in these structural elements. Trees and large shrubbery should *not* be planted so that roots grow under foundations and flatwork when they reach maturity. Landscaping and watering schedules should be planned with consideration for these potential problems.

Drainage systems should be well maintained, and care should be taken to *not over* or *under* irrigate the site. Landscape watering should be held to a minimum while maintaining a uniformly moist condition without allowing the soil to dry out. During extreme hot and dry periods, adequate watering may be necessary to keep soil from separating or pulling back from the foundations. Cracks in paved surfaces should be sealed to limit infiltration of surface waters.

5.1.16 Plan Review

Final Grading Plans should be reviewed by AGS *prior* to submittal to regulatory agencies for approval. A grading plan review report *may* be required by the City to be submitted with the approved grading plans. Additional analysis *may* be required at that time depending on specific details of the proposed grading and improvements, and any corrections deemed *necessary* will be made known to the Project Civil Engineer. Approval by this office will be indicated by *manual* signature and stamp once our recommendations have been incorporated into the design or shown as notes on the plan.

Please be aware that the contract fee for our services to prepare this report does not include additional work that may be required, such as grading observation and testing, footing observations, plan review, or responses to governmental (regulatory) plan reviews associated with you obtaining a building permit. Where additional services are requested or required, you will be billed on an hourly basis for consultation or analysis. AGS requests a minimum of 24 hours be provided for plan reviews. Please anticipate additional time for plan corrections if all of our geotechnical recommendations have not been added to the plans, prior to our approving and stamping the plans.

5.1.17 Additional Recommendations

The following additional geotechnical recommendations should be incorporated into final design and construction practice. If the anticipated differential settlements are found by your Structural Engineer to be unacceptable some of the following recommendations may need to be modified. All such work and design should be in conformance with local governmental regulations or the recommendations contained herein, whichever are more restrictive. The following recommendations have *not* been reviewed or approved by the City at this time. These recommendations may change based on obtaining approval from the City. Design of the proposed project should be made following approval from the City.

5.2 Site Preparation

Based on available information, we understand that the site grade will be raised up to 13 feet in the northern portion of the site. Building pads should be prepared so that each structure is totally founded in structural fill with a relatively uniform thickness. General guidelines are presented below to provide a basis for quality control during site grading. We recommend that all structural fills be placed and compacted with engineering control under continuous observation and testing by the Geotechnical Engineer and/or his field representative, and in accordance with the following requirements.

5.2.1 Removals

a. When demolishing the existing facilities, the contractor should locate all existing foundations, floor slabs, debris pits, uncontrolled fill, and subsurface trash. These soils and structures should be completely removed. The resulting excavations should be cleaned of all loose or organic material, the exposed native soils should be scarified to a depth of 8 inches and compacted, and the excavation backfilled. In areas to receive fill or to support structures, deeper removals may be required, as discussed below.

b. Remove all brush, vegetation and loose soil *prior* to fill placement. The general depth of stripping should be sufficiently deep to remove the root systems and organic topsoil. A careful search shall be made for subsurface trash, abandoned masonry, abandoned tanks and septic systems, and other debris (including uncertified fill) during grading. All such materials, which are *not* acceptable fill material, shall be removed *prior* to fill placement. The removal of trees and large shrubs should include complete removal of their root structures.

c. To reduce the risk of differential foundation movements, we recommend that all foundations be supported on structural fill, and that the thickness of structural fill beneath the footings and slab in each building area be relatively uniform. A minimum of 3 feet of newly placed compacted fill should be provided below the bottom of all new building foundations.

d. In areas to support the proposed structures, all existing uncertified artificial fill soils and native alluvial soils should be removed to expose competent bedrock, and recompacted as structural fill.

e. In parking, driveway, street, concrete flatwork and other areas where miscellaneous site improvements will be located, all existing artificial fill soils, as well as any loose or disturbed native soils should be removed and recompacted as certified fill. In addition, the depth of removals should extend to a minimum depth of either 24 inches below existing grade, or 24 inches below the bottom of any new improvements or pavement section, whichever is deeper.

f. The lateral limits of removal and recompaction should extend a distance not less than 10 feet outside the perimeter of foundations in all building areas, or to a distance equal to the depth of fill below the bottom of foundations, whichever is greater. In parking, driveway, street, concrete flatwork and other areas where miscellaneous site improvements will be located, the lateral limits of removal and recompaction shall extend a minimum of 2 feet beyond the edge of these improvements, or to a distance equal to the depth of fill below the bottom of these improvements, whichever is greater.

g. Where a physical constraint, such as a property line or other obstruction would prevent such removals from being made, each case should be evaluated by the Geotechnical Engineer on a case by case basis.

h. A careful search shall be made for deeper fill or loose areas during grading operations. If encountered, these loose areas should be properly removed to the firm underlying material and properly compacted, as directed by a field representative of the Project Geotechnical Engineer.

i. The exposed bottom of removal areas should be scarified, mixed, and moisture conditioned to a minimum depth of 8 inches. This thickness of scarification is included in the thickness of removal and recompaction mentioned above, unless the bottom is unstable and requires stabilization. The scarified soil shall be moisture condition to at least optimum moisture, but no more than 5% over optimum moisture content, and compacted to a minimum of 90% of the laboratory maximum dry density as determined by ASTM D1557. It is recommended that the more clayey earth materials, however, be moisture conditioned to at least 2% over optimum moisture content, but no more than 5% over optimum moisture content. Additional lifts should *not* be placed until the present lift has been tested and shown to meet the compaction requirements.

5.2.2 Bottom Stabilization

a. It is anticipated that wet soils and/or groundwater may be encountered at or near the bottom of over-excavation in some areas. Therefore, the use of gravel may be required in some areas in order to achieve a firm bottom for the placement of compacted fill. A determination of the thickness and nominal size of gravel required to achieve stabilization is typically a trial and error procedure, and will depend on the amount of water encountered, and the type of native earth materials present at the bottom. Filter fabric should be placed over the top of any gravel placed. If the bottom is unstable, the use of track-mounted equipment and/or excavators should be considered to reduce the potential for disturbing the soils in the excavations near the groundwater level. If the bottom is highly disturbed, deeper removals may be required.

5.2.3 Suitable Fill Material

a. The excavated site soils, cleaned of deleterious material, can be re-used for fill. Some of the more clayey earth materials onsite may be very highly expansive in nature, and may contain relatively high sulfate concentrations. Therefore, to mitigate these potential geotechnical hazards, selective grading and/or mixing will be required to provide earth materials with a medium expansion category (51 – 90) or lower within the upper 5 feet in building areas, a

minimum of 2 feet below the bottom of pool shell within the fitness center (*if proposed*), and within the upper 2 feet of subgrade in parking lot, driveway and other areas supporting miscellaneous site improvements. Sufficient testing should be performed at the completion of grading to verify the expansion index and sulfate concentrations of the subgrade soils.

b. Rock larger than 6 inches should *not* be buried or placed in compacted fill. Rock fragments less than 6 inches may be used provided the fragments are *not* placed in concentrated pockets, and a sufficient percentage of finer grained material surrounds and infiltrates the rock voids. Furthermore, the placement of any rock must be under the continuous observation of the Geotechnical Engineer, and/or his field representative.

c. Imported material should be primarily granular in nature, and preferably in the low expansion range. Imported material should be approved by the Geotechnical Engineer *prior* to import and placement.

5.2.4 Placement of Compacted Fill

a. All fill materials should be placed in controlled, horizontal layers *not* exceeding 6 to 8 inches thick, and moisture conditioned to at least optimum moisture, but no more than 5% above optimum. It is recommended, however, that the more clayey earth materials be moisture conditioned to at least 2% over optimum moisture content, but no more than 5% over optimum moisture content. Fill materials should be compacted to a minimum 90% of the laboratory maximum dry density, as determined by ASTM D1557. If either the moisture content or relative compaction does *not* meet these criteria, the Contractor should rework the fill until it does meet the criteria. If the fill materials pump (flex) under the weight of construction equipment, difficulties in obtaining the required minimum compaction may be experienced. Therefore, if soil pumping occurs, it may be necessary to control the moisture content to a closer tolerance (e.g., 2 to 3% above optimum) or use construction equipment that is not as prone to cause pumping.

b. The field tests methods to be used to determine the in-place dry density of the compacted fill shall be in conformance with either ASTM D1556 (sand cone test method) or ASTM D2922 (nuclear gauge method).

c. Subgrade for the support of pavement sections shall be recompacted to at least 95% of the maximum dry density to a depth of at least 12 inches.

5.2.5 Fill Slopes

a. Fill slopes shall be constructed by placing fill soil a sufficient distance beyond the proposed finished slope to allow compaction equipment to operate at the outer surface limits of the final slope surface. The excess fill shall be cut back to finished grade.

5.2.6 Testing of Compacted Fill

a. At least one compaction test shall be performed for every 500 yd^3 of the fill material. In addition, at least one test shall be performed for every 2 feet of fill thickness.

5.2.7 Inclement Weather and Construction Delays

a. If construction delays or the weather result in the surface of the fill drying, the surface should be scarified and moisture conditioned before the next layer of fill is added. Each new layer of fill should be placed on a rough surface so planes of weakness are not created in the fill.

b. During periods of wet weather and before stopping work, all loose material shall be spread and compacted, surfaces shall be sloped to drain to areas where water can be removed, and erosion protection or drainage provisions shall be made in accordance with the plans provided by the Civil Engineer. After the rainy period, the Geotechnical Engineer and or his field representative shall *review* the site for authorization to resume grading and to provide any specific recommendations that may be required. As a minimum, however, surface materials previously compacted before the wet weather shall be scarified, brought to the proper moisture content, and recompacted *prior* to placing additional fill.

c. During foundation construction, including any concrete flatwork, construction sequences should be scheduled to reduce the time interval between subgrade preparation and concrete placement to avoid drying and cracking of the subgrade or the surface should be covered or periodically wetted to prevent drying and cracking.

5.2.8 Responsibilities

a. Representative samples of material to be used as compacted fill should be analyzed in the laboratory by the Geotechnical Engineer to determine the physical properties of the materials. If any materials other than that previously tested are encountered during grading, the appropriate analysis of this material shall be conducted by the Geotechnical Engineer as soon as practicable. Any imported soil from off-site sources shall be approved *prior* to placement.

b. All grading work shall be observed and tested by the Project Geotechnical Engineer or their field representative to confirm proper site preparation, excavation, scarification, compaction of on-site soil, selection of satisfactory fill materials, and placement and compaction of fill. All removal areas and footing excavations shall be observed by the field representative of the Project Geotechnical Engineer before any fill or steel is placed. *A half-size set of approved plans should be provided to the Project Geotechnical Engineer prior to site grading, and a full-size set of signed and approved plans should be available on-site for review.*

c. The lateral limits and the depths of the removals should be shown by the Civil Engineer on the grading plans.

d. The grading contractor has the ultimate responsibility to achieve uniform compaction in accordance with the geotechnical report and grading specifications.

5.3 Utility Trench Backfill

The on-site soils are suitable for backfill of utility trenches from 1 foot above the top of the pipe to the surface, provided the material is free of organic matter and deleterious substances. The natural soils should provide a firm foundation for site utilities, but any soft or unstable material encountered at pipe invert should be removed and replaced with an adequate bedding material.

The site Civil Engineer in accordance with manufacturer's requirements should specify the type of bedding materials. Jetting of bedding materials should *not* be permitted unless appropriate drainage is provided and the bedding has a sand equivalent greater than 50.

Trench backfill should be placed in 8-inch lifts, moisture conditioned, and compacted in accordance with the recommendations provided in the *Site Preparation* section of this report. Jetting of trench backfill is *not* an acceptable method of compaction.

In areas where utility trenches pass through an existing pavement section, the trench width at the surface shall be enlarged a minimum of 6 inches on each side to provide bearing on undisturbed material for the new base and paving section to match the existing section.

Major underground utilities shall *not* cross beneath buildings unless specifically approved by the Project Civil Engineer and respective utility company. If approved, trenches crossing building areas shall be backfilled with a select gravelly sand compacted to 95% relative compaction.

5.4 Temporary Excavations

Temporary vertical excavations of 5 feet or less in height in on-site soils may not require any special shoring. Vertical excavations more than 5 feet deep, if necessary, will require conventional shoring per CAL/OSHA Regulations, or the excavation may be laid back at a 1(H):1(V) gradient. Excavations should *not* be allowed to become soaked with water or to dry out. Surcharge loads should *not* be permitted within a horizontal distance equal to the height of the excavation from the top of the excavation, unless the excavation is properly shored. Excavations that might extend below an imaginary plane inclined at 45 degrees below the edge of an existing foundation should be properly shored to maintain foundation support for the existing structure. All temporary excavations should be observed by a representative of the Geotechnical Engineer to verify the anticipated soil conditions.

5.5 Shallow Foundations

Conventional, shallow spread footings founded into certified compacted fill may be utilized for foundation support for the proposed structures, retaining walls, and miscellaneous site walls. The following foundation recommendations may be used in the design of conventional, shallow spread footings.

5.5.1 Minimum Footing Dimensions

Minimum Exterior Footing Embedment Depth, Inches	Minimum Interior Footing Embedment Depth, Inches	Minimum Wall Footing Width, Inches	Minimum Isolated or Pad Footing Width, Inches
24	24	12	24

These embedment depths are based on an anticipated expansion category not exceeding the *high* (51-90) expansion index range within the upper 5 feet of subgrade in proposed building areas. Additional testing should be performed at the conclusion of grading to verify the soil expansion category. These embedment depths are below the lowest adjacent, final grade. Where located adjacent to utility trenches, footings shall extend below a one-to-one plane projected upward from the inside bottom of the trench.

5.5.2 Allowable Bearing Pressure and Lateral Resistance

Allowable net vertical soil bearing pressure, including dead and live loads, are given below for footings founded on compacted fill at the minimum required embedment depths, provided the footing width equals or exceeds the recommended minimum.

Support Material	Allowable Bearing Pressure, psf	Allowable Sliding Friction Coefficient	Allowable Passive Resistance, psf per foot of depth	Maximum Passive Resistance, psf
COMPACTED FILL	2000	0.35	225	2250

This bearing value may be increased by 150 psf for each additional foot of footing width, and 150 psf for each additional foot of embedment above the minimum to a maximum allowable bearing capacity of 2500 psf. The bearing capacity can be increased by ⅓ when considering short duration wind or seismic loads

Resistance to lateral loads can be assumed to be provided by friction along the base of the foundation, and by passive earth pressures on the side of the footing. The allowable friction coefficient may be used with the vertical dead loads, and the allowable lateral passive pressure can be utilized for the sides of footings poured against the supporting material to resist lateral loads. These allowable values can be increased by a factor of 1.5 to convert from allowable to ultimate values. Where the soil on the resistance side of the passive wedge in not covered by a hard surface (e.g., concrete or pavement), however, the upper 1-foot of soil shall be neglected when computing resistance due to the potential for the material to become disturbed or degraded during the life of the structure.

5.5.3 Foundation Settlement

Settlement of new foundations is not expected to exceed ½ to ¾-inch under the assumed static loading conditions, and is expected to occur upon initial application of loading. Differential settlement is not expected to exceed approximately ¼-inch over a span of 30 feet.

5.5.4 Steel Reinforcement

All foundations should be reinforced with a minimum of four #4 steel bars. Two of these should be placed near the top of the foundation, and two should be placed near the bottom. Structural details of the footings, such as footing thickness, concrete strength, and amount of reinforcement, should be established by your Structural Engineer, however, the above minimums are recommended. The supporting soils are anticipated to have an expansion index category of *high.* Expansion index tests should be performed at the completion of grading to confirm the expansion properties of the soils, as previously recommended.

5.5.5 Required Observations

Prior to placing concrete in the footing excavations, an observation should be made by the field representative of the Project Geotechnical Engineer to confirm that the footing excavations are free of loose and disturbed soils and are embedded the proper depth in the recommended earth materials.

5.6 Slab-On-Grade

All proposed slabs-on-grade should be constructed over properly compacted fill material. If earthwork operations are conducted such that the construction sequence is not continuous, or if construction operations disturb the surface soils, we recommend that the exposed subgrade to support concrete slabs be tested within a day of the concrete pour to verify adequate compaction and moisture conditions. If adequate compaction and moisture conditions are not demonstrated, the disturbed subgrade should be over-excavated, scarified, and recompacted in accordance with the guidelines in *Site Preparation* section *prior* to the slab being poured.

5.6.1 Structural Design

We recommend that concrete slabs be reinforced. The structural details, such as (1) slab thickness, (2) concrete strength, (3) type, amount, and placement of reinforcing, and (4) joint spacing, should be established by your Structural Engineer. The soils are anticipated to have an expansion category of *high.*

Cracking of concrete flatwork can occur and is relatively common. Steel reinforcement and crack control joints are intended to reduce the risk of concrete slab cracking, as are the use of fiber reinforced concrete and proper concrete curing. Also, concrete slabs are generally not perfectly level, but they should be within tolerances included in the project specifications.

Tile flooring can crack, reflecting cracks in the underlying concrete slab. Therefore, if tile flooring is used, the slab designer should consider additional steel reinforcement, above minimum requirements, in the design of concrete slab-on-grade where tile will be installed. Furthermore, the tile installer should consider installation methods, such as using a vinyl crack isolation membrane between the tile and concrete slab, to reduce the potential for tile cracking.

5.6.2 Vapor Barrier

We recommend that a ten-mil (or thicker) plastic vapor barrier and a 4-inch thick sand layer be used under floor slabs in moisture sensitive areas. The vapor barrier should be layered with sand, with 2 inches placed above, and 2 inches below the vapor barrier. The placement of the vapor barrier should be selected by either your Civil Engineer or Structural Engineer giving consideration to the factors discussed in ASTM E1643. Seams of the vapor barrier should be overlapped and sealed. Where pipes extend through the vapor barrier, the barrier should be sealed to the pipes. Tears or punctures in the moisture barrier should be completely repaired *prior* to placement of concrete. In those areas where a moisture barrier is not used, a 4-inch thick sand layer shall be placed beneath the slab. The sand should be classified as a clean sand (with less than 5% fines in accordance with ASTM D2488).

5.7 Retaining Wall Design Criteria

5.7.1 Foundations

Foundations for retaining walls can be designed in accordance with the *Shallow Foundations* section of this report.

5.7.2 Lateral Earth Pressures

The earth pressure behind any buried wall depends on the allowable wall movement, type of backfill materials, backfill slopes, wall inclination, surcharges, any hydrostatic pressures, and compaction effort. The following equivalent fluid pressures are recommended for vertical walls with no hydrostatic pressure, no surcharge, no seismic effects, and a backfill slope with a gradient less (flatter) than 5(H):1(V).

Wall Movement	Equivalent Fluid Unit Weight, pcf			
	Clean Sand or Gravel Backfill (GW, GP, SW, SP)	Silty Gravel Backfill (GM, GM-GP, SM-SP)	Clayey Sand, Clayey Gravel Backfill (SC, SG)	Silts, Clays, Silty Fine Sand Backfill (CL, ML, SM)
FREE TO DEFLECT	30	40	45	55
RESTRAINED	45	60	70	80

In areas where the backslopes are steeper than 5(H):1(V), the equivalent unit weights in the above table should be increased by 13 pcf for gradients of 2(H):1(V) and 30 pcf for gradients of 1.5(H):1(V).

These values are applicable for backfill placed between the wall stem and an imaginary plane rising at a 45-degree angle from below the edge (heel) of the wall footing. If the on-site soil is used as backfill within this zone, the equivalent fluid unit weight associated with a soil classification of CL should be used.

The surcharging effect of anticipated adjacent loads on the wall backfill due to traffic, footings, or other loads, should be included in the wall design. The magnitude of lateral load due to surcharging depends on the magnitude of the surcharge, the size of the surcharge-loaded area, the distance of the surcharge from the wall, and the restraint of the wall. We can provide assistance in evaluating the effects of surcharge loading and seismic loading, if desired, once details are known and provided.

5.7.3 Backfill and Drainage

Except for the upper 2 feet, the soil immediately adjacent to backfilled retaining walls should be free-draining filter material (such as Caltrans Class 2 permeable material) with a minimum horizontal distance of 2 feet. Weep holes and/or drainpipes, as appropriate, should be installed at the base of retaining walls. Subdrain pipe material should consist of a minimum 4-inch-diameter perforated PVC pipe meeting ASTM D2729 or better. Accordion or similar type pipe is *not* acceptable for subdrain pipe. The top 2 feet should be backfilled with less permeable compacted fill to reduce infiltration. A concrete-lined V-shaped drainage swale should be constructed behind retaining walls with ascending backslopes to intercept runoff and debris. Figure 6 shows *Typical Retaining Wall*

Drainage Details. All retaining walls should be waterproofed, to mitigate the potential for efflorescence on the face of the walls.

During grading and backfilling operations adjacent to any wall, heavy equipment should *not* be allowed to operate within 5 feet laterally of the wall or within a lateral distance equal to the wall height, whichever is greater, to avoid developing excessive lateral pressures. Within this zone, only hand-operated equipment should be used to compact the backfill soils.

The retaining wall backfill should be benched into the backcut where the backcut is sloped less than (flatter) 0.75(H):1.0(V).

5.7.4 Decking

Decking that caps a retaining wall should be provided with a flexible joint to allow for the normal 1 to 2% deflection of the retaining wall. Decking that does *not* cap a retaining wall, should *not* be tied to the wall. The spacing between the wall and deck will require periodic caulking to prevent water intrusion into the retaining wall backfill.

5.8 Pavement Structural Section

5.8.1 Grading

All areas to be paved should be graded in accordance with the general recommendations for site grading as described in the *Site Preparation* section. *Prior* to placing base or subbase materials, the subgrade should be scarified, properly moisture conditioned and recompacted to at least 95% of the maximum dry density in accordance with the *Site Preparation* section, if test results show that these moisture and compaction requirements do not exist just *prior* to placing base or subbase materials. The subgrade should be proof-rolled to check for soft spots.

Base materials are *not* required beneath curbs and gutters. However, if base materials are not utilized beneath the curbs and gutters, it is recommended at the subgrade soils be scarified 12 inches and recompacted to at least 95% relative compaction. Compaction tests will be required for the recommended asphalt concrete and aggregate base. A minimum relative compaction of 95% is required for the asphalt concrete, aggregate base, and upper 12 inches of subgrade soils. The aggregate base should have a minimum *R*-value of 78 and meet Caltrans Class II specifications. Base materials should be placed and compacted in lifts not exceeding 6 inches. Asphalt should *not* be placed if the base is pumping.

5.8.2 Confirmation of R-Value

It is anticipated that significant mixing of the onsite soils will occur during site grading due to the necessary removals of all existing uncertified artificial fill soils. Testing to determine the *R*-value of the subgrade soils in the parking areas should be performed during the grading of the site in order to determine a pavement structural section. It should be noted that the pavement structural section design recommendations presented in this report may change once the *R*-value of the subgrade soils is determined at the conclusion of the site grading.

5.8.3 Maintenance

Pavement section design assumes that proper maintenance practices, such as sealing and repair of localized areas of distress, are employed throughout the design life of the pavement.

5.8.4 Asphalt Concrete Pavements

Structural section calculations were performed for asphalt concrete pavement design for a range in traffic indices. Selection of the appropriate traffic index to use should be made by your Civil Engineer based on their knowledge of traffic flow and loadings.

The structural sections for asphalt concrete pavement were computed in general accordance with the Caltrans method (**California Department of Transportation Highway Design Manual**). The results of the analyses, using an assumed *R*-value of 10, are summarized in the following table:

Traffic Index	Thickness, Inches	
	Asphalt Concrete	Aggregate Base
4.5	3.0	7.0
5.0	3.0	9.0
6.0	3.5	12.0
6.5	4.0	13.0

R-value testing should be performed at the conclusion of the site grading to verify the pavement design criteria, and revisions to the structural section design should be performed as necessary.

5.8.5 Concrete Pavements

Considering the higher pavement stresses in trash enclosure loading zones or other areas subject to extensive wheel turning, we recommend that a concrete pavement section be used in these areas. The pavement section in this case should consist of a 4-inch thick Caltrans Class 2 base layer, a 6-inch thick, reinforced concrete layer with the concrete having a minimum 28-day compressive strength of 3000 psi. The minimum amount of reinforcement should consist of #4 bars at 18-inch spacing each way and suspended in the middle of the slab with chairs or other approved devices.

5.9 Swimming Pool/Spa Recommendations

If proposed, the swimming pool/spa should be reinforced and designed by a Structural Engineer. The soils are anticipated to have an expansion index category of *high*, which should be confirmed subsequent to grading, as described previously in this report. The corresponding lateral pressures used for the design should be equivalent to a fluid pressure of at least 80 pcf. The swimming pool/spa also should be designed for any possible surcharge loading if such nearby loading is within a wedge defined by the vertical at the edge of the pool and line making a 45 degree angle upward from the bottom edge of the pool/spa.

The bottom of the swimming pool/spa should not be supported by different types of earth materials. The bottom of the swimming pool should be supported by a minimum of 2 feet of certified compacted fill, and a fill ratio exceeding 2:1 (thickest:thinnest) should not be present below the bottom of the proposed swimming pool. All compacted fill should be tested by the Project Geotechnical Engineer or their field representative.

Surface drainage around the swimming pool should be designed to prevent water from ponding and seeping into the ground. Surface water should be collected and conducted through non-erosive devices to the street, storm drain, or other approved water course or disposal area. Leakage from the proposed pool/spa will create an artificial groundwater condition that will likely create instability problems. Therefore, all plumbing and the pool/spa should be absolutely leak-free. A subdrain or hydrostatic relief valve should be placed at the bottom of the pool.

The deck for the swimming pool/spa should be cast-free of the swimming pool/spa, and water stops should be provided between the bond beam and the deck.

The concrete decking should be reinforced with rebar in accordance with the recommendations of your Structural Engineer, and construction should follow the general guidelines included in *Site Preparation* and *Slab-On-Grade* sections of this report.