LAUREL PLACE II

Unincorporated Concord Area

Contra Costa County File Numbers
Rezoning No. RZ14-3228
Subdivision No. SD14-9389

REVISED INITIAL STUDY / MITIGATED NEGATIVE DECLARATION

October 2016

FILE COPY

ENVIRONMENTAL CHECKLIST FORM

1.	Project Title:	Laurel Place II Vesting Tentative Map; 7 Lots (County File SD14-9389) Rezoning From R-20 to R-15 (County File RZ14-3228)
2.	Lead Agency Name and Address:	Contra Costa County Department of Conservation and Development 30 Muir Road Martinez, CA 94553
3.	Lead Agency Contact Person:	John Oborne, Senior Planner (925) 674-7793
4.	Project Sponsors, Representative and Address:	Lenox Homes LLC Rick Rosenbaum 3675 Mt. Diablo Blvd., Suite 350 Lafayette, CA 94549
5.	Project Location:	3.59 acre parcel located on the east side of Bailey Road near Myrtle Drive in the unincorporated Concord area
6.	General Plan Designation:	Single Family Residential – Low Density
7.	Zoning:	R-20, Single Family Residential (20,000 square foot minimum lot size)
8.	Description of Project:	The proposed project involves a request for the following two entitlements from the County: 1. Approval of a rezoning of the project site from R-20 to R-15 (15,000 square foot minimum lot size) and 2. Approval of a Vesting Tentative Map for a 7 lot residential subdivision with public trail.
9.	Surrounding Land Use and Settings:	The project site is located in a residential neighborhood within a small pocket of the unincorporated Concord area.

10.	Other Public Agencies Whose Approval is Required (e.g., permits, financing, approval, or participation agreement):	Contra Costa Local Agency Formation Commission (LAFCO) for sewer service, Concord Sanitary Service for sewer service, Contra Costa County Public Works Department, Contra Costa Water District, Contra Costa County Building Inspection Department, Contra Costa County Fire Protection District, U.S. Fish and Wildlife Service, California Department of Fish and Wildlife, U.S. Army Core of Engineers, Regional Water Quality Control Board.

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

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

	Aesthetics		Agricultural Resources	X	Air Quality
X	Biological Resources		Cultural Resources	X	Geology and Soils
	Hazards and Hazardous Materials		Hydrology and Water Quality		Land Use and Planning
	Mineral Resources	X	Noise		Population and Housing
	Public Services		Recreation		Transportation/Traffic
	Utilities and Service Systems		Mandatory Findings of Significance		

DETERMINATION

On the basis of the initial evaluation:

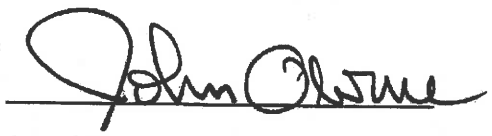
— I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

X I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because the mitigation measures described on an attached sheet have been added to the project. 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 significant effect(s) 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, if the effect is a "potentially significant impact" or "potentially significant unless mitigated." 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, there WILL NOT be a significant effect in this case because all potentially significant effects (a) have been analyzed adequately in an earlier EIR pursuant to applicable standards and (b) have been avoided or mitigated pursuant to that earlier EIR, including revisions or mitigation measures that are imposed upon the proposed project.



10/18/16

John Oborne
Senior Planner
Contra Costa County
Department of Conservation and Development

Date

SOURCES

In the process of preparing the Checklist and conducting the evaluation, the following references were consulted. (These references are available for review at the Contra Costa County Department of Conservation and Development, 30 Muir Road, Martinez.)

1. Project Plans for Laurel Place II including Tentative Map and Grading Plan dated received by Community Development Department March 12, 2015.
2. Site Visit April 22, 2015
3. The Contra Costa County General Plan (2005-2020).
4. County Zoning Code, Title 8.
5. Arborist Report by Joseph McNeil, dated August 14, 2014
6. Storm Water Control Plan by Apex Civil Engineering and Land Surveying, dated September 7, 2014
7. Geologic Peer Review by Darwin Myers, County Peer Review Geologist, dated May 25, 2015
8. Archaeological Report by Holman & Associates dated November 14, 2014
9. Appendix A - Air Quality / Greenhouse Gas Analysis
10. Biological Resources Assessment by Mosaic Associates, dated November 10, 2015
    Appendix A - Significant Criteria
    Appendix B – Wetland Delineation Map
    Appendix C – California Tiger Salamander Site Assessment

LIST OF EXHIBITS

Exhibit 1: Vicinity Map
Exhibit 2: Rezoning Map
Map : Vesting Tentative Map
Figure 1: Study area for Biological Assessment

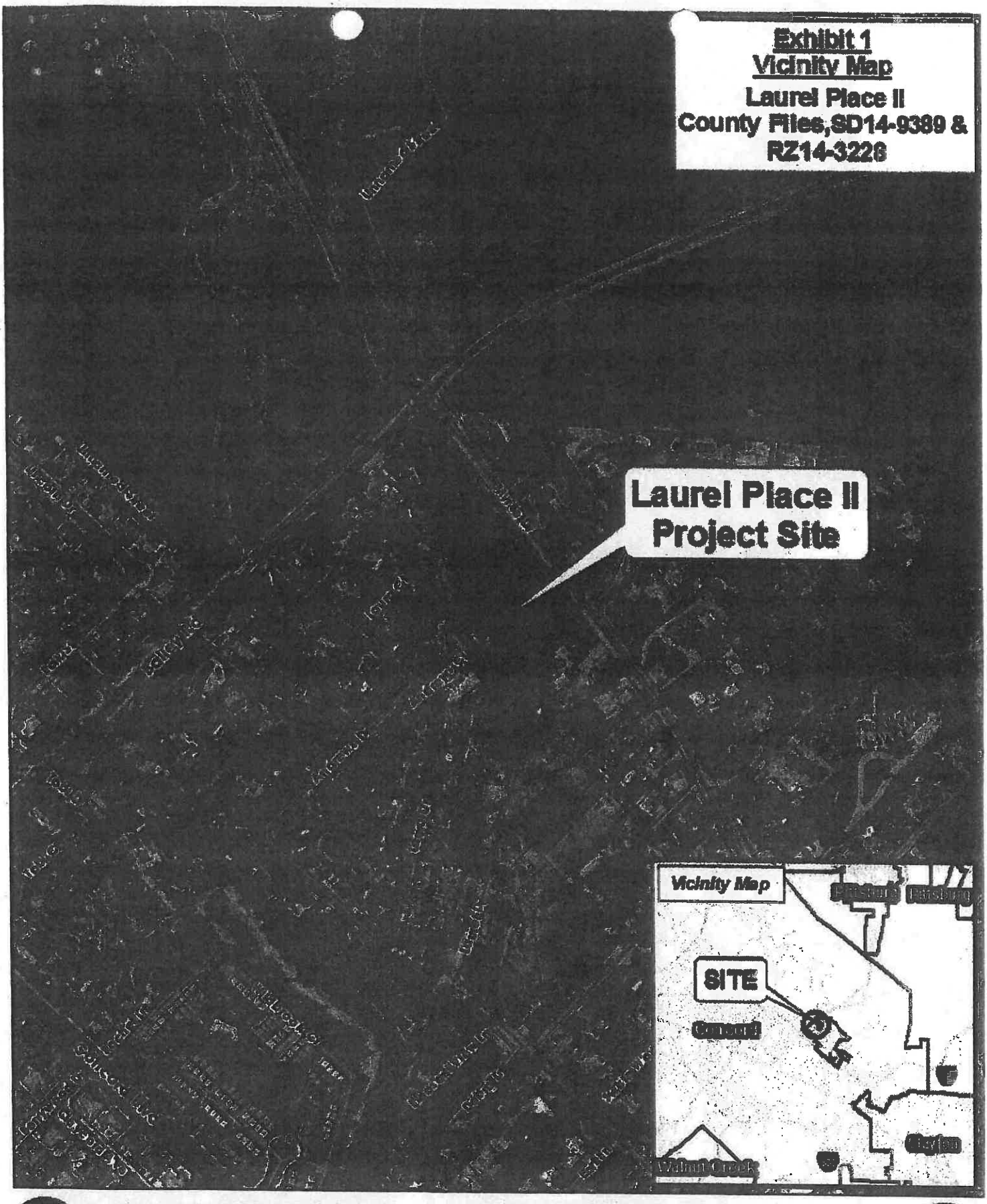
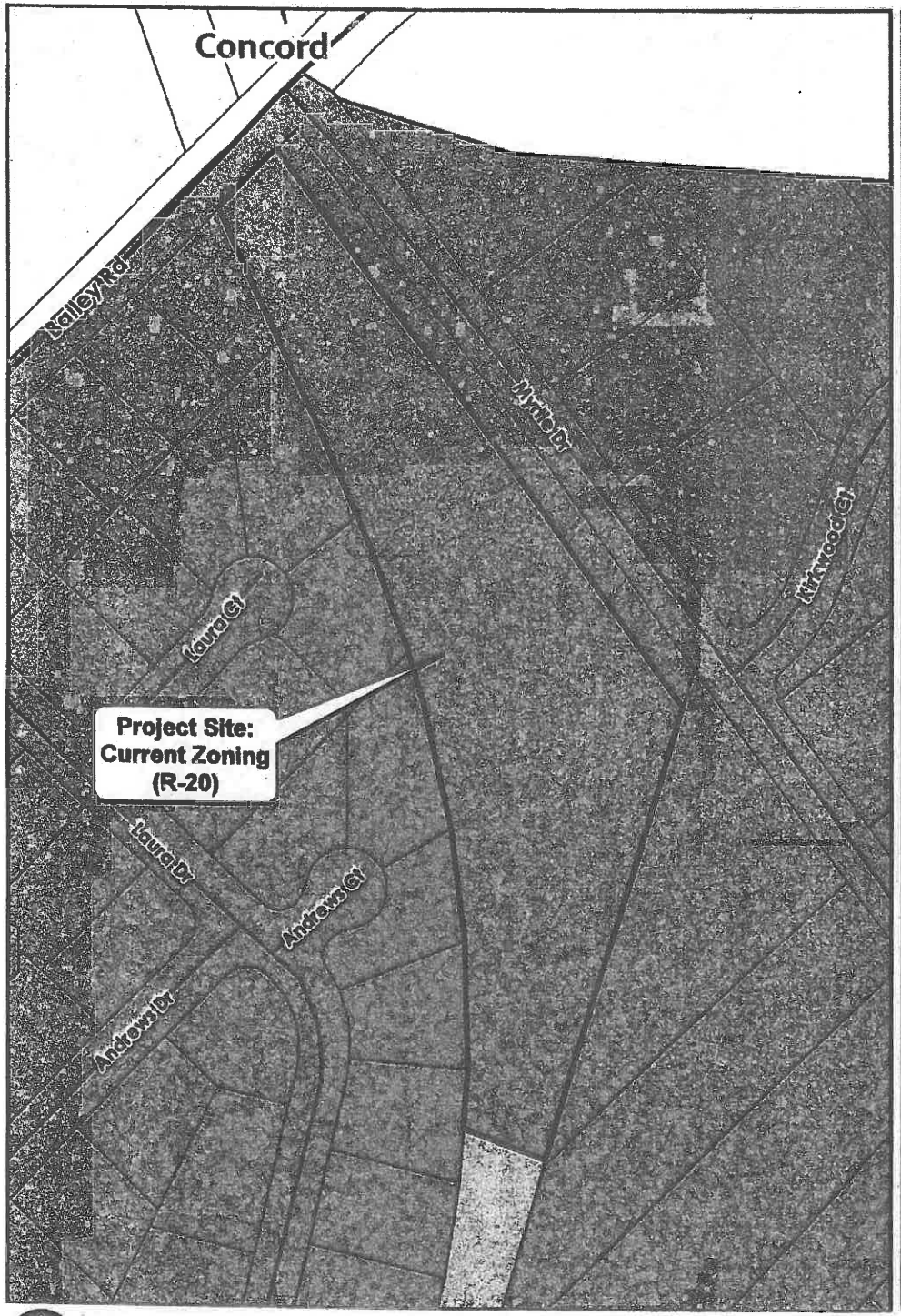


Exhibit 1
Vicinity Map
Laurel Place II
County Files,SD14-9389 &
RZ14-3226
Laurel Place II
Project Site
Vicinity Map
SITE
Pittsburg
Concord
Clayton
Walnut Creek
Feet
0
170
340
680



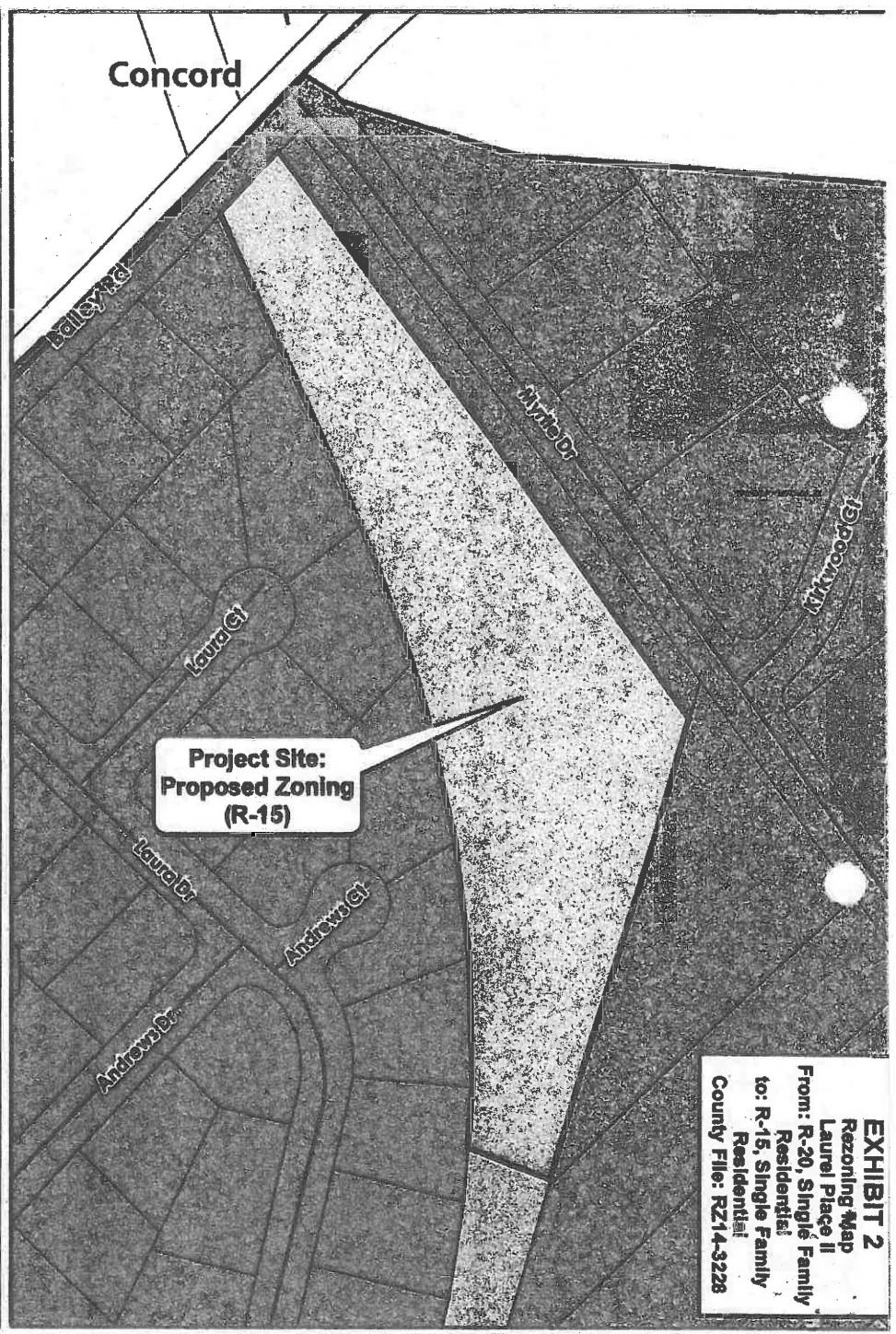
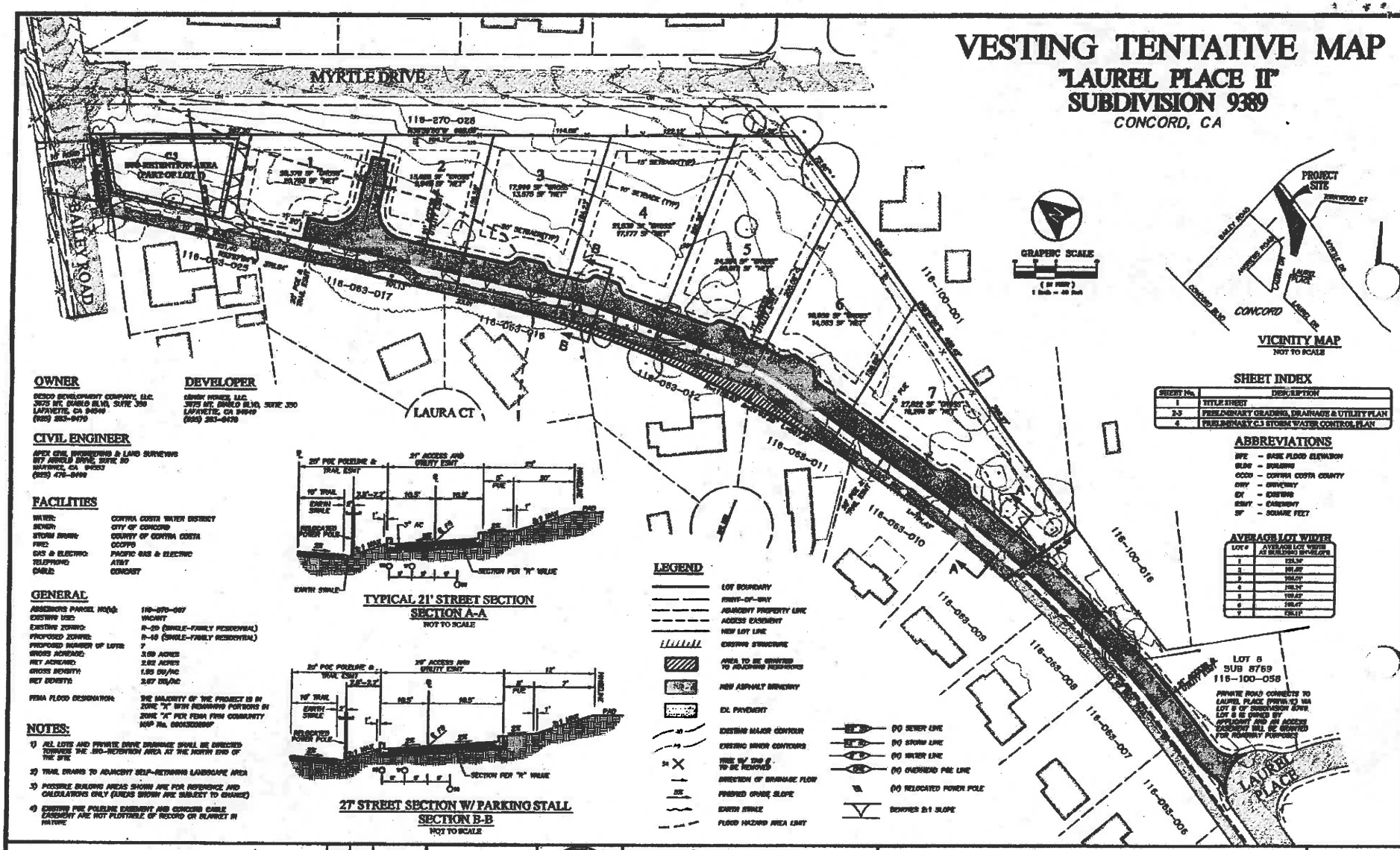


EXHIBIT 2
Rezoning Map
Laurel Place II
From: R-20, Single Family Residential
to: R-15, Single Family Residential
County File: RZ14-3228

Feet

Map Created 1/15/2015
by Contra Costa County Department of Conservation and Development, GIS Group

VESTING TENTATIVE MAP
"LAUREL PLACE II"
SUBDIVISION 9389
CONCORD, CA



OWNER
DESCO DEVELOPMENT COMPANY, LLC.
3075 MT. DIABLO BLVD, SUITE 350
LAFAYETTE, CA 94549
(925) 283-8478

DEVELOPER
GRAND HOMES, LLC.
3075 MT. DIABLO BLVD, SUITE 350
LAFAYETTE, CA 94549
(925) 283-8478

CIVIL ENGINEER
APEX CIVIL ENGINEERING & LAND SURVEYING
917 ARNOLD DRIVE, SUITE 50
MARTINEZ, CA 94553
(925) 476-8499

FACILITIES

WATER:	CONTRA COSTA WATER DISTRICT
SEWER:	CITY OF CONCORD
STORM DRAIN:	COUNTY OF CONTRA COSTA
FIRE:	CCCFPD
GAS & ELECTRIC:	PACIFIC GAS & ELECTRIC
TELEPHONE:	AT&T
CABLE:	COMCAST

GENERAL

ASSESSORS PARCEL NO(s):	118-270-027
EXISTING USE:	VACANT
EXISTING ZONING:	R-20 (SINGLE-FAMILY RESIDENTIAL)
PROPOSED ZONING:	R-10 (SINGLE-FAMILY RESIDENTIAL)
PROPOSED NUMBER OF LOTS:	7
GROSS ACREAGE:	3.69 ACRES
NET ACREAGE:	2.82 ACRES
GROSS DENSITY:	1.95 DU/AC
NET DENSITY:	2.67 DU/AC
FEMA FLOOD DESIGNATION:	THE MAJORITY OF THE PROJECT IS IN ZONE "X" WITH REMAINING PORTIONS IN ZONE "A" PER FEMA FIRM COMMUNITY MAP No. 06013C0289F

NOTES:
1) ALL LOTS AND PRIVATE DRIVE DRAINAGE SHALL BE DIRECTED TOWARDS THE BIO-RETENTION AREA AT THE NORTH END OF THE SITE.
2) TRAIL DRAINS TO ADJACENT SELF-RETAINING LANDSCAPE AREA
3) POSSIBLE BUILDING AREAS SHOWN ARE FOR REFERENCE AND CALCULATIONS ONLY (AREAS SHOWN ARE SUBJECT TO CHANGE)
4) EXISTING PUE, PUBLIC UTILITY EASEMENT AND CONCORD CABLE EASEMENT ARE NOT PLOTTABLE OF RECORD OR BLANKET IN NATURE

TYPICAL 21' STREET SECTION
SECTION A-A
NOT TO SCALE

27' STREET SECTION W/ PARKING STALL
SECTION B-B
NOT TO SCALE

LEGEND
- LOT BOUNDARY
- RIGHT-OF-WAY
- ADJACENT PROPERTY LINE
- ACCESS EASEMENT
- NEW LOT LINE
- EXISTING STRUCTURE
- AREA TO BE GRANTED TO ADJOINING PROPERTIES
- NEW ASPHALT DRIVEWAY
- EX. PAVEMENT
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOURS
- TREE W/ DBH & TO BE REMOVED
- DIRECTION OF DRAINAGE FLOW
- FINISHED GRADE SLOPE
- EARTH SWALE
- FLOOD HAZARD AREA LIMIT
- (W) SEWER LINE
- (W) STORM LINE
- (W) WATER LINE
- (W) OVERHEAD PUE LINE
- (W) RELOCATED POWER POLE
- REVERSE 2:1 SLOPE

SHEET INDEX

SHEET No.	DESCRIPTION
1	TITLE SHEET
2-3	PRELIMINARY GRADING, DRAINAGE & UTILITY PLAN
4	PRELIMINARY C.3 STORM WATER CONTROL PLAN

ABBREVIATIONS

BFE	- BASE FLOOD ELEVATION
BLDG	- BUILDING
CCCO	- CONTRA COSTA COUNTY
DWY	- DRIVEWAY
EX	- EXISTING
EASMT	- EASEMENT
SF	- SQUARE FEET

AVERAGE LOT WIDTH

LOT #	AVERAGE LOT WIDTH AT BUILDING SETBACK
1	121.39'
2	101.89'
3	100.01'
4	100.31'
5	100.01'
6	100.01'
7	120.12'

NO.	BY	DATE	
			DESIGN: JV
			DRAWN: JV
			CHECKED: DK
			PROJECT #: 14027

APEX CIVIL ENGINEERING & LAND SURVEYING
917 Arnold Drive, Ste 50
Martinez, CA 94553
Ph. (925) 476-8499
www.apexca.net

VESTING TENTATIVE MAP
TITLE SHEET
LAUREL PLACE II — SUB # 9389 — CONCORD, CA

SHEET 1 of 4
DATE 02-12-2015

LAUREL PLACE II - VESTING TENTATIVE MAP - 02-12-2015

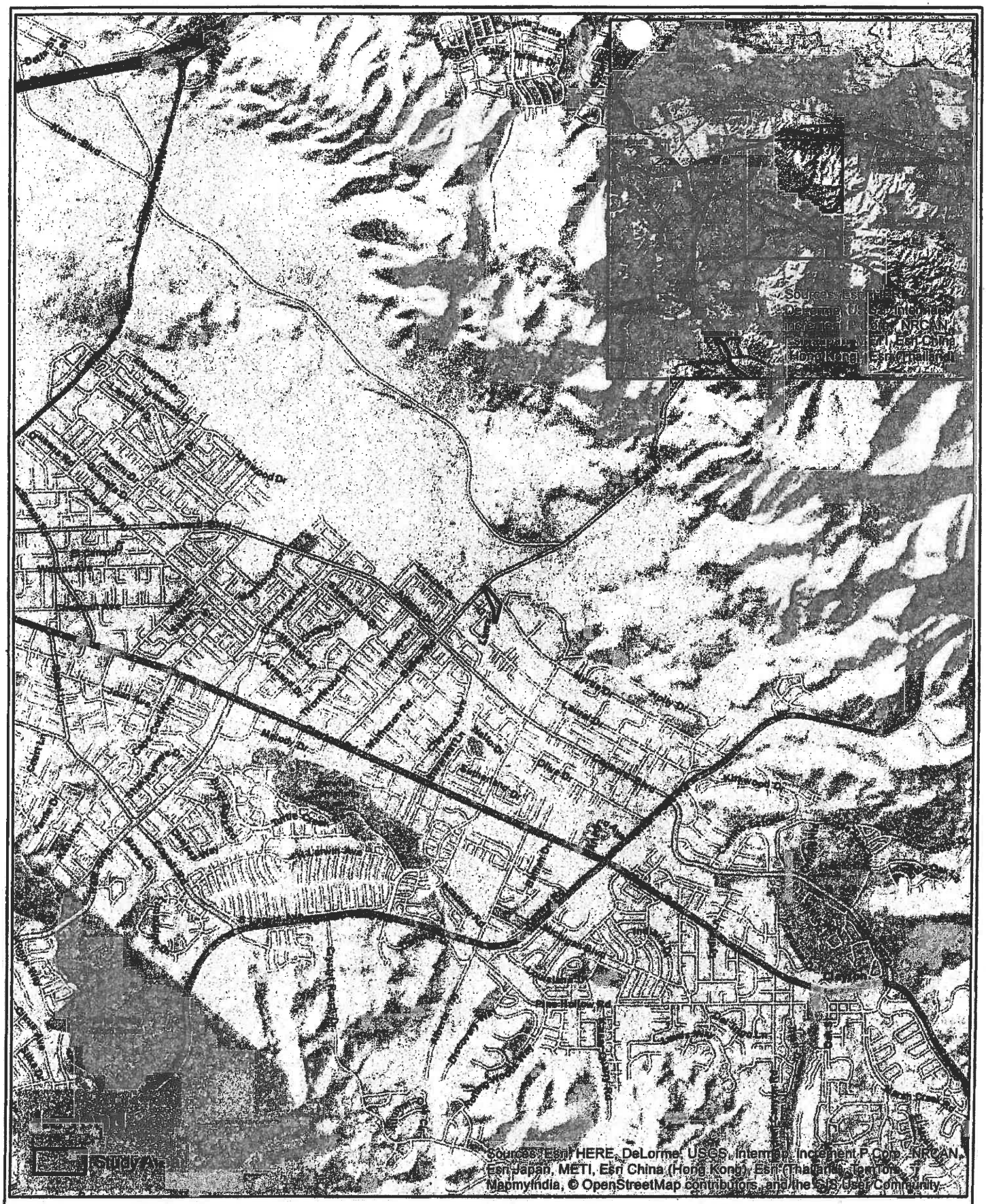


Figure 1. Study area locality map.

ENVIRONMENTAL CHECKLIST

		Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
I. AESTHETICS - Would the proposal:					
a.	Have a substantial adverse effect on a scenic vista? *(Sources 1,2,3)*				X
b.	Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway? *(Sources 1, 5)*			X	
c.	Substantially degrade the existing visual character or quality of the site and its surroundings? *(Sources 1)*			X	
d.	Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area? *(Sources 1)*			X	

Impact I.a. and b.: Scenic Vistas, Scenic Resources and Scenic Quality. No Impact. The project site is not a scenic vista (as defined by the Contra Costa County General Plan) nor is it near a scenic highway. The project proposes to remove 33 trees, 11 of which are oak trees. Most of the trees are declining, in poor health or have serious structural defects. The landscape plan for the project proposes the planting of approximately 37 trees along the proposed trail and staff will recommend the planting of one additional tree per residential lot. This is a less than significant impact.

Impact I.c.: Visual Character or Quality. Less than Significant. Implementation of the project would result in the construction of seven detached single family residences and would change the character of the site from a vacant lot to a suburban residential development. This change is consistent with the General Plan and proposed zoning designations for the site, and is consistent with the scale and type of residential development surrounding the site. This would be a less than significant impact.

Impact I.d.: Light and Glare. Potentially significant unless mitigation incorporated. There would be additional lighting associated with the new residences and landscaping and therefore the project would create a new source of light and glare in the area. The following mitigation measure would reduce this impact to less than significant.

Mitigation Measure Aesthetics 1: Outdoor lighting associated with the project shall be designed and located to minimize ambient light levels for any given application, consistent with public safety standards. Lighting fixtures shall be designed to minimize glare, direct light downward onto the project site, and shall be shielded to prevent overspill of light onto adjoining properties.

		Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
II. AGRICULTURAL 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 Department of Conservation as an optional model to use in assessing impacts on agricultural and farmland. Would the project:					
a.	Convert Prime Farmland, Unique Farmland, or Farmland of Statewide importance				X

		Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
	(Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resource Agency, to non-agricultural use? *(Sources 1, 2)*				
b.	Conflict with existing zoning for Agricultural use or a Williamson Act contract. *(Sources 1,2, 3)*				X
c.	Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, non-agricultural use? *(Sources 1,3)*				X
d.	Result in the loss of forest land to non-forest use? (Sources 1,3)				X
e.	Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural or conversion of forest to non-forest use? (Sources 1,3)				X

Impact II.a. - e.: Agricultural Soils, Agricultural Zoning. No Impact. The project site currently consists of vacant land and is, for the most part, surrounded by residential development. Now unused open space, the property once held a fruit orchard, however now it is not used for agricultural purposes and is not designated as important agricultural land by the County General Plan. It is classified as "Urban and built-up land" by the 2010 Contra Costa County

Important Farmland Map. Also the site does not contain forest land. Therefore implementation of the project would not convert agricultural land or forest land to non-agricultural uses. The land is not in the Williamson Act program.

		Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
III. AIR QUALITY - Where available, the significant criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:					
a.	Conflict with or obstruct implementation of the applicable air quality plan? *(Sources 1, 2, 9)*			X	
b.	Violate any air quality standard or contribute to an existing or projected air quality violation? *(Source 1, 2, 9)*		X		
c.	Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)? *(Source 1, 2, 9)*			X	

		Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
d.	Expose sensitive receptors to substantial pollutant concentrations? *(Source 1, 2, 9)*			X	
e.	Create objectionable odors affecting a substantial number of people? *(Source 1, 2, 9)*				X

Impact III. a. Conflict with or obstruct implementation of the applicable air quality plan? Less than significant.

The air quality plan applicable to the project area is the Bay Area Air Quality Management District's (BAAQMD) Bay Area 2010 Clean Air Plan (Clean Air Plan), which was adopted on September 15, 2010.[1] The Clean Air Plan is a comprehensive plan to improve Bay Area air quality and protect public health. The Clean Air Plan defines control strategies to reduce emissions and ambient concentrations of air pollutants; safeguard public health by reducing exposure to air pollutants that pose the greatest heath risk, with an emphasis on protecting the communities most heavily affected by air pollution; and reduce greenhouse gas emissions to protect the climate. Consistency with the Clean Air Plan can be determined if the project: 1) supports the goals of the Clean Air Plan; 2) includes applicable control measures from the Clean Air Plan; and 3) would not disrupt or hinder implementation of any control measures from the Clean Air Plan. An evaluation of the project's consistency with each of these criteria is provided below. As described below, the proposed project would not conflict with or obstruct implementation of the Clean Air Plan and this impact would be less than significant.

Clean Air Plan Goals. The primary goals of the Clean Air Plan are to: attain air quality standards; reduce population exposure to air pollutants and protect public health in the Bay Area; and reduce greenhouse gas emissions and protect the climate. As indicated in the analysis that follows in Sections III.b and VII.a, below, the proposed project would not exceed the BAAQMD's significance criteria for air pollutants or greenhouse gas emissions and would not increase exposure of the population to air pollutants. The proposed project would not hinder the region from attainment of the goals outlined in the Clean Air Plan. Therefore, the project supports the goals of the Clean Air Plan.

[1] Bay Area Air Quality Management District, 2010. *Bay Area 2010 Clean Air Plan.* September 15.

Clean Air Plan Control Measures. The BAAQMD identifies control measures as part of the Clean Air Plan to reduce ozone precursor emissions from stationary, area, mobile, and transportation sources. The transportation control measures are designed to reduce emissions from motor vehicles by reducing vehicle trips and vehicle miles traveled (VMT) in addition to vehicle idling and traffic congestion. The proposed project would not conflict with the identified transportation and mobile source control measures of the Clean Air Plan.

The Clean Air Plan includes Land Use and Local Impacts Measures (LUMs) that aim to achieve the following: promote mixed-use, compact development to reduce motor vehicle travel and emissions and ensure that planned growth is focused in a way that protects people from exposure to air pollution from stationary and mobile sources of emissions. The LUMs identified by the BAAQMD are not specifically applicable to the proposed project as they relate to actions the BAAQMD will take in the future to reduce impacts from the movement of goods and health risks in affected communities. The LUMs also detail new regulatory actions the BAAQMD will undertake related to land use, including the updated CEQA Air Quality Guidelines and indirect source review, which is still under development by the BAAQMD. However, the project is consistent with the goal of the measures as the project would provide housing in an existing residential area, would not expose people to air pollution and is consistent with the vision established in the Clean Air Plan. Thus, the project would not conflict with any of the LUMs of the Clean Air Plan.

The Clean Air Plan also includes Energy and Climate Control Measures (ECM), which are designed to reduce ambient concentrations of criteria pollutants and reduce emissions of CO_2. Implementation of these measures is intended to promote energy conservation and efficiency in buildings throughout the community, promote renewable forms of energy production, reduce the "urban heat island" effect by increasing reflectivity of roofs and parking lots, and promote the planting of (low-VOC-emitting)[2] trees to reduce biogenic emissions, lower air temperatures, provide shade, and absorb air pollutants. The energy measures of the Clean Air Plan are not specifically applicable to the proposed project. The project would, however, implement the energy measures as the BAAQMD and local governments (i.e., Contra Costa County) adopt the BAAQMD's energy measures as regulations in the future. The project would also be consistent with the latest Title 24 standards.[3] For all of these reasons, the proposed project would be consistent with the Clean Air Plan's energy measures.

Clean Air Plan Implementation. The project would develop a residential project in an existing residential area which is consistent with the vision of the Clean Air Plan. Control measures included in the plan include stationary source measures, transportation control measures, mobile source measures, land use and local impact measures, and energy and climate measures. The stationary source measures are not applicable to the

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[2] VOC refers to volatile organic compounds.

[3] Title 24 of the California Code of Regulations, also titled *The Energy Efficiency Standards for Residential and Nonresidential Buildings*, is part of the California Building Standards Code and is regulated by the California Energy Commission. The standards are updated periodically to allow consideration and possible incorporation of new energy efficiency technologies and methods. The 2013 standards will be effective July 1, 2014.

proposed project as the measures relate to activities such as metal-melting facilities, open burning, livestock waste, and refineries which are not proposed as part of the project. Therefore, the project would not hinder implementation of these measures. As discussed above, the project would implement the applicable transportation, mobile source, land use and local impact, and energy control measures and would not hinder implementation of these measures. Therefore, the proposed project would not hinder or disrupt implementation of any control measures from the Clean Air Plan.

Impact III.b. Violate any air quality standard or contribute substantially to an existing or projected air quality violation? Potentially significant unless mitigation incorporated.

Both State and federal governments have established health-based Ambient Air Quality Standards for six criteria air pollutants: carbon monoxide (CO), ozone (O_3), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), lead (Pb), and suspended particulate matter (PM). These standards are designed to protect the health and welfare of the populace with a reasonable margin of safety. The Bay Area is under nonattainment status for State 1-hour and 8-hour ozone standards. In addition, the Bay Area was designated as a nonattainment area for the federal 8-hour ozone level. The Bay Area is also considered a nonattainment area for $PM_{2.5}$ at the State level and an attainment area at the federal level.

To meet these standards the BAAQMD has established project level thresholds for reactive organic gases (ROG), nitrogen oxides (NO_x), particulate matter 2.5 ($PM_{2.5}$). ROG is formed from combustion of fuels and evaporation of organic solvents. ROG is an ozone precursor and a prime component of the photochemical reaction that forms ozone. NO_x refers to the compounds of NO_2, a reddish-brown gas, and nitric oxide (NO), a colorless, odorless gas, are formed from fuel combustion under high temperature or pressure. NO_x is a primary component of the photochemical smog reaction. $PM_{2.5}$ refers to fine suspended particulate matter with an aerodynamic diameter of 2.5 microns or less, and particulate matter 10 (PM_{10}) which refers to coarse particles that are larger than 2.5 microns but smaller than 10 microns.

According to the BAAQMD's *CEQA Guidelines*, to meet air quality standards for operational-related criteria air pollutant and air precursor impacts, the project must not:

- Generate construction emissions of ROG, NO_x or $PM_{2.5}$ greater than 54 pounds per day or PM_{10} exhaust emissions greater than 82 pounds per day;
- Contribute to CO concentrations exceeding the State ambient air quality standards; or
- Generate operation emissions of ROG, NO_x or $PM_{2.5}$ of greater than 10 tons per year or 54 pounds per day or PM_{10} emissions greater than 15 tons per year or 82 pounds per day.

Construction and operation emissions associated with the proposed project are analyzed below. As discussed, with implementation of Mitigation Measure AIR-1, the proposed project would not generate construction- or operation-period emissions in

excess of established standards and would therefore not violate any air quality standards or contribute substantially to an existing or projected air quality violation.

Construction Emissions. During construction, short-term degradation of air quality may occur due to the release of particulate emissions generated by excavation, grading, hauling, and other activities. Emissions from construction equipment are also anticipated and would include CO, NO_x, ROG, directly-emitted particulate matter ($PM_{2.5}$ and PM_{10}), and toxic air contaminants (TACs) such as diesel exhaust particulate matter.

Site preparation and project construction would involve demolition of the existing structures and pavements on the project site, clearing, excavating, grading, and building activities. Construction-related effects on air quality from the proposed project would be greatest during the site preparation phase because most engine emissions are associated with the excavation, handling, and transport of soils on the site. If not properly controlled, these activities could temporarily generate PM_{10}, $PM_{2.5}$, and small amounts of CO, SO_2, and NO_x. Sources of fugitive dust would include disturbed soils at the construction site and trucks carrying uncovered loads of soils. Unless properly controlled, vehicles leaving the site could deposit dirt and mud on local streets, which could be an additional source of airborne dust after it dries and is stirred-up by passing vehicles. PM_{10} emissions would vary from day to day, depending on the nature and magnitude of construction activity and local weather conditions. PM_{10} emissions would depend on soil moisture, silt content of soil, wind speed, and the amount of operating equipment. Larger dust particles would settle near the source, while fine particles would be dispersed over greater distances from the construction site. These emissions would be temporary and limited to the immediate area surrounding the construction site.

Construction emissions were estimated for the project using the California Emissions Estimator Model (CalEEMod) as approved by the BAAQMD. Construction-related emissions are presented in Table 1 and assume total construction duration of 8 months. Model output sheets are included in Appendix A.

The effects of construction activities would be increased dustfall and locally elevated levels of PM_{10} downwind of construction activity. Although ROG, NO_x and exhaust emissions would not exceed the established thresholds as identified in Table 1, the BAAQMD requires the implementation of Construction Best Management Practices to ensure construction impacts are reduced to a less-than-significant level.

Table 1: Project Construction Emissions in Pounds Per Day

Project Construction	ROG	NO_x	Exhaust $PM_{2.5}$	Exhaust PM_{10}
Average Daily Emissions	5.5	27.0	1.7	1.6
BAAQMD Thresholds	54.0	54.0	54.0	82.0
Exceed Threshold?	**No**	**No**	**No**	**No**

Source: LSA Associates, Inc., 2015.

Implementation of the following mitigation measure would require implementation of the BAAQMD's Best Management Practices and would reduce diesel PM exhaust emissions as well as construction dust (PM_{10} and $PM_{2.5}$) impacts to a less-than-significant level.

Mitigation Measure AIR 1: Consistent with the Best Management Practices required by the BAAQMD, the following actions shall be incorporated into construction contracts and specifications for the project:

- All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.
- All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
- All visible mud or dirt tracked-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
- All vehicle speeds on unpaved roads shall be limited to 15 mph.
- All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible.
- Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
- Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.
- All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.
- A publicly visible sign shall be posted with the telephone number and contact information for the designated on-site construction manager available to receive and respond to dust complaints. This person shall report all complaints to Contra Costa County and take immediate corrective action as soon as practical but not more than 48 hours after the complaint is received. The BAAQMD's phone number shall also be visible to ensure compliance with applicable regulations.

Localized CO Impacts. The BAAQMD has established a screening methodology that provides a conservative indication of whether implementation of a proposed project would result in significant CO emissions. According to the BAAQMD's *CEQA Air Quality Guidelines*, a proposed project would result in a less-than-significant impact to localized CO concentrations if the following screening criteria are met:

The project is consistent with an applicable congestion management program established by the county congestion management agency for designated roads or highways, and the regional transportation plan and local congestion management agency plans.

Project traffic would not increase traffic volumes at affected intersections to more than 44,000 vehicles per hour. The project would also not increase traffic volumes at affected intersections to more than 24,000 vehicles per hour where vertical and/or horizontal mixing is substantially limited (e.g., tunnel, parking garage, bridge underpass, natural or urban street canyon, or below-grade roadway).

The proposed project would not conflict with the Contra Costa County Transportation Authority's Congestion Management Program for designated roads or highways, a regional transportation plan, or other agency plans. The project site is not located in an area where vertical or horizontal mixing of air is substantially limited. In addition, traffic volumes on roadways in the vicinity of the project site are less than 44,000 vehicles per hour (refer to Section XVI for additional information). Therefore, the proposed project would not result in localized CO concentrations that exceed State or federal standards.

Operational Emissions – Regional Emissions Analysis. In addition to short-term construction emissions, the project would generate long-term operational air emissions. These long-term emissions are primarily mobile source emissions that would result from vehicle trips associated with the proposed project. Area sources, such as natural gas heaters, landscape equipment, and use of consumer products would also result in pollutant emissions. The Contra Costa County Ordinance Code Section *718-10* prohibits the installation of non-EPA certified wood burning appliances. The CalEEMod emissions analysis reflects this ordinance. CalEEMod was used to calculate long-term mobile and area source emissions. CalEEMod output sheets are included in Appendix A.

The primary emissions associated with the project are regional in nature, meaning that air pollutants are rapidly dispersed on emission or, in the case of vehicle emissions associated with the project, emissions are released in other areas of the Air Basin. The daily emissions associated with project operational trip generation and area sources are identified in Table 2 for ROG, NO_x, PM_{10}, and $PM_{2.5}$. The results indicate that project emissions would not exceed the significance thresholds for maximum daily emissions; therefore, the proposed project would not have a significant effect on regional air quality.

Table 2: Project Regional Emissions

Emission Category	Reactive Organic Gases (ROG)	Nitrogen Oxides (NO_x)	PM_{10}	$PM_{2.5}$
Emissions in Pounds Per Day				
Area Source Emissions	0.4	0.0	0.0	0.0
Energy Source	0.0	.1	0.0	0.0
Mobile Source Emissions	0.3	0.6	0.3	0.1
Total Emissions	**0.7**	**0.7**	**0.3**	**0.1**
BAAQMD Significance Threshold	**54.0**	**54.0**	**82.0**	**54.0**
Exceed?	**No**	**No**	**No**	**No**
Emissions In Tons Per Year				
Area Source Emissions	0.1	0.0	0.0	0.0
Energy Source	0.0	0.0	0.0	0.0
Mobile Source Emissions	0.0	0.1	0.1	0.0
Total Emissions	**0.1**	**0.1**	**0.1**	**0.0**

Table 2: Project Regional Emissions

Emission Category	Reactive Organic Gases (ROG)	Nitrogen Oxides (NO_x)	PM_{10}	$PM_{2.5}$
Emissions in Pounds Per Day				
BAAQMD Significance Threshold	**10.0**	**10.0**	**15.0**	**10.0**
Exceed?	**No**	**No**	**No**	**No**

Source: LSA Associates, Inc., 2015.

Impact III.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)? Less than significant.

CEQA defines a cumulative impact as two or more individual effects, which when considered together, are considerable or which compound or increase other environmental impacts. According to the BAAQMD, air pollution is largely a cumulative impact and no single project is sufficient in size to itself result in nonattainment of ambient air quality standards. In developing the thresholds of significance for air pollutants used in the analysis above, the BAAQMD considered the emission levels for which a project's individual emissions would be cumulatively considerable. The BAAQMD *CEQA Air Quality Guidelines*[4] indicate that if a project exceeds the identified significance thresholds, it's emissions would be cumulatively considerable, resulting in significant adverse air quality impacts to the region's existing air quality conditions. Therefore, if a project's daily average or annual emissions of operational-related criteria air pollutants exceed any applicable threshold established by the BAAQMD, the proposed project would result in a cumulatively significant impact.

As shown in Table 2 above, implementation of the proposed project would generate regional emissions that do not exceed established thresholds. Therefore, the project would not make a cumulatively considerable contribution to regional air quality impacts.

Impact III.d. Expose sensitive receptors to substantial pollutant concentrations? Less than significant.

Sensitive receptors are defined as residential uses, schools, daycare centers, nursing homes, and medical centers. Individuals particularly vulnerable to diesel particulate matter (DPM) are children, whose lung tissue is still developing, and the elderly, who may have serious health problems that can be aggravated by exposure to DPM. Exposure from diesel exhaust associated with construction activity contributes to both cancer and chronic non-cancer health risks.

This section describes the potential impact on sensitive receptors from construction and operation of the proposed project.

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[4] Bay Area Air Quality Management District, 2012. *California Environmental Quality Act, Air Quality Guidelines.* May.

Project Construction – Toxic Air Contaminants. During construction, various diesel-powered vehicles and equipment would be in use. In 1998, the California Air Resources Board (ARB) identified particulate matter from diesel-fueled engines as a toxic air contaminant (TAC). The ARB has completed a risk management process that identifies potential cancer risks for a range of activities using diesel-fueled engines.[5] High volume freeways, stationary diesel engines and facilities attracting heavy and constant diesel vehicle traffic (e.g., distribution centers and truck stops) were identified as having the highest associated risk.

Health risks from TACs are a function of both concentration and duration of exposure. Unlike the above types of sources, construction diesel emissions are temporary, affecting an area for a period of days or perhaps weeks. Additionally, construction-related sources are mobile and transient in nature, and the emissions occur within the project site. Given the short duration of project construction, the construction of the project would not expose sensitive receptors to substantial pollutant concentrations. Additionally, with implementation of Mitigation Measure AIR-1, which is consistent with BAAQMD guidelines, health risks from construction emissions of diesel particulate would be less than significant.

Project Operation. Once operational, the project would include residential uses which would not be a source of toxic air contaminants, however future residents of the site would be considered sensitive receptors. The ARB recommends avoiding the siting of new sensitive land uses within 500 feet of a freeway. [6] Sources of TACs that could impact future residents would include diesel emissions from highways or to a lesser extent, railroad tracks. The project site is not located within the vicinity of a rail line or freeway. The closest freeway (Highway 680) is located more than 4 miles from the project site. According to the ARB, at this distance, this source would not substantially impact the project site.

Additionally, the BAAQMD issues permits to businesses whose operation includes the release of toxic air contaminants. These operations are known as stationary air pollution sources. The project was evaluated to determine the potential impact of these stationary air pollution sources on the proposed project. In order to identify stationary sources for a particular location, the BAAQMD provides KML (Google Earth) files for each county within their jurisdiction. Using the KML file for Contra Costa County and a 1,000-foot buffer zone, no stationary sources were identified within the vicinity of the project site. Therefore, development of the project would not expose future residents of the project site to substantial pollutant concentrations.

Impact III.e. Create objectionable odors affecting a substantial number of people? No impact.

The project does not include any activities or operations that would generate objectionable odors. The project is not located in an area with confirmed odor complaints and once operational, the project would not be a source of odors. Therefore,

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[5] California Air Resources Board, 2000. *Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles.* October.

[6] ARB, 2005. *Air Quality and Land Use Handbook: A Community Health Perspective.* April.

the project would not create objectionable odors affecting a substantial number of people.

		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 game or U.S. Fish and Wildlife Service? *(Sources 1, 2, 10)*		X		
b.	Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service? *(Sources 1, 2, 10)*		X		
c.	Have a substantial adverse effect on federally protected wetlands as defined by		X		

		Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
	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? *(Sources 1, 2, 10)*				
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? *(Sources 1, 2)*			X	
e.	Conflict with any local policies or ordinances protecting biological resources, such as tree preservation policy or ordinance? *(Sources 1, 2, 3)*			X	
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? *(Sources 1, 2)*				X

The applicant had a biological assessment performed on the project site by Mosaic Associates to identify existing biological resources (see source 10 with appendixes, wetland delineation map and California Tiger Salamander site assessment). Based on the results of this study, the applicant had an additional site analysis conducted by WRA, Inc. (WRA) specifically to assess the potential for California tiger salamander (CTS; *Ambystoma californiense*) to occur within the study area. This additional analysis included a site visit to assess habitat suitability, a review of historical aerial photography and local rainfall data to determine duration of on-site ponding, a review of historical occurrences in the region, and an assessment of migration barriers abutting the site. The results of the WRA analysis have been incorporated directly into the following section.

The following information is a result of the WRA and Mosaic assessments. Where the Mosaic and WRA assessments for CTS vary, differences are described in the text.

Setting

The approximately 3.8-acre study area is located southwest of Myrtle Drive, southeast of Bailey Road, in Concord, Contra Costa County, California (Figure 1). The study area occurs at ~ 215 to ~ 225 feet elevation (NGVD) and is generally level, sloping gently to the northwest (Figure 2). The site is undeveloped, but it has a history of agricultural use (orchards were observed in historic aerial photographs), although it has been fallow and vacant since approximately 1960 (AEI Consultants 2015). Dense residential development surrounds the project site to the west, south, and southeast, with undeveloped land associated with CNWS to the north and northeast.
Except for some valley oaks (*Quercus lobata)* and almond *(Prunus dulcis)* trees, the project site largely contains ruderal vegetation, and is disked and/or mowed annually for fire protection (Dan Freeman, property owner, pers. comm.). Photos of the site are included in Mosaic 2015.

Vegetation

Two vegetation communities occur on the study area: Ruderal Herbaceous and Seasonal Wetland. Ruderal Herbaceous vegetation, consisting of a highly disturbed phase of Non-Native Grassland (Holland 1986) and a mixture of ruderal herbaceous Alliances found in Sawyer et al. (2009), covers most of the study area. Dominant species are non-native grasses and forbs adapted to disturbance, including prickly lettuce (lactuca serriola), wild oats (Avena sp.), chicory (Cichorium intybus), ripgut brome (Bromus diandrus), field bindweed (Convolvulus arvensis), summer mustard (Hirschfeldia incana), barley (Hordeum murinum), and Mediterranean barley (Hordeum marinum subsp. *gussoneanum).* A Seasonal Wetland community occurs in two shallow basins in the northern portion of the study area, and consists primarily of non-native wetland classified plant species, including swamp pricklegrass (*Crypsis schoenoides),* rabbitsfoot grass *(Polypogon monspeliensis),* Italian ryegrass *(Festuca perennis),* hyssop loosestrife *(Lythrum hyssopifolia),* and common knotweed *(Polygonum aviculare).* In addition, trees and shrubs are scattered along the study area perimeter, and include valley oak, walnut *(Juglans* sp.), oleander *(Nerium oleandef),* and almond trees.

Wildlife

Wildlife observed or expected to use the site include species that can survive in disturbed conditions adjacent to development including western fence lizard *(Sceloporous occidentalis),* Botta's pocket gopher (*Thomomys bottae,* observed),

California ground squirrels *(Spermophilus beechi,* observed), striped skunk *(Mephitis mephitis),* raccoon *(Procyon lotof)* and the introduced Virginia opossum *(Didelphis virginiana).* Birds observed on the site included northern flicker *(Colaptes auratus),* downy woodpecker *(Picoides pubescens),* northern mockingbird *(Mimus polyglottos),* mourning dove *(Zenaida macroura),* white-crowned sparrow *(Zonotrichia leucophrys),* house finch (*Carpodacus mexicanus),* and American crow *(Corvus brachyrhynchos).* A pair of pin-tailed whydah (*Vidua macroura),* exotic birds that are native to Africa were also observed. These birds are likely escaped domestic pets and are not protected under state and federal regulations.

Regulated Waters and Wetlands

Two potential seasonal wetlands were identified in low-lying depressions in the northern portion of the site (Appendix B). These wetlands appear to meet the three technical parameters of wetlands regulated under Section 404 of the federal Clean Water Act due to the presence of hydrophytic vegetation, hydric soils and indicators of wetland hydrology. The discharge of fill material into these wetlands would may be regulated by the USACE and RWQCB.

Other Sensitive Habitats

Other than the seasonal wetlands, no other sensitive natural communities or habitats are present on site.

Special-Status Species

Numerous species of plants and animals within the state of California have low populations, limited distributions, or both. Such species may be considered "rare" and are vulnerable to extirpation as the state's human population grows and the habitats these species occupy are converted to agricultural and urban uses. State and federal laws have provided the CDFW, the USFWS and the NMFS with a mechanism for conserving and protecting the diversity of plant and animal species native to California. A number of native plants and animals have been formally designated as threatened or endangered under state and federal endangered species legislation. Others have been designated as "candidates" for such listing. Still others have been designated as "species of special concern" by the CDFW. Additionally, CDFW has concluded that plant species included on the California Native Plant Society (CNPS) Lists 1 and 2, and potentially some List 3 plants, should be evaluated under CEQA. Collectively, these plants and animals are referred to as "special-status species."

Special-Status Plants

The CNDDB reports 53 special-status plant species from the region surrounding the project site (Mosaic 2015). Based on a review of background literature sources and the site's history of agricultural use and annual mowing and/or disking for fire suppression, it was determined that the site is unsuitable for special-status plant species documented in the literature. Of the 53 documented special-status plant species occurrences in the vicinity, all were considered unlikely to be present or absent from the study area based on one or more of the following reasons:

- The species has a very limited range of geographic location and has never been observed in the vicinity of the study area.

- Common plants which are nearly always associated with the special-status species, and which indicate the presence of suitable, intact habitat, are absent from the study area.
- Specific soil and other habitat characteristics are absent from the study area.
- Management/maintenance of the study area (e.g., mowing, disking) precludes the species.

Special-Status Animals

The CNDDB reports 59 special-status animal species from the region surrounding the project site (Mosaic 2015). Although the site is thoroughly disturbed, two special-status species have potential to occur on the project site, including CTS and the western burrowing owl *(Athene cunicularia)*. The trees, grassland and seasonal wetlands on site also provide suitable habitat for nesting birds.

California tiger salamander. California tiger salamander is state and federally listed as a threatened species. This amphibian is restricted to grasslands and low-elevation foothill regions in California (generally under 1,500 feet) where it uses seasonal aquatic habitats for breeding. The salamanders breed in natural ephemeral pools, or ponds that mimic ephemeral pools (stock ponds that go dry), and occupy substantial areas surrounding the breeding pool as adults. CTS spend most of the year in underground refugia in the grasslands surrounding breeding pools. During wet periods, the salamanders may emerge from underground refugia and feed in the surrounding grasslands.

No breeding habitats for the California tiger salamander are present on site; nor have any CTS been documented on the property. As documented in Mosaic (2016), hydrologic conditions on the site are not suitable for CTS breeding. The property is also completely surrounded by residential development that is unsuitable habitat for CTS. Approximately 100 feet of the property (less than 5% of the entire property perimeter), abuts Bailey Road, a paved, well-traveled, two lane arterial between Highway 24 and Concord. Across Bailey Road from the property, located about 180 feet from the Road, is a seasonal pond area on the Concord Naval Weapons Station (CNWS) that has been reported to contain a juvenile CTS in 2005, a year of above annual rainfall (Smallwood and Morrison 2007). This is the first and only CNDDB record of a CTS at this location; one juvenile was observed in 19 dip net sweeps (CDFW 2016).

The seasonal pond on the CNWS temporarily holds water in the winter, but aerial photographs indicate that it does not hold water for a sufficient duration (consecutive 3 months) to support CTS in all years. The intermittent suitability of this pond limits the number of individuals and frequency of CTS breeding that it supports. In addition, the pond is completely surrounded by the CNWS property and should any CTS be present, only 6 degrees (or 2%) of a circle surrounding the pond would be in the direction of the Laurel Place II property. Thus it is likely that any CTS using the pond during a year when water was present for sufficient time would be directed towards the property is very low.

The Biological Resources report (Mosaic 2015) noted that the seasonal pond on the CNWS is within the movement range of CTS and that while Bailey Road is heavily used and would likely restrict movement onto the property, it was not a total barrier to movement.

However, the Biological Resources report did not evaluate the level of traffic on Bailey Road. Traffic count data by the City of Concord in 2008 indicate that Bailey Road has a daily traffic count of approximately 7000 vehicles/day or nearly 300 vehicles/hour. Even considering lower traffic at night is likely on Bailey Road, the USFWS states that they consider roads a significant threat to CTS:

> Mortality from road crossings was determined to be a threat at the time of listing (Service 2004). This is still considered a threat at this time, although the extent of this threat is not known. Because California tiger salamanders migrate en masse and frequently cross roadways that occur between breeding and nonbreeding areas, they are more susceptible to road mortality (G. Fellers, in literature, 2012). Dead and wounded California tiger salamanders are likely removed from roads quickly by scavengers, making detection far less likely (Shaffer et al. 1993). In addition, salamanders that are crushed by vehicles are not easily identifiable. Despite this difficulty in making detections, Central California tiger salamanders have been reported to be killed by vehicular traffic while crossing roads (Twitty1941; Barry and Shaffer 1994; Launer and Fee 1996; CCPWD 2009; C. Caris, pers. comm., 2014). The CNDDB (2015) reports 27 occurrences of Central California tiger salamanders that are threatened by vehicular traffic and road mortality. Of these 27 occurrences, 18 have reported observations of Central California tiger salamanders that were struck by vehicles. The majority of these occurrences are reported in Alameda County (13), and other occurrences are reported in Contra Costa, Mariposa, Merced, Santa Cruz, Santa Clara, San Benito, San Joaquin, and Stanislaus Counties.
>
> Draft Recovery Plan for CTS (2015)

Furthermore, the CDFW wrote that roads could be a significant barrier to movement of CTS.

> Roads present barriers to migration and thus contribute to habitat fragmentation and salamander mortality. Roads are a significant source of direct mortality to amphibians, including salamanders, traveling to and from breeding areas (see Andrews et al. 2008 for a literature review). Jackson (1996) stated that roads separating breeding and upland habitat can be the cause of significant population declines and even local extinctions for the spotted salamander (*Ambystoma maculatum*). Gibbs and Shriver (2005) found that population projections based on spotted salamander life tables imply road mortality can be a significant source of additive mortality for individual spotted salamanders in many parts of the species' range, and that an annual risk of road mortality for adults of >10% can lead to local population extirpation.
>
> For CTS in particular, roads are a documented source of direct mortality. Significant numbers of CTS are killed by vehicular traffic while crossing roads (Hansen and Tremper 1993, S. Sweet *in litt.* 1993, J. Medeiros pers. comm. 1993; all cited in USFWS 2005). CTS road-kill mortality in the vicinity of breeding sites has been reported to be 25-72% of the observed salamanders crossing roads (Twitty 1941, S. Sweet *in litt.* 1993, Launer and Fee 1996). From 2001-2007, on one busy Sonoma County road that bisects a major CTS migration corridor, 58-87.5% of the CTS observed (range = 12-62 salamanders) were road kills (D. Cook *in litt.* 2007). Observations of 16 roadways in Sonoma County found 63% (164 of 261) road-killed CTS. The highest mortality concentration was

> one 1,200 ft (366 m) section of Stony Point Road where an estimated 5-20% of breeding adults are killed annually (Cook *in litt.* 2009).
>
> CDFG Status Review of CTS 2010

A culvert occurs under Bailey Road, however, it is not designed for CTS passage and CTS are not directed towards this culvert in a manner that would preclude them from Bailey Road. As stated by the USFWS in their listing of CTS as threatened:

> Unless there is a means of directing the species to a culvert, we have no data suggesting that a salamander would seek or use a culvert in preference to just crossing a road at the place they encountered one, or that the presence of culverts reduces crossing risk to salamanders.

Additionally, although there is no breeding habitat onsite, if a CTS managed to cross Bailey Road and enter the Laurel Place II property, adults would not be able to utilize it for upland estivation habitat due to the site's vegetation management regime. The site has been disked at least twice in the past five years (Google Earth 2016) as required to meet Contra Costa County minimum weed abatement standards, and this vegetation management practice generally eliminates all adult upland habitat for CTS through mechanical removal of burrows. Recent and regular removal of burrows from the site means that no remnant populations of CTS have potential to occur onsite, and any CTS that move into the site would be unlikely to find suitable burrows to inhabit.

Furthermore, no suitable burrows for CTS were observed within the project site during the April 29, 2016 site visit. The site lacks suitable burrows with open entrances, which would include ground squirrel burrows or old gopher or mole burrows which lack a burrow mound and plug. No ground squirrel burrows, trails or individuals were observed within the project site, nor were any old burrows without plugs or mounds. These observations are consistent with the observations of recent disking throughout the project area.

The general studies that have been done and the site-specific data suggest that despite the proximity of the seasonal pond on the Concord NWS, that the small frontage of the project site with suitable habitat, the heavily traveled road, the site vegetation management and lack of suitable burrows make the potential for any use by CTS on the project site very unlikely.

Burrowing Owl. Western burrowing owl, a California Species of Special Concern requires habitat with open, well-drained terrain, sparse vegetation, and underground burrows available for use throughout their entire life cycle (Klute et al. 2003). The birds most commonly live in burrows created by California ground squirrels. Burrowing owls feed opportunistically on arthropods, small mammals, birds, amphibians, and reptiles. Burrowing owls have been recorded in the region, and the open grasslands to the north and east of the project area continue to provide suitable habitat for this species. The project site provides suitable foraging and nesting habitat for this species although their potential to occur on site is low given the presence of relatively large trees east and west of the site which provide perches for larger raptors that prey upon burrowing owls. Additionally, as per WRA's site analysis, disking for fire suppression would periodically destroy any burrow systems present, which substantially reduces the potential for this species to nest or overwinter on the site. No burrowing owls or their sign (i.e., whitewash, pellets, prey remains, feathers, nest decoration) were observed during the October 8, 2015

Mosaic site visit, and no owls or suitable burrows were observed by WRA during the April 29, 2016 site visit.

Nesting Birds. The trees, grassland and seasonal wetlands on and adjacent to the site provide suitable nesting habitat for numerous bird species. While no nests were detected during the October 8, 2015 site visit, the survey was not conducted during the active nesting season.

POTENTIAL IMPACTS AND MITIGATION MEASURES SPECIFIC TO THE PROJECT SITE

California Tiger Salamander

Impacts. Based on the site conditions and vegetation management regime described above, CTS is unlikely to occur within the study area. However, the California Endangered Species Act prohibits the "take, possess[ion], purchase, or [sale] within this State, any endangered species, threatened species, or part or product thereof, or attempt any of those acts, except as otherwise provided in the California Endangered Species Act, Fish and Game Code Section 2050, et seq. ("CESA"), the Native Plant Protection Act, the Natural Community Conservation Planning Act, the California Desert Native Plants Act, or as authorized under this article in an incidental take permit." As such, should any CTS be observed during the conduct of project construction, no action can be taken to take or possess the species unless an Incidental Take Permit is issued by the Department. To assure compliance with the CESA and CEQA, the implementation of the mitigation measures below would be in compliance with the CESA and the impact of the project on CTS would be less than significant.

Mitigation Measure Bio 1

1. As required under the California Endangered Species Act and Fish and Game Codes, the applicant shall consult with CDFW if there is take or possession of CTS as defined under the Fish and Game Code as a result of the proposed project. If no take of individual CTS is anticipated as occurring under the mitigation measures stated below, no further action is required. If a Corps of Engineers permit is required for fill of any wetlands, the Corps may also elect to consult with the USFWS under Section 7 of the Endangered Species Act. The applicant shall comply with all terms of any endangered species permits required and issued including any mitigation requirements and provide proof of compliance, including any compensatory mitigation, to the Department of Conservation and Development (DCD) prior to issuance of a grading permit.

Prior to any construction activities, the following measures shall be conducted:

2. A silt fence (properly buried at the base in 6 inches of soil) shall be installed along Bailey Road. The exclusion fencing shall be composed of Geotex 102F (or its equivalent), a durable material capable of withstanding ultraviolet degradation for the duration of the project. The fence is 12 inches high, buried in the ground, and includes one way exit funnels which may permit terrestrial species to vacate the construction area. The fencing will be inspected weekly and remain in place for the duration of construction activities.

3. Immediately prior to the first day of construction activities, an approved biologist shall conduct an environmental training session with all workers on site to inform them about environmental issues regarding the potential for sensitive species, including CTS to be present on the site and provide training on avoidance and protection of the species should any individuals be observed. All work shall stop should an individual be observed during construction and the CDFW and USFWS notified.

4. A qualified Biological Monitor shall be present during initial grading activities to observe all construction activities and immediately stop work should any CTS be observed. The CDFW and USFWS shall be notified should any individuals be observed.

5. To prevent inadvertent entrapment of sensitive species during construction, the on-site biologist and/or construction foreman/manager shall ensure that all excavated, steep-walled holes or trenches more than one-foot deep are completely covered at the close of each working day by plywood or similar materials, or provided with one or more escape ramps constructed of earth fill or wooden planks and inspected by the on-site biologist. Before such holes or trenches are filled, they will be thoroughly inspected for trapped animals by the on-site biologist and/or construction foreman/manager. If any CTS are observed, all work must stop and CDFW and USFWS contacted.

6. All activities listed above shall be recorded and maintained in a project monitoring construction log. Training materials, including photographs of the potential listed species in the area, and a list of numbers of personnel, including the US Fish and Wildlife Service and the Department of Fish and Wildlife, will be placed in the log book. Site visits and inspections shall be regularly entered into the log book by the contractor and the monitoring biologist. All applicable permits and conditions to protect sensitive species habitat will be copied and placed in the log book.

Finally, the following mitigation measure shall be conducted to prevent CTS from entering the project area after construction is completed:

7. A suitable concrete (or brick) wall, curb, or berm, at least 12 inches high, shall be constructed along the boundary of development adjacent to Bailey Avenue and the junction with Myrtle Drive to prevent any juvenile and adult CTS from accessing the area in the future from the adjacent CNWS. The design and placement of the barrier is subject to the review and approval of DCD.

Burrowing Owls

Impacts. Development of the project could result in the loss of individual owls if burrowing owls were to nest or occupy burrows on the project site during construction. Implementation of the mitigation measures below would ensure that the impact of the project on individual burrowing owls would be less than significant. Given the project site's proximity to development and the presence of large trees surrounding the site, the potential for occupancy of the site by owls is low, and the loss of unoccupied habitat associated with development would be less than significant and thus would not warrant mitigation.

Mitigation Measure Bio 2

1. Prior to the initiation of construction activities, a qualified biologist shall conduct burrowing owl take avoidance surveys in accordance with CDFG's 2012 Staff Report on Burrowing Owl Mitigation to determine whether or not owls are present within impact areas and construction zones at the time of construction. The initial take avoidance survey shall be conducted no more than 14 days prior to the commencement of construction activities, and the final survey prior to disturbance of a potential owl burrow shall be conducted within 24 hours of disturbance. Take avoidance surveys shall be conducted year-round throughout suitable habitat in the study area to detect wintering and breeding owls, if present._ Surveys must be reinitiated if more than 14 days lapse between survey dates and construction activities.

2. Prior to construction, all construction personnel shall receive training on burrowing owls and these measures to ensure their protection.

3. If burrowing owls are detected occupying a burrow on site during take avoidance surveys outside the nesting season (September 1 - January 31), a protective buffer of 250 feet will be established around burrows until a qualified biologist determines that they are no longer occupied for the season. If establishing a protective buffer is not feasible, a burrowing owl exclusion plan consistent with the 2012 CDFG Staff Report on Burrowing Owl Mitigation shall be prepared and implemented by a qualified biologist subject to CDFW approval. Owls shall be excluded from all suitable burrows on the site with the use of one-way exclusion doors. A minimum of one week shall be allowed to accomplish this task and allow for owls to acclimate to alternate burrows. These mitigation actions shall be carried out before the burrowing owl breeding season (February 1- August 31) and a qualified biologist shall monitor the nest location weekly until construction begins to ensure that burrowing owls do not re-inhabit the study_area.

4. If burrowing owls are detected occupying a burrow on site during the breeding season (February 1 through August 31), a qualified biologist shall establish a no-disturbance zone with a radius of 250 feet around each occupied burrow within the Study Area. No construction-related activity (e.g., site grading, staking, surveying, any use of construction equipment) shall occur in the exclusion zone during the breeding season. Once the breeding season is over, or a qualified biologist determines that the young have fledged, passive relocation may proceed as described in Condition 4 above.

5. If burrowing owls are detected on site, mitigation for permanent impacts to a nesting or wintering burrow will be implemented in accordance with the Staff Report on Burrowing Owl Mitigation (CDFG 2012). Mitigation through this plan may be achieved at a 1:1 ratio through the purchase of burrowing owl credits at an approved Conservation Bank, subject to approval by the CDFW.

6. The project sponsor shall provide proof of compliance to the County prior to issuance of a grading permit.

Nesting Birds

Impacts. Construction activities, including ground disturbance and removal of the trees and other vegetation on site could destroy active bird nests or cause birds to abandon eggs or young. With implementation of the mitigation measure below, the impact would be less than significant.

Mitigation Measure Bio 3

1. If site disturbance commences between February 1 and August 31, a qualified biologist shall conduct a pre-construction bird nesting survey. If nests of native birds are detected on or adjacent to the site, a no disturbance buffer (generally 50 feet for passerines and 300 feet for raptors) in which no new site disturbance is permitted shall be observed until August 31, or the qualified biologist determines that the young are foraging independently. The size of the no-disturbance buffer shall be determined by a qualified biologist, and shall take into account local site features and existing sources of potential disturbance. If more than 14 days elapses between the survey and the start of construction, the survey shall be repeated. The project sponsor shall provide proof of compliance to the County prior to issuance of a grading permit.

Wetlands

Impacts. Development of the proposed project will result in the permanent loss of up to 0.045 acres of seasonal wetlands. With implementation of the mitigation measures below, the impact would be less than significant.

Mitigation Measure Bio 4

1. Authorization from the USACE and RWQCB for the fill of jurisdictional wetlands shall be obtained by the applicant prior to the start of construction. The project sponsor shall comply with all terms of the permits including any mitigation requirements and provide proof of compliance to the County prior to issuance of a grading permit. If the applicant choses or is required to avoid all delineated wetlands as a result of project redesign and no fill of wetlands occurs, no permits will be necessary. The applicant shall demonstrate to the County that the project has avoided fill in any delineated wetland prior to issuance of the grading permit.

Impact IV.f.: Conservation Plans. No Impact. The proposed project would not conflict with any adopted Habitat Conservation Plan, Natural Community Conservation Plan or other approved conservation plan as no conservation plans have been adopted encompassing the project and any other areas within the vicinity of the site; therefore, no impact is anticipated.

		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 historic resource as defined in 15064.5? *(Sources 1, 8)*				X
b.	Cause a substantial adverse change in the significance of an archaeological resource pursuant to 15064.5? *(Sources 1, 8)*				X
c.	Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature? *(Sources 1, 8)*				X
d.	Disturb any human remains, including those interred outside of formal cemeteries? *(Sources 1, 8)*			X	

The information below is based on an archaeological literature review, field inspection and Native American Consultation for the Laurel Place II Project, done by Holman & Associates Archaeological Consultants, dated November 14, 2014

Impact V.a.: ***Would the project cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5? No impact.***

No evidence of historic or prehistoric archaeological materials were seen anywhere inside the project site or are there recorded records of such materials within a quarter mile radius of the project area.

Impact V.b.: Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5? No impact.

See above response.

Impact V.c. Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature? No impact.

See above response.

Impact V. d.: Would the project disturb any human remains, including those interred outside of formal cemeteries? Less than significant.

The probability of finding human remains in minimal. However, the applicant is required by condition of approval to inform its contractor(s) of the appropriate procedures if human remains are encountered on the project site. The Contra Costa County Department of Conservation and Development shall verify that the following directive has been included in the appropriate construction documents:

"If human remains are encountered during project activities, work within 50 feet of the discovery shall be redirected and the County Coroner notified immediately. At the same time, the project applicant shall notify the Contra Costa County Department of Conservation and Development of the discovery, and a qualified archaeologist shall be contacted to assess the situation. Project personnel shall not collect or move any human remains and associated materials. If the human remains are of Native American origin, the Coroner must notify the Native American Heritage Commission within 24 hours of this identification. The Native American Heritage Commission will identify a Most Likely Descendant (MLD) to inspect the site and provide recommendations for the proper treatment of the remains and associated grave goods."

			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 or loss, injury, or death, involving: *(Sources 1, 2, 7)*					
	i.	Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area, or based on other substantial evidence of a known fault? Refer to the Division of Mines and Geology Special Publication 42. *(Sources 1, 2, 7)*			X	
	ii.	Strong seismic ground shaking? *(Sources 2, 7)*			X	
	iii.	Seismic-related ground failure, including liquefactions? *(Sources 2, 7)*		X		
	iv.	Landslides? *(Sources 2,7)*			X	
b.	Result in substantial soil erosion or the loss of topsoil? *(Sources 2,7)*				X	
c.	Be located on a geologic unit or soil that is unstable, or that would			X		

		Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
	become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse? *(Sources 2,7)*				
d.	Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creative substantial risks to life or property? *(Sources 2,7)*		X		
e.	Have soils incapable of adequately supporting the use of septic tanks or alternative waste disposal systems where sewers are not available for the disposal of waste water? *(Sources 2,7)*				X

Discussion

A1. The nearest fault considered active by the California Geological Survey (CGS) is the Concord fault, which can be traced from the northwest flank of Mt. Diablo in the North Gate Road area, along the toe of Lime Ridge, through downtown Concord area and to Suisun Bay. It continues to the north-northwest trend across Suisun Bay. This northern segment of the fault, in Solano County, is named the Green Valley fault. In summary, the trace of the Concord fault passes approximately 3½ miles southwest of the site. However, the Clayton fault is mapped along the toe of the Los Medanos Hills and can be inferred to pass immediately north of the site. The Clayton fault is a north-northeast dipping thrust fault that appears to be the northeastern extension of the Marsh Creek- Greenville fault system that passes along the back side on Mt. Diablo. The Greenville fault was the source of two earthquakes in January, 1980 which were accompanied by ground deformation. In the aftermath of that seismic event the CGS placed the Greenville fault in an A-P Zone. Although the northern extension of the Greenville fault is not in an official A-P Zone, information of the displacement history of the Marsh Creek and Clayton faults is sketchy. Nevertheless, they should be considered

to be potential seismic sources. Because the site is not within an Alquist-Priolo (A-P) Earthquake Fault Zone, the risk of fault rupture is generally regarded as *very low.*

A2. According to the Safety Element (p. 10-13) the site is in within an area rated "Moderate" damage susceptibility. According to the Legend for this map, the moderately category includes lands that are underlain by younger alluvium (Holocene age deposits). The risk of structural damage from ground shaking is regulated by the building codes and County Grading Ordinance. The prevailing building code requires use of seismic parameters in the design of structures. The seismic parameters from the 2013 California Building Code(CBC) are determined by the project geotechnical engineer based on soil profile types and proximity of faults deemed capable of generating strong/violent earthquake shaking. The County Grading Ordinance provides a regulatory framework for grading projects. Specific standards and criteria for earthwork are provided by the project geotechnical engineer. Grading plans and geotechnical reports, including erosion control plans and drainage plans are subject to review and approval for conformance with County requirements and expectations prior to the issuance of the grading permit. Quality construction, conservative design and compliance with building and grading regulations can be expected to keep risks within generally accepted limits. A building and/or grading plans that are considered incomplete can be rejected, until an appropriately detailed plan is provided. It should also be recognized that County has an NPDES permit from the Regional Water Quality Control Board. The objective of the NPDES permit is to minimize/ prevent stormwater pollution to creeks. The permit requires that specific measures be incorporated into new projects that would be effective in the control of pollution, both during the construction period and over the long term. A Stormwater Control Plan (SCP) that is incomplete can be rejected, until an appropriately detailed plan is provided. In the case of the pending application, the applicant has submitted a Vesting Tentative Map (VTM) that was prepared by Apex Civil Engineering & Land Surveying, and a geotechnical report prepared by Geotechnical Engineering Inc. (GEI). The VTM shows the location of a permanent stormwater basin on the site, and GEI report provides data on subsurface conditions and engineering properties of soils on the site.

A3. The Liquefaction Potential Map in the Safety Element was prepared for the County by a geotechnical engineering firm that considered available data on soil types, elevation of the water table, and limited review of borehole logs for land development projects within the County. The resulting map divided lands in Contra Costa County into three categories ("generally high", "generally moderate to low" and "generally low.") According to this map, which is presented on page 10-15 on the General Plan, classifies the site *generally moderate to low* liquefaction potential.

The Liquefaction Potential Map is used as a "screening criteria" by Contra Costa County during the processing of land development applications, on a project-by-project basis. Since the map was included in the General Plan (1990), the County has consistently required rigorous evaluation of liquefaction potential in areas of "generally high" category, and less comprehensive investigations are demanded in the "moderate to low" category. The classification "generally high" liquefaction does not imply the

presence of liquefiable sands on a parcel. The map attempts to be conservative of the side of safety, and where geologically recent fluvial or esturine deposits are shown on soils maps of the County, the Liquefaction Potential Map places such areas in the "generally high" category. Site specific investigations are needed to determine if liquefiable sands are present and to provide stabilization measures where liquefiable sands are confirmed. Because the SD14-9389 project site is classified "generally moderate to low," only a qualitative evaluation of liquefaction potential is required. Normally this involves evaluation of the deposits penetrated in the borehole(s), utilizing blow count data and sieve testing of sandy layers to draw preliminary conclusion regarding the need for a more rigorous investigation. The borehole(s) should be a minimum of 40 feet deep for the screening investigation (or to bedrock, whichever is less). Alternatively, Cone Penetration Testing (CPT) has been utilized in making the preliminary evaluation of Liquefaction Potential. The results of the screening investigation are subject to technical review of the County Peer Review Geologist. If the finding of the screening investigation cannot demonstrate the absence of a seismically-triggered liquefaction hazard, then the more comprehensive quantitative evaluation must be performed. In the experience of the County peer review geologist, only 1 acre of every 1,000 acres in the "generally moderate to low" category have the unique set of conditions required for liquefaction of sands to be a hazard, and geotechnical measures are available to avoid/control the risk of damage.

The Safety Element includes a number of policies indicating that at-risk areas require evaluation of liquefaction potential and effective mitigation of the hazard posed to new development. Operative General Plan policies are presented in Table 1.

Table 1
Safety Element Liquefaction Potential Policies

Policy 10-18. This General Plan shall discourage urban or suburban development in areas susceptible to high liquefaction dangers and where appropriate subject to the policies of 10-20 below, unless satisfactory mitigation measures can be provided, while recognizing that there are low intensity uses such as water-related recreation and agricultural uses that are appropriate in such areas.

Policy 10-19. To the extent practicable, the construction of critical facilities, structures involving high occupancies, and public facilities shall not be sited in areas identified as having a high liquefaction potential, or in areas underlain by deposits classified as having a high liquefaction potential

Policy 10-20. Any structures permitted in areas of high liquefaction damage shall be sited, designed and constructed to minimize dangers from damage due to earthquake-induced liquefaction.

Policy 10-21. Approvals to allow the construction of public and private development projects in areas of high liquefaction potential shall be contingent on geologic and engineering studies which define and delineate potentially hazardous geologic and/or soils conditions, recommend means of mitigating these adverse conditions, and on

proper implementation of the mitigation measures.

A4. With regard to landslides, the U.S. Geological Survey (USGS) issued a surficial deposits map of the Clayton 7.5-Minute Quadrangle which shows the distribution of Quaternary deposits, including landslides. This USGS map indicates that floor of Clayton Valley is underlain by alluvial deposits of Holocene are (Qal). These are stream channel and floodplain deposits of Mt. Diablo Creek and its tributaries of inferred Holocene age. At or near the Myrtle Drive right-of-way the USGS maps colluvial deposits at the toe of the Los Medanos Hills. These are alluvial fans deposits; bedrock is mapped a short distance to the north of Myrtle Drive right-of-way.The nearest landslide shown on the USGS map is approximately 3,500 ft. north-northeast of the site, and it does not pose a hazard to the project.

In should be recognized that the USGS map is not a substitute for a site-specific investigation. It is based solely on geologic interpretation of aerial photos flown in the 1960s and early 1970s. In some situations older surficial deposits can be difficult to interpret on the basis of geomorphic features alone. Neverthe-less, the Nilsen map is used as a "screening criteria" by Contra Costa County. Sites that are shown as mantled by landslide deposits or areas where there is a concentration of slides are considered to be at-risk, where detailed geologic investigations are warranted. In this case, no landslides are mapped in the site vicinity, indicating that landslide risks are very low. This conclusion is supported for the geotechnical report prepared for the project.

B. According to the Soil Survey of Contra Costa County, the soil series mapped on the site is the Positas loam (PkA; 0 to 2 percent slopes). These are soils which formed on terraces, and are underlain by alluvium. Runoff is rated *slow*, and the hazard of erosion is rated *slight* where the soil is tilled and exposed. The Vesting Tentative Map indicates that the site is to be graded, and bio-retention basin is to be strategically positioned to control runoff. With effective implementation of erosion control measures, including revegetation of disturbed areas and control of runoff through bio-retention basins, the hazard posed by erosion can be kept to an absolute minimum.

C. There is no evidence of previous grading of the site, and the geotechnical report submitted by the project proponent did no identify any undocumented fills. The report issued by Geotechnical Engineering, Inc.(GEI) included the logs of 13 borings on the site. These borings were logged during November, 2014, and no groundwater was encountered. The boring ranged in depth from 5½ to 11 ft. The report indicates that the soils encountered were cohesive and not candidates for liquefaction. However, deeper borings, field test data and laboratory test data is needed to confirm/ refine GEI's preliminary interpretation. However, this is a preliminary interpretation, based on relatively shallow borings. The hazard posed by landslides is negligible, and because the site is nearly level, slope creep is a not a potential hazard. It typically occurs on slopes underlain by expansive clays, and the **downslope movement** includes both lateral and vertical components.

D. According to the Soil Survey of Contra Costa County, engineering properties of the soil series that occurs on site varies with depth. Specifically, the soil profile for the Positas Loam (PkA, 0 to 2 percent slopes) is 60 inches deep. The A-horizon extends from the surface to a depth of 21 inches, and it is only *moderately expansive.* The B1-horizon, extends from 21-60 inches, and is rated *highly expansive*; and the B-horizon, from 36-60 inches, is rated *moderately expansive.* With regard to corrosivity, the A-horizon is rated *low corrosivity*; the B-horizon is rated *high corrosivity.* The GEI report confirms that soils on the site are enpansive. Specifically, on page 5 on the GEI report the consultant acknowledges that the expansivity of soils vary both vertically and laterally, but essentially all soils are at least moderately expansive, some highly expansive, but locally soils on the site are slightly expansive. Expansive soils are soils that expand when water is added and shrink when they dry out. This continuous change in soils volume causes homes and other structures to move unevenly and crack. The GEI report provides specific criteria and standards to avoid/ minimize damage from expansive soils. GEI does not address corrosivity of soils.

Typically the County uses information from sources such as the Soil Survey to "red flag" sites that require corrosivity testing. The testing is performed following mass grading, but prior to installation of utilities and the issuance of residential building permits. The reason for delaying the testing to that stage of grading is that the test must be performed on soils exposed on the building pad. Where corrosive soils are confirmed to be present on the rough-graded pad, special design measures are recommended by the project geotechnical engineer to avoid/ minimize damage from this cause.

E. There will be no septic systems within the project. The project is within an area where sanitary sewers are required. The project does not require annexation to a sewer district.

Environmental Analysis

GEO-1 Geologic and Geotechnical Hazards

The Subdivision Map Act, Article 7 provides a listing of requirements for geotechnical investigations. Specifically, Section 66490 states that a preliminary soil report, prepared by licensed professionals and based on adequate test borings is required for every subdivision for which a final map is required. Sections 66491(c) and 66491(d) go on to state that if expansive or corrosive soils are encountered, a soils investigation for each lot may be required by the local jurisdiction (in this case, Contra Costa County).

It should be recognized that the Safety Element rates the site as *moderate to low* liquefaction potential. There is an unknown, but possibly significant, risk of liquefiable sands in the subsurface. In this situation, the County requires a *screening investigation* that provides sufficient subsurface and laboratory data to determine if a comprehensive investigation of liquefaction potential is warranted.

Finally, the design of the project includes a bio-retention basin that is to be located within approximately 20 feet of building pad on proposed Lot #1, and immediately

adjacent to the Bailey Road right-of- way. These basins are designed to slow runoff, encourage infiltration and improve the water quality of runoff prior to it exiting the site. From a geotechnical perspective, the primary concern with such structures are a) providing suitable support for foundations and curbs constructed near the bio-retention facilities, and b) potential for subsurface water from the bio-retention basin to migrate (and possibly build up) beneath pavements and proposed buildings. For that reason the geotechnical engineer should review drainage plans to ensure that the bio-retention structure is appropriately designed and attains adequate setbacks from improvements. Geotechnical recommendations would also be required to ensure that the basin design does not compromise stability of graded slopes or foundations.

Mitigation Measures Geo I: *. All of the following mitigation measures are required to reduce the impact of potential geologic, geotechnical and seismic hazards to less-than-significant.*

A. *Geotechnical Update Report. At least 30 days prior to requesting recordation of the Final Map, the project proponent shall submit and updated geotechnical report. The update shall address the following:*

- *A screening investigation to assess liquefaction potential. The approach shall include a minimum of one deep boring (40 to 50 ft. deep or to bedrock, whichever is less), and shall include field and laboratory test data and engineering analysis to make a preliminary evaluation liquefaction potential. If liquefiable sands are confirmed to be present update report shall (a) assess the potential for a lateral spreading failure and ground failure, (b) estimate of total settlement and differential settlement beneath foundations, and (c) provide recommendations to mitigate the hazard posed by liquefaction.*

  The update report shall also include review of the drainage and grading plans for the project, including evaluation of the design of the bio-retention basin on the site, and its potential adverse effects. Specifically, provide recommendations for the gradient of engineered slopes on the perimeter of the basin and identify any measures that may be warranted to protect planned improvements on the site as well as Bailey Road improvements associated with their proximity to the bio-retention basin.

- *The update report shall be subject to review by the County Peer Review Geologist, and review/approval by the Zoning Administrator.*

B. *Grading Plans and Building Permit Plans. The GEI report provides recommendations for geotechnical monitoring services that include review of grading, drainage and foundation plans prior to issuance of construction*

permits. The purpose of this review is to ensure that the plans have incorporated GEI's recommendations, and if the plans have evolved since the geotechnical design report was issued, it provides an opportunity for the geotechnical engineer to modify or add supplemental recommendations. Therefore, when requesting issuance of construction permits, submit a wet signed and stamped letter from the Geotechnical Engineer that provides a bibliographic citation to the plans that were reviewed and providing the geotechnical engineer's review comments. The "General Notes" on Grading Plans (or "Grading Notes" on construction plans) should identify the geotechnical reports for the project, and identify the required geotechnical monitoring that is to be provided. Similarly, prior to requesting building permits the project proponent shall provide evidence of geotechnical review of final grading, drainage and foundation plans, including foundation details. Another "General Note" shall specify that corrosivity testing be performed under the direction of the geotechnical engineer after rough grading (and prior to issuance of building permits) to determine which lots, if any, require special recommendations to prevent damage to concrete and/or steel in contact with the ground.

C. *Prior to Requesting Final Inspection of Grading / Prior to Final Inspection of Building Permits. The geotechnical engineer shall provide observation and testing services during grading. Prior to the issuance of building permits for residences, the geotechnical engineer shall certify that the lot preparation work is in compliance with recommendations in the approved design-level report. During foundation work the geotechnical engineer shall provide observation services to ensure the geotechnical recommendations are properly implemented by the contractor. Prior to requesting a final building inspection, the Building Inspection Division may require documentation of the geotechnical engineer's observation services during final grading/ foundation work/ lot drainage. The intent of such documentation is to ensure that the lot/ building improvements are in conformance with recommendations in the approved design-level report.*

		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? *(Sources 1,9)*			X	
b.	Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases? *(Sources 1, 9)*			X	

Impact VII.a Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment? Less than significant.

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

- Carbon dioxide (CO_2);
- Methane (CH_4);
- Nitrous oxide (N_2O);
- Hydrofluorocarbons (HFCs);
- Perfluorocarbons (PFCs); and
- Sulfur Hexafluoride (SF_6).

Over the last 200 years, humans have caused substantial quantities of GHGs to be released into the atmosphere. These extra emissions are increasing GHG concentrations in the atmosphere and enhancing the natural greenhouse effect, which is believed to be causing global warming. While manmade GHGs include naturally-

occurring GHGs such as CO_2, methane, and N_2O, some gases, like HFCs, PFCs, and SF_6 are completely new to the atmosphere.

Certain gases, such as water vapor, are short-lived in the atmosphere. Others remain in the atmosphere for significant periods of time, contributing to climate change in the long term. Water vapor is excluded from the list of GHGs above because it is short-lived in the atmosphere and its atmospheric concentrations are largely determined by natural processes, such as oceanic evaporation.

These gases vary considerably in terms of Global Warming Potential (GWP), which is a concept developed to compare the ability of each GHG to trap heat in the atmosphere relative to another gas. The GWP is based on several factors, including the relative effectiveness of a gas to absorb infrared radiation and length of time that the gas remains in the atmosphere ("atmospheric lifetime"). The GWP of each gas is measured relative to CO_2, the most abundant GHG; the definition of GWP for a particular GHG is the ratio of heat trapped by one unit mass of the GHG to the ratio of heat trapped by one unit mass of CO_2 over a specified time period. GHG emissions are typically measured in terms of pounds or tons of "CO_2 equivalents" (CO_2e).

The following section describes the proposed project's construction and operational related GHG emissions and contribution to global climate change. As stated above, while the BAAQMD has not addressed emission thresholds for construction, the District encourages quantification and disclosure. Thus, construction emissions are discussed in this section. As discussed below, the proposed project would not generate GHG emissions, either directly or indirectly, that may have a significant effect on the environment and this impact would be less than significant.

Construction Emissions. Construction activities, such as site preparation, site grading, on-site heavy-duty construction vehicles, equipment hauling materials to and from the site, and motor vehicles transporting the construction crew would produce combustion emissions from various sources. During construction of the project, GHGs would be emitted through the operation of construction equipment and from worker and builder supply vendor vehicles, each of which typically uses fossil-based fuels to operate. The combustion of fossil-based fuels creates GHGs such as CO_2, CH_4, and N_2O. Furthermore, CH_4 is emitted during the fueling of heavy equipment. Exhaust emissions from on-site construction activities would vary daily as construction activity levels change.
Using CalEEMod, it is estimated that the project would generate approximately 284 metric tons of CO_2e during construction of the project. The BAAQMD does not have a threshold for construction emissions. However, implementation of Mitigation Measure AIR-1 would further reduce less-than- significant construction GHG emissions by limiting construction idling emissions. Construction emissions would not be considered significant.

Operational Emissions. Long-term operation of the proposed project would generate GHG emissions from mobile sources and indirect emissions from sources associated with energy consumption. Mobile-source emissions of GHGs would include

project-generated vehicle trips associated with future residents at the project site. Emissions would also be generated at off-site utility providers as a result of demand for electricity generated by the proposed project.
When calculating project GHG emissions to compare to the thresholds of significance, the BAAQMD recommends that the lead agency consider project design features, attributes, and local development requirements as part of the project as proposed and not as mitigation measures. Consistent with BAAQMD guidance, GHG emissions were estimated using CalEEMod.

Table 3 shows the calculated GHG emissions for the proposed project. Mobile source emissions are the largest source of GHG emissions at approximately 63 percent of the total. Energy use is the next largest category at approximately 33 percent of CO_2e emissions. Area source emissions are approximately 1 percent of the total emissions, and waste and water source emissions are approximately 3 percent. Additional calculation details are provided in Appendix A.

Table 3: GHG Emissions (Metric Tons Per Year)

Emissions Source Category	Operational Emissions				
	CO_2	CH_4	N_2O	CO_2e	Percent of Total
Area	0.6	0.0	0.0	0.6	1
Energy	33.2	0.01	0.0	33.3	33
Mobile	62.2	0.0	0.0	62.2	63
Waste	1.1	0.1	0.0	2.1	2
Water	1.0	0.01	0.0	1.4	1
Total Annual Emissions				**99.6**	**100**

Source: LSA Associates, Inc., 2015.

Based on the analysis results, the proposed project would generate 99.6 metric tons of CO_2e per year, which would be below the BAAQMD's numeric threshold of 1,100 metric tons CO_2e per year. Therefore, GHG emissions generated by the proposed project would be less than significant.

Impact VII.b. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases? Less than significant.

Contra Costa County adopted the Contra Costa County Climate Action Plan in December 2012[7] which was developed for the purpose of reducing the County's GHG emissions and contribution to climate change.

While most of the measures identified in the Climate Action Plan consist of programs and incentives to be implemented by the County, the project would implement measures that would reduce GHG emissions as shown in the project specific Development Checklist included in Appendix A. The County has worked with the project applicant to identify the

[7] Contra Costa County, 2012. *Contra Costa County Climate Action Plan*. December 26.

appropriate measures to integrate with the project, which ensures that the project is consistent with and does not compromise the County's ability to attain the GHG reduction targets outlined in the CAP.

In developing the threshold of significance for GHG emissions, the BAAQMD identified the emissions level for which a project would conflict with existing California legislation adopted to reduce Statewide GHG emissions. As indicated in the analysis presented above, the proposed project would not exceed the project-level significance criteria established by the BAAQMD and, therefore, the proposed project would not conflict with plans adopted for the purpose of reducing GHG emissions and this impact would be less than significant.

		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? *(Sources 1)*			X	
b.	Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment? *(Sources 1)*			X	
c.	Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or				X

		Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
	proposed school? *(Sources 1)*				
d.	Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 56862.5 and, as a result, would it create a significant hazard to the public or the environment? *(Sources 1, 2)*				X
e.	For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area? *(Sources 1, 2)*				X
f.	For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area? *(Sources 1)*				X
g.	Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan? *(Sources 1, 2)*				X

		Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
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? *(Sources 1)*				X

Impact VIII.a. and b.: Transport, or Expose to People to Hazardous Waste. Less than significant. The proposed project is a residential project with a public trail and therefore the transport, use, disposal or accidential release of hazardous materials is limited to normal residential and landscaping needs. This would be a less than significant impact.

Impact VIII.c.: Proximity to Schools. No Impact. The project site is located over 1/4 of a mile from Ygancio Valley Christian School, the closest school. Therefore, there is no impact identified with potential exposure of any hazardous materials to a school population.

Impact VIII.d.: Listed Sites. No impact. The site is not on any list of hazardous materials sites from the California Department of Toxic Substances Control.

Impact VIII.e. and f.: Airport Safety Hazards. No Impact. The site is not within one mile of an airfield and therefore no impact will occur.

Impact VIII.g. and h.: Emergency Evacation or Wildland Fires. No impact. The Project would not interfere with any emergency evacation plans nor is it near any wildland area that would be subject to fires, therefore, no impact is expected.

		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? *(Sources 1)*			X	
b.	Substantially deplete groundwater supplies or interfere substantially with ground water recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (i.e., 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)? *(Sources 1)*			X	
c.	Substantially alter the existing drainage patterns 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 offsite? *(Sources 1)*		X		

		Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
d.	Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site? *(Sources 1)*		X		
e.	Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff? *(Sources 1)*		X		
f.	Otherwise substantially degrade water quality? *(Sources 1)*		X		
g.	Place housing within a 100-year flood hazard area as mapped on a Federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineating map? *(Sources 1)*			X	
h.	Place within a 100-year flood hazard area structures which would impede or redirect flood flows? *(Sources*			X	

		Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
	1)				
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? *(Sources 1)*			X	
j.	Inundation by seiche, tsunami, or mudflow? *(Sources 1)*			X	

Impact IX a. Violate water quality standards and waste discharge. Less than significant. The project is subject to the San Francisco Bay Regional Water Quality Control Board C.3 provisions. The applicant has submitted a Stormwater Control Plan in accordance with the requirements outlined in the Contra Costa County Stormwater C.3 guidebook to minimize potential runoff pollution during the life of the project. There is a Bio Retention area at the north end of the site to treat runoff from the roofs, private roadway, driveways and landscaping within lots 1-7 and lot 8 from the adjacent Laurel Place subdivision. The developer is required by condition of approval to submit a final stormwater plan for the review and approval of the County Public Works Department prior to recordation of the Subdivision Map, which would make this a less than significant impact.

Impact IX. b. Substantially deplete groundwater supplies or interfere with groundwater recharge such there would be a net deficit in aquifer volume or a lowering of the local groundwater table. Less than significant. Existing site conditions i.e. low permeability clay soils, limit the amount of groundwater recharge that occurs naturally on the site. The project would not substantially alter the existing conditions because it would utilize infiltration planters to filter runoff. Additionally, the project would not result in direct additions or withdrawals to existing groundwater because it would utilize the public water system (Contra Costa Water District).

Impact IX. c. Substantially alter the existing drainage pattern of the site including through the alteration of the course of a stream or river in a manner that would result in substantial erosion or siltation on or off site. Less than significant. Runoff from the site ultimately drains to the north

through existing culverts under Bailey Road and through the Naval Weapons Station to Mount Diablo Creek. The site would be minimally graded to create building pads, private roadway and landscape areas. The parcel at the north end of the site would be used as the bio-retention area. Additionally, runoff to the site, from Myrtle Drive, would be routed around the site.

Impact IX. d. Substantially alter the existing drainage pattern of the site, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on or off site. Less than significant. Implementation of the project would result in the construction of seven residences and would increase the amount of impervious surface, thereby increasing the amount of stormwater runoff from the site. However, treatment and flow control facilities proposed in the Storm Water Control Plan are designed to accommodate the runoff from the mean annual precipitation design storm. The project is required by condition of approval to comply with the County's C.3 requirements which would make any impacts to increased runoff less than significant. Therefore the project would not substantially increase the rate or amount of surface runoff in a manner which would result in flooding on or off site.

Impact IX.e. f. Create runoff water which would exceed the capacity of existing or planned stormwater drainage systems or otherwise degrade water quality . Less than significant. As noted above the applicant has submitted a Storm Water Control Plan prepared by their Civil Engineer and the project is required by condition of approval to comply with the County's C.3 requirements which would make any impacts to drainage, including capacity of drainage systems and water quality a less than significant impact.

Impact IX.g. h. Place housing within a 100-year flood hazard area as mapped on a Federal Flood Hazard Boundary or Flood Insurance Map that would also impede flood flows . Less than significant. Portions of Lots 1 and 2 are located in a Flood Hazard area. However, the residential units constructed on those sites would be subject to the County's flood zone requirement and therefore this would be a less than significant impact.

Impact IX, i. j. Expose people or structures to loss due to failure of levee or dam or be inundated by sieche, or mudflow. Less than significant. The project site is not located behind a levee or below a dam, therefore this would be no impact.

		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? *(Sources 1, 2)*			X	
b.	Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect? *(Sources 1, 2)*			X	
c.	Conflict with any applicable habitat conservation plan or natural community conservation plan? *(Sources 1, 2)*				X

Impact X.a. and b.: Physically divide a community or conflict with established land use plan or policy. Less than significant.

The project does not divide an established community. Rather, it is an in-fill project that would construct seven houses on a vacant lot that is, for the most part, surrounded by residential development. The project, as proposed for rezoning, would comply with the County General Plan and Zoning Code.

Impact X.c.: Conservation Plan. No impact. The proposed project is not located within a Habitat Conservation Plan, or in a Natural Community

Conservation Plan. As it is not near any of these sensitive locations, no impact is expected.

		Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
XI. MINERAL RIGHTS – 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? *(Sources 1.2)*				X
b.	Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan? *(Sources 1,2)*				X

Impact XI.a. and b.: Mineral Resources. No impact. The project site is not in an area of known mineral resources per the County's General Plan, and therefore no impact is anticipated.

		Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
XII. NOISE – Would the project:					
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? *(Sources 1, 2)*			X	
b.	Exposure of persons to, or generation of, excessive ground borne vibration or ground borne noise levels? *(Sources 1)*				X
c.	A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project? *(Sources 1)*			X	
d.	A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project? *(Sources 1, 2)*		X		
e.	For a project located within an airport land use plan, or where such a plan has not been adopted, within two miles of a public airport or public use				X

		Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
	airport, would the project expose people residing or working in the project area to excessive noise levels? *(Sources 1, 2)*				
f.	For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels? *(Sources 1, 2)*				X

Impact XII.a.: Exposure to Noise Levels. Less than significant. Residential uses developed on the project site would not be exposed to exterior noise levels exceeding the "normally acceptable" noise and land use compatibility standards presented in the County's General Plan for single- and multiple-family residential land uses.

Interior noise levels within proposed residential units are required to be maintained at or below 45 DNL. In residential units of standard construction, interior noise levels are approximately 15 decibels lower than exterior noise levels with the windows partially open. Where exterior noise levels exceed 60 DNL, compliance with State Building Code requires a report to be submitted with the building plans identifying the noise attenuation features included in the project's design to maintain interior noise levels at or below 45 DNL.

Typically, standard construction with forced air ventilation (allowing the occupant to control noise by maintaining the windows shut) provides approximately 20 to 25 dBA of noise reduction in interior spaces. This method of reducing interior noise levels is normally used in noise environments ranging from 60 to 65 DNL. Where noise levels exceed 65 DNL, forced-air mechanical ventilation systems and sound-rated construction methods are normally required.

Impact XII.b.: Ground Borne Noise/Vibration. No impact. The project is not located within the immediate vicinity of any known producers of groundborne vibration (e.g., an active railroad line). Vibration levels associated with the construction of the project are not expected to result significant impacts.

Impact XII.c.: Ambient Noise. Less than significant. Traffic noise generated by the project is not projected to increase noise levels significantly. The project does not propose changes in traffic that are substantial enough to provide a noticeable increase to the noise environment at the nearby residential receivers; a less than significant impact.

Impact XII.d.: Temporary Noise. Significant impact unless mitigation incorporated. The construction of the proposed project would generate noise levels that would at times exceed ambient noise levels at noise sensitive receptors in the vicinity of the project site. Construction activities would include grading and excavation of areas on the site, and construction of new residential and commercial structures. Noise impacts from these activities depend on noise generated by various pieces of construction equipment, the timing and length of noise generating activities, and the distance between the noise generating construction activities and receptors that would be affected by the noise. The highest noise levels would be generated during grading of the site, with lower noise levels occurring during building construction. Large pieces of earth-moving equipment, such as graders, scrapers, and bulldozers, generate maximum noise levels of 80 to 85 dBA at a distance of 100 feet. Typical hourly average construction-generated noise levels are about 75 to 80 dBA measured at a distance of 100 feet from the site during busy construction periods. These noise levels drop off at a rate of about 6 dBA per doubling of distance between the noise source and receptor. Intervening structures or terrain result in lower noise levels.

Typically, residential construction projects do not generate significant noise impacts when standard construction noise control measures are enforced at the project site and when the duration of noise at a particular receiver or group of receivers is limited to one construction season (typically one year) or less. Construction noises associated with projects of this type are disturbances that are necessary, and reasonable regulation of the hours of construction, as well as regulation of the arrival and operation of heavy equipment and the delivery of construction materials is effective in reducing impacts to a level that is less than significant.

Mitigation Measure Noi 1: The following construction noise control measures are recommended to limit the amount of noise generated during the construction period. These measures would mitigate the impact to a less than significant level:

1. All noise generating construction activities shall be limited to the hours of 7:30 A.M. to 5:30 P.M., Monday through Friday, and shall be prohibited on state and federal holidays on the calendar dates that these holidays are observed by the state or federal government as listed below:

   New Year's Day (State and Federal)
   Birthday of Martin Luther King, Jr. (State and Federal)
   Washington's Birthday/Presidents' Day (State and Federal)

Lincoln's Birthday (State)
Cesar Chavez Day (State)
Memorial Day (State and Federal)
Independence Day (State and Federal)
Labor Day (State and Federal)
Columbus Day (State and Federal)
Veterans Day (State and Federal)
Thanksgiving Day (State and Federal)
Day after Thanksgiving (State)
Christmas Day (State and Federal)

For specific details on the actual day the state and federal holidays occur, please visit the following websites:

Federal/holidays:
http://www.opm.gov/Operating_Status_Schedules/fedhol/2011.asp

California/ holidays: http://www.ftb.ca.gov/aboutFTB/holidays.shtml

2. Utilize "quiet" models of air compressors and other stationary noise sources where technology exists.

3. Prohibit unnecessary idling of internal combustion engines.

4. Equip all internal combustion engine driven equipment with intake and exhaust mufflers that are in good condition and appropriate for the equipment.

5. Locate stationary noise generating equipment as far as possible from noise sensitive receptors.

6. Designate a noise disturbance coordinator who would be responsible for responding to any local complaints about construction noise. The disturbance coordinator would determine the cause of the noise complaints (e.g., starting too early, bad muffler, etc.) and institute reasonable measures warranted to correct the problem. Conspicuously post a telephone number for the disturbance coordinator at the construction site.

mpact XII.e. and f.: Airport Related Noise. No impact. The project site is not located within two miles of a public or private airport. Therefore, this is not a potential impact.

		Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
XIII. POPULATION AND HOUSING – Would the project:					
a.	Include 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)? *(Sources 1)*			X	
b.	Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere? *(Sources 1)*			X	
c.	Displace substantial numbers of people necessitating the construction of replacement housing elsewhere? *(Sources 1)*			X	

Impact XIII.a.: Induced Population Growth. Less than significant. Based upon a population rate of 2.5 persons per dwelling unit, the project would generate a population of 17.5 additional persons. This is considered a less than significant impact.

The developer would be required to extend sewer service onto the project site from the City of Concord, which is adjacent to the project site. This is considered a less than significant impact because the project site and the surrounding pocket of unincorporated Concord is already designated Single Family Residential, R-20, which is to say it is already planned for residential

development under the County's General Plan and the extension of sewer service into this area would not induce substantial population growth that was not already planned.

Impact XIII.b. and c.: Displacement of Housing or Population. Less than significant. The proposed project would not displace a substantial population and would provide additional housing for a new population. Therefore the project would have a beneficial impact on housing and population.

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
XIV. PUBLIC SERVICES – Would the project:				
a. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which would cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services?				
1. Fire Protection *(Sources 1)*			X	
2. Police Protection *(Sources 1)*			X	
3. Schools *(Sources 1)*			X	
4. Parks *(Sources 1, 2, 3)*			X	
5. Other Public Facilities *(Sources 1,)*				X

Impact XIV.a.1.: Fire Protection . Less than significant. The Vesting Tentative Map/Preliminary and Final Development Plan will be regulated by the Contra Costa County Fire Protection District's requirements, County Ordinances, and the 2013 California Building Code. The project is conditioned to comply with the Fire District standards.

Impact XIV.a.2.: Police Protection. Less than significant. The project site is, and will continue, to receive its police protection from the Contra Costa County Office of the Sheriff. The addition of seven residential units would increase demand for services but is not expected to have a significant negative impact on their ability to provide services. The project is required by condition of approval to create a police services district with recordation of the map which would help pay for sheriff services in the area.

Impact XIV.a.3.: Schools. Less than significant. The project would create a new student population, but because of the limited number of houses it would not be a significant impact on the local school district. The project would be required to pay the state-mandated school impact fees upon issuance of building permits. State law dictates that payment of these fees constitutes full mitigation of school capacity impacts. After payment of school impact there would be no impact on schools.

Impact XIV.a.4.: Parks . Less than significant. The proposed project would result in increases in the demand for parks and recreation services The County Park and Recreation Ordinance calls for a dedication of parkland or payment of an in lieu fee. The project will be required, as a condition of approval, to pay an in lieu park fee.

Impact XIV.a.5.: Other Public Facilities . Less than significant. Portions of the project site are not currently annexed into a lighting district. Annexation to the lighting district is a mechanism to supplement the funding for maintenance of street lights throughout the County and will not have an impact on the physical environment. The applicant would be required, as a condition of approval, to annex into the Community Facilities District 2010-1 formed for Countywide Street Light Financing.

		Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
XV. RECREATION – Would the project:					
a.	Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated? *(Sources 1, 2)*			X	
b.	Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment? *(Sources 1, 2)*			X	

Impact XV a. and b. Recreation Impacts. Less than significant.

The proposed project would introduce a new population which would be expected to create new demand for parks in the area. However, the applicant would be required, by condition of approval, to pay the required park dedication fee upon issuance of building permits. The payment of required park dedication fees would reduce the impact to a less than significant level. The project is also proposing a section of public trail along the western edge of the project site. This section is part of a larger trail plan envisioned by the City of Concord and would be dedicated to them for that purpose.

		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 measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?			X	
b.	Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?			X	
c.	Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks? *(Sources 1, 2)*				X
d.	Substantially increase			X	

		Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
	hazards due to a design feature (i.e., sharp curves or dangerous intersections) or incompatible uses (i.e., farm equipment)? *(Sources 1, 2)*				
e.	Result in inadequate emergency access? *(Sources 1, 2)*			X	
f.	Conflict with adopted polices, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities				X

Impact XVI.a. b. Applicable Transportation Plans / Congestion Plan. Less than significant. *Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?*

The project proposes seven single family residential units that would gain access through the adjacent Laural Place project. The project would not conflict with applicable plans or policies for the performance of the circulation system or related county congestion plan. As noted, the project includes a section of public trail that is part of a larger trail plan envisioned by the City of Concord.

Impact XVI.c. Air Traffic Patterns. No impact. *Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that result in substantial safety risks?* The project does not propose any structures that would interfere with air traffic patterns, nor would it increase traffic levels. There is no impact related to air traffic.

Impact XVI.d. Hazardous design feature. Less than significant. *Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?* The project is required by

condition of approval to comply with the County Public Works Department and County Fire District requirements in regards to road design,

Impact XVI.e. Emergency Access (Less than Significant) See above.

Impact XVI.f. Adopted Policies regarding public transit, bicycle,or pedestrian (No impact) *Conflict with adopted polices, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?* The project is not inconsistent with adopted policies regarding public transit, bicycle and pedestrian facilities.

		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? *(Sources 1, 2)*			X	
b.	Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which would cause significant environmental effects? *(Sources 1)*			X	
c.	Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which would cause			X	

		Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
	significant environmental effects? *(Sources 1)*				
d.	Have sufficient water supplies available to serve the project from existing entitlement and resources, or are new or expanded entitlement deeded? *(Sources 1)*			X	
e.	Result in 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? *(Sources 1)*			X	
f.	Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs? *(Sources 1)*			X	
g.	Comply with federal, state and local statues and regulations related to solid waste? *(Sources 1)*			X	

Impact XVII.a., b. & e.: Wastewater. Less than significant. The project is in the City of Concord's Sphere of Influence (SOI) and it would be served by the City of Concord (Concord Sanitary District). The Central Contra Costa County Sanitary District provides treatment services to the Concord Sanitary District and

has sufficient capacity to accommodate planned growth within its service area over the next 35 years[8].

The subject property is currently outside the City's corporate boundary. Government Code section 5133 provides that a city can apply to LAFCO to provide service outside its jurisdictional boundary in one of two situations: 1) if the subject property is outside the city's boundary and outside the city's sphere of influence (SOI) in response to a public health and safety emergency (e.g. failed septic, contaminated well, etc.), or 2) if the subject property is outside the city's boundary and inside the city's SOI in anticipation of future annexation. As noted above, the property is within the City of Concord's SOI. The project would require approval from LAFCO prior to sewer service being provided by the City. The project is required by condition of approval to comply with LAFCO and City of Concord requirements regarding sewer service prior to recordation of the subdivision map.

Impact XVII.c.: The project would increase the amount of impervious surface on the project site. The Storm Water Control Plan would filter stormwater on site and would not, for the most part, result in an increase in peak runoff. Therefore, new or expanded stormwater drainage facilities would not be required.

Impact XVII.d.: Water. Less than significant. For water service, the project would be served by the Contra Costa Water District. The project would be required to comply with District standards to obtain water service.

Impact XVII.f. and g.: Solid Waste. Less than significant. Development of the seven residential lots would generate solid waste. There is no evidence to suggest that there is not sufficient landfill capacity in the Concord Disposal Services area to handle such a minor addition to their capacity. This is a less than significant impact.

[8] Dyett and Bhatia, 2005, op.cit., p. 8-7 / page 45 November 2006 Laurel Place Subdivision Mitigated Negative Declaration

		Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
XVIII. MANDATORY FINDINGS OF SIGNIFANCE – Would the project:					
a.	Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish and wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?		X		
b.	Does the project have impacts that are individually limited but cumulatively considerable? (Cumulatively considerably 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 probably future			X	

		Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
	projects?)				
c.	Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?			X	

Impact XVIII.a-c. Mandatory Findings of Significance. Less than significant. The project does have the potential to degrade the quality of the biological resources on the project site but with mitigations these impacts would be reduced to a less than significant degree. The impacts of the project are individually limited and are not cumulatively considerable. All environmental impacts that could occur as a result of the project would be reduced to a less than significant level through implementation of the mitigation measures outlined in this IS/MND. The project would result in no environmental effects that would cause substantial direct or indirect effects on human beings.

Lenox Homes LLC (Applicant)

Desco Development Company LLC (Owner)

Mitigation Monitoring Reporting Program

Laurel Place II Residential Project / Unincorporated Concord Area
Rezoning and Subdivision
County File #'s RZ14-3228 & SD14-9389

September 19, 2017

Potentially Significant Impact	Mitigation Measure	Implementing Action	Timing of Verification	Responsible Department or Agency	Compliance Verification
I. Air Quality					
The proposed project has the potential of creating dust and emmissions during construction. Therefore staff recommends the following Mitigation Measure be incorporated into the project to ensure the impacts are reduced to a less than significant level.	Consistent with the Best Management Practices required by the BAAQMD, the following actions shall be incorporated into construction contracts and specifications for the project: • All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day. • All haul trucks transporting soil, sand, or other loose material off-site shall be covered. • All visible mud or dirt tracked-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited. • All vehicle speeds on unpaved roads shall be limited to 15 mph. • All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. • Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used. • Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage	COA	Prior to CDD stamp-approval of plans, ensure measures are printed on building plans	CDD	Review of final construction plans and monitoring duing construction.

Abbreviations: Condition of Approval (COA); Department of Conservation & Development, Community Development Division (CDD); Zoning Administrator (ZA)

Potentially Significant Impact	Mitigation Measure	Implementing Action	Timing of Verification	Responsible Department or Agency	Compliance Verification
	shall be provided for construction workers at all access points. • All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation. • A publicly visible sign shall be posted with the telephone number and contact information for the designated on-site construction manager available to receive and respond to dust complaints. This person shall report all complaints to Contra Costa County and take immediate corrective action as soon as practical but not more than 48 hours after the complaint is received. The BAAQMD's phone number shall also be visible to ensure compliance with applicable regulations. **Mitigation Measure AIR 1.**				
II. Biologic Resources					
The proposed project has the potential of impacting California Tiger Salamander, Special-status Plants, Nesting Birds and Wetlands. Therefore, staff recommends that the following mitigations be incorporated into the project to ensure that impacts to these resources are reduced to a less than significant level.	**BIO 1:** Prior to any construction activities, the following measures shall be conducted: a) A silt fence (properly buried at the base in 6 inches of soil) shall be installed along the project footprint to provide a buffer between the edge of fencing and the surrounding roadways. The exclusion fencing shall be composed of Geotex 102F (or its equivalent), a durable material	COA	Prior to Grading Permit	CDD, CDFW, Applicant	Reporting of find to CDD by a qualified biologist

Abbreviations: Condition of Approval (COA); Department of Conservation & Development, Community Development Division (CDD); Zoning Administrator (ZA)

Potentially Significant Impact	Mitigation Measure	Implementing Action	Timing of Verification	Responsible Department or Agency	Compliance Verification
	capable of withstanding ultraviolet degradation for the duration of the project. The fence is 12 inches high, buried in the ground, and includes one way exit funnels which may permit terrestrial species to vacate the construction area. The fencing will be inspected weekly and remain in place for the duration of construction activities. b) Immediately prior to the first day of construction activities, an approved biologist shall conduct an environmental training session with all workers on site to inform them about environmental issues regarding the potential for sensitive species, including CTS to be present on the site and provide training on avoidance and protection of the species should any individuals be observed. All work shall stop should an individual be observed during construction and the CDFW and USFWS notified. c) A qualified Biological Monitor shall be present during initial grading activities to observe all construction activities and immediately stop work should any CTS be observed. The CDFW and USFWS shall be notified should any individuals be observed.	COA COA	Throughout construction activities Throughout construction activities	CDD, CDFW, Applicant	Reporting of find to CDD by a qualified biologist

Abbreviations: Condition of Approval (COA); Department of Conservation & Development, Community Development Division (CDD); Zoning Administrator (ZA)

Potentially Significant Impact	Mitigation Measure	Implementing Action	Timing of Verification	Responsible Department or Agency	Compliance Verification
	d) To prevent inadvertent entrapment of sensitive species during construction, the on-site biologist and/or construction foreman/manager shall ensure that all excavated, steep-walled holes or trenches more than one-foot deep are completely covered at the close of each working day by plywood or similar materials, or provided with one or more escape ramps constructed of earth fill or wooden planks and inspected by the on-site biologist. Before such holes or trenches are filled, they will be thoroughly inspected for trapped animals by the on-site biologist and/or construction foreman/manager. If any CTS are observed, all work must stop and CDFW and USFWS contacted. e) All activities listed above shall be recorded and maintained in a project monitoring construction log. Training materials, including photographs of the potential listed species in the area, and a list of numbers of personnel, including the US Fish and Wildlife Service and the Department of Fish and Wildlife, will be placed in the log book. Site visits and inspections shall be regularly entered into the log book by the contractor and the monitoring biologist. All applicable permits	COA			Reporting of find to CDD by a qualified biologist

Abbreviations: Condition of Approval (COA); Department of Conservation & Development, Community Development Division (CDD); Zoning Administrator (ZA)

Potentially Significant Impact	Mitigation Measure	Implementing Action	Timing of Verification	Responsible Department or Agency	Compliance Verification
	and conditions to protect sensitive species habitat will be copied and placed in the log book. Finally, the following mitigation measure shall be conducted to prevent CTS from entering the project area after construction is completed: f) A suitable concrete (or brick) wall, curb, or berm, at least 12 inches high, shall be constructed along the boundary of development adjacent to Bailey Avenue and the junction with Myrtle Drive to prevent any juvenile and adult CTS from accessing the area in the future from the adjacent CNWS. The design and placement of the barrier is subject to the review of a qualified biologist retained by the applicant and review and approval of DCD. **BIO 2-:** **Special-status Plants** 12. Prior to site disturbance a qualified biologist, retained by the applicant, shall conduct a special-status plant survey. Avoidance and minimization measures shall be proposed, should any rare				

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	plants be observed during the survey. Additionally, the removal of any native (non-grafted) California black walnut trees on the site shall be replaced at a ratio of 6:1. **Nesting Birds** 13. If site disturbance commences between February 1 and August 31, a qualified biologist shall conduct a pre-construction bird nesting survey within 14 days of project initiation. If nests of native birds—are detected on or adjacent to the site, a no disturbance buffer (generally 50 feet for passerines and 300 feet for raptors) in which no new site disturbance is permitted shall be observed until August 31, or the qualified biologist determines that the young are foraging independently. The size of the no-disturbance buffer shall be determined by a qualified biologist, and shall take into account local site features and existing sources of potential disturbance. If more than 14 days elapses between the survey and the start of construction, the survey shall be repeated. The project sponsor shall provide proof of compliance to the County prior to issuance of a grading permit. **Mitigation Measure Bio 3**				

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	Wetlands 14. Authorization from the USACE and RWQCB for the fill of jurisdictional wetlands shall be obtained by the applicant prior to the start of construction. The project sponsor shall comply with all terms of the permits including any mitigation requirements and provide proof of compliance to the County prior to issuance of a grading permit. If the applicant choses or is required to avoid all delineated wetlands as a result of project redesign and no fill of wetlands occurs, no permits will be necessary. The applicant shall demonstrate to the County that the project has avoided fill in any delineated wetland prior to issuance of the grading permit. **Mitigation Measure Bio 4 Mitigation Measures incorporate the measures of the Biological Memorandum, dated March 1. 2017 by WRA Environmental Consultants**				
III. Geology and Soils					
The subject property is located is subject to the following Geo Mitigation Measure	**GEO-1**: A. Geotechnical Update Report. At least 30 days prior to requesting recordation of the Final Map, the project proponent shall submit and updated geotechnical report.	COA	At least 30 days prior to recordation of Final Map	CDD, Peer Review Geologist	Submittal of Report to CDD, Review of report by County Peer Review Geologist

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	The update shall address the following: ▪ A screening investigation to assess liquefaction potential. The approach shall include a minimum of one deep boring (40 to 50 ft. deep or to bedrock, whichever is less), and shall include field and laboratory test data and engineering analysis to make a preliminary evaluation liquefaction potential. If liquefiable sands are confirmed to be present update report shall (a) assess the potential for a lateral spreading failure and				

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	ground failure, (b) estimate of total settlement and differential settlement beneath foundations, and (c) provide recommendations to mitigate the hazard posed by liquefaction. The update report shall also include review of the drainage and grading plans for the project, including evaluation of the design of the bio-retention basin on the site, and its potential adverse effects. Specifically, provide recommendations for the gradient of engineered				

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	slopes on the perimeter of the basin and identify any measures that may be warranted to protect planned improvements on the site as well as Bailey Road improvements associated with their proximity to the bio-retention basin. ▪ The update report shall be subject to review by the County Peer Review Geologist, and review/approval by the Zoning Administrator. B. Grading Plans and Building Permit Plans. The GEI report provides recommendations for geotechnical monitoring services that include review of grading, drainage and foundation plans prior to issuance of construction				

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	permits. The purpose of this review is to ensure that the plans have incorporated GEI's recommendations, and if the plans have evolved since the geotechnical design report was issued, it provides an opportunity for the geotechnical engineer to modify or add supplemental recommendations. Therefore, when requesting issuance of construction permits, submit a wet signed and stamped letter from the Geotechnical Engineer that provides a bibliographic citation to the plans that were reviewed and providing the geotechnical engineer's review comments. The "General Notes" on Grading Plans (or "Grading Notes" on construction plans) should identify the geotechnical reports for the project, and identify the required geotechnical monitoring that is to be provided. Similarly, prior to requesting building permits the project proponent shall provide evidence of geotechnical review of final grading, drainage and foundation plans, including foundation details. Another "General Note" shall specify that corrosivity testing be performed under the direction of the geotechnical engineer after rough grading (and				

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	prior to issuance of building permits) to determine which lots, if any, require special recommendations to prevent damage to concrete and/or steel in contact with the ground. C. Prior to Requesting Final Inspection of Grading / Prior to Final Inspection of Building Permits. The geotechnical engineer shall provide observation and testing services during grading. Prior to the issuance of building permits for residences, the geotechnical engineer shall certify that the lot preparation work is in compliance with recommendations in the approved design-level report. During foundation work the geotechnical engineer shall provide observation services to ensure the geotechnical recommendations are properly implemented by the contractor. Prior to requesting a final building inspection, the Building Inspection Division may require documentation of the geotechnical engineer's observation services during final grading/ foundation work/ lot drainage. The intent of such documentation is to ensure that the lot/ building improvements				

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	are in conformance with recommendations in the approved design-level report. **Mitigation Measures Geo I.**				

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