

City of Oakley
Planning Division

OAKLEY



CALIFORNIA

Machado Lane Subdivision

Initial Study/Mitigated Negative Declaration

October 2022

Prepared by



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INITIAL STUDY

A. BACKGROUND

1. Project Title: Machado Lane Subdivision (RZ 06-21, FDP 01-21, TM 03-21, DR 10-21)
2. Lead Agency Name and Address: City of Oakley
Planning Division
3231 Main Street
Oakley, CA 94561
3. Contact Person and Phone Number: Ken Strelow
Planning Manager
(925) 625-7000
4. Project Location: E. Cypress Road and Machado Lane
Oakley, CA 94561
Accessor's Parcel Numbers (APNs): 033-190-003, -004
5. Project Applicant Name and Address: Paul Manyisha
MLC Holdings
2603 Camino Ramon, Ste. 140
San Ramon, CA, 94583
6. Existing General Plan Designation: Residential Low/Medium (RLM)
7. Existing Zoning Designation: Planned Development (P-1) District
8. Required Approvals from Other Public Agencies: None
9. Surrounding Land Uses and Setting:

The 17.73 project site, identified by APNs 033-190-003 and -004, is located southwest of the intersection of E. Cypress Road and Machado Lane in the City of Oakley, California. The project site is primarily undeveloped, with the exception of one farmhouse structure in the southeast corner. Surrounding existing uses include single-family residences to the north across E. Cypress Road; undeveloped land and scattered residences to the east across Machado Lane; scattered residences to the south, and additional scattered residences, undeveloped land, and Union Pacific Railroad (UPRR) tracks to the south across Machado Lane; and undeveloped land to the west with single-family residences further west. The City of Oakley General Plan designates the site as Residential Low/Medium (RLM) and the site is zoned Planned Development (P-1).

10. Project Description Summary:

The Machado Lane Subdivision (proposed project) would subdivide the project site into 76 single-family residential lots, a tot lot and bioretention area within Parcel A to the northeast,

Emergency Vehicle Access (EVA) within Parcel B, and an internal roadway network that would connect to the primary access point along Machado Lane. Each lot would range in size from 5,939 square feet (sf) to 13,089 sf with an average of 6,621 sf per lot, and utility improvements would be included onsite and within Machado Lane. The project would require demolition of the existing southeast structure and the removal of 32 trees. The proposed project would require approval of a Vesting Tentative Map (TM 01-22) and Design Review.

11. Status of Native American Consultation Pursuant to Public Resources Code Section 21080.3.1:

In compliance with Assembly Bill (AB) 52 (Public Resources Code [PRC] Section 21080.3.1), a project notification letter was distributed to the chairpersons of the following tribes on April 4, 2022: Amah Mutsun Tribal Band of Mission San Juan Bautista, Chicken Ranch Rancheria of Me-Wuk Indians, Guidiville Indian Rancheria, Indian Canyon Mutsun Band of Costanoan, Muwekma Ohlone Indian Tribe of the SF Bay Area, Nashville Enterprise Miwok-Maidu-Nishinam Tribe, North Valley Yokuts Tribe, The Ohlone Indian Tribe, Tule River Indian Tribe, Wilton Rancheria, and The Confederated Villages of Lisjan. A request for information was received from The Confederated Villages of Lisjan Chairperson Corrina Gould on April 4, 2022, and the requested information was provided to the tribe. In addition, a request to consult on the project was received from the Indian Canyon Band of Costanoan Ohlone People on April 7, 2022, and consultation is underway.

B. SOURCES

All technical reports and modeling results prepared for the project analysis are available at: <https://www.ci.oakley.ca.us/ceqa-documents/>. The following documents are referenced information sources used for the purposes of this Initial Study/Mitigated Negative Declaration (IS/MND):

1. Antioch Unified School District. *Facilities Master Plan*. July 2018.
2. Association of Bay Area Governments. *Hazard Viewer*. Available at: <https://abag.ca.gov/our-work/resilience/data-research/hazard-viewer/>. Accessed May 2022.
3. ASTM International. *ASTM E1527, Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process*. 2013.
4. Bay Area Air Quality Management District. *Air Quality Summary Reports*. Available at: <http://www.baaqmd.gov/about-air-quality/air-quality-summaries>. Accessed March 2020.
5. Bay Area Air Quality Management District. *California Environmental Quality Act Air Quality Guidelines*. May 2017.
6. Bay Area Air Quality Management District. *CEQA Thresholds and Guidelines Update*. Available at: <https://www.baaqmd.gov/plans-and-climate/california-environmental-quality-act-ceqa/updated-ceqa-guidelines>. Accessed June 2022.
7. Bay Area Air Quality Management District. *CEQA Thresholds for Evaluating the Significance of Climate Impacts From Land Use Projects and Plans*. April 2022.
8. California Air Resources Board. *The 2017 Climate Change Scoping Plan Update*. January 20, 2017.
9. California Building Standards Commission. *California Green Building Standards Code*. 2019.

10. California Department of Conservation. *California Important Farmland Finder*. Available at: <https://maps.conservation.ca.gov/dlrp/ciff/>. Accessed May 2022.
11. California Department of Conservation. *California Tsunami Maps and Data*. Available at: <https://msc.fema.gov/portal/search?AddressQuery=machado%20lane%2C%20oakley%2C%20ca#searchresultsanchor>. Accessed July 14, 2022.
12. California Department of Forestry and Fire Protection. *Contra Costa County, Very High Fire Hazard Severity Zones in LRA*. January 7, 2009.
13. California Department of Resources Recycling and Recovery (CalRecycle). *Facility/Site Summary: Potrero Hill Landfill (48-AA-0075)*. Available at: <https://www2.calrecycle.ca.gov/SolidWaste/Site/Summary/3591>. Accessed May 2022.
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15. California Department of Water Resources. *California Well Standards, Combined*. Available at: <https://water.ca.gov/Programs/Groundwater-Management/Wells/Well-Standards/Combined-Well-Standards>. Accessed May 2022.
16. California Energy Commission. *Title 24 2019 Building Energy Efficiency Standards FAQ*. November 2018.
17. California Geologic Survey. *Seismic Hazard Zone Report for the Brentwood 7.5-Minute Quadrangle, Contra Costa County, California*. 2018.
18. City of Oakley. *City of Oakley 2020 General Plan Draft Environmental Impact Report*. September 2002.
19. City of Oakley. *City of Oakley General Plan*. Adopted January 11, 2022.
20. City of Oakley. *Mobility White Paper, City of Oakley Focused General Plan Update*. December 2019.
21. City of Oakley. *Strategic Energy Plan*. Fall 2015.
22. CityGate Associates. *Deployment Performance and Headquarters Staffing Adequacy Study, East Contra Costa Fire Protection District, California, Volume 1 Executive Summary*. June 15, 2016.
23. Contra Costa Conservation and Development. *2016 Agricultural Preserves Map*. Available at: <https://www.contracosta.ca.gov/DocumentCenter/View/882/Map-of-Properties-Under-Contract>. Accessed May 2022.
24. Contra Costa County Fire Protection District. *2018 Annual Report*. Available at: <https://cccfpd.org/2018-annual-report/>. Accessed September 2022.
25. Department of Toxic Substances Control. *Hazardous Waste and Substances Site List*. Available at: https://www.envirostor.dtsc.ca.gov/public/search?cmd=search&reporttype=CORTESE&site_type=CSITES,FUDS&status=ACT,BKLG,COM&reporttitle=HAZARDOUS+WASTE+AND+SUBSTANCES+SITE+LIST+%28CORTESE%29. Accessed May 2022.
26. Diablo Water District. *2020 Urban Water Management Plan*. June 2021.
27. East Contra Costa County Habitat Conservation Plan Association. *Final East Contra Costa County Habitat Conservation Plan/Natural Community Conservation Plan*. October 2006.
28. ENGeo Incorporated. *Modified Phase I Environmental Site Assessment*. November 12, 2020.
29. Federal Emergency Management Agency. *Flood Insurance Rate Map 06013C0355G*. Effective May 10, 2022.
30. H.T. Harvey & Associates. *East Contra Costa County Habitat Conservation Plan – Assessment of Plan Effects on CEQA Species*. February 17, 2015.
31. Ironhouse Sanitary District. *Sewer System Management Plan*. April 2017.

32. Kenneth W. Strelo, Planning Manager, City of Oakley. Personal communication [email] with Rod Stinson, Vice President, Raney Planning and Management. September 6, 2022.
33. Moore Biological Consultants. *Application Form and Planning Survey Report*. July 2015.
34. National Center for Biotechnology Information, U.S. National Library of Medicine, National Institutes of Health. *Organochlorine pesticides, their toxic effects on living organisms and their fate in the environment*. Available at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5464684/>. Accessed May 2022.
35. Northwest Information Center. *Records Search Results for the Proposed Machado Lane Property Project*. May 11, 2022.
36. Solano Archaeological Services. *Cultural Resources Technical Memorandum*. December 9, 2021.
37. State Water Resources Control Board. *GeoTracker*. Available at: <https://geotracker.waterboards.ca.gov/map/?CMD=runreport&myaddress=oakley+california>. Accessed May 2022.
38. TJKM. *Machado Lane Residential Development Traffic Impact Analysis*. June 17, 2022.
39. U.S. Census Bureau. Quick Facts, City of Oakley, California. Available at: <https://www.census.gov/quickfacts/fact/table/oakleycitycalifornia/POP010220#POP010220>. Accessed May 2022.
40. United States Environmental Protection Agency. *Protect Your Family from Sources of Paint*. Available at: <https://www.epa.gov/lead/protect-your-family-sources-lead>. Accessed May 2022.

C. ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a “Less Than Significant with Mitigation Incorporated” or as indicated by the checklist on the following pages.

- | | | |
|--|--|---|
| <input type="checkbox"/> Aesthetics | <input type="checkbox"/> Agriculture and Forest Resources | <input type="checkbox"/> Air Quality |
| <input type="checkbox"/> Biological Resources | <input checked="" type="checkbox"/> Cultural Resources | <input type="checkbox"/> Energy |
| <input checked="" type="checkbox"/> Geology and Soils | <input checked="" type="checkbox"/> Greenhouse Gas Emissions | <input checked="" type="checkbox"/> Hazards and Hazardous Materials |
| <input type="checkbox"/> Hydrology and Water Quality | <input type="checkbox"/> Land Use and Planning | <input type="checkbox"/> Mineral Resources |
| <input checked="" type="checkbox"/> Noise | <input type="checkbox"/> Population and Housing | <input type="checkbox"/> Public Services |
| <input type="checkbox"/> Recreation | <input checked="" type="checkbox"/> Transportation | <input checked="" type="checkbox"/> Tribal Cultural Resources |
| <input type="checkbox"/> Utilities and Service Systems | <input type="checkbox"/> Wildfire | <input type="checkbox"/> Mandatory Findings of Significance |

D. DETERMINATION

On the basis of this initial study:

- I find that the Proposed Project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
- I find that although the Proposed Project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the applicant. A MITIGATED NEGATIVE DECLARATION will be prepared.
- I find that the Proposed Project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
- I find that the proposed project MAY have a “potentially significant impact” or “potentially significant unless mitigated” on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
- I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR 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, nothing further is required.



Signature

Ken Strelo, Planning Manager

Printed Name

October 12, 2022

Date

City of Oakley

For

E. BACKGROUND AND INTRODUCTION

This IS/MND provides an environmental analysis pursuant to the California Environmental Quality Act (CEQA) for the proposed project. The applicant has submitted this application to the City of Oakley, which is the Lead Agency for the purposes of CEQA review. The IS/MND contains an analysis of the environmental effects of construction and operation of the proposed project.

In December 2002, the City of Oakley adopted the Oakley General Plan and the Oakley General Plan Environmental Impact Report (EIR). The General Plan EIR was a program-level EIR, prepared pursuant to Section 15168 of the CEQA Guidelines (Title 14, California Code of Regulations [CCR], Sections 15000 et seq.). The General Plan EIR analyzed full implementation of the Oakley General Plan and identified measures to mitigate the significant adverse project and cumulative impacts associated with the General Plan.

In January 2022, the City of Oakley adopted the Focused General Plan Update and the Focused General Plan Update Initial Study/Negative Declaration (IS/ND). The Focused General Plan Update IS/ND analyzed implementation of the Focused General Plan Update. The Focused General Plan Update amended the City's existing General Plan to bring it into compliance with State requirements related to environmental justice, mobility, and climate change and adaptation. The Focused General Plan Update also updated the setting information, and provided minor revisions to the goals, policies, and programs in the following elements: Land Use, Growth Management, Open Space and Conservation, Parks and Recreation, Noise, and Economic Development. All updates were applied to be consistent with current conditions, to remove policies and programs that have already been implemented or are no longer applicable, to update policies and programs to reflect current City practices, and to clarify the City's approach to achieving the vision and goals of the General Plan.

Pursuant to CEQA Guidelines Section 15150(a), the City of Oakley General Plan, Focused General Plan Update, General Plan EIR, and Focused General Plan Update IS/ND are incorporated by reference. The aforementioned documents are available online at:

- <https://www.ci.oakley.ca.us/departments/planning-zoning/reference-documents/>
- <https://www.ci.oakley.ca.us/general-plan-update/>

The impact discussions for each section of this IS/MND have been largely based on information in the Oakley General Plan, Focused General Plan Update, Oakley General Plan EIR, and Focused General Plan Update IS/ND, as well as technical studies prepared for the proposed project.

The mitigation measures prescribed for environmental effects described in this IS/MND would be implemented in conjunction with the project, as required by CEQA, and the mitigation measures would be incorporated into the project. In addition, a project Mitigation Monitoring and Reporting Program (MMRP) would be adopted in conjunction with approval of the project.

F. PROJECT DESCRIPTION

The following section provides a comprehensive description of the proposed project in accordance with CEQA Guidelines, including the project location and setting, and project components.

Project Location and Setting

The 17.73-acre project site is located southwest of the intersection of E. Cypress Road and Machado Lane in the City of Oakley, California (see Figure 1). The project site consists of ruderal grassland and is primarily undeveloped with the exception of one farmhouse structure in the southeast corner of the project site. In addition, 32 trees are located on-site.

Surrounding existing land uses include single-family residences to the north across E. Cypress Road; undeveloped ruderal grass land and scattered residences to the east across Machado Lane; scattered residences to the south, and additional scattered residences, undeveloped land, and UPRR tracks to the south across Machado Lane; and undeveloped land to the west with single-family residences further west (see Figure 2). The City of Oakley General Plan designates the site as SH and the site is zoned P-1.

Project Components

The proposed project would involve subdivision of the project site and development of the site with 76 single-family residential units, a tot lot, a bioretention area, and associated utility improvements. The project would require demolition of the existing farmhouse structure and associated perimeter fence located in the southeast portion of the project site. The following sections provide additional details related to the proposed VTM, Design Review, off-site improvements, and requested discretionary actions.

Vesting Tentative Map

The VTM would divide the project site into 76 single-family residential lots, Parcels A and B, and an internal roadway network that would connect to Machado Lane, which bounds the project site to the east (see Figure 3). The single-family lots would range in size from 5,939 sf to 13,089 sf. Parcel A, encompassing 75,509 sf of the northeast portion of the project site, would contain the tot lot and bioretention facility. Parcel B, which would provide EVA to the site, would be approximately 2,612 sf. Below is additional detail regarding the proposed residences, site access and circulation, landscaping, and utility infrastructure.

Proposed Residences

The proposed single-family residential units would range in size from 1,854 sf to 2,775 sf. Four unit types are proposed: Plan 5015, Plan 5023, Plan 5025, and Plan 5028 (see Figure 4). Each unit would include a two-car garage and private driveway.

Site Access and Circulation

An internal roadway system would be constructed throughout the project site to provide access to each unit. The internal roadways would be within a 56-foot right-of-way (ROW) and would include a five-foot sidewalk, five-foot landscape strip, eight-foot parking, and a 10-foot travel lane in each direction. Primary vehicular access to the site would be provided from Machado Lane, located east of the project site. The other internal roadways would be stubbed to the south and west of the project site. An EVA road would be provided from E. Cypress Road to the north.

Landscaping

As part of the proposed project, the 32 on-site trees would be removed, and landscaping improvements would be provided throughout the project site (see Figure 5). A variety of trees and shrubs would be provided along the internal roadways, as well as the frontage of the residential lots. A sound wall would be included along a portion of the northern and eastern perimeters of the site. A six-foot high tube steel fence would be provided adjacent to the bioretention basin and tot lot.

Figure 1
Regional Project Location



Figure 2
Project Site Boundaries

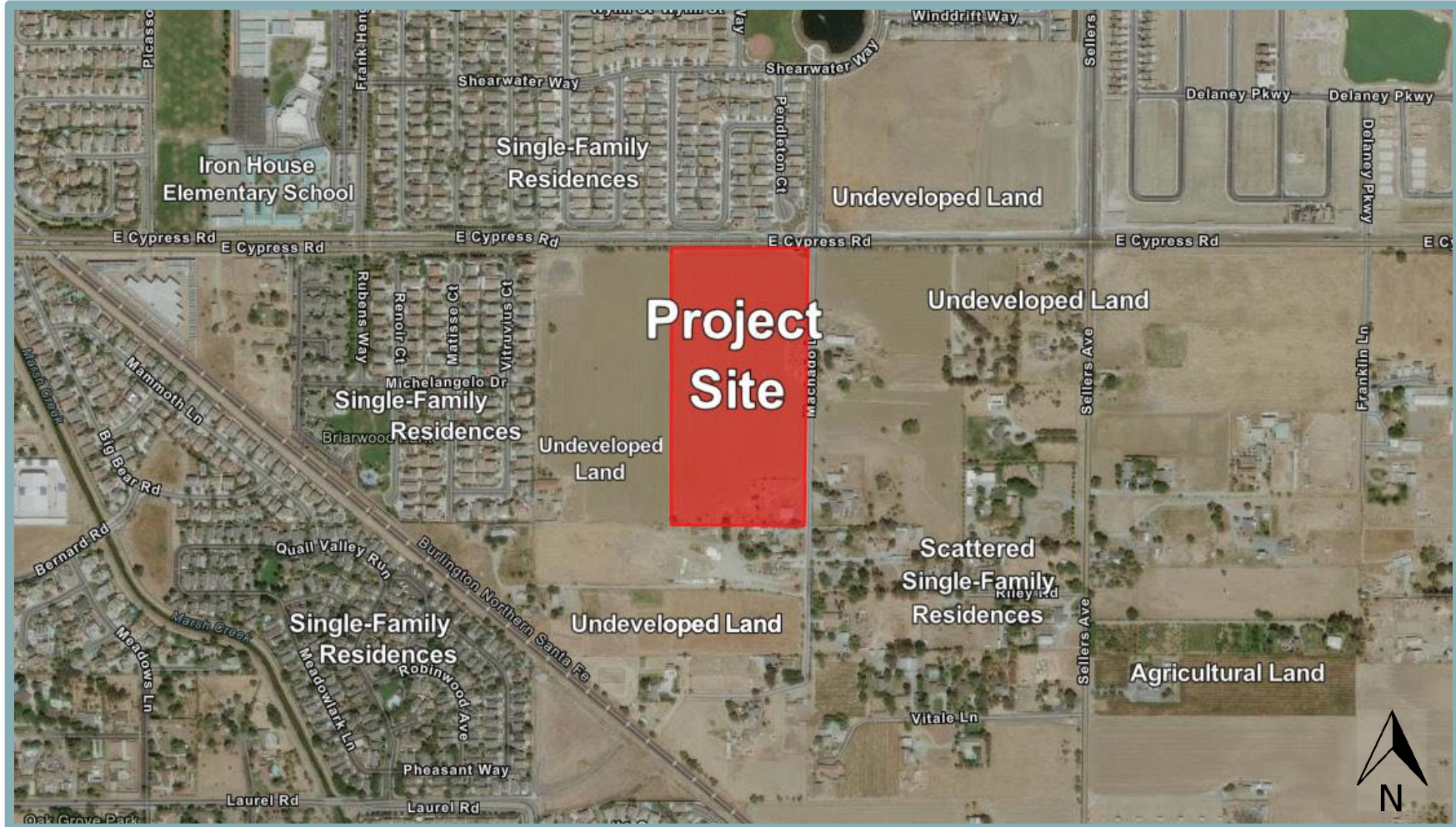
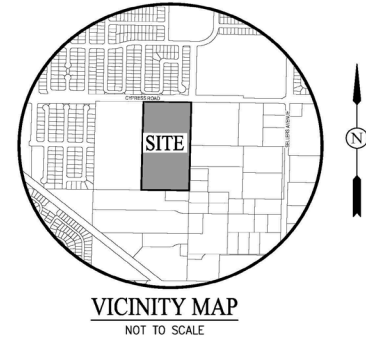
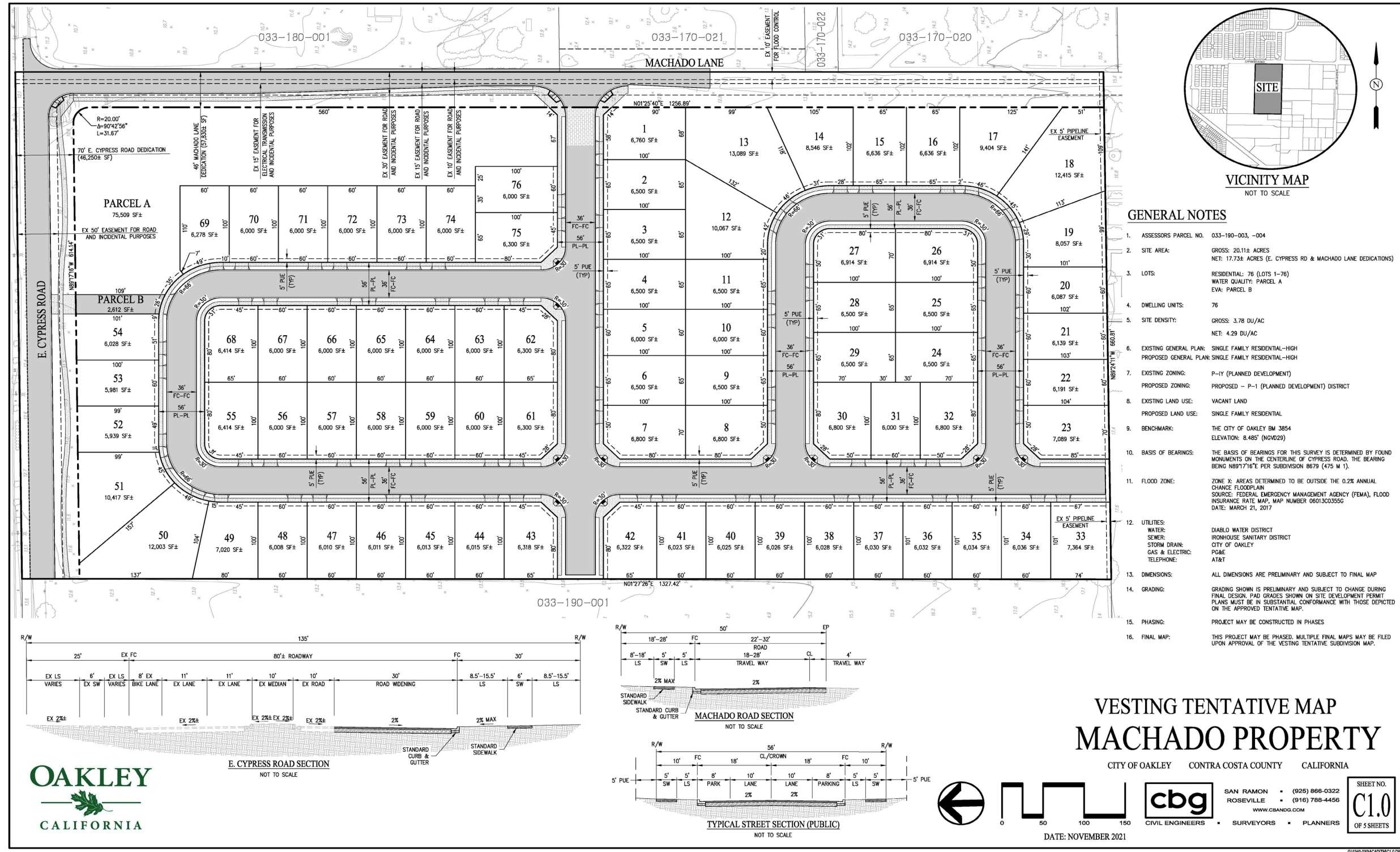
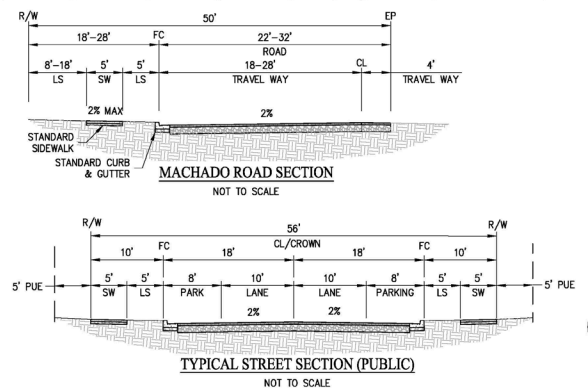


Figure 3
Vesting Tentative Map



- GENERAL NOTES**
- ASSESSORS PARCEL NO. 033-190-003, -004
 - SITE AREA: GROSS: 20.11± ACRES
NET: 17.73± ACRES (E. CYPRESS RD & MACHADO LANE DEDICATIONS)
 - LOTS: RESIDENTIAL: 76 (LOTS 1-76)
WATER QUALITY: PARCEL A
EVA: PARCEL B
 - DWELLING UNITS: 76
 - SITE DENSITY: GROSS: 3.78 DU/AC
NET: 4.29 DU/AC
 - EXISTING GENERAL PLAN: SINGLE FAMILY RESIDENTIAL-HIGH
PROPOSED GENERAL PLAN: SINGLE FAMILY RESIDENTIAL-HIGH
 - EXISTING ZONING: P-1Y (PLANNED DEVELOPMENT)
PROPOSED ZONING: PROPOSED - P-1 (PLANNED DEVELOPMENT) DISTRICT
 - EXISTING LAND USE: VACANT LAND
PROPOSED LAND USE: SINGLE FAMILY RESIDENTIAL
 - BENCHMARK: THE CITY OF OAKLEY BM 3854
ELEVATION: 8.485' (NOV029)
 - BASIS OF BEARINGS: THE BASIS OF BEARINGS FOR THIS SURVEY IS DETERMINED BY FOUND MONUMENTS ON THE CENTERLINE OF CYPRESS ROAD. THE BEARING BEING N89°17'16"E PER SUBDIVISION 8679 (475 M 1).
 - FLOOD ZONE: ZONE X: AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN
SOURCE: FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA), FLOOD INSURANCE RATE MAP, MAP NUMBER 06013C0355G
DATE: MARCH 21, 2017
 - UTILITIES: DIABLO WATER DISTRICT
SEWER: IRONHOUSE SANITARY DISTRICT
CITY OF OAKLEY
GAS & ELECTRIC: PG&E
TELEPHONE: AT&T
 - DIMENSIONS: ALL DIMENSIONS ARE PRELIMINARY AND SUBJECT TO FINAL MAP
 - GRADING: GRADING SHOWN IS PRELIMINARY AND SUBJECT TO CHANGE DURING FINAL DESIGN. PAD GRADES SHOWN ON SITE DEVELOPMENT PERMIT PLANS MUST BE IN SUBSTANTIAL CONFORMANCE WITH THOSE DEPICTED ON THE APPROVED TENTATIVE MAP.
 - PHASING: PROJECT MAY BE CONSTRUCTED IN PHASES
 - FINAL MAP: THIS PROJECT MAY BE PHASED. MULTIPLE FINAL MAPS MAY BE FILED UPON APPROVAL OF THE VESTING TENTATIVE SUBDIVISION MAP.

VESTING TENTATIVE MAP
MACHADO PROPERTY
CITY OF OAKLEY CONTRA COSTA COUNTY CALIFORNIA



0 50 100 150

cbg
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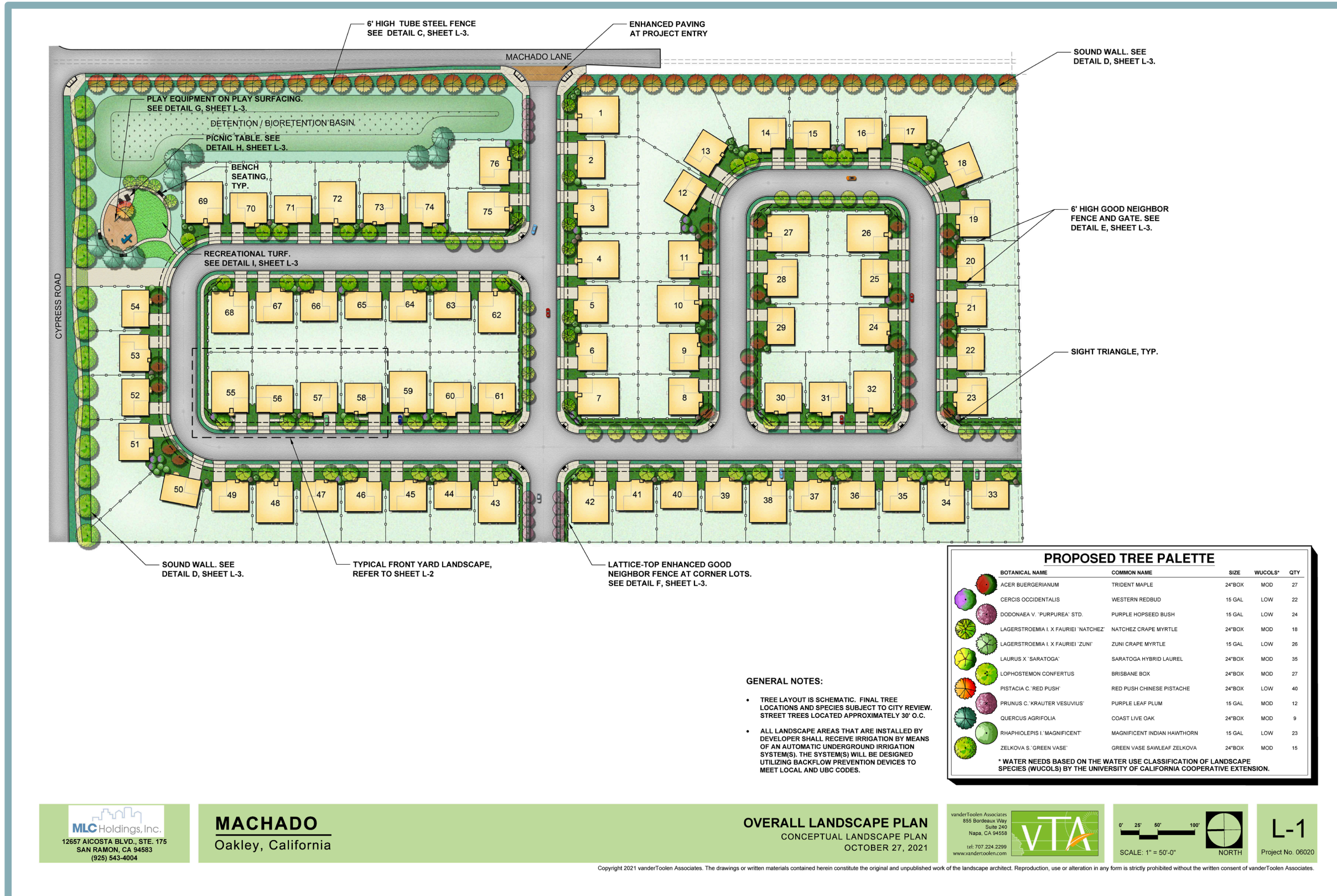
SHEET NO. **C1.0**
OF 5 SHEETS

DATE: NOVEMBER 2021

**Figure 4
Preliminary Development Plan**



**Figure 5
Landscape Plan**



PROPOSED TREE PALETTE

BOTANICAL NAME	COMMON NAME	SIZE	WUCOLS*	QTY
ACER BUERGERIANUM	TRIDENT MAPLE	24"BOX	MOD	27
CERCIS OCCIDENTALIS	WESTERN REDBUD	15 GAL	LOW	22
DODONAEA V. 'PURPUREA' STD.	PURPLE HOPSEED BUSH	15 GAL	LOW	24
LAGERSTROEMIA I. X FAURIEI 'NATCHEZ'	NATCHEZ CRAPE MYRTLE	24"BOX	MOD	18
LAGERSTROEMIA I. X FAURIEI 'ZUNI'	ZUNI CRAPE MYRTLE	15 GAL	LOW	26
LAURUS X 'SARATOGA'	SARATOGA HYBRID LAUREL	24"BOX	MOD	35
LOPHOSTEMON CONFERTUS	BRISBANE BOX	24"BOX	MOD	27
PISTACIA C. 'RED PUSH'	RED PUSH CHINESE PISTACHE	24"BOX	LOW	40
PRUNUS C. 'KRAUTER VESUVIUS'	PURPLE LEAF PLUM	15 GAL	MOD	12
QUERCUS AGRIFOLIA	COAST LIVE OAK	24"BOX	MOD	9
RHAPHIOLEPIS I. 'MAGNIFICENT'	MAGNIFICENT INDIAN HAWTHORN	15 GAL	LOW	23
ZELKOVA S. 'GREEN VASE'	GREEN VASE SAWLEAF ZELKOVA	24"BOX	MOD	15

* WATER NEEDS BASED ON THE WATER USE CLASSIFICATION OF LANDSCAPE SPECIES (WUCOLS) BY THE UNIVERSITY OF CALIFORNIA COOPERATIVE EXTENSION.

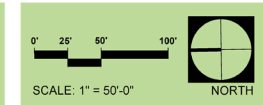
- GENERAL NOTES:**
- TREE LAYOUT IS SCHEMATIC. FINAL TREE LOCATIONS AND SPECIES SUBJECT TO CITY REVIEW. STREET TREES LOCATED APPROXIMATELY 30' O.C.
 - ALL LANDSCAPE AREAS THAT ARE INSTALLED BY DEVELOPER SHALL RECEIVE IRRIGATION BY MEANS OF AN AUTOMATIC UNDERGROUND IRRIGATION SYSTEM(S). THE SYSTEM(S) WILL BE DESIGNED UTILIZING BACKFLOW PREVENTION DEVICES TO MEET LOCAL AND UBC CODES.

MLC Holdings, Inc.
12657 AICOSTA BLVD., STE. 175
SAN RAMON, CA 94583
(925) 543-4004

MACHADO
Oakley, California

OVERALL LANDSCAPE PLAN
CONCEPTUAL LANDSCAPE PLAN
OCTOBER 27, 2021

vander Toolen Associates
855 Bordeaux Way
Suite 240
Napa, CA 94558
tel: 707.224.2299
www.vandertoolen.com



L-1
Project No. 06020

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Residential lots would be landscaped with various trees and shrubs, including *Acer Buergerianum* (Trident Maple) and *Lagerstroemia I.X. Fauriei* (Natchez Crape Myrtle), among other species. All landscaping would comply with the State's Model Water Efficient Landscape Ordinance (MWELo).

Utilities

Water service for the proposed project would be provided by the Diablo Water District (DWD). The proposed project would include construction of new eight-inch water lines throughout the project site, in Machado Lane, and would connect to the existing water main in E. Cypress Road. (see Figure 6).

Sanitary sewer service for the proposed project would be provided by the Ironhouse Sanitary District (ISD). The proposed project would include construction of new eight-inch sanitary sewer lines throughout the project site, in Machado Lane, and would ultimately connect to the existing sanitary sewer main in E. Cypress Road.

Runoff from the new impervious surfaces on the project site would be collected in curbs, gutters, and a new network of 15- to 24-inch stormwater lines throughout the site. Stormwater would be directed towards the 16,307-sf bioretention area located on Parcel A. Following treatment, the runoff would be discharged into the City's stormwater main in E. Cypress Road (see Figure 7).

Design Review

Per Section 9.1.1604 of the City's Municipal Code, the proposed single-family homes would be subject to Design Review by the City. Specifically, the site plan would be analyzed based on elements of design, development location, arrangement of all structures, and design in harmony with surrounding facilities. The purpose of the regulations is to allow design review of all developments, signs, buildings, structures, and other facilities to further enhance the City's appearance, and the livability and usefulness of properties.

Off-Site Improvements

As part of the proposed project, E. Cypress Road would be widened by 30 feet, and a new eight-inch water line and eight-inch sanitary sewer line would be constructed in Machado Lane. In addition, existing overhead utilities along E. Cypress Road would be undergrounded as part of the project.

Discretionary Actions

The proposed project would require the following approvals from the City of Oakley:

- Adoption of the IS/MND;
- Adoption of the MMRP;
- Approval of a Rezone (RZ) amending the P-1 (Planned Unit Development) District;
- Approval of a Final Development Plan (FDP);
- Approval of a Vesting Tentative Map (VTM); and
- Approval of Design Review (DR).

Figure 6
Preliminary Utility Plan

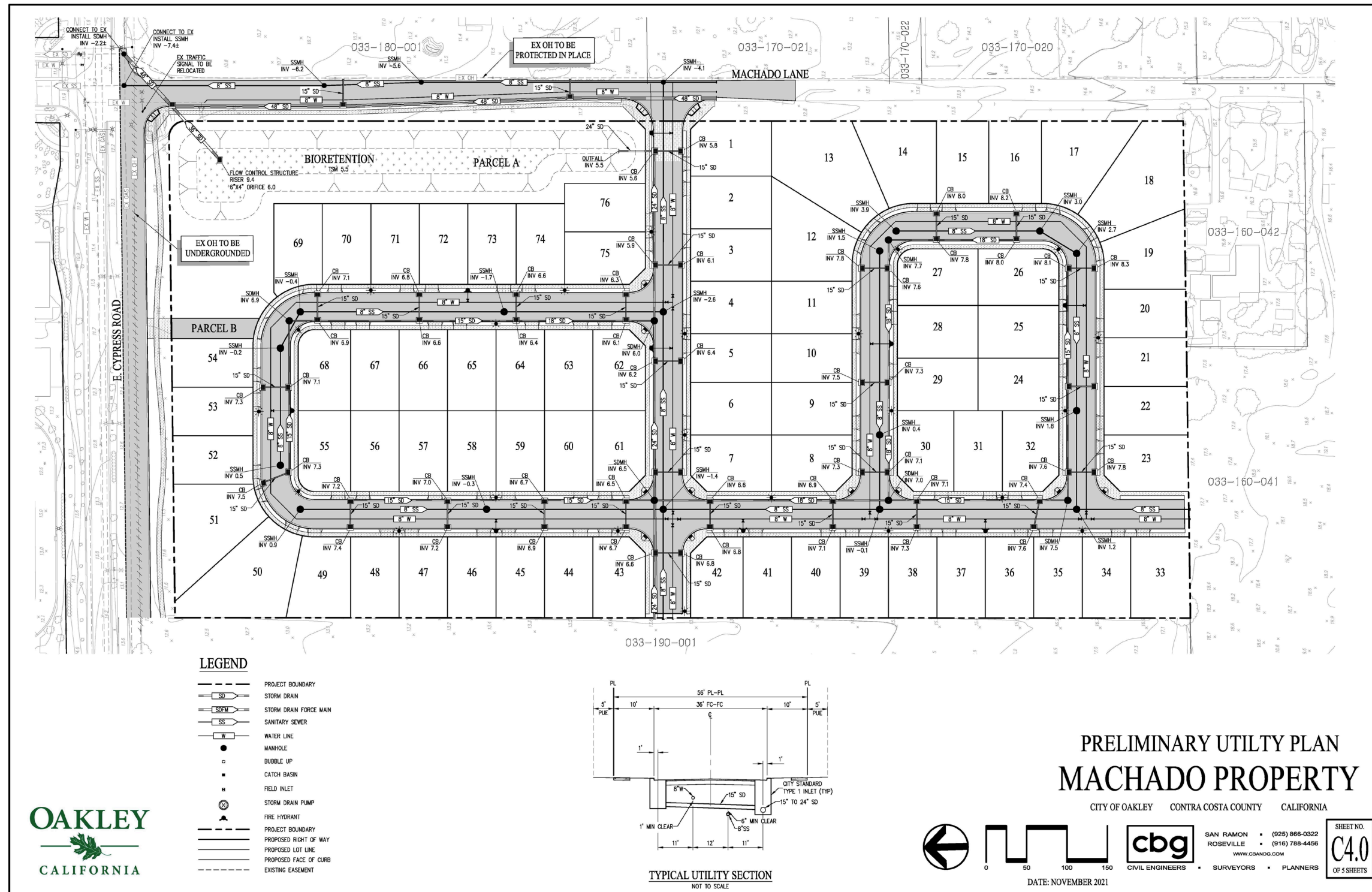
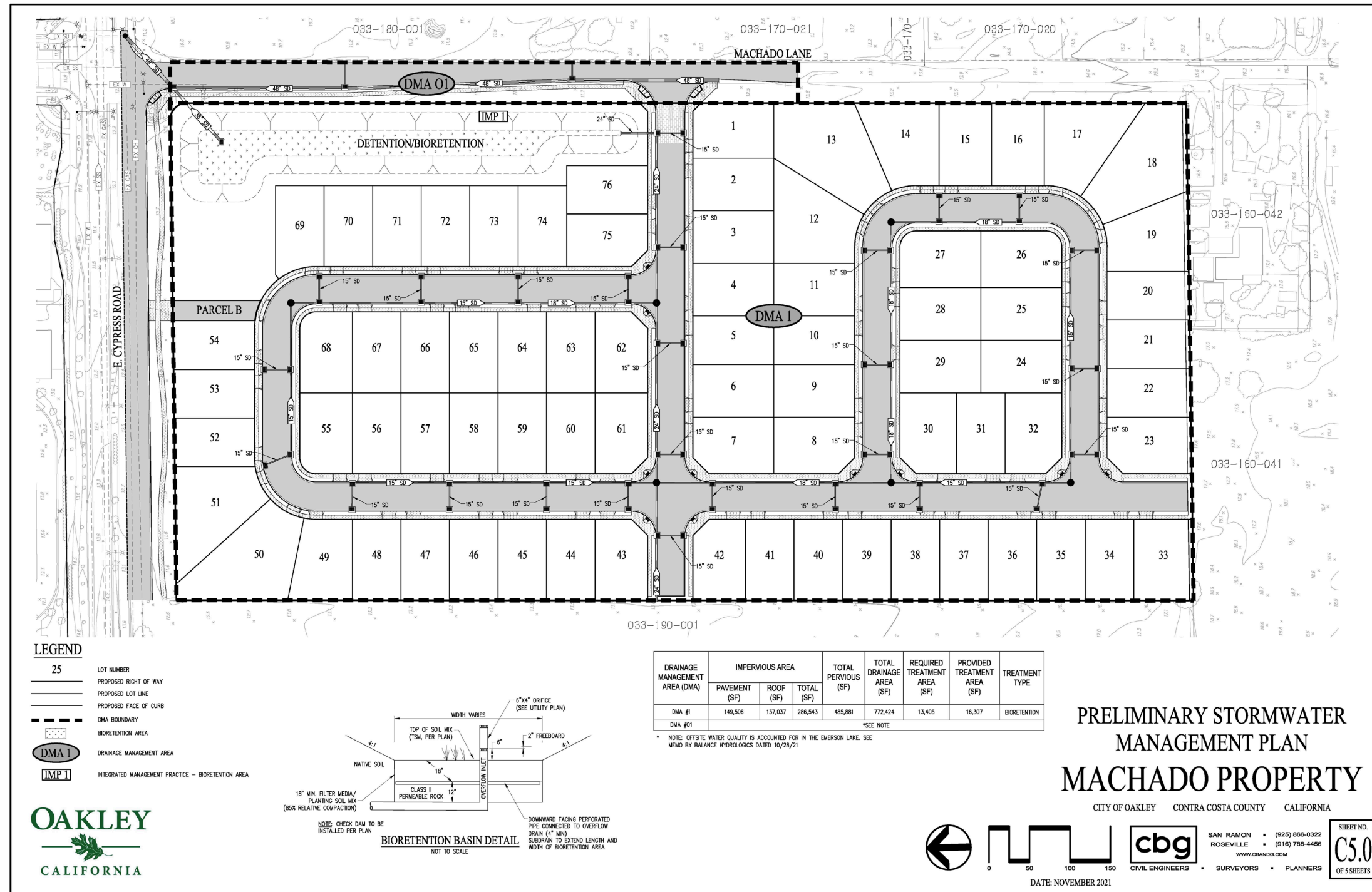


Figure 7
Preliminary Stormwater Control Plan



G. ENVIRONMENTAL CHECKLIST

The following checklist contains the environmental checklist form presented in Appendix G of the CEQA Guidelines. The checklist form is used to describe the impacts of the proposed project. A discussion follows each environmental issue identified in the checklist. For this checklist, the following designations are used:

Potentially Significant Impact: An impact that could be significant, and for which no mitigation has been identified. If any potentially significant impacts are identified, an EIR must be prepared.

Less Than Significant with Mitigation Incorporated: An impact that requires mitigation to reduce the impact to a less-than-significant level.

Less-Than-Significant Impact: Any impact that would not be considered significant under CEQA relative to existing standards.

No Impact: The project would not have any impact.

I. AESTHETICS. <i>Would the project:</i>	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Discussion

a. Examples of typical scenic vistas include mountain ranges, ridgelines, or bodies of water as viewed from a highway, public space, or other area designated for the express purpose of viewing and sightseeing. In general, a project’s impact to a scenic resource would occur if development of the project would substantially change or remove a scenic resource. A scenic resource includes any such areas designated by a federal, State, or local agency. The City’s predominantly flat landscape is rich in scenic resources. Oakley’s scenic resources include the waterways of the Delta, Dutch Slough, Marsh Creek, and Contra Costa Canal, habitat areas, and open space land. Other scenic resources include the view of Mount Diablo west of the City.¹ Views of the Delta, Dutch Slough, Marsh Creek, and the Contra Costa Canal, are not available from the project site.

Mount Diablo can be viewed in the horizon from motorists travelling westbound along E. Cypress Road. However, as the Mount Diablo summit is more than 14 miles from the project site, public views of Mount Diablo would not be obstructed by development of the proposed project and implementation of the proposed project would not have a substantial adverse effect on a scenic vista.

Furthermore, because the proposed project would be consistent with the General Plan land use designation for the site, potential impacts to scenic vistas and visual character associated with future development of the project site were already evaluated and considered in the General Plan EIR analysis, which concluded that the General Plan’s goals, policies, and programs would mitigate any potential impacts on the aesthetic qualities inherent in the Planning Area to a less-than-significant level.²

Based on the above, a **less-than-significant** impact would occur related to having a substantial adverse effect on a scenic vista.

¹ City of Oakley. *City of Oakley General Plan* [pg. 6-24]. Adopted January 11, 2022.

² City of Oakley. *City of Oakley 2020 General Plan Draft Environmental Impact Report* [pg. 3-24]. September 2002.

- b. According to the California Scenic Highway Mapping System, portions of Interstate (I) 580 and I-680 in the project area are listed as Officially Designated State Scenic Highways, while State Route (SR) 4 and SR 160 are listed as “Eligible” for designation.³ The project site is located approximately 18.31 miles north of I-580 and approximately 20.30 miles northeast of I-680. Views of the project site from either highway are not currently available due to the substantial distance and intervening urban development. Development of the proposed project would not substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State Scenic Highway. Thus, a **less-than-significant** impact would occur.
- c. The project site is located within an urbanized area of the City. Therefore, the applicable CEQA consideration is whether the project would conflict with applicable zoning and other regulations related to scenic quality.

The City of Oakley General Plan designates the project site as RLM and the site is zoned P-1. The purpose of the P-1 District is to allow diversification in the relationship of various uses, buildings, structures, lot sizes, and open spaces. The proposed project would comply with the adopted Final Development Plan of the P-1 District for the project site, which would include development standards. Furthermore, it is noted that the proposed residential development is consistent with the development type allowed in the surrounding residential zoning districts.

Implementation of the proposed project would also require Design Review, which is a City regulation related to scenic quality. Design Review would ensure that the aesthetic and architectural design of the development be compatible with surrounding development. The proposed project would include landscaping features at the project site frontage and within the project site that would be similar to existing features in the development to the north and west of the site, and the proposed residences would be designed in keeping with the surrounding residential land uses.

Based on the above, the proposed project would not conflict with applicable zoning and other regulations governing scenic qualities, and a **less-than-significant** impact would occur.

- d. Sources of light do not currently exist on the project site. However, off-site light sources include streetlights and traffic along E. Cypress Road, as well as from surrounding residential developments. Development of the project site with 76 single-family residences and the internal road system would add new sources of light and glare to the site where minimal sources currently exist. The proposed project is anticipated to include streetlights along internal roadways and the project frontage, as well as interior lights from windows of the proposed residences. Anticipated light sources are expected to be similar to that of the surrounding area.

Pursuant to Section 9.1.1604 of the City’s Municipal Code, the project would be required to undergo a Design Review to ensure that development of the project would be in compliance with the Residential Design Guidelines, which establishes the City’s standard for residential streetlights and limits residential lighting for security purposes. In addition,

³ California Department of Transportation. *California State Scenic Highway System Map*. Available at: <https://www.arcgis.com/apps/webappviewer/index.html?id=465dfd3d807c46cc8e8057116f1aaca>. Accessed January 2022.

because the proposed project would be consistent with the General Plan land use designation for the site, the impacts of new sources of light or glare associated with future development of the project site were already evaluated and considered in the General Plan EIR analysis. Therefore, any creation of new sources of light and glare by the proposed project would be considered a ***less-than-significant*** impact.

II. AGRICULTURE AND FOREST RESOURCES.	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
<i>Would the project:</i>				
a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Discussion

- a,e. Pursuant to the California Department of Conservation (DOC) Farmland Mapping and Monitoring Program, the project site is designated as “Farmland of Local Importance.”⁴ The DOC defines Farmland of Local Importance as “land of importance to the local agricultural economy as determined by each county’s board of supervisors and a local advisory committee.” Therefore, the site does not contain, and is not located adjacent to, Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. In addition, the project site does not include forested landscape. In addition, the site is not currently used for agricultural purposes. Overall, development of the proposed project would not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural use or result in the loss of forest land to non-forest use. Thus, a **less-than-significant** impact would occur as a result of the proposed project.
- b. The project site is zoned P-1, which does not permit agricultural uses. Furthermore, the site is not under an active William Act contract.⁵ Therefore, the proposed project would not conflict with existing zoning for agricultural use or conflict with a Williamson Act contract, and **no impact** would occur.
- c,d. The project site is not zoned forest land (as defined in PRC Section 12220[g]), timberland (as defined by PRC Section 4526), or timberland zoned Timberland Production (as defined

⁴ California Department of Conservation. *California Important Farmland Finder*. Available at: <https://maps.conservation.ca.gov/dlrp/ciff/>. Accessed May 2022.

⁵ Contra Costa Conservation and Development. *2016 Agricultural Preserves Map*. Available at: <https://www.contracosta.ca.gov/DocumentCenter/View/882/Map-of-Properties-Under-Contract>. Accessed May 2022.

by Government Code Section 51104[g]). Therefore, the proposed project would have **no impact** with regard to conversion of forest land or any potential conflict with forest land, timberland, or Timberland Production zoning.

III. AIR QUALITY.

Would the project:

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Discussion

a,b. The City of Oakley is located in the San Francisco Bay Area Air Basin (SFBAAB), which is under the jurisdiction of the Bay Area Air Quality Management District (BAAQMD). The SFBAAB area is currently designated as a nonattainment area for State and federal ozone, State and federal fine particulate matter 2.5 microns in diameter (PM_{2.5}), and State respirable particulate matter 10 microns in diameter (PM₁₀) ambient air quality standards (AAQS). The SFBAAB is designated attainment or unclassified for all other AAQS. It should be noted that on January 9, 2013, the U.S. Environmental Protection Agency (USEPA) issued a final rule to determine that the Bay Area has attained the 24-hour PM_{2.5} federal AAQS. Nonetheless, the Bay Area must continue to be designated as nonattainment for the federal PM_{2.5} AAQS until such time as the BAAQMD submits a redesignation request and a maintenance plan to the USEPA, and the USEPA approves the proposed redesignation.

In compliance with regulations, due to the nonattainment designations of the area, the BAAQMD periodically prepares and updates air quality plans that provide emission reduction strategies to achieve attainment of the AAQS, including control strategies to reduce air pollutant emissions through regulations, incentive programs, public education, and partnerships with other agencies. The current air quality plans are prepared in cooperation with the Metropolitan Transportation Commission (MTC) and the Association of Bay Area Governments (ABAG).

The most recent federal ozone plan is the 2001 Ozone Attainment Plan, which was adopted on October 24, 2001 and approved by the California Air Resources Board (CARB) on November 1, 2001. The plan was submitted to the USEPA on November 30, 2001 for review and approval. The most recent State ozone plan is the 2017 Clean Air Plan, adopted on April 19, 2017. The 2017 Clean Air Plan was developed as a multi-pollutant plan that provides an integrated control strategy to reduce ozone, PM, toxic air contaminants (TACs), and greenhouse gases (GHGs). Although a plan for achieving the State PM₁₀ standard is not required, the BAAQMD has prioritized measures to reduce PM in developing the control strategy for the 2017 Clean Air Plan. The control strategy serves as the backbone of the BAAQMD's current PM control program.

The aforementioned air quality plans contain mobile source controls, stationary source controls, and transportation control measures to be implemented in the region to attain the State and federal AAQS within the SFBAAB. Adopted BAAQMD rules and regulations, as well as the thresholds of significance, have been developed with the intent to ensure

continued attainment of AAQS, or to work towards attainment of AAQS for which the area is currently designated nonattainment, consistent with applicable air quality plans. The BAAQMD’s established significance thresholds associated with development projects for emissions of the ozone precursors reactive organic gases (ROG) and oxides of nitrogen (NO_x), as well as for PM₁₀ and PM_{2.5}, expressed in pounds per day (lbs/day) and tons per year (tons/yr), are listed in Table 1. By exceeding the BAAQMD’s mass emission thresholds for ROG, NO_x, PM₁₀, or PM_{2.5}, a project would be considered to conflict with or obstruct implementation of the BAAQMD’s air quality planning efforts.

Table 1 BAAQMD Thresholds of Significance			
Pollutant	Construction	Operational	
	Average Daily Emissions (lbs/day)	Average Daily Emissions (lbs/day)	Maximum Annual Emissions (tons/yr)
ROG	54	54	10
NO _x	54	54	10
PM ₁₀ (exhaust)	82	82	15
PM _{2.5} (exhaust)	54	54	10

Source: BAAQMD, CEQA Guidelines, May 2017.

Emissions of particulate matter can be split into two categories: fugitive emissions and exhaust emissions. The BAAQMD thresholds of significance for exhaust are presented in Table 1. It should be noted that BAAQMD does not maintain quantitative thresholds for fugitive emissions of PM₁₀ or PM_{2.5}, rather, BAAQMD requires all projects within the district’s jurisdiction to implement Basic Construction Mitigation Measures (BCMMS) related to dust suppression.

The proposed project’s construction and operational emissions were quantified using the California Emissions Estimator Model (CalEEMod) software version 2020.4.0 - a Statewide model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify air quality emissions, including GHG emissions, from land use projects. The model applies inherent default values for various land uses, including construction data, vehicle mix, trip length, average speed, etc. Where project-specific information is available, such information is applied in the model. The proposed project’s modeling assumed the following:

- Construction would begin in January 2023 and occur over approximately three years;⁶
- Demolition would involve the removal of 4,000 sf of building material;
- Operational trip generation rates were updated to 9.43 vehicle trips per unit, consistent with the project-specific Traffic Impact Analysis prepared by TJKM;
- Wood-burning fireplaces would not be included; and
- The project would comply with all applicable provisions of the 2019 California Building Standards Code (CBSC), the 2019 CALGreen Code, and the MWEL0.

⁶ It is noted that actual construction of the proposed project would likely commence later than January 2023. However, given the ongoing trend of increasingly stringent requirements for heavy-duty equipment engines, this assumption is considered conservative, and actual construction-related emissions would likely be less than those presented herein.

The proposed project’s estimated emissions associated with construction and operations are presented and discussed in further detail below. A discussion of the proposed project’s contribution to cumulative air quality conditions is provided below as well. All CalEEMod modeling results are included as Appendix A to this IS/MND.

Construction Emissions

According to the CalEEMod modeling results, buildout of the proposed project would result in maximum unmitigated construction criteria air pollutant emissions as shown in Table 2. As shown in the table, the proposed project’s construction emissions would be below the applicable thresholds of significance for ROG, NO_x, PM₁₀, and PM_{2.5}.

Table 2			
Maximum Unmitigated Construction Emissions (lbs/day)			
Pollutant	Construction Emissions	Threshold of Significance	Exceeds Threshold?
ROG	5.07	54	NO
NO _x	34.55	54	NO
PM ₁₀ *	1.43	82	NO
PM _{2.5} *	1.31	54	NO
Notes: * Denotes emissions from exhaust only. BAAQMD does not have adopted PM thresholds for fugitive emissions.			
Sources: CalEEMod, June 2022 (see Appendix A).			

All projects within the jurisdiction of the BAAQMD are required to implement all of the BAAQMD’s BCMs, which would be required by the City as conditions of approval:

1. All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.
2. All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
3. All visible mud or dirt track-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.
4. All vehicle speeds on unpaved roads shall be limited to 15 miles per hour (mph).
5. 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.
6. Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to five minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of CCR). Clear signage shall be provided for construction workers at all access points.
7. All construction equipment shall be maintained and properly tuned in accordance with manufacturer’s specifications. All equipment shall be checked by a certified visible emissions evaluator.
8. Post a publicly visible sign with the telephone number and person to contact at the lead agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District’s phone number shall also be visible to ensure compliance with applicable regulations.

The proposed project’s required implementation of the BAAQMD’s BCMs listed above for the project’s construction activities, would help to further minimize construction-related emissions.

Overall, because the proposed project would be below the applicable thresholds of significance for construction emissions, project construction would not result in a significant air quality impact.

Operational Emissions

According to the CalEEMod results, buildout of the proposed project would result in maximum unmitigated operational criteria air pollutant emissions as shown in Table 3. As shown in the table, operations of the proposed project would be below the applicable thresholds of significance. Thus, operations of the project would not be considered to conflict with air quality plans during project operations.

Table 3 Maximum Unmitigated Operational Emissions					
Pollutant	Proposed Project Emissions		Threshold of Significance		Exceeds Threshold?
	lbs/day	tons/yr	lbs/day	tons/yr	
ROG	5.57	0.95	54	10	NO
NO _x	3.43	0.42	54	10	NO
PM ₁₀ *	0.18	0.02	82	15	NO
PM _{2.5} *	0.18	0.01	54	10	NO
Note: * Denotes emissions from exhaust only. BAAQMD does not have adopted PM thresholds for fugitive emissions.					
Source: CalEEMod, June 2022 (see Appendix A).					

Cumulative Emissions

Past, present and future development projects contribute to the region’s adverse air quality impacts on a cumulative basis. By nature, air pollution is largely a cumulative impact. A single project is not sufficient in size to, by itself, result in nonattainment of AAQS. Instead, a project’s individual emissions contribute to existing cumulatively significant adverse air quality impacts. If a project’s contribution to the cumulative impact is considerable, then the project’s impact on air quality would be considered significant. In developing thresholds of significance for air pollutants, BAAQMD considered the emission levels for which a project’s individual emissions would be cumulatively considerable. The thresholds of significance presented in Table 1 represent the levels at which a project’s individual emissions of criteria air pollutants or precursors would result in a cumulatively considerable contribution to the SFBAAB’s existing air quality conditions. If a project exceeds the significance thresholds presented in Table 1, the proposed project’s emissions would be cumulatively considerable, resulting in significant adverse cumulative air quality impacts to the region’s existing air quality conditions.

Because the proposed project would result in both construction-related and operational emissions below the applicable thresholds of significance, construction and operations of the project would not be expected to result in a cumulatively considerable contribution to the region’s existing air quality conditions.

Conclusion

As stated previously, the applicable regional air quality plans include the 2001 Ozone Attainment Plan and the 2017 Clean Air Plan. According to BAAQMD, if a project would not result in significant and unavoidable air quality impacts, after the application of all feasible mitigation, the project may be considered consistent with the air quality plans. Because construction and operations of the proposed project would result in emissions below the applicable thresholds of significance, the project would not be considered to conflict with or obstruct implementation of regional air quality plans. Therefore, the proposed project would not conflict with or obstruct implementation of the applicable air quality plans, violate any air quality standards or contribute substantially to an existing or projected air quality violation, or result in a cumulatively considerable net increase in any criteria air pollutant, and impacts would be considered **less than significant**.

- c. Some land uses are considered more sensitive to air pollution than others, due to the types of population groups or activities involved. Heightened sensitivity may be caused by health problems, proximity to the emissions source, and/or duration of exposure to air pollutants. Children, pregnant women, the elderly, and those with existing health problems are especially vulnerable to the effects of air pollution. Sensitive receptors are typically defined as facilities where sensitive receptor population groups (i.e., children, the elderly, the acutely ill, and the chronically ill) are likely to be located. Accordingly, land uses that are typically considered to be sensitive receptors include residences, schools, playgrounds, childcare centers, retirement homes, convalescent homes, hospitals, and medical clinics. The nearest sensitive uses include the single-family residences located north of the project site, across East Cypress Road.

The major pollutant concentrations of concern are localized carbon monoxide (CO) emissions, TAC, and criteria pollutants, which are addressed in further detail below.

Localized CO Emissions

Localized concentrations of CO are related to the levels of traffic and congestion along streets and at intersections. High levels of localized CO concentrations are only expected where background levels are high, and traffic volumes and congestion levels are high. Emissions of CO are of potential concern, as the pollutant is a toxic gas that results from the incomplete combustion of carbon-containing fuels such as gasoline or wood.

To provide a conservative indication of whether a project would result in localized CO emissions that would exceed the applicable threshold of significance, BAAQMD has established screening criteria for localized CO emissions. According to BAAQMD, a proposed project would result in a less-than-significant impact related to localized CO emission concentrations if all of the following conditions are true for the project:

- The project is consistent with an applicable congestion management program established by the county congestion management agency for designated roads or highways, regional transportation plan, and local congestion management agency plans;
- The project traffic would not increase traffic volumes at affected intersections to more than 44,000 vehicles per hour; and
- The project traffic would 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, underpass, etc.).

While BAAQMD has established the foregoing screening criteria for potential impacts, it should be noted that the SFBAAB has been in attainment of California Ambient Air Quality Standards (CAAQS) and National Ambient Air Quality Standards (NAAQS) for CO for more than 20 years.⁷ Due to the continued attainment of CAAQS and NAAQS, and advances in vehicle emissions technologies, the likelihood that any single project would create a CO hotspot is minimal. With regard to the proposed project, according to the Traffic Impact Analysis prepared by TJKM, the proposed project is expected to generate 1,964 daily vehicle trips, 154 of which would be during the AM peak hour, and 206 during the PM peak hour.⁸ The addition of 360 total peak hour trips per day generated by the proposed project is not anticipated to increase traffic volumes at any nearby intersections to more than 44,000 vehicles per hour. Furthermore, areas where vertical and/or horizontal mixing is limited due to tunnels, underpass, or similar features do not exist in the project area. Therefore, based on the BAAQMD's screen criteria for localized CO emissions, the proposed project would not be expected to result in substantial levels of localized CO at surrounding intersections or generate localized concentrations of CO that would exceed standards or cause health hazards.

TAC Emissions

Another category of environmental concern is TACs. Health risks associated with TACs are a function of both the concentration of emissions and the duration of exposure, where the higher the concentration and/or the longer the period of time that a sensitive receptor is exposed to pollutant concentrations would correlate to a higher health risk. The CARB's *Air Quality and Land Use Handbook: A Community Health Perspective* (Handbook) provides recommended setback distances for sensitive land uses from major sources of TACs, including, but not limited to, freeways and high traffic roads, distribution centers, and rail yards. The CARB has identified diesel particulate matter (DPM) from diesel-fueled engines as a TAC; thus, high volume freeways, stationary diesel engines, and facilities attracting heavy and constant diesel vehicle traffic are identified as having the highest associated health risks from DPM.

The proposed project does not include any operations that would be considered a substantial source of TACs. Accordingly, operations of the proposed project would not expose sensitive receptors to excess concentrations of TACs.

Short-term, construction-related activities could result in the generation of TACs, specifically DPM, from on-road haul trucks and off-road equipment exhaust emissions. However, as discussed above, construction is temporary and occurs over a relatively short duration in comparison to the operational lifetime of the proposed project. Health risks are typically associated with exposure to high concentrations of TACs over extended periods of time (e.g., 30 years or greater), whereas the construction period associated with the proposed project would likely be limited to approximately three years. All construction equipment and operation thereof would be regulated per the In-Use Off-Road Diesel Vehicle Regulation, which is intended to help reduce emissions associated with off-road diesel vehicles and equipment, including DPM. Project construction would also be required to comply with all applicable BAAQMD rules and regulations, particularly associated with permitting of air pollutant sources.

⁷ Bay Area Air Quality Management District. *Air Quality Summary Reports*. Available at: <http://www.baaqmd.gov/about-air-quality/air-quality-summaries>. Accessed March 2020.

⁸ TJKM. *Machado Lane Residential Development Traffic Impact Analysis*. June 17, 2022.

During construction, only portions of the project site would be disturbed at a time. Operation of construction equipment would occur on such portions of the site intermittently throughout the course of a day over the overall construction period. Because construction equipment on-site would not operate for any long periods of time and would be used at varying locations within the site, associated emissions of DPM would not occur at the same location (or be evenly spread throughout the entire project site) for long periods of time. Due to the temporary nature of construction and the relatively short duration of potential exposure to associated emissions, sensitive receptors in the area would not be exposed to pollutants for a permanent or substantially extended period of time. Furthermore, any one nearby sensitive receptor would be exposed to varying concentrations of DPM emissions throughout the construction period. According to BAAQMD, research conducted by CARB indicates that DPM is highly dispersive in the atmosphere. Thus, emissions at the project site would be substantially dispersed at the nearest sensitive receptors, and the concentration of DPM at the nearest sensitive receptors would be lower than the concentration of DPM at the source of emissions.

Considering the limited nature of construction activities, the regulated and intermittent nature of the operation of construction equipment, the highly dispersive nature of DPM, and the distance of the nearest sensitive receptor from the project site, the likelihood that any one sensitive receptor would be exposed to high concentrations of DPM for any extended period of time, during development the project, would be low. For the aforementioned reasons, project construction would not be expected to expose sensitive receptors to substantial pollutant concentrations.

Criteria Pollutants

The BAAQMD thresholds of significance were established with consideration given to the health-based air quality standards established by the NAAQS and CAAQS, and are designed to aid the district in achieving attainment of the NAAQS and CAAQS.⁹ Although the BAAQMD's thresholds of significance are intended to aid achievement of the NAAQS and CAAQS for which the SFBAAB is in nonattainment, the thresholds of significance do not represent a level above which individual project-level emissions would directly result in public health impacts. Nevertheless, a project's compliance with BAAQMD's thresholds of significance provides an indication that criteria pollutants released as a result of project implementation would not inhibit attainment of the health-based regional NAAQS and CAAQS. Because project-related emissions would not exceed the BAAQMD's thresholds, and, thus, would not inhibit attainment of regional NAAQS and CAAQS, the criteria pollutants emitted during project implementation would not be anticipated to result in measurable health impacts to sensitive receptors. Accordingly, the proposed project would not expose sensitive receptors to excess concentrations of criteria pollutants.

Conclusion

Based on the above discussion, the proposed project would not expose any sensitive receptors to substantial concentrations of pollutants, including localized CO, TACs, or criteria pollutants, during construction or operation. Therefore, the proposed project would result in a **less-than-significant** impact related to the exposure of sensitive receptors to substantial pollutant concentrations.

⁹ Bay Area Air Quality Management District. *California Environmental Quality Act Air Quality Guidelines*. May 2017.

- d. Emissions of principal concern include emissions leading to odors, emission that have the potential to cause dust, or emissions considered to constitute air pollutants. Air pollutants have been discussed in questions ‘a’ through ‘c’ above. Therefore, the following discussion focuses on emissions of odors and dust.

Per the BAAQMD CEQA Guidelines, odors are generally regarded as an annoyance rather than a health hazard.¹⁰ Manifestations of a person’s reaction to odors can range from psychological (e.g., irritation, anger, or anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting, and headache). The presence of an odor impact is dependent on a number of variables including: the nature of the odor source; the frequency of odor generation; the intensity of odor; the distance of odor source to sensitive receptors; wind direction; and sensitivity of the receptor. Due to the subjective nature of odor impacts, the number of variables that can influence the potential for an odor impact, and the variety of odor sources, quantitative analysis to determine the presence of a significant odor impact is difficult. Typical odor-generating land uses include, but are not limited to, wastewater treatment plants, landfills, and composting facilities. The proposed project would not introduce any such land uses.

Construction activities often include diesel-fueled equipment and heavy-duty trucks, which could create odors associated with diesel fumes that may be considered objectionable. However, construction activities would be temporary, and hours of operation for construction equipment would be restricted to the hours of 7:30 AM to 7:00 PM on weekdays and 9:00 AM to 7:00 PM on weekends and holidays per Section 4.2.208 of the City of Oakley Municipal Code. Project construction would also be required to comply with all applicable BAAQMD rules and regulations, particularly associated with permitting of air pollutant sources. The aforementioned regulations would help to minimize emissions, including emissions leading to odors. Accordingly, substantial objectionable odors would not be expected to occur during construction activities.

BAAQMD regulates objectionable odors through Regulation 7, Odorous Substances, which does not become applicable until the Air Pollution Control Officer (APCO) receives odor complaints from ten or more complainants within a 90-day period. Once effective, Regulation 7 places general limitation on odorous substances and specific emission limitations on certain odorous compounds, which remain effective until such time that citizen complaints have not been received by the APCO for one year. The limits of Regulation 7 become applicable again when the APCO receives odor complaints from five or more complainants within a 90-day period. Thus, although not anticipated, if odor complaints are made after the proposed project is developed, the BAAQMD would ensure that such odors are addressed, and any potential odor effects are minimized or eliminated.

With respect to dust, as noted previously, all projects under the jurisdiction of BAAQMD are required to implement the BAAQMD’s BCMMs. Such measures would act to reduce construction-related dust by ensuring that haul trucks with loose material are covered, reducing vehicle dirt track-out, and limiting vehicle speeds within project site, among other methods, which would ensure that construction of the proposed project does not result in substantial emissions of dust. Although the project would require soil hauling, all haul trucks would be covered to minimize emissions of fugitive dust during transport. Following

¹⁰ Bay Area Air Quality Management District. *California Environmental Quality Act Air Quality Guidelines* [pg. 7-1]. May 2017.

project construction, vehicles operating within the project site would be limited to paved areas of the site, and non-paved areas would be landscaped. Thus, project operations would not include sources of dust that could adversely affect a substantial number of people.

For these reason, construction and operation of the proposed project would not result in emissions (such as those leading to odors) adversely affecting a substantial number of people, and a ***less-than-significant*** impact would occur.

IV. BIOLOGICAL RESOURCES.

Would the project:

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

Discussion

The following discussion based primarily on a Planning Survey Report (PSR), prepared by Moore Biological Consultants for the proposed project.¹¹ The PSR is included as Appendix B to this IS/MND.

a,f. Currently, the 17.73-acre project site consists of ruderal grassland and is primarily undeveloped with the exception of one farmhouse structure in the southeast corner of the project site. As noted in the PSR, 32 trees are located on-site, most of which are found along the southern border adjacent to the farmhouse structure fence line.

Special-status species include those plant and wildlife species that have been formally listed, are proposed as endangered or threatened, or are candidates for such listing under the federal and State Endangered Species Acts. Both acts afford protection to listed and proposed species. In addition, California Department of Fish and Wildlife (CDFW) Species of Special Concern, which are species that face extirpation in California if current population and habitat trends continue, U.S. Fish and Wildlife Service (USFWS) Birds of Conservation Concern, sensitive species included in USFWS Recovery Plans, and CDFW special-status invertebrates are all considered special-status species. Although CDFW

¹¹ Moore Biological Consultants. *Application Form and Planning Survey Report*. July 2015.

Species of Special Concern generally do not have special legal status, they are given special consideration under CEQA. In addition to regulations for special-status species, most birds in the U.S., including non-status species, are protected by the Migratory Bird Treaty Act (MBTA) of 1918. Under the MBTA, destroying active nests, eggs, and young is illegal. Species that meet the definition of rare, threatened, or endangered under Section 15380 of the CEQA guidelines are also considered special-status species. In addition, plant species on California Native Plant Society (CNPS) categories 1A, 1B, 2B, 3, and 4 are considered special-status plant species and are protected under CEQA.

The project site is located within the boundaries of the East Contra Costa County Habitat Conservation Plan/Natural Community Conservation Plan (ECCCHCP/NCCP), which is intended to provide an effective framework to protect natural resources in the County, including special-status species. Raney Planning & Management, Inc., conducted a search of the California Natural Diversity Database (CNDDDB) for the project site quadrangle, Brentwood. Based on the results of the CNDDDB search, eight special-status plant species and 10 special-status wildlife species have the potential to occur within the vicinity of the project site (see Appendix C). Of the 18 special-status species that could occur within the vicinity of the project site, ten species (two special-status plant species and eight special-status wildlife species) are covered under the ECCCHCP/NCCP and 8 species (six special-status plant species and two special-status wildlife species) are not covered.

In February 2015, the East Contra Costa County Habitat Conservancy prepared an ECCCHCP/NCCP Assessment of Plan Effects on CEQA Species.¹² The purpose of the assessment was to provide a programmatic, cumulative CEQA effects analysis for CEQA species not covered by the HCP/NCCP. The 2015 ECCCHCP/NCCP Assessment of Plan Effects on CEQA Species concluded that mitigation measures required in the ECCCHCP/NCCP also provide mitigation for non-covered species; therefore, projects consistent with the ECCCHCP/NCCP would have a less-than-significant impact on other potential special-status species.

According to the 2015 ECCCHCP/NCCP Assessment of Plan Effects on CEQA Species, for all but two of the potential special-status species addressed (Lime Ridge navarretia [*Navarretia gowenii*] and the Lime Ridge eriastrum [*Eriastrum ertterae*]), impacts would be less than significant under CEQA. Because of uncertainty regarding the distribution of the Lime Ridge navarretia and the Lime Ridge eriastrum, the 2015 ECCCHCP/NCCP Assessment of Plan Effects on CEQA Species concluded that a potentially significant impact could occur related to the two aforementioned species. Based on the CNDDDB search conducted by Raney Planning & Management, Inc., known occurrences of Lime Ridge navarretia or Lime Ridge eriastrum did not occur within the project site quadrangle. Therefore, implementation of the proposed project would not impact the species. Based on the conclusions of the 2015 ECCCHCP/NCCP Assessment of Plan Effects on CEQA Species and the absence of the Lime Ridge navarretia and Lime Ridge eriastrum in the vicinity of the project site, the proposed project would have a less-than-significant impact on any potential special-status wildlife species and potential special-status plant species not covered by the ECCCHCP/NCCP that could occur within the vicinity of the project site because the proposed project would be required to comply with the ECCCHCP/NCCP.

¹² H.T. Harvey & Associates. *East Contra Costa County Habitat Conservation Plan – Assessment of Plan Effects on CEQA Species*. February 17, 2015.

In compliance with the ECCCHCP/NCCP, a PSR was prepared for the proposed project by Moore Biological Consultants, which included all species covered under the ECCCHCP/NCCP. The study area of the PSR observed approximately 21.13 acres of both the project site and off-site components. Approximately 19.88 acres of the study area are categorized by the Grassland (Ruderal) land cover type, and 1.25 acres are considered Developed (Urban) (see Figure 8). Based on the land cover types found on-site, Moore Biological Consultants conducted planning-level surveys on the project site for western burrowing owl, Swainson's hawk, and golden eagle.

Special-Status Wildlife

The on-site ruderal grassland and nearby trees could provide potential habitat for western burrowing owl (*Athene cunicularia*), Swainson's hawk (*Buteo swainsoni*), and golden eagle (*Aquila chrysaetos*). In addition, other avian species protected by the MBTA could use the existing grassland as foraging and potential nesting habitat.

Western Burrowing Owl

The primary habitat requirement for western burrowing owls is small mammal burrows that the species uses for nesting. Typically, the species uses abandoned ground squirrel burrows, but western burrowing owls have been known to dig burrows in softer soils. In urban areas, western burrowing owls may use pipes, culverts, and piles of material as artificial burrows. Western burrowing owls breed semi-colonially from March through August.

The project site contains ruderal grassland within the range of the western burrowing owl and the CNDDDB search included records of the species within the project site. A CDFW CNDDDB (2022) record from 1992 notes the presence of western burrowing owl within the site. Additionally, the CNDDDB (2022) contains several records of burrowing owl within one mile of the project site. As part of the PSR, the site was inspected for burrowing owls and ground squirrel burrows with evidence of burrowing owl occupancy (i.e., white wash, pellets, feathers). Ground squirrels and their burrows were observed during the survey.

However, burrowing owls or burrows with evidence of burrowing owl occupancy were not observed during the survey. Nonetheless, because suitable habitat for western burrowing owl exists on the project site, pre-construction surveys for burrowing owls would be required by the ECCCHCP/NCCP to confirm presence or absence of the species. If burrowing owls are present on or near the project site, the proposed project could result in an adverse impact to the species.

Swainson's Hawk

Swainson's hawk is a summer resident and migrant in California's Central Valley and scattered portions of the southern California interior. Areas typically used for nesting include the edge of narrow bands of riparian vegetation, isolated patches of oak woodland, lone trees, planted and natural trees associated with roads, farmyards and sometimes adjacent residential areas. Foraging occurs in open habitats, including grasslands, open woodlands, and agricultural areas.

Large trees within the project site provide potentially suitable nesting habitat for Swainson's hawks, as well as several potential nest trees near and visible from the project site. As part of the PSR, trees on the site and visible from the site were inspected for raptor stick nests.

**Figure 8
Land Cover Types**



Raptor stick nests were not observed in the on-site trees, but a large raptor stick nest was observed in a large oak tree situated just south of the site. Furthermore, Swainson's hawks were not observed during the Swainson's hawks nesting season in the May 2022 field survey.

The CNDDDB search indicated an occurrence of Swainson's hawk within 1,000 feet of the project site. The occurrence is noted to have been from 2006 and is located in one of the trees associated with a residence along the east side of Machado Lane.

Pre-construction surveys for Swainson's hawk are required by the ECCCHCP/NCCP to confirm the presence or absence of the species. If the species were to occur on or near the project site, implementation of the proposed project could result in direct take or nest abandonment, which would be considered an adverse impact.

Golden Eagle

Golden eagles are fairly adaptable in habitat but often reside in areas with few shared ecological characteristics, such as mountains and cliffs. In addition, golden eagles tend to avoid developed areas. The project site contains ruderal grassland that is located within the range of the golden eagle.

As part of the PSR, trees on the site and visible from the site were inspected for raptor stick nests. The project site is noted to have 32 trees that are potentially suitable for nesting golden eagles, however, most of the trees on site are unlikely to be used by nesting raptors of any species due to their small sizes. As such, raptor stick nests were not observed in the on-site trees or in trees visible from the site. However, although a large raptor stick nest was observed in a large oak tree situated just south of the site, no golden eagles were observed as the species nests more often on cliffs in remote natural areas than in trees near urban areas.

The CNDDDB search did not include any occurrences of golden eagles within 0.5 miles of the project site or within the larger geographical area. Nonetheless, pre-construction surveys for golden eagle are required by the ECCCHCP/NCCP to confirm presence or absence of the species. If golden eagle is present on or near the project site, the proposed project could result in an adverse impact to the species.

Nesting Raptors and Migratory Birds

The trees on-site may be used by other migratory birds protected by the MBTA for nesting. As part of the proposed project, all trees on site would be removed. Construction activities that adversely affect the nesting success of raptors and migratory birds (i.e., lead to the abandonment of active nests) or result in mortality of individual birds constitute a violation of State and federal laws, and in the event that such species occur on or near the project site during the breeding season, project construction activities could result in an adverse effect to species protected under the MBTA.

ECCCHCP/NCCP Requirements

Procedures for pre-construction surveys, best management practices, and construction monitoring, as well as Applicable Avoidance and Minimization Measures for species covered by the ECCCHCP/NCCP are outlined in Section 6.3.3 Surveys for Construction

Monitoring and Section 6.4.3 Species-Level Measures of the ECCCHCP/NCCP.¹³ The project would be required to comply with all ECCCHCP/NCCP requirements, including conducting pre-construction surveys prior to ground disturbance activities to establish whether nests of Swainson's hawks and golden eagles are occupied. If nests are occupied, the project would be required to comply with the minimization requirements and construction monitoring in the ECCCHCP/NCCP. In compliance with the ECCCHCP/NCCP, the project would also be required to follow Applicable Avoidance and Minimization Measures if nests are located within 1,000 feet of the project site.

All birds covered by the ECCCHCP/NCCP (western burrowing owl, golden eagle, and Swainson's hawks) are also considered migratory birds and subject to the prohibitions of the MBTA. Therefore, actions conducted under the ECCCHCP/NCCP comply with the provisions of the MBTA. Conservation Measure 1.12 Implement Best Management Practices for Rural Road Maintenance and Conservation Measure 1.14 Design Requirements for Covered Roads Outside of the UDA of the ECCCHCP/NCCP incorporate avoidance guidelines for compliance with the MBTA. Because the project would comply with all ECCCHCP/NCCP requirements, the project would also comply with the provisions of the MBTA.

Additionally, the proposed project would be subject to pay all applicable fees according to the Fee Zone Map of the ECCCHCP/NCCP prior to construction and in compliance with Section 9.2.712 of the Oakley Municipal Code. The developer would be required to pay the appropriate fees based on the applicable fee calculator at the time of development.

Conclusion

Based on the above, western burrowing owls, Swainson's hawks, and golden eagles have the potential to occur on-site. However, the project would comply with ECCCHCP/NCCP requirements, and pre-construction surveys would be required for western burrowing owl, Swainson's hawk, and golden eagle. Although the site and surrounding area contains suitable nest trees for nesting raptors and migratory birds protected by the MBTA, the project would be required to comply with the ECCCHCP/NCCP's Applicable Avoidance and Minimization Measures for western burrowing owl, Swainson's hawk, golden eagle, and nesting and migratory birds. The proposed project would comply with all applicable ECCCHCP/NCCP requirements. Thus, the proposed project would not have an adverse effect, either directly or through habitat modifications, on species identified as special-status species in local or regional plans, policies, or regulations, or by the CDFW or the USFWS, and a **less-than-significant** impact would result.

- b,c. The project site does not contain riparian habitat or other sensitive natural communities, including wetlands, or potentially jurisdictional waters of the State. Therefore, the proposed project would not have a substantial adverse effect on riparian habitat, sensitive natural communities, or federally protected wetlands, and a **less-than-significant** impact would occur.
- d. The project site is located in a developing area southwest of the intersection of E. Cypress Road and Machado Lane and is bordered by single-family residences to the north across E. Cypress Road; undeveloped ruderal grass land and scattered residences to the east

¹³ East Contra Costa County Habitat Conservation Plan Association. *Final East Contra Costa County Habitat Conservation Plan/Natural Community Conservation Plan*. October 2006.

across Machado Lane; scattered residences to the south, and additional scattered residences, undeveloped land, and UPRR tracks to the south across Machado Lane; and undeveloped land to the west with single-family residences further west. The developed nature of the surrounding area precludes the use of the project site as a migratory corridor. Therefore, the project site and surrounding existing uses do not support any substantial wildlife movement corridors or wildlife nursery sites. As such, the project would not interfere substantially with the movement of any resident or migratory fish or wildlife species or with established resident or migratory wildlife corridors, or impede the use of wildlife nursery sites, and a **less-than-significant** impact would occur.

- e. 32 trees currently exist on the project site, all of which would be removed as part of the project. The on-site trees include a small willow (*Salix* sp.), black walnut (*Juglans californica*), two ornamental trees, and stone fruit and nut trees that are generally in very poor health. It is noted that the landscaping plan prepared for the proposed project includes the planting of approximately 278 new trees. Therefore, implementation of the project would result in a net increase in trees on-site.

Section 9.1.1112 of the City's Municipal Code requires that any protected trees that are to be removed shall be replaced. Section 9.1.1112 defines a protected tree as any tree adjacent to or part of a riparian habitat, foothill woodland, or oak savanna that measures 20 inches or larger and an indigenous tree that measures 40 inches or larger or as a California native oak that measures at least 50 inches in circumference (15.6 inches diameter). According to the Tree Survey that was prepared for the project site, 15 on-site walnut trees meet the City's definition for protected trees. As a result, the removal of the protected trees would require replacement of such trees, consistent with the regulations established in Section 9.1.1112 of the City's Municipal Code. Thus, the proposed project would not conflict with local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance, and a **less-than-significant** impact would occur.

V. CULTURAL RESOURCES.

Would the project:

	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	✘	<input type="checkbox"/>
b. Cause a substantial adverse change in the significance of a unique archaeological resource pursuant to Section 15064.5?	<input type="checkbox"/>	✘	<input type="checkbox"/>	<input type="checkbox"/>
c. Disturb any human remains, including those interred outside of dedicated cemeteries.	<input type="checkbox"/>	✘	<input type="checkbox"/>	<input type="checkbox"/>

Discussion

- a. Historical resources are features that are associated with the lives of historically important persons and/or historically significant events, that embody the distinctive characteristics of a type, period, region or method of construction, or that have yielded, or may be likely to yield, information important to the pre-history or history of the local area, California, or the nation. Examples of typical historical resources include, but are not limited to, buildings, farmsteads, rail lines, bridges, and trash scatters containing objects such as colored glass and ceramics.

In order to determine whether the project site contains significant historical resources, a records search of the California Historic Resources Information System (CHRIS) was performed by the Northwest Information Center (NWIC) for cultural resource site records and survey reports within the project area.¹⁴ The State Office of Historic Preservation (OHP) Built Environment Resources Directory, which includes listings of the California Register of Historical Resources, California State Historical Landmarks, California State Points of Historical Interest, and the National Register of Historic Places, does not list recorded buildings or structures within or adjacent to the project site.

In addition to the OHP inventories, the NWIC base maps do not show recorded buildings or structures within the project site. Additionally, the 1978 Brentwood USGS 7.5-minute topographic quadrangle failed to depict any buildings or structures within the project site. Furthermore, a review of historic aerial photos by Solano Archaeological Services (SAS) indicated construction of several vintage agricultural/industrial buildings and a chain-link fence in the southeastern corner of the project area dated sometime after the late 1970s.¹⁵ Based on the age of construction, the structures are not considered historical resources. A further review of historical literature and maps did not indicate historic-period activity within the project site and concluded a low potential for unrecorded historic-period resources to be found within the site.

Based on the above, development of the site would not cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5. Therefore, a ***less-than-significant*** impact would occur.

¹⁴ Northwest Information Center. *Records Search Results for the Proposed Machado Lane Property Project*. May 11, 2022.

¹⁵ Solano Archaeological Services. *Cultural Resources Technical Memorandum*. December 9, 2021.

- b,c. According to the Oakley General Plan EIR, few archeological or paleontological finds have occurred in the City of Oakley. However, the City's General Plan EIR states that given the rich history of the Planning Area and region, the City will continue to require site evaluation prior to development of undeveloped areas, as well as required procedures if artifacts are unearthed during construction.

According to the NWIC, given the project site's location approximately 1.5 miles south of the confluence of Dutch Slough and Emerson Slough, one mile east of the main town of Oakley, and 0.3 miles from Marsh Creek, and the similarity of environmental settings and features in which Native American resources in this part of Contra Costa County have been found, a moderate to high potential exists for unrecorded Native American resources to be found within the project site. However, record search results by the NWIC have indicated that no cultural resources have been documented within the project area. Furthermore, a field study for the un-surveyed portions of the project site was conducted by SAS to identify cultural resources, as recommended by the NWIC. The field survey did not result in the discovery of any prehistoric or historic-period cultural sites, features, or artifacts. As such, the proposed project would not result in adverse impacts to any recorded cultural resources and, as noted by the SAS, further research is not warranted.

While the project site has been subject to ground disturbance associated with past agricultural activities, unknown archaeological resources, including human remains, have the potential to be uncovered during future ground-disturbing construction and excavation activities. If previously unknown resources are encountered during construction activities, the proposed project could cause a substantial adverse change in the significance of a unique archaeological resource pursuant to CEQA Guidelines Section 15064.5 and/or disturb human remains, including those interred outside of dedicated cemeteries. Therefore, a **potentially significant** impact could occur.

Mitigation Measure(s)

Implementation of the following mitigation measures would reduce the above potential impact to a *less-than-significant* level.

- V-1. *If buried archaeological, paleontological, and/or cultural resources are encountered during site grading or other site work, all such work shall be halted immediately within 100 feet of the discovery and the developer shall immediately notify the City of Oakley Planning Division of the discovery. In such case, the developer shall be required, at their own expense, to retain the services of a qualified archaeologist for the purpose of recording, protecting, or curating the discovery, as appropriate. The archaeologist shall be required to submit to the City of Oakley Planning Division for review and approval a report of the findings and method of curation or protection of the resources. Further grading or site work within the area of discovery would not be allowed until the preceding work has occurred.*

The foregoing requirements shall be noted on the project improvement plans, subject to review and approval by the City of Oakley Planning Division.

- V-2. *Pursuant to State Health and Safety Code §7050.5 (c) State Public Resources Code §5097.98, if human bone or bone of unknown origin is found during construction, all work shall stop within 100 feet of the find and*

the Contra Costa County Coroner shall be contacted immediately. If the remains are determined to be Native American, the Coroner shall notify the Native American Heritage Commission, who shall notify the person believed to be the most likely descendant. The most likely descendant shall work with the contractor to develop a program for re-internment of the human remains and any associated artifacts. Additional work is not to take place within 100 feet of the find until the identified appropriate actions have been implemented.

The foregoing requirements shall be noted on the project improvement plans, subject to review and approval of compliance by the City of Oakley Planning Division.

VI. ENERGY. <i>Would the project:</i>	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Discussion

a,b. The main forms of available energy supply are electricity, natural gas, and oil. A description of the 2019 California Green Building Standards Code (CALGreen Code), the Building Energy Efficiency Standards, and the City’s Strategic Energy Plan (SEP), with which the proposed project would be required to comply, as well as discussions regarding the proposed project’s potential effects related to energy demand during construction and operations are provided below.

California Green Building Standards Code

The CALGreen Code (CCR Title 24, Part 11), is a portion of the CBSC, which became effective on January 1, 2020.¹⁶ The purpose of the CALGreen Code is to improve public health, safety, and general welfare by enhancing the design and construction of buildings through the use of building concepts having a reduced negative impact or positive environmental impact and encouraging sustainable construction practices. The CALGreen Code standards regulate the method of use, properties, performance, types of materials used in construction, alteration repair, improvement and rehabilitation of a structure or improvement to property. The provisions of the CALGreen Code apply to the planning, design, operation, construction, use, and occupancy of every newly constructed building or structure throughout California. Requirements of the CALGreen Code include, but are not limited to, the following measures:

- Compliance with relevant regulations related to future installation of Electric Vehicle charging infrastructure in residential and non-residential structures;
- Indoor water use consumption is reduced through the establishment of maximum fixture water use rates;
- Outdoor landscaping must comply with the California Department of Water Resources’ MWEL0, or a local ordinance, whichever is more stringent, to reduce outdoor water use;
- Diversion of 65 percent of construction and demolition waste from landfills;
- Mandatory use of low-pollutant emitting interior finish materials such as paints, carpet, vinyl flooring, and particle board; and
- For some single-family and low-rise residential development developed after January 1, 2020, mandatory on-site solar energy systems capable of producing 100 percent of the electricity demand created by the residence(s). Certain residential developments, including those developments that are subject to substantial shading, rendering the use of on-site solar photovoltaic systems infeasible, are exempted from the foregoing requirement.

¹⁶ California Building Standards Commission. *California Green Building Standards Code*. 2019.

Building Energy Efficiency Standards

The 2019 Building Energy Efficiency Standards is a portion of the CBSC. Energy reductions relative to previous Building Energy Efficiency Standards are achieved through various regulations including requirements for the use of high-efficacy lighting, improved water heating system efficiency, and high-performance attics and walls. For residential buildings, compliance with the 2019 standards would use approximately seven percent less energy due to energy efficiency measures compared to homes built under the 2016 standards.¹⁷ The Building Energy Efficiency Standards require residential buildings that are three stories or less to include solar photovoltaic systems. Rooftop solar electricity generation would ensure future residences that are built under the 2019 standards further reduce energy consumption and result in about 53 percent less energy use than those residences built under the 2016 Building Energy Efficiency Standards.

Strategic Energy Plan

In the fall of 2015, the City of Oakley adopted a SEP to help meet State mandates for required energy use and GHG emission reductions.¹⁸ The SEP included six energy planning goals and priorities, including, but not limited to, improving energy performance to exceed Title 24 requirements for new construction and major renovations of the City facilities; exploring opportunities for energy efficiency, demand reduction, and/or clean self-generation measures; and exploring existing economic and fiscal criteria commonly used for the evaluation and implementation of energy use reduction and energy generation strategies.

Construction Energy Use

Construction of the proposed project would involve on-site energy demand and consumption related to use of oil in the form of gasoline and diesel fuel for construction worker vehicle trips, hauling and materials delivery truck trips, and operation of off-road construction equipment. In addition, diesel-fueled portable generators may be necessary to provide additional electricity demands for temporary on-site lighting, welding, and for supplying energy to areas of the site where energy supply cannot be met via a hookup to the existing electricity grid. Project construction would not involve the use of natural gas appliances or equipment.

All construction equipment and operation thereof would be regulated per the CARB's In-Use Off-Road Diesel Vehicle Regulation. The In-Use Off-Road Diesel Vehicle Regulation is intended to reduce emissions from in-use, off-road, heavy-duty diesel vehicles in California by imposing limits on idling, requiring all vehicles to be reported to CARB, restricting the addition of older vehicles into fleets, and requiring fleets to reduce emissions by retiring, replacing, or repowering older engines, or installing exhaust retrofits. In addition, as a means of reducing emissions, construction vehicles are required to become cleaner through the use of renewable energy resources. The In-Use Off-Road Diesel Vehicle Regulation would therefore help to improve fuel efficiency for equipment used in construction of the proposed project. Technological innovations and more stringent standards are being researched, such as multi-function equipment, hybrid equipment, or other design changes, which could help to further reduce demand on oil and limit emissions associated with construction.

¹⁷ California Energy Commission. *Title 24 2019 Building Energy Efficiency Standards FAQ*. November 2018.

¹⁸ City of Oakley. *Strategic Energy Plan*. Fall 2015.

The CARB prepared the 2017 Climate Change Scoping Plan Update (2017 Scoping Plan),¹⁹ which builds upon previous efforts to reduce GHG emissions and is designed to continue to shift the California economy away from dependence on fossil fuels. Appendix B of the 2017 Scoping Plan includes examples of local actions (municipal code changes, zoning changes, policy directions, and mitigation measures) that would support the State's climate goals. The examples provided include, but are not limited to, enforcing idling time restrictions for construction vehicles, utilizing existing grid power for electric energy rather than operating temporary gasoline/diesel-powered generators, and increasing use of electric and renewable fuel-powered construction equipment. The regulation described above, with which the proposed project must comply, would be consistent with the intention of the 2017 Scoping Plan and the recommended actions included in Appendix B of the 2017 Scoping Plan.

Based on the above, the temporary increase in energy use occurring during construction of the proposed project would not result in a significant increase in peak or base demands or require additional capacity from local or regional energy supplies. In addition, the proposed project would be required to comply with all applicable regulations related to energy conservation and fuel efficiency, which would help to reduce the temporary increase in demand.

Operational Energy Use

Following implementation of the proposed project, PG&E would provide electricity to the project site. Energy use associated with operation of the proposed project would be typical of residential uses, requiring electricity for interior and exterior building lighting, heating, ventilation, and air conditioning (HVAC), electronic equipment, machinery, refrigeration, appliances, security systems, and more. Maintenance activities during operations, such as landscape maintenance, would involve the use of electric or gas-powered equipment. In addition to on-site energy use, the proposed project would result in transportation energy use associated with vehicle trips generated by the proposed residential development.

The proposed project would be subject to all relevant provisions of the most recent update of the CBSC, including the CALGreen Code and the Building Energy Efficiency Standards. Adherence to the most recent CALGreen Code and the Building Energy Efficiency Standards would ensure that the proposed structures would consume energy efficiently through the incorporation of such features as efficient water heating systems, high performance attics and walls, and high efficacy lighting. As noted previously, pursuant to the CALGreen Code, residential structures three stories or less, including the proposed project, must include on-site solar energy systems sufficient to meet 100 percent of the residences' electricity demand.

Additionally, the proposed project would be consistent with the goals of the SEP, as the proposed project would comply with the latest CBSC standards regarding energy conservation, renewable energy resources, and green building standards.

With regard to transportation energy use, the proposed project would comply with all applicable regulations associated with vehicle efficiency and fuel economy. In addition, as

¹⁹ California Air Resources Board. *The 2017 Climate Change Scoping Plan Update*. January 20, 2017.

discussed in Section XVII, Transportation, of this IS/MND, the project site is not anticipated to substantially increase Vehicle Miles Traveled (VMT).

Conclusion

Based on the above, construction and operations of the proposed project would not result in wasteful, inefficient, or unnecessary consumption of energy resources or conflict with or obstruct a State or local plan for renewable energy or energy efficiency. Thus, a ***less-than-significant*** impact would occur.

VII. GEOLOGY AND SOILS.

Would the project:

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

Discussion

ai-ii. The project site does not contain any active or potentially active faults, nor is the site located within a State-designated Alquist-Priolo Fault Zone.²⁰ However, according to the City’s General Plan EIR, the City of Oakley is subject to seismic risk because the City is within the San Francisco Bay Area, an area of high seismicity.²¹

Proper engineering of the proposed buildings in compliance with the CBSC would ensure that the proposed project would not be subject to substantial risks related to seismic ground shaking. Projects designed in accordance with the CBSC should be able to: 1) resist minor earthquakes without damage, 2) resist moderate earthquakes without structural damage but with some nonstructural damage, and 3) resist major earthquakes

²⁰ California Geologic Survey. *Seismic Hazard Zone Report for the Brentwood 7.5-Minute Quadrangle, Contra Costa County, California*. 2018.

²¹ City of Oakley. *City of Oakley 2020 General Plan Draft Environmental Impact Report* [pg. 3-161]. September 2002.

without collapse but with some structural as well as nonstructural damage. Conformance with the CBSC design standards would be enforced through building plan review and require approval by the City.

Based on the above, the proposed project would not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault or strong seismic ground shaking. Thus, a **less-than-significant** impact would occur.

- a.iii, a.iv, The proposed project's potential effects related to liquefaction, subsidence/settlement, c. landslides, and lateral spreading are discussed in detail below.

Liquefaction and Subsidence/Settlement

Liquefaction is the temporary transformation of loose, saturated granular sediments from a solid state to a liquefied state as a result of seismic ground shaking. In the process, the soil undergoes transient loss of strength, which commonly causes ground displacement or ground failure to occur. Because saturated soils are a necessary condition for liquefaction, soil layers in areas where the groundwater table is near the surface have higher liquefaction potential than those in which the water table is located at greater depths. Additionally, loose unsaturated sandy soils have the potential to settle during strong seismic shaking. Liquefaction can often result in subsidence or settlement.

According to the MTC/ABAG Hazard Viewer Map, project site is located within a "moderate" Earthquake Liquefaction Susceptibility zone.²² However, Oakley Municipal Code Section 6.9.328 requires that as part of obtaining a Grading Permit, an application must be accompanied, among other documents, with three copies of a geotechnical or engineering geology report to excavate and grade the project site. The project's Improvement Plans would be required to be signed by a State-certified civil engineer who prepared the geotechnical report and reviewed to ensure that the plans conform to all recommendations contained in the report. Furthermore, Oakley Municipal Code Section 6.9.702 provides that upon completion of rough grading work, but before the issuance of building permits, the City Engineer may require that a soil engineering report be prepared certifying the adequacy of the site for the intended use, as affected by soil engineering reports.

Therefore, because compliance with the requirements set forth in Oakley Municipal Code Sections 6.9.328 and 6.9.702 would ensure that all potentially hazardous on-site subsurface soil conditions are identified and addressed in conformance with industry standard recommendations, including potential conditions related to liquefaction and subsidence/settlement, the proposed project would not directly or indirectly cause potential substantial adverse effects involving seismic-related ground failure, including liquefaction, subsidence or settlement, or be located on a geologic unit that would potentially result in on-site or off-site liquefaction.

Landslides

Seismically-induced landslides are triggered by earthquake ground shaking. The risk of landslide hazard is greatest in areas with steep, unstable slopes. The project site is

²² Association of Bay Area Governments. *Hazard Viewer*. Available at: <https://abag.ca.gov/our-work/resilience/data-research/hazard-viewer/>. Accessed May 2022.

relatively flat and is not located near any slopes. Therefore, the proposed project would not be subject to landslide risks and would not expose people or structures to potential risk of loss, injury, or death involving landslides.

Lateral Spreading

Lateral spreading involves horizontal/lateral ground movement of relatively flat-lying soil deposits towards a free face such as an excavation, channel, or open body of water; typically, lateral spreading is associated with liquefaction of one or more subsurface layers near the bottom of the exposed slope. Given that the project site does not contain, and is not adjacent to, any free faces including excavations, channels, or open bodies of water, lateral spreading would not present a likely hazard at the site.

Conclusion

Based on the above, through compliance with all applicable regulations, including those set forth by Oakley Municipal Code Sections 6.9.328 and 6.9.792, the proposed project would not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, liquefaction, or landslides. Therefore, a ***less-than-significant*** impact would occur.

- b. The proposed project would include grading of the project site prior to construction of the proposed residences. During construction activities, topsoil would be exposed. Following development of the site, all exposed soils would be covered with impervious surfaces or landscaping and, thus, the potential for erosion to occur would not exist long-term.

As discussed further under questions 'ci' and 'ciii' in Section X, Hydrology and Water Quality, of this IS/MND, pursuant to the City of Oakley Municipal Code Sections 6.9.308 and 6.11.212, preparation of an Erosion Control Plan and Stormwater Pollution Prevention Plan (SWPPP) prior to construction activities and implementation of Best Management Practices (BMPs) during construction is required. The erosion control measures required by both the SWPPP and the Erosion Control Plan would ensure that the proposed project would not result in substantial erosion or the loss of topsoil. Therefore, the proposed project would not result in substantial soil erosion or the loss of topsoil, and a ***less-than-significant*** impact would occur.

- d. Expansive soils can undergo significant volume changes with variations in moisture content. Specifically, such soils shrink and harden when dried and expand and soften when wetted. If structures are underlain by expansive soils, foundation systems must be capable of withstanding the potential damaging movements of the soil. Pursuant to the U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Web Soil Survey, the project site is comprised of Sycamore silty clay loam, 0 to 2 percent slopes, which has a "very limited" rating. Such a rating indicates the on-site soils have one or more features that are unfavorable for dwellings without basements. In addition, the on-site soils have a shrink-swell numerical rating of 0.12, according to the Web Soil Survey. The numerical ratings indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00). Therefore, the potential exists for expansive soils to exist on site and adversely affect the proposed project.

However, as detailed under question 'aiii,aiv,c' above, the proposed project would be subject to Oakley Municipal Code Sections 6.9.328 and 6.9.792, which would ensure on-site expansive soils are identified and addressed in accordance with industry standard

recommendations set forth by a State-certified civil engineer, prior to the issuance of a Building Permit. Compliance with such would ensure that adverse effects do not occur within the project site.

As such, the project would not be located on expansive soil, as defined in Table 18-1B of the Uniform Building Code (1994) and the potential for substantial direct or indirect risks to life or property would not occur. Therefore, the impact would be ***less than significant***.

- e. The proposed project would connect to existing City sewer services. Thus, the construction or operation of septic tanks or other alternative wastewater disposal systems would not be included as part of the project. Therefore, ***no impact*** regarding the capability of soil to adequately support the use of septic tanks or alternative wastewater disposal systems would occur.
- f. The City's General Plan does not note the existence of any unique geologic features within the City. Consequently, implementation of the proposed project would not be anticipated to have the potential to result in direct or indirect destruction of unique geologic features.

The City's General Plan indicates that few paleontological resources are known to occur within the City Planning Area.²³ In addition, portions of the surrounding area are developed, and paleontological resources have not been encountered in the vicinity. Thus, existing paleontological resources are not expected to occur on the site. Nonetheless, the potential exists for previously unknown paleontological resources to exist within the project site. Ground-disturbing activity such as grading, trenching, or excavating associated with implementation of the proposed project would have the potential to disturb or destroy such resources if present. Therefore, the proposed project could result in the direct or indirect destruction of a unique paleontological resource, and a ***potentially significant*** impact could occur.

Mitigation Measure(s)

Implementation of the following mitigation measure would reduce the above impact to a ***less-than-significant*** level.

- VII-1. *Implement Mitigation Measures V-1 and V-2.*

²³ City of Oakley. *City of Oakley General Plan* [pg. 6-19]. Adopted January 11, 2022.

VIII. GREENHOUSE GAS EMISSIONS.

Would the project:

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gasses?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Discussion

a,b. Emissions of GHGs contributing to global climate change are attributable in large part to human activities associated with the industrial/manufacturing, utility, transportation, residential, and agricultural sectors. Therefore, the cumulative global emissions of GHGs contributing to global climate change can be attributed to every nation, region, and city, and virtually every individual on Earth. An individual project’s GHG emissions are at a micro-scale level relative to global emissions and effects to global climate change; however, an individual project could result in a cumulatively considerable incremental contribution to a significant cumulative macro-scale impact. As such, impacts related to emissions of GHG are inherently considered cumulative impacts.

Implementation of the proposed project would cumulatively contribute to increases of GHG emissions. Estimated GHG emissions attributable to future development would be primarily associated with increases of carbon dioxide (CO₂) and, to a lesser extent, other GHG pollutants, such as methane (CH₄) and nitrous oxide (N₂O) associated with area sources, mobile sources or vehicles, utilities (electricity), water usage, wastewater generation, and the generation of solid waste. The primary source of GHG emissions for the project would be mobile source emissions. The common unit of measurement for GHG is expressed in terms of annual metric tons of CO₂ equivalents (MTCO₂e/yr).

The proposed project is located within the jurisdictional boundaries of BAAQMD. While updated CEQA Guidelines have not yet been released, on April 20, 2022, the BAAQMD Board of Directors held a public meeting and adopted proposed CEQA Thresholds for Evaluating the Significance of Climate Change Impacts from Land Use Projects and Plans.²⁴ The updated GHG thresholds address more recent climate change legislation, including Senate Bill (SB) 32, and provide qualitative thresholds related to Buildings and Transportation.

Based on the modeling conducted for the proposed project, as discussed in Section III, Air Quality, of this IS/MND, operational GHG emissions are presented in Table 4. However, as noted previously, the BAAQMD’s applicable threshold of significance for GHG emissions are qualitative, and the foregoing information is provided for disclosure purposes only. Potential impacts related to GHG emissions resulting from implementation of the proposed project are considered in comparison with BAAQMD’s adopted thresholds of significance below.

²⁴ Bay Area Air Quality Management District. *CEQA Thresholds and Guidelines Update*. Available at: <https://www.baaqmd.gov/plans-and-climate/california-environmental-quality-act-ceqa/updated-ceqa-guidelines>. Accessed June 2022.

Table 4	
Unmitigated Operational GHG Emissions	
Source	GHG Emissions (MTCO₂e/yr)
<i>Area</i>	7.43
<i>Energy</i>	164.27
<i>Mobile</i>	529.73
<i>Waste</i>	45.83
<i>Water</i>	10.06
Total Operational GHG Emissions	757.33
Operational GHG Emissions per Capita	2.90 MTCO ₂ e/yr/capita
Note: Operational GHG Emissions per Capita = 757.33 MTCO ₂ e/yr / 261 residents	
Source: CalEEMod, June 2022 (see Appendix A).	

BAAQMD Thresholds of Significance

As discussed above, on April 20, 2022, the BAAQMD Board of Directors held a public meeting and adopted proposed CEQA Thresholds for Evaluating the Significance of Climate Change Impacts from Land Use Projects and Plans. According to the new thresholds of significance, a project must either include specific project design elements (e.g., exclude use of natural gas, achieve a specific reduction in project-generated VMT below the regional average) or be consistent with a local GHG reduction strategy that meets the criteria under State CEQA Guidelines Section 15183.5(b).²⁵

The City of Oakley does not have a GHG reduction strategy under CEQA Guidelines Section 15183.5(b). Therefore, the following analysis focuses on the new BAAQMD GHG thresholds related to specific project design elements.

According to the BAAQMD’s thresholds of significance, in order to find a less-than-significant GHG impact, projects must include, at a minimum, the following project design elements:

- The project will not include natural gas appliances or natural gas plumbing (in both residential and nonresidential development);
- The project will not result in any wasteful, inefficient, or unnecessary energy usage as determined by the analysis required under CEQA Section 21100(b)(3) and Section 15126.2(b) of the State CEQA Guidelines;
- The project will achieve a reduction in project-generated vehicle miles traveled (VMT) below the regional average consistent with the current version of the California Climate Change Scoping Plan (currently 15 percent) or meet a locally adopted Senate Bill 743 VMT target, reflecting the recommendations provided in the Governor’s Office of Planning and Research’s Technical Advisory on Evaluating Transportation Impacts in CEQA; and
- The project will achieve compliance with off-street electric vehicle requirements in the most recently adopted version of CALGreen Tier 2.

In order to be consistent with the first criterion, the proposed project would be required to include all electric appliances and plumbing. Mitigation would be required to ensure that

²⁵ Bay Area Air Quality Management District. *CEQA Thresholds for Evaluating the Significance of Climate Impacts From Land Use Projects and Plans*. April 2022.

the proposed project would not include the use of natural gas appliances or natural gas plumbing and, thus, would comply with the first criterion.

Regarding the second criterion, as discussed in Section VI, Energy, of this IS/MND, the proposed project would comply with all applicable federal, State, and local regulations regarding energy use during both project construction and project operations. Required compliance with applicable standards and regulations ensure that the building energy use associated with the proposed project would not be wasteful, inefficient, or unnecessary.

With respect to the third criterion, as discussed in Section XVII, Transportation, of this IS/MND, the citywide VMT per capita was calculated to be 26.76. Therefore, the impact threshold of 15 percent below the Citywide average VMT per capita equates to 22.75 VMT per capita. The project is projected to generate VMT per capita of 22.45. Therefore, the project would achieve a 15 percent reduction in project-generated VMT below the regional average consistent with the current version of the California Climate Change Scoping Plan.

With respect to the fourth criterion, the proposed project would be subject to the single-family residential requirements set forth in the CALGreen standards. Per the 2019 CALGreen Code, single-family residential projects are required to install a listed raceway to accommodate a dedicated 208/240-volt branch circuit for each unit, which would be suitable for EV charging. Compliance with this requirement would be sufficient to comply with the Tier 2 CALGreen standards, as required by BAAQMD.

Conclusion

Based on the above, without the implementation of mitigation, the project may not comply with the BAAQMD's required thresholds of significance. Therefore, the proposed project could generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment, or could conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs. Thus, a **potentially significant** impact could occur.

Mitigation Measure(s)

Implementation of the following mitigation measure would reduce the above potential impact to a *less-than-significant* level.

VIII-1 Consistent with the BAAQMD's thresholds of significance, prior to issuance of building permits for the proposed project, the project applicant shall demonstrate via project design and/or notation included on project design that natural gas infrastructure shall be prohibited.

Conformance with the foregoing requirement shall be confirmed through review and approval of building permit plans by the City of Oakley Community Development Department.

IX. HAZARDS AND HAZARDOUS MATERIALS.

Would the project:

	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the likely release of hazardous materials into the environment?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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 or excessive noise for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g. Expose people or structures, either directly or indirectly, to the risk of loss, injury or death involving wildland fires?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Discussion

- a. Future operations of the proposed residences on the project site could involve the use of common household cleaning products, fertilizers, and herbicides on-site, any of which could contain potentially hazardous chemicals; however, such products would be expected to be used in accordance with label instructions. Due to the regulations governing use of such products and the amount that could reasonably be used on the site, routine use of such products would not represent a substantial risk to public health or the environment. Therefore, the proposed project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials, and a ***less-than-significant*** impact would occur.

- b. A development project could create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the likely release of hazardous materials into the environment should a site contain potential Recognized Environmental Conditions (RECs) that are not properly addressed prior to project implementation. A REC indicates the presence or likely presence of any hazardous substances in, on, or at a property due to any release into the environment, under

conditions indicative of a release to the environment, or under conditions that pose a material threat of a future release to the environment.²⁶

A Modified Phase I Environmental Site Assessment (ESA) was performed by ENGEO Incorporated to identify the presence of RECs and other hazardous materials associated with the project site.²⁷ According to the ESA, a review of historical records has indicated that the project site has remained agricultural land since 1910 until approximately 1940 in which agricultural use of the site changed from apparent dry farming to orchards. In 1979, the orchards were noted to be removed and the project site returned to a dry farming scenario where historical aerial photographs identified a large, shed structure was built within the southeast corner of the site. Beginning in approximately 1998, a small portion of the center of the project site along Machado Lane appears to have been used as storage, related to activities occurring adjacent to the project site in the east. Surrounding areas have remained largely undeveloped agricultural land with intermittent residential dwellings. From 1993 to 2016, areas to the west, south, and north of the project site were developed into residential neighborhoods.

According to the ESA, documentation or physical evidence of soil, groundwater or soil gas impairments associated with current and past use of the project site were not found. Furthermore, a review of regulatory databases maintained by County, State, tribal, and federal agencies did not find documentation of hazardous materials violations or discharge on the project site. Contaminated facilities within the appropriate American Standard Testing Method search distance that would reasonably be expected to impact the project site were not identified either.

Given the history of agricultural uses on the project site, an agrichemical assessment was performed as part of the Phase I ESA in order to determine if soil contamination exists on-site. On October 29, 2020, 64 soils samples were collected across the project site. The soils samples were analyzed for the presence of organochloride pesticides, arsenic, and lead. According to the assessment, the detected arsenic concentrations were within or below naturally occurring background levels for Northern California, and the detected lead and organochlorine pesticide concentrations were below the respective residential screening levels. Therefore, the detected analytes do not present a concern to human health or the environment.

However, based on the age of the structure, the Phase I ESA determined that the existing shed may contain asbestos, lead, and/or polychlorinated biphenyl (PCB)-containing materials. Additionally, while not identified during the site reconnaissance, the potential exists that buried items, such as a septic system or well, may exist on-site.

Without properly addressing the foregoing concerns, the proposed project could create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the likely release of hazardous materials into the environment, and a **potentially significant** impact could occur.

²⁶ ASTM International. *ASTM E1527, Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process*. 2013.

²⁷ ENGEO Incorporated. *Modified Phase I Environmental Site Assessment*. November 12, 2020.

Mitigation Measure(s)

Implementation of the following mitigation measures would reduce the above potential impact to a *less-than-significant* level.

IX-1. *Prior to issuance of a demolition permit by the City for any on-site structures, the project applicant shall provide a site assessment that determines whether any structures to be demolished contain asbestos-containing materials (ACMs), lead-based paint (LBP), or PCBs. If structures do not contain any of the foregoing materials, further mitigation is not required; however, if ACMs, LBP, or PCBs are found, the materials shall be removed and disposed of by a licensed and certified contractor in accordance with California Air Resources Board recommendations and OSHA requirements. Work practice standards generally include appropriate precautions to protect construction workers and the surrounding community, and appropriate disposal methods for construction waste in accordance with federal, State, and local regulations subject to approval by the City Engineer.*

IX-2. *During ground-disturbing activities, if one or more wells and/or septic systems are identified on-site, the project applicant shall hire a licensed contractor to obtain the applicable abandonment permit from Contra Costa County Environmental Health Division (CCCEHD), and properly abandon the on-site wells and/or septic systems for review and approval by the CCCEHD.*

- c. The nearest school relative to the project site is Iron House Elementary School, which is located approximately 0.29-mile west of the site. Therefore, the proposed project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school, and **no impact** would occur.
- d. Pursuant to the State Water Resources Control Board's (SWRCB) GeoTracker data management system, hazardous materials sites, including leaking underground storage tank (LUST) sites and DTSC cleanup sites, do not occur within or adjacent to the project site.²⁸ In addition, the DTSC's portion of the Cortese List does not identify hazardous waste sites within or adjacent to the project site.²⁹

Based on the above, the proposed project would not be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5. As such, **no impact** would occur.

- e. The nearest airport to the project site is the Byron Airport, located approximately 11.3 miles southeast of the project site. Therefore, the project site is not located within two

²⁸ State Water Resources Control Board. *GeoTracker*. Available at: <https://geotracker.waterboards.ca.gov/map/?CMD=runreport&myaddress=oakley+california>. Accessed May 2022.

²⁹ Department of Toxic Substances Control. *Hazardous Waste and Substances Site List*. Available at: https://www.envirostor.dtsc.ca.gov/public/search?cmd=search&reporttype=CORTESE&site_type=CSITES,FUDS&status=ACT,BKLG,COM&reporttitle=HAZARDOUS+WASTE+AND+SUBSTANCES+SITE+LIST+%28CORTESE%29. Accessed May 2022.

miles of any public airports and does not fall within an airport land use Planning Area. Accordingly, **no impact** would occur related to a safety hazard or excessive noise for people residing or working in the project area.

- f. During operation, the proposed project would provide adequate access for emergency vehicles and would not interfere with potential evacuation or response routes used by emergency response teams. During construction of the proposed project, all construction equipment would be staged on-site so as to prevent obstruction of local and regional travel routes in the City that could be used as evacuation routes during emergency events. In addition, all proposed internal roadways would accommodate emergency vehicles. The proposed project would not substantially alter the existing circulation system in the surrounding area. As a result, the proposed project would have a **less-than-significant** impact with respect to impairing the implementation of or physically interfering with an adopted emergency response plan or emergency evacuation plan.

- g. According to the California Department of Forestry and Fire Protection (CAL FIRE) Fire and Resource Assessment Program, the project site is not located within a Very High or High Fire Hazard Severity Zone (FHSZ).³⁰ In addition, the site is located in a relatively urbanized area of the City, which precludes the uncontrolled spread of wildland fires. Therefore, the proposed project would not expose people or structures to the risk of loss, injury or death involving wildland fires, and a **less-than-significant** impact would occur.

³⁰ California Department of Forestry and Fire Protection. *Contra Costa County, Very High Fire Hazard Severity Zones in LRA*. January 7, 2009.

X. HYDROLOGY AND WATER QUALITY. <i>Would the project:</i>	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	<input type="checkbox"/>	<input type="checkbox"/>	✘	<input type="checkbox"/>
b. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	<input type="checkbox"/>	<input type="checkbox"/>	✘	<input type="checkbox"/>
c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:				
i. Result in substantial erosion or siltation on- or off-site;	<input type="checkbox"/>	<input type="checkbox"/>	✘	<input type="checkbox"/>
ii. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	<input type="checkbox"/>	<input type="checkbox"/>	✘	<input type="checkbox"/>
iii. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	<input type="checkbox"/>	<input type="checkbox"/>	✘	<input type="checkbox"/>
iv. Impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	✘	<input type="checkbox"/>
d. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✘
e. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	<input type="checkbox"/>	<input type="checkbox"/>	✘	<input type="checkbox"/>

Discussion

a, ci-ciii. The following discussion provides a summary of the proposed project’s potential to violate water quality standards/waste discharge requirements, alter the drainage pattern of the site resulting in erosion or siltation, increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site, contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems, or otherwise degrade water quality during construction and operation.

Construction

During the early stages of construction activities, topsoil would be exposed due to grading and excavation of the site. After grading and prior to overlaying the ground with impervious surfaces and structures, the potential exists for wind and water to discharge sediment and/or urban pollutants into stormwater runoff, which could adversely affect water quality.

The SWRCB regulates stormwater discharges associated with construction activities where clearing, grading, or excavation results in land disturbance of one or more acres. The City’s National Pollutant Discharge Elimination System (NPDES) permit requires applicants to show proof of coverage under the State’s Construction General Permit prior

to receipt of any construction permits. The State's Construction General Permit requires a SWPPP to be prepared for the site. A SWPPP describes BMPs to control or minimize pollutants from entering stormwater and must address both grading/erosion impacts and non-point source pollution impacts of the development project. Because the proposed project would disturb greater than one acre of land, the proposed project would be subject to the requirements of the State's Construction General Permit and, with implementation of the required SWPPP and BMPs included therein, the proposed project would not result in a violation of water quality standards and/or degradation of water quality.

Furthermore, pursuant to Oakley Municipal Code Sections 6.9.306 and 6.9.404, the proposed project would be required to submit an Erosion and Sediment Control Plan with submittal of the grading permit application to ensure that water quality is not degraded during construction. The plan would include erosion and sediment control measures that would be implemented during grading and would be approved by the City Engineer. Given the required submittal and approval of a SWPPP and erosion and sediment control plan, the proposed project would not violate water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality during construction.

Operations

Following completion of project buildout, the site would be largely covered with impervious surfaces and landscaped areas, and topsoil would no longer be exposed. As such, the potential for erosion and associated impacts to water quality would be reduced. However, the addition of impervious surfaces on the site would result in the generation of urban runoff during project operations, which could contain pollutants if the runoff comes into contact with vehicle fluids on parking surfaces and/or landscape fertilizers and herbicides. All municipalities within Contra Costa County (and the County itself) are required to develop more restrictive surface water control standards for new development projects as part of the renewal of the Countywide NPDES permit.

The City of Oakley has adopted the County C.3 Stormwater Standards, which require new development and redevelopment projects that create or alter 10,000 sf or more of impervious area to contain and treat all stormwater runoff from the project site. The proposed project would create 286,543 sf of new impervious area; therefore, the proposed project would be subject to the County C.3 Stormwater Standards. The proposed project would also be subject to the requirements of the SWRCB and the Regional Water Quality Control Board (RWQCB), as well as the County C.3 Standards, which are included in the City's NPDES General Permit. In addition, the proposed project would adhere to Title 6, Chapter 11, of the Municipal Code, which establishes standards for stormwater management and discharge. Prior to issuance of a building permit, the applicant would submit a Stormwater Control Plan (SWCP) that meets the criteria in the most recent version of the Contra Costa Clean Water Program *Stormwater C.3 Guidebook*. Compliance with such requirements would ensure that impacts to water quality standards or waste discharge requirements would not occur during operation of the proposed project.

A Preliminary Stormwater Management Plan has been prepared for the proposed project (see Figure 7). In compliance with the Contra Costa County Clean Water Program *Stormwater C.3 Guidebook*, the proposed project would treat stormwater from the site by way of two drainage management areas (DMAs), DMA-1 and DMA-O1. Runoff from impervious surfaces within DMA 1 would be directed to new inlets within the internal roads. From the inlets, new storm drain lines ranging in diameters of 16, 18, and 24 inches would convey flows to a bioretention area in the northeast portion of the site. Following treatment,

excess flows that do not percolate into the underlying soils would be metered to the City's existing storm drain system in E. Cypress Road. Off-site runoff collected within DMA-O1 by inlets along the Machado Lane improvements would be directed northward along the road into a new 48-inch storm drain line. Runoff would then converge with treated flows from DMA-1 into the mainline north of E. Cypress Road.

The on-site bioretention area would accommodate runoff from all 76 residential lots and roadways on-site and would be designed according to the criteria in the Contra Costa County Clean Water Program *Stormwater C.3 Guidebook*. In order to adequately treat all runoff from the project site, the project would be required to provide 13,405 sf of water quality treatment areas. As DMA-1, would provide 16,307 sf of water quality treatment areas, the project would exceed the requirements and all runoff would be adequately treated prior to discharge.

Conclusion

Based on the above, because the proposed project would comply with the NPDES Construction General Permit and applicable requirements set forth in the Oakley Municipal Code, the proposed project would not violate water quality standards or waste discharge requirements, alter the drainage pattern of the site resulting in erosion or siltation, increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site, contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems, or otherwise degrade water quality during construction. Thus, a ***less-than-significant*** impact could occur.

- b,e. Potable water service for the proposed project would be provided by the DWD. According to the DWD's 2020 Urban Water Management Plan (UWMP), the primary water supply for distribution is treated surface water.³¹ As a result, any increase in water demand associated with the proposed project would be primarily met through surface water supply, rather than groundwater.

The DWD operates a groundwater supply system that currently consists of groundwater extracted from two wells in Oakley, which is then conveyed in a dedicated well supply pipeline to a blending facility. According to the DWD 2020 UWMP, the wells are connected to the East Contra Costa Subbasin underlying the City. The East Contra Costa Subbasin has been designated as a medium-priority basin by the Department of Water Resources, and is not in overdraft conditions.³²

The project site represents a relatively small area compared to the overall surface area of the East Contra Costa Subbasin. In addition, runoff from the proposed impervious surfaces would be directed to a bioretention facility and ultimately into the City's storm drain system. At both locations, runoff water would percolate and recharge the East Contra Costa Subbasin. Therefore, any new impervious surfaces associated with the proposed project would not interfere substantially with groundwater recharge within the East Contra Costa Subbasin.

Based on the above, the proposed project would result in a ***less-than-significant*** impact with respect to substantially decreasing groundwater supplies, interfering substantially

³¹ Diablo Water District. *2020 Urban Water Management Plan*. May 2022.

³² *Ibid.*

with groundwater recharge, or conflicting with or obstructing implementation of a water quality control plan or sustainable groundwater management plan.

- civ. According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map for the project site, the project site is located within the 500-year floodplain (Zone X), which is not identified as a Special Flood Hazard Area.³³ Additionally, pursuant to Municipal Code Section 6.12.138(e), the project would be required to provide adequate draining to reduce flood hazards. Thus, the project would not impede or redirect flood flows, resulting in a ***less-than-significant*** impact.

- d. Tsunamis are defined as sea waves created by undersea fault movement, whereas a seiche is a long-wavelength, large-scale wave action set up in a closed body of water such as a lake or reservoir. The project site is located 48.7 miles from the California coastline and approximately 1.53 miles south of the San Francisco Bay tributaries. According to the Department of Conservation's California Tsunami Maps and Data, the project site is not located within a tsunami hazard area.³⁴ Therefore, it is not anticipated that the project would be affected by flooding risks associated with tsunamis. Furthermore, seiches do not pose a risk to the proposed project because the project site is not located adjacent to a large, closed body of water. As such, the proposed project would not result in a risk related to the release of pollutants due to project inundation flooding, tsunami, or seiche, and ***no impact*** would occur.

³³ Federal Emergency Management Agency. *Flood Insurance Rate Map 06013C0355G*. Effective May 10, 2022.

³⁴ California Department of Conservation. *California Tsunami Maps and Data*. Available at: https://msc.fema.gov/portal/search?AddressQuery=machado%20lane%2C%20oakley%2C%20ca#searchresults_anchor. Accessed July 14, 2022.

XI. LAND USE AND PLANNING.

Would the project:

	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	✘	<input type="checkbox"/>
b. Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	✘	<input type="checkbox"/>

Discussion

- a. A project risks dividing an established community if the project would introduce infrastructure or alter land use so as to change the land use conditions in the surrounding community, or isolate an existing land use. Currently, the 17.73-acre project site is primarily undeveloped, with the exception of one large shed structure in the southeast corner.

Surrounding existing land uses include single-family residences to the north, across E. Cypress Road; scattered residences to the east, across Machado Lane; scattered residences to the south, and additional scattered residences, undeveloped land, and UPRR tracks to the south across Machado Lane; and undeveloped land to the west. Therefore, the proposed residences would be compatible with the existing development in the project area, such as the single-family residences to the north and west. Furthermore, the project site is designated RLM and zoned P-1. Thus, development of the site with the proposed uses was generally evaluated as part of the City’s General Plan EIR.

Furthermore, the proposed project would be a continuation of the surrounding development and would improve connectivity by providing roadway connections to adjacent parcels. Thus, the project would not isolate an existing land use nor physically divide an established community and a **less-than-significant** impact would occur.

- b. The proposed project is consistent with the site’s RLM land use designation; therefore, single-family residential development has been anticipated at the project site. As demonstrated throughout this IS/MND, the proposed project would not conflict with City policies and regulations adopted for the purpose of avoiding or mitigating an environmental effect. For example, in compliance with the ECCCHCP/NCCP, the proposed project would be subject to pay all applicable fees according to the Fee Zone Map of the ECCCHCP/NCP prior to construction, and would be required to complete pre-construction surveys for western burrowing owl, Swainson’s hawk, golden eagle, and migratory birds.

Based on the above, the proposed project would not cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect, and a **less-than-significant** impact would occur.

XII. MINERAL RESOURCES. <i>Would the project:</i>	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✘
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✘

Discussion

a,b. The City of Oakley General Plan EIR states that the only viable mineral resource currently mined in the City of Oakley is sand.³⁵ In addition, the General Plan does not identify any known mineral resource areas within the Planning Area, including the project site. Furthermore, because the site is located near residential development, the site would not be suitable for mining operations. Thus, the proposed project would not result in the loss of availability of a known mineral resource or a locally important mineral recovery site, and the proposed project would result in ***no impact*** related to mineral resources.

³⁵ City of Oakley. *City of Oakley 2020 General Plan Draft Environmental Impact Report* [pg. 278]. September 2002.

XIII. NOISE.

Would the project result in:

	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion

a. The following discussion presents information regarding noise standards and criteria applicable to various land uses, as well as sensitive noise receptors in proximity to the project site and the potential for the proposed project to result in impacts during project construction and operation. The following terms are referenced in the sections below:

- Decibel (dB): A unit of sound energy intensity. An A-weighted decibel (dBA) is a decibel corrected for the variation in frequency response to the typical human ear at commonly encountered noise levels. All references to dB in this report will be A-weighted unless noted otherwise.
- Day-Night Average Level (L_{dn}): The average sound level over a 24-hour day, with a +10 decibel weighing applied to noise occurring during nighttime (10:00 PM to 7:00 AM) hours.
- Equivalent Sound Level (L_{eq}): The average sound level over a given time-period.
- Maximum Sound Level (L_{max}): The maximum sound level over a given time-period.
- Median Sound Level (L₅₀): The sound level exceeded 50 percent of the time over a given time-period.
- Community Noise Equivalent Level (CNEL): The 24-hour average noise level with noise occurring during evening (7:00 PM to 10:00 PM) hours weighted by a factor of three and nighttime hours weighted by a factor of ten prior to averaging.

Sensitive Noise Receptors

Some land uses are considered more sensitive to noise than others, and, thus, are referred to as sensitive noise receptors. Land uses often associated with sensitive noise receptors generally include residences, schools, libraries, hospitals and passive recreational areas. The nearest sensitive uses include the existing scattered single-family residential uses located to the south and east of the project site, with the closest located approximately 10 feet away.

Existing Noise Environment

The existing noise environment in the project vicinity is primarily defined by vehicle traffic along E. Cypress Road. To quantify the existing ambient noise environment in the project vicinity, Saxelby Acoustics conducted continuous (24-hour) noise level measurements at

two locations on the project site and short-term noise level measurements at one location. Noise measurement locations are shown on Figure 9. A summary of the noise level measurement survey results is provided in Table 5.

Table 5 Summary of Existing background Noise Measurement Data								
Site	Date	L _{dn}	Daytime			Nighttime		
			L _{eq}	L ₅₀	L _{max}	L _{eq}	L ₅₀	L _{max}
LT-1	4/12/2022	72	70	52	87	65	41	87
LT-2	4/12/2022	57	53	50	68	51	46	66
ST-1	4/13/2022 – 4:53 PM	N/A	60	58	70	N/A	N/A	N/A

Notes:

- All values shown in dBA
- Daytime hours: 7:00 AM to 10:00 PM
- Nighttime Hours: 10:00 PM to 7:00 AM

Source: Saxelby Acoustics. 2022.

Standards of Significance

The City of Oakley General Plan Noise Element establishes a noise level standard of 60 dB as normally acceptable at residential land uses. Based upon General Plan Figure 9-1, an ambient noise level of 60 dBA L_{dn} is considered normally acceptable for single-family residential uses. Policy 9.1.6 in the City’s General Plan is summarized in Table 6.

Table 6 Significance of Changes in Noise Exposure	
Ambient Noise Level Without Project, L _{dn}	Increase Required for Significant Impact
<60 dB	+5.0 dB or more
60-65 dB	+3.0 dB or more
>65 dB	+1.5 dB or more

Source: City of Oakley General Plan Noise Element, 2002.

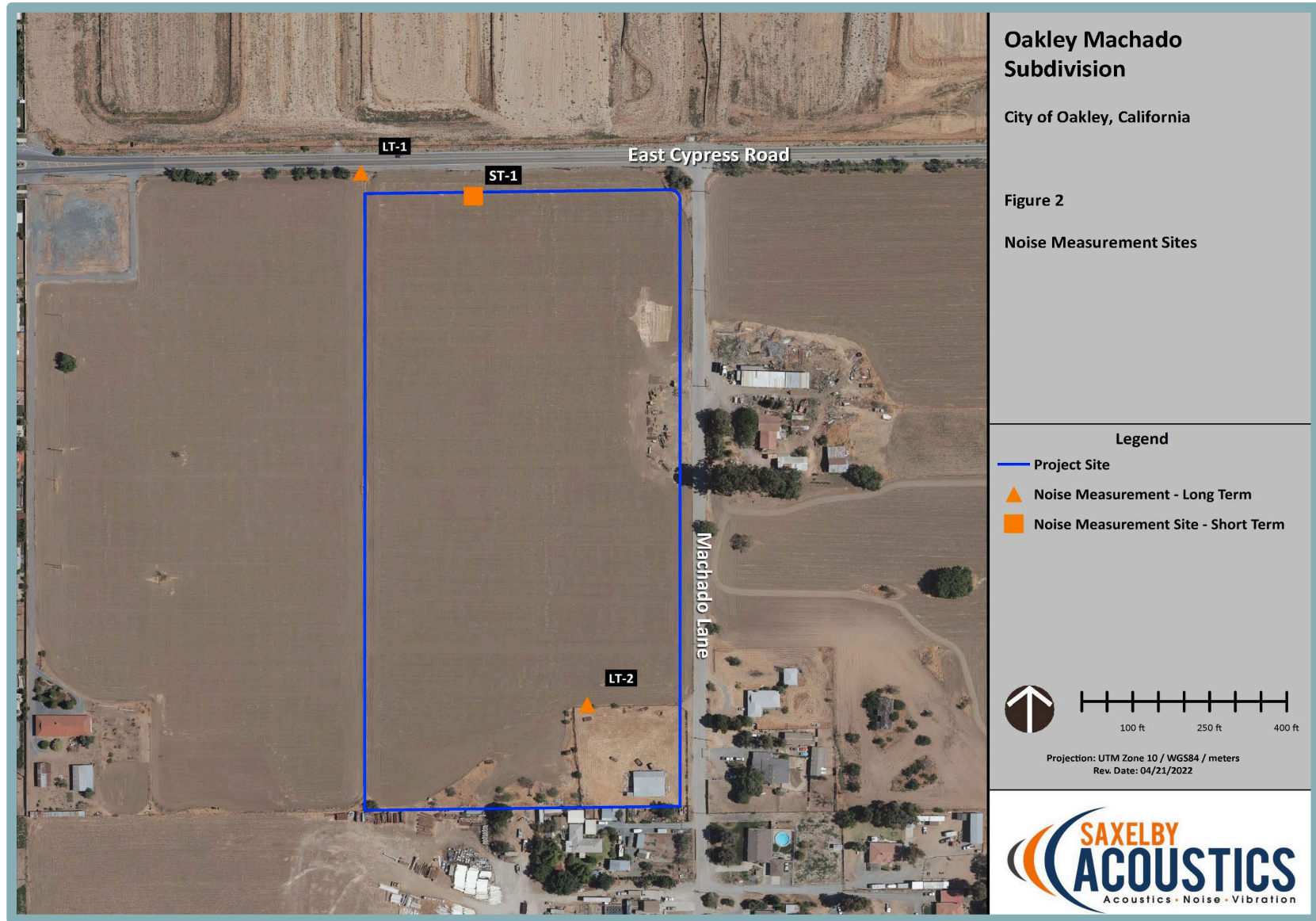
Per the City’s General Plan, with regard to non-transportation noise, exterior noise levels at residences should not exceed 55 dBA during daytime hours (7:00 AM to 10:00 PM) and 45 dBA during nighttime hours (10:00 PM to 7:00 AM).

The following sections use the aforementioned thresholds of significance to determine if noise impacts associated with construction and operation of the proposed project would occur.

Construction Noise

During construction of the proposed project, heavy-duty equipment would be used for demolition, grading, excavation, paving, and building construction, which would result in temporary noise level increases. Project haul truck traffic on local roadways would also result in a temporary noise level increase during construction activities. Noise levels would vary depending on the type of equipment used, how the equipment is operated, and how well the equipment is maintained.

Figure 9
Noise Measurement Sites



In addition, noise exposure at any single point outside the project site would vary depending on the proximity of construction activities to that point. Construction activities would be temporary in nature and are anticipated to occur during normal daytime hours. Section 4.2.208 of the Municipal Code restricts noise-producing construction activities to weekday hours between 7:30 AM and 7:00 PM Monday through Friday, and from 9:00 AM to 7:00 PM on weekends.

Table 7 shows the predicted construction noise levels for development of the proposed project. Based on the table, activities involved in typical construction would generate maximum noise levels up to 90 dB at a distance of 50 feet. The nearest single-family residences to the east, west, and south of the site are located within 31 feet of the proposed construction area. Because the nearest single-family residences are located less than 50 feet away from the project site, sensitive receptors would be exposed to noise levels exceeding 90 dB during construction.

Type of Equipment	Maximum Level, dB at 50 feet
Auger Drill Rig	84
Backhoe	78
Compactor	83
Compressor (air)	78
Concrete Saw	90
Dozer	82
Dump Truck	76
Excavator	81
Generator	81
Jackhammer	89
Pneumatic Tools	85

Source: Federal Highway Administration, Roadway Construction Noise Model User's Guide, January 2006.

Although construction activities are temporary in nature and would likely occur during normal daytime working hours, construction-related noise could result in sleep interference at existing noise-sensitive land uses in the vicinity of the construction if construction activities were to occur outside the normal daytime hours. Therefore, impacts resulting from noise levels temporarily exceeding the threshold of significance due to construction would be considered potentially significant.

Operational Noise

Noise generated during operations of the proposed project would be limited to residential noise and traffic noise, as discussed in further detail below.

Residential Noise

Operation of the proposed project would include typical residential noise which would be compatible with the adjacent existing residential uses. The proposed project is not anticipated to contribute a measurable operational noise level increase to the existing ambient noise environment at any sensitive receptor locations. Therefore, a less-than-significant impact would occur with regard to on-site operational noise.

Traffic Noise

Operations associated with the proposed project would generate noise associated with vehicle traffic on local roadways. To assess noise impacts due to project-related traffic increases on the local roadway network, traffic noise levels were predicted at sensitive receptors for Existing and Existing Plus Project conditions. Noise levels due to traffic were calculated using the Federal Highway Administration Highway Traffic Noise Prediction Model (FHWA RD-77-108) and trip generation estimates from the project traffic consultant (TJKM). Table 8 summarizes traffic noise levels at the nearest sensitive receptors along each roadway segment in the project vicinity.

Table 8 Existing Traffic Noise Level and Project-Related Traffic Noise Increase				
Roadway	Segment	Predicted Exterior Noise Level (dB L_{dn}) at Closest Sensitive Receptors		
		Existing No Project	Existing + Project	Change
Main St	South of W Cypress Rd	67.9	68.1	0.2
W. Cypress Rd	West of Main Street	70.1	70.1	0.0
E Cypress Rd	Main St and Machado Ln	69.3	69.3	0.2
E Cypress Rd	Machado Ln and Sellers Ave	63.4	63.4	0.0
E Cypress Rd	East of Sellers Ave	60.0	60.0	0.0
Main St	North of W Cypress Rd	64.1	64.2	0.1
Machado Lane	South of E Cypress Rd	56.6	59.8	3.2

Source: Saxelby Acoustics, 2021.

Based upon the table, the proposed project is predicted to result in a maximum increase in traffic noise levels of 3.2 dBA.

Based upon the Table 8 criteria, where existing traffic noise levels are less than 60 dB L_{dn}, at the outdoor activity areas of noise-sensitive uses, a +5 dB L_{dn} increase in roadway noise levels would be considered significant. As shown in Table 8, the existing traffic noise level along Machado Lane south of E. Cypress Road is 56.6 dB L_{dn}. Therefore, the maximum increase in traffic noise of 3.2 dBA would not exceed the 5 dB threshold of significance. Therefore, the increase in traffic noise levels associated with implementation of the proposed project is not considered to be significant.

Noise at Proposed Sensitive Receptors

It should be noted that impacts of the environment on a project (as opposed to impacts of a project on the environment) are beyond the scope of required CEQA review. “[T]he purpose of an EIR is to identify the significant effects of a project on the environment, not the significant effects of the environment on the project.” (*Ballona Wetlands Land Trust v. City of Los Angeles*, (2011) 201 Cal.App.4th 455, 473 (*Ballona*)). The California Supreme Court recently held that “CEQA does not generally require an agency to consider the effects of existing environmental conditions on a proposed project’s future users or

residents. What CEQA does mandate... is an analysis of how a project might exacerbate existing environmental hazards.” (*California Building Industry Assn. v. Bay Area Air Quality Management Dist.* (2015) 62 Cal.4th 369, 392; see also *Mission Bay Alliance v. Office of Community Investment & Infrastructure* (2016) 6 Cal.App.5th 160, 197 [“identifying the effects on the project and its users of locating the project in a particular environmental setting is neither consistent with CEQA’s legislative purpose nor required by the CEQA statutes”], quoting *Ballona, supra*, 201 Cal.App.4th at p. 474.).

Based on the above, for the purposes of the CEQA analysis, the relevant inquiry is not whether residents at the proposed single-family homes would be exposed to pre-existing environmental noise-related hazards, but instead whether project-generated noise will exacerbate the pre-existing conditions. Although the analysis of a project’s existing noise environment is not required for CEQA purposes, such analysis is included in this document for compliance with applicable General Plan standards.

As shown in Figure 10, the proposed project would be exposed to exterior noise levels exceeding the City of Oakley’s 65 dBA L_{eq} limit for outdoor activity areas of new residential uses. As a result, the City would require the following condition of project approval, which would reduce outdoor noise levels to below the 65 dBA threshold:

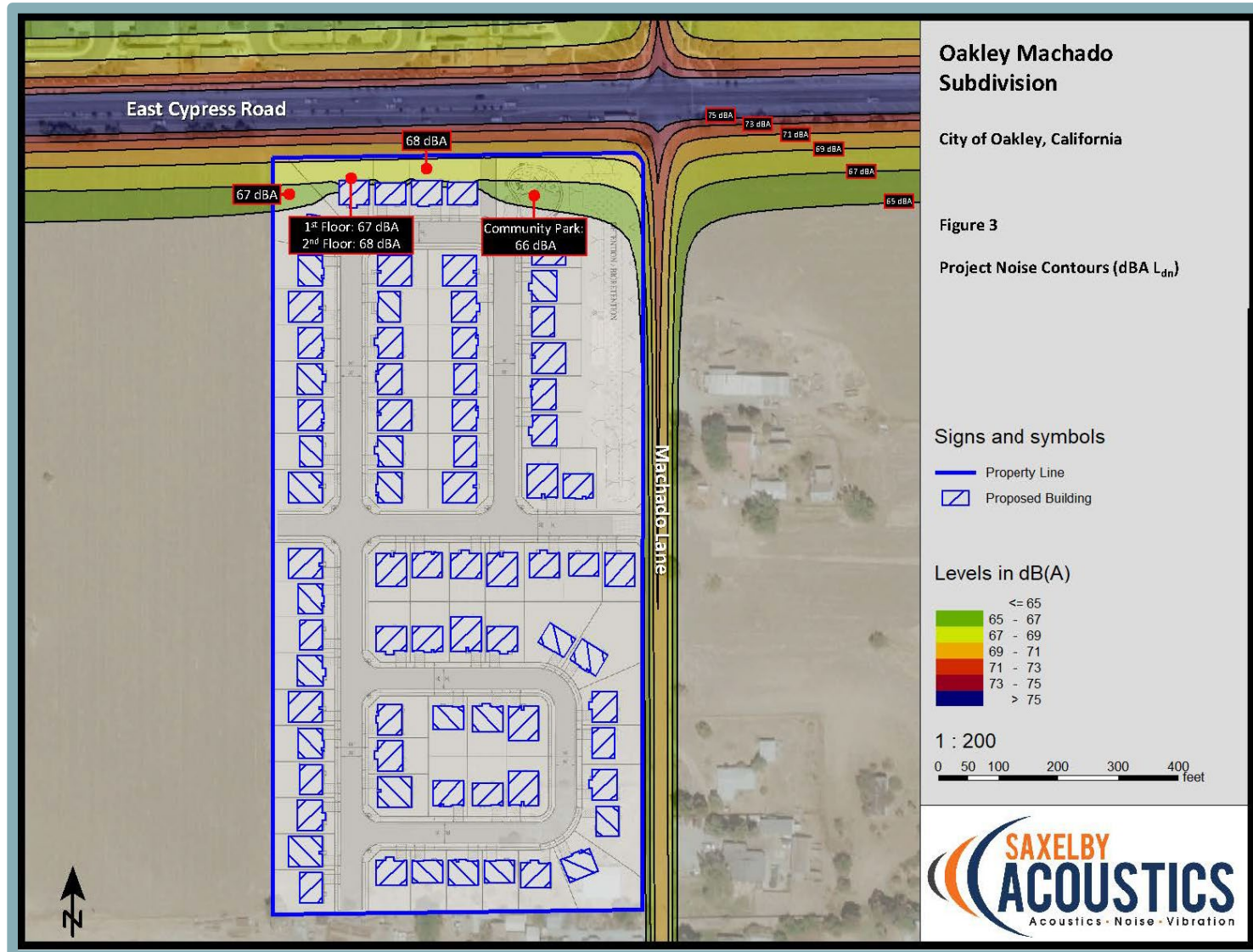
- Prior to approval of project improvement plans, the plans for the proposed project shall show that the first row lots shall be shielded from E. Cypress Road through the use of six-foot-tall masonry sound walls per the approval of the City Engineer. The approximate locations of these barriers are shown on Figure 4 of the Environmental Noise Assessment (see Appendix D). Other types of barriers may be employed but shall be reviewed by an acoustical engineer prior to being constructed. Sound wall heights are assumed to be relative to building pad elevations and may achieve the required wall height through use of earthen berm and wall combinations to achieve the total height.

Standard construction practices would provide an exterior-to-interior noise level reduction of 25 dBA. Therefore, where exterior noise levels are 70 dBA L_{eq} or less, additional interior noise control measures are typically not required. It is anticipated that the proposed project’s exterior noise levels would be less than 68 dBA L_{eq} , at the first and second floor locations resulting in an interior noise level of less than 43 dBA L_{eq} based on typical building construction, which would comply with the City’s 45 dBA L_{eq} interior noise level standard.

Conclusion

Based on the above, operation of the proposed project would not result in the generation of a substantial permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the City’s General Plan and the Municipal Code. However, considering the potential for construction activities to result in temporary increases in noise levels in the project area in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies, a **potentially significant** impact could occur.

Figure 10
Transportation Noise Contours (dBA L_{dn})



Mitigation Measure(s)

Implementation of the following mitigation measure would reduce the above potential impact to a *less-than-significant* level.

XIII-1. Prior to approval of grading permits, the following criteria shall be established and noted on graded plans, subject to review and approval by the City of Oakley Planning Division:

- *Construction activities shall be limited to between the daytime hours of 7:30 AM to 7:00 PM Monday through Friday, and 9:00 AM to 7:00 PM on Saturdays, Sundays, and holidays.*
- *Construction equipment shall be properly maintained and equipped with noise-reduction intake and exhaust mufflers and engine shrouds, in accordance with manufacturers' recommendations. Equipment engine shrouds shall be closed during equipment operation.*
- *When not in use, motorized construction equipment shall not be left idling for more than five minutes.*
- *Stationary equipment (power generators, compressors, etc.) shall be located at the furthest practical distance from nearby noise-sensitive land uses or sufficiently shielded to reduce noise-related impacts.*

- b. Similar to noise, vibration involves a source, a transmission path, and a receiver. However, noise is generally considered to be pressure waves transmitted through air, whereas vibration usually consists of the excitation of a structure or surface. As with noise, vibration consists of an amplitude and frequency. A person's perception to the vibration depends on their individual sensitivity to vibration, as well as the amplitude and frequency of the source and the response of the system which is vibrating.

Vibration is measured in terms of acceleration, velocity, or displacement. A common practice is to monitor vibration in terms of peak particle velocities (PPV) in inches per second (in/sec). Standards pertaining to perception as well as damage to structures have been developed for vibration levels defined in terms of PPV. Human and structural response to different vibration levels is influenced by a number of factors, including ground type, distance between source and receptor, duration, and the number of perceived vibration events. Table 9, which was developed by the California Department of Transportation (Caltrans), shows the vibration levels that would normally be required to result in damage to structures. As shown in the table, the threshold for architectural damage to structures is 0.20 in/sec PPV and continuous vibrations of 0.10 in/sec PPV, or greater, would likely cause annoyance to sensitive receptors.

The primary vibration-generating activities associated with the proposed project would occur during construction when activities such as grading, utilities placement, and paving occur. Table 10 shows the typical vibration levels produced by construction equipment at various distances. The most substantial source of groundborne vibrations associated with project construction would be the use of vibratory compactors. Based on Table 10, construction vibration levels anticipated for the project would be less than the 0.2 in/sec threshold at distances of 26 feet or more.

PPV		Human Reaction	Effect on Buildings
mm/sec	in/sec		
0.15 to 0.30	0.006 to 0.019	Threshold of perception; possibility of intrusion	Vibrations unlikely to cause damage of any type
2.0	0.08	Vibrations readily perceptible	Recommended upper level of the vibration to which ruins and ancient monuments should be subjected
2.5	0.10	Level at which continuous vibrations begin to annoy people	Virtually no risk of "architectural" damage to normal buildings
5.0	0.20	Vibrations annoying to people in buildings (this agrees with the levels established for people standing on bridges and subjected to relative short periods of vibrations)	Threshold at which there is a risk of "architectural" damage to normal dwelling - houses with plastered walls and ceilings. Special types of finish such as lining of walls, flexible ceiling treatment, etc., would minimize "architectural" damage
10 to 15	0.4 to 0.6	Vibrations considered unpleasant by people subjected to continuous vibrations and unacceptable to some people walking on bridges	Vibrations at a greater level than normally expected from traffic, but would cause "architectural" damage and possibly minor structural damage

Source: Caltrans. Transportation Related Earthborne Vibrations. TAV-02-01-R9601. February 20, 2002.

Type of Equipment	PPV at 25 feet (in/sec)	PPV at 50 feet (in/sec)
Large Bulldozer	0.089	0.031
Loaded Trucks	0.076	0.027
Small Bulldozer	0.003	0.001
Auger/drill Rigs	0.089	0.031
Jackhammer	0.035	0.012
Vibratory Hammer	0.070	0.025
Vibratory Compactor/roller	0.210 (less than 0.20 at 26 feet)	0.074

Source: Federal Transit Administration, Transit Noise and Vibration Impact Assessment Guidelines, May 2006.

However, the proposed project includes parking lot and building construction which would occur at distances of approximately 10 feet from the adjacent single-family residential uses. Therefore, use of vibratory compactors within 26 feet of the adjacent residential buildings could cause vibrations in excess of 0.2 in/sec.

Because construction activities could expose people to or generate excessive groundbourne vibrations or groundborne noise levels, a **potentially significant** impact could occur.

Mitigation Measure(s)

Implementation of the following mitigation measure would reduce the above potential impact to a *less-than-significant* level.

- XIII-2. *Throughout the duration of construction, any compaction required within 26 feet from the adjacent residential structures to the south shall be accomplished by using static drum rollers, which use weight instead of vibrations to achieve soil compaction. As an alternative to this requirement, preconstruction crack documentation and construction vibration monitoring could be conducted to ensure that construction vibrations do not cause damage to any adjacent structures. Proof of compliance with this measure shall be submitted to the City of Oakley Planning Division for review and approval.*
- c. The nearest airport to the site is the Byron Airport, located approximately 11.3 miles southeast of the site. The site is not covered by an existing airport land use plan. Given that the project site is not located within two miles of a public or private airport, the proposed project would not expose people residing or working in the project area to excessive noise levels associated with airports. Thus, **no impact** would occur.

XIV. POPULATION AND HOUSING.

Would the project:

	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (e.g., through projects in an undeveloped area or extension of major infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Discussion

- a. The proposed project would include the development of 76 single-family residential units. Using the City of Oakley General Plan’s average person per household value for single-family uses of 3.43, the proposed project would generate approximately 261 additional residents (76 x 3.43 = 260.68).³⁶ The 2020 U.S. Census estimated the population of Oakley to be approximately 43,357.³⁷ An increase in population of 260 residents would constitute an approximately 0.60 percent increase in the City’s population, which is not considered substantial growth. Furthermore, as discussed in Section XIX, Utilities and Service Systems, of this IS/MND, adequate utility infrastructure would be available to support the proposed project. Finally, the population growth generated by the proposed project would not be unplanned, because the proposed project is consistent with the City of Oakley General Plan, which anticipated such development on the project site. As a result, the project would have a **less-than-significant** impact with respect to inducing substantial unplanned population growth in an area, either directly or indirectly.
- b. The proposed project would require demolition of one large, existing shed structure. However, the shed is not a habitable structure and the removal of such would not result in the displacement of existing people or housing. As such, the proposed project would not displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere, and a **less-than-significant** impact would occur.

³⁶ City of Oakley. *City of Oakley General Plan* [pg. 2-7]. Adopted January 11, 2022.

³⁷ U.S. Census Bureau. *Quick Facts, City of Oakley, California*. Available at: <https://www.census.gov/quickfacts/fact/table/oakleycitycalifornia/POP010220#POP010220>. Accessed May 2022.

XV. PUBLIC SERVICES.

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 could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:

	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	✘	<input type="checkbox"/>
b. Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	✘	<input type="checkbox"/>
c. Schools?	<input type="checkbox"/>	<input type="checkbox"/>	✘	<input type="checkbox"/>
d. Parks?	<input type="checkbox"/>	<input type="checkbox"/>	✘	<input type="checkbox"/>
e. Other Public Facilities?	<input type="checkbox"/>	<input type="checkbox"/>	✘	<input type="checkbox"/>

Discussion

a. Fire protection services within the project area are provided by the Contra Costa County Fire Protection District (CCCFPD). The CCCFPD provides fire suppression and prevention, emergency medical, rescue, ambulance transport, and public education services to more than one million people across the 304-square-mile service area.³⁸ Services are provided from 25 fire stations, with the closest station to the project site located approximately 1.6 miles to the northwest. The proposed project would be subject to participation in a Community Facilities District (CFD) prepared and administered by CCCFPD. Participation in the CFD would mitigate for any increased demands on fire services that may result from the proposed project, as well as ensure that the project conforms with the City of Oakley’s General Plan Policy 4.4.2, which requires new developments to pay a fair share of costs for new fire protection facilities and services. Additionally, the proposed project would not include any alterations to the circulation system of the surrounding area which could conflict with the City of Oakley’s General Plan Policy 4.4.4, or lead to a degradation in response times.

As the proposed project is consistent with the General Plan, the increased demand for fire services due to residential development was anticipated and included in the CCCFPD’s planning efforts. In addition, the project would be required to pay development fees in accordance with the City of Oakley Municipal Code. As the proposed project is not expected to cause significant degradation to response times or service ratios for the CCCFPD, which would induce the need for physically altered or expanded governmental facilities for fire protection services, the project would result in a **less-than-significant** impact.

b. Police protection is provided to the City of Oakley by the Oakley Police Department. The Oakley Police Department currently employs 43 persons, including the Chief of Police, two Lieutenants, six Sergeants, four Detectives, 21 Police Officers, two part time Police Records Assistants, one Records Supervisor and three full time and two part time Police Services Assistants and one Property & Evidence Technician.³⁹ As previously discussed,

³⁸ Contra Costa County Fire Protection District. *2018 Annual Report*. Available at: <https://cccfd.org/2018-annual-report/>. Accessed September 2022.

³⁹ Kenneth W. Strelow, Planning Manager, City of Oakley. Personal communication [email] with Rod Stinson, Vice President, Raney Planning and Management. September 6, 2022.

the proposed project would result in the development of 76 single-family residences. As new residences typically generate a demand for police services, an increase in demand for police services would likely occur with implementation of the project. Nevertheless, the increase in police service demand from development of the project site has been included in City of Oakley's demand predictions based on anticipated General Plan buildout. In addition, development fees would be applied to the proposed project, as well as a Police Services levy to mitigate the financial impact to the City's police services budget.

Based on the above, the proposed project would create a demand that was anticipated for the site and would not induce the need for physically altered or expanded governmental facilities for police protection services, the construction of which could cause significant environmental impacts. Therefore, the proposed project would result in a **less-than-significant** impact.

- c. The Oakley Union Elementary School District and Liberty Union High School District provide public educational services to the project site. Given that the proposed project would include development of the project site with 76 single-family residences, the proposed project could increase the demand for schools in the area. Using a standard student generation rate of 0.53 students per dwelling unit, the proposed project's addition of 76 single-family residences would result in approximately 40 new K-12 students.⁴⁰ The City of Oakley General Plan includes goals and policies set forth to ensure adequate primary and secondary schools are developed in response to population growth. The City expects the General Plan to assist in the goal of providing an efficient and complete educational system for the citizens of Oakley. For example, Policy 4.65, set forth in the General Plan, ensures that school facility impacts fees are collected and requires that the City shall work with developers and school districts to establish mitigation measures to ensure the availability of adequate school facilities.

The proposed project would be subject to payment of School Impact Mitigation Development Fees to fund local school services. Proposition 1A/SB 50 prohibits local agencies from using the inadequacy of school facilities as a basis for denying or conditioning approvals of any "[...] legislative or adjudicative act...involving ...the planning, use, or development of real property" (Government Code 65996[b]). Satisfaction of the Proposition 1A/SB 50 statutory requirements by a developer are deemed to be "full and complete mitigation." Payment of applicable development fees would be sufficient in reducing the impacts associated with an increase in students from the project.

Therefore, the proposed project would result in a **less-than-significant** impact regarding an increase in demand for schools.

- d,e. The City of Oakley Municipal Code Section 9.2.208 requires five acres of parkland per 1,000 residents. As noted previously, implementation of the proposed project would result in an increase of approximately 261 new residents to the City. As a result, approximately 1.31 acres of parkland would be required (0.005 acres of parkland per resident x 261 new residents = 1.31 acres of parkland). Oakley Resolution 19-03 requires subdividers of land within the City to dedicate land and/or pay fees in lieu of the dedication for the neighborhood and community parks and recreation programs. The proposed project would include the development of a tot-lot; however, the on-site recreational facilities would not

⁴⁰ Antioch Unified School District. *Facilities Master Plan* [pg. 248]. July 2018.

be sufficient to achieve the parkland requirement established by Section 9.2.208. As such, payment of an in-lieu fee would be required.

The Oakley 2020 General Plan EIR also analyzed impacts of buildout of the General Plan on other public facilities, such as libraries. The Oakley Branch Library is located in Freedom High School at 1050 Neroly Road and is open Tuesday through Saturday. Other libraries in close proximity to the City of Oakley include the Antioch Library and the Brentwood Branch Library. Future residents of the proposed project would have access to the aforementioned facilities. The Oakley 2020 General Plan EIR concluded that with implementation of the necessary General Plan policies, impacts related to public services would be reduced to a less-than-significant level.

Given that the proposed project would be required to pay the applicable park in-lieu fee, and the development of the site was anticipated by the City and would be consistent with the General Plan, the project would result in a ***less-than-significant*** impact related to parks and other public facilities.

XVI. RECREATION.

Would the project:

	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Discussion

a,b. As discussed in Section XIV, Population & Housing, the proposed project would involve the development of 76 single-family residences, which are anticipated to serve approximately 261 residents. As such, an increase in demand on recreational facilities is anticipated. The City of Oakley Municipal Code Section 9.2.208 requires five acres of parkland per 1,000 residents and as noted previously, 1.31 acres of parkland would be required to accommodate the anticipated population increase associated with the proposed project.

Oakley Municipal Code Section 9.2.204 mandates developments that include subdivision of land to either dedicate parkland or pay fees in lieu of the dedication for the neighborhood and community parks and recreation programs. The park impact fees imposed by the City are used to generate revenue to provide park and recreational services on a communitywide level and to the general project vicinity.

As noted above, the project would include the development of an on-site tot-lot, and would be subject to payment of the in-lieu parkland fee. Therefore, implementation of the project would not increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of facilities would occur or be accelerated. Furthermore, the project does not include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse effect on the environment. Therefore, a **less-than-significant** impact related to recreation would occur.

XVII. TRANSPORTATION.

Would the project:

	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Discussion

a. The law has changed with respect to how transportation-related impacts may be addressed under CEQA. Traditionally, lead agencies used level of service (LOS) to assess the significance of such impacts, with greater levels of congestion considered to be more significant than lesser levels. Mitigation measures typically took the form of capacity-increasing improvements, which often had their own environmental impacts (e.g., to biological resources). Depending on circumstances, and an agency’s tolerance for congestion (e.g., as reflected in its general plan), LOS D, E, or F often represented significant environmental effects. In 2013, however, the State Legislature passed legislation with the intention of ultimately doing away with LOS in most instances as a basis for environmental analysis under CEQA. Enacted as part of SB 743 (2013), PRC Section 21099, subdivision (b)(1), directed the Governor’s Office of Planning and Research (OPR) to prepare, develop, and transmit to the Secretary of the Natural Resources Agency for certification and adoption proposed CEQA Guidelines addressing “criteria for determining the significance of transportation impacts of projects within transit priority areas. Those criteria shall promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses. In developing the criteria, [OPR] shall recommend potential metrics to measure transportation impacts that may include, but are not limited to, vehicle miles traveled, vehicle miles traveled per capita, automobile trip generation rates, or automobile trips generated. The office may also establish criteria for models used to analyze transportation impacts to ensure the models are accurate, reliable, and consistent with the intent of this section.”

Subdivision (b)(2) of Section 21099 further provides that “[u]pon certification of the guidelines by the Secretary of the Natural Resources Agency pursuant to this section, automobile delay, as described solely by level of service or similar measures of vehicular capacity or traffic congestion *shall not be considered a significant impact on the environment* pursuant to [CEQA], except in locations specifically identified in the guidelines, if any.” (Italics added.)

Pursuant to SB 743, the Natural Resources Agency promulgated CEQA Guidelines Section 15064.3 in late 2018. It became effective in early 2019. Subdivision (a) of that section provides that “generally, vehicle miles traveled is the most appropriate measure of transportation impacts. For the purposes of this section, ‘vehicle miles traveled’ refers to the amount and distance of automobile travel attributable to a project. Other relevant considerations may include the effects of the project on transit and non-motorized travel.

Except as provided in subdivision (b)(2) below (regarding roadway capacity), a project's effect on automobile delay shall not constitute a significant environmental impact."⁴¹

Please refer to question 'b' for a discussion of VMT.

Project Trip Generation

The Traffic Impact Analysis was prepared by TJKM to identify the proposed project's potential trip generation and any transportation related impacts associated with such (see Appendix E). Project vehicle trip generation rates were obtained from the Institute of Transportation Engineers (ITE) Trip Generation Manual (10th Edition). Based on the ITE rates, the proposed project is estimated to generate 717 daily vehicle trips, including 53 AM peak hour and 71 PM peak hour trips.⁴²

Consistency with the City of Oakley General Plan Policies – Pedestrian, Bicycle, and Transit Facilities

The proposed project's potential impacts related to pedestrian, bicycle, and transit facilities are discussed below.

Pedestrian Facilities

Pedestrian facilities are comprised of crosswalks, sidewalks, pedestrian signals, and off-street paths, which provide safe and convenient routes for pedestrians to access destinations such as institutions, businesses, public transportation, and recreation facilities. Sidewalks currently do not exist along the project frontage. The closest sidewalk network is located on the north side of E. Cypress Road at the intersection of E. Cypress Road and Machado Lane. Sidewalks are also provided on local collectors and arterials such as Emerson Way, Sellers Avenue, Picasso Drive, and Main Street.

The proposed project would include the construction of sidewalks along the project frontage on the south side of E. Cypress Road and the west side of Machado Lane, as well as within the project site, and would facilitate pedestrian traffic to the schools located to the north. All proposed sidewalks along E. Cypress Road, Machado Lane and the proposed access roadway are proposed to be five feet in width. All new sidewalks would be required to comply with the Americans with Disabilities Act (ADA), and curb ramps would be provided at all proposed intersections. Additionally, all internal streets would have sidewalks and adequate curb ramps at corners to provide accessible paths of travel to each home.

The new sidewalks and curb ramps would enhance the existing pedestrian infrastructure, and would comply with all applicable City and ADA standards. Therefore, the proposed project would not result in the creation of a conflict with any adopted programs, plans, ordinances, or policies addressing pedestrian facilities and a less-than-significant impact would occur related to pedestrian facilities.

⁴¹ Subdivision (b)(2) of Section 15064.3 ("transportation projects") provides that "[t]ransportation projects that reduce, or have no impact on, vehicle miles traveled should be presumed to cause a less than significant transportation impact. For roadway capacity projects, agencies have discretion to determine the appropriate measure of transportation impact consistent with CEQA and other applicable requirements. To the extent that such impacts have already been adequately addressed at a programmatic level, such as in a regional transportation plan EIR, a lead agency may tier from that analysis as provided in Section 15152.

⁴² TJKM. *Machado Lane Residential Development: Draft Traffic Impact Analysis*. June 17, 2022.

Bicycle Facilities

Approximately 29 miles of bicycle facilities are installed throughout the City of Oakley, including 15 miles of Class II on-street bicycle lanes and 12.4 miles of Class I multi-use paths.⁴³ In the vicinity of the project site, existing bicycle facilities are available at the following locations:

- East Cypress Road: Class II bicycle facilities are provided on the north side between Knightsen Avenue and Main Street, and on the south side between Main Street and 790 feet east of Frank Hengel Way;
- Main Street: Class II bicycle facilities are provided between Cypress Road and Simoni Ranch Road on both sides;
- Sellers Avenue: Class II bicycle facilities are provided north of E. Cypress Road;
- Laurel Road: Class II bicycle facilities are provided between Harvest Drive and Main Street on both sides;
- Marsh Creek Regional Trail: Class I bicycle facility provided along Marsh Creek which can be accessed through Delta Road, approximately 1.5 miles west of the project site; and
- Via Delta de Anza Trail: Class I bicycle facility provided along the Contra Costa Canal, which can be accessed through Cypress Road and O' Hara Avenue, approximately two miles west of the project site.

Additionally, the City of Oakley General Plan (September 2002), City of Oakley Parks, Recreation, and Trails Master Plan 2020 (Summer 2007), and the Contra Costa County Bicycle and Pedestrian Plan (October 2009) indicate that several new bicycle facilities are planned to be constructed in the project vicinity.

Bicycle access to the project site would be provided by the existing Class II bike lane facilities along the north side of E. Cypress Road. The Contra Costa County Transportation Authority Countywide Bicycle and Pedestrian Plan has already planned to install Class II bike lanes on Machado Lane, south of E. Cypress Road, along the project frontage.

Based on the above, bicycle facilities would be accessible from the project site, and development of the project would not preclude construction of any planned bicycle trails. Therefore, the proposed project would not result in the creation of a conflict with any adopted programs, plans, ordinances, or policies addressing bicycle facilities, and a less-than-significant impact would occur related to bicycle facilities.

Transit Facilities

Tri-Delta Transit provides transit services in the City of Oakley, with three lines connecting Brentwood and the Pittsburg/Bay Point Bay Area Rapid Transit (BART) station. Due to COVID-19 conditions, some of the routes and schedules may not currently be in full operation. The following Tri-Delta Transit Routes currently operate in the project vicinity:

- Route 300: the Pittsburg BART/Brentwood Park & Ride route, is a weekday express route connecting Brentwood to the Pittsburg/Bay Point BART station via

⁴³ City of Oakley. *Mobility White Paper, City of Oakley Focused General Plan Update*. December 2019.

Oakley and Antioch. This bus travels along Main Street, operating from 4:15 AM to approximately 10:00 PM with 15 to 30-minute headways.

- Route 383: the Oakley/Antioch/Freedom High School route, connects Oakley to Antioch and Freedom High School in Oakley. This route, in both clockwise and counterclockwise directions, provides only weekday service. The counterclockwise route runs with approximate one-hour headways, and the clockwise route runs twice during the AM peak hour period only.
- Route 391: the BART/Pittsburg/Antioch/Oakley/Brentwood route, provides weekday service to most East County cities. Route 391 operates from 4:06 AM to 1:28 AM with 30 to 74-minute headways.
- Route 393: the BART/Pittsburg/Antioch/Oakley/Brentwood route, provides weekend service to Route 391. Route 393 operates from 5:17 AM to 12:05 AM on Saturday and 6:18 AM to 12:56 AM on Sundays with approximately 60-minute headways.

The project is located approximately 1.5 miles from the closest bus stops east of the E. Cypress Road/Main Street intersection. The bus stops are accessible via sidewalks and Class II bike lanes provided on E. Cypress Road. The proposed project is not expected to add a significant number of passengers to the existing bus services capacity. Furthermore, the proposed project is consistent with the General Plan land use designation for the site; therefore, impacts related to transit were already anticipated and evaluated in the General Plan EIR. Thus, the proposed project would not conflict with a program, plan, ordinance, or policy addressing transit service and a less-than-significant impact would occur.

Conclusion

Based on the above, a ***less-than-significant*** impact would occur related to conflicting with a program, plan, ordinance, or policy addressing the circulation system, including transit, bicycle, and pedestrian facilities.

- b. Section 15064.3 of the CEQA Guidelines provides specific considerations for evaluating a project's transportation impacts. Pursuant to Section 15064.3, analysis of VMT attributable to a project is the most appropriate measure of transportation impacts. Other relevant considerations may include the effects of the project on transit and non-motorized travel. Although the City of Oakley has not yet established any standards or thresholds regarding VMT, pursuant to Section 15064.3(b)(3), a lead agency may analyze a project's VMT qualitatively based on the availability of transit, proximity to destinations, etc. While changes to driving conditions that increase intersection delay are an important consideration for traffic operations and management, the method of analysis does not fully describe environmental effects associated with fuel consumption, emissions, and public health. Section 15064.3(3) changes the focus of transportation impact analysis in CEQA from measuring impact to drivers to measuring the impact of driving.

The Contra Costa Transportation Authority (CCTA) considers residential projects to have a significant impact on VMT if the project generated home-based VMT per resident is higher than the following:

- 85 percent of the home-based VMT per resident in the municipality; or
- 85 percent of the existing County-wide average home-based VMT per resident.

TJKM performed VMT analysis for the project with the CCTA Model. Two full model runs were performed in accordance with the CCTA VMT methodology. The first model run was

for Baseline Conditions, which represent the Year 2020 traffic conditions for the City of Oakley, and the second model run was for Baseline Plus Project Conditions.

Under Baseline conditions, the home-based VMT per capita for the City of Oakley is 26.76. For the project to have a less-than-significant impact, the project must produce VMT within the 85 percent threshold, which equates to 22.75 (0.85 x 26.76) VMT per resident.

Under Baseline Plus Project Conditions, the VMT per capita for the project TAZ is 23.81, which exceeds the 22.75 threshold. However, according to the TIS, the incorporation of sidewalk improvements and on- and off-site pedestrian connections included as part of the project would reduce project VMT to 22.45, which is less than the applicable threshold.

Based on the above, the proposed project would not conflict or be inconsistent with CEQA Guidelines Section 15064.3(b), and a **less-than-significant** impact would occur.

- c,d. Primary access to the project site is proposed from Machado Lane. In addition, emergency vehicle access would be provided by way of Parcel B from E. Cypress Road to the proposed internal roadway network north of the project site. Per the site plan, each street within the proposed internal roadway network would be 36 feet wide. The roadway widths would adequately accommodate emergency vehicle access.

The proposed project would not alter the existing transportation network nor increase hazards due to a geometrical design feature. The proposed project would include paving Machado Lane south of E. Cypress Road, extending slightly south of the project access. Oncoming traffic travelling northbound and southbound on Machado Lane would have a clear line of sight to vehicles exiting the project site for at least 150 feet, and obstructions to sight distance are not expected.

As part of the Traffic Impact Analysis, TJKM conducted a vehicle queuing and storage analysis for all exclusive left-turn or right-turn pockets at the intersections in the project vicinity. The 95th percentile (maximum) queues were analyzed using the HCM 6th Edition Queue methodology contained in Vistro Software. According to the analysis, queue lengths at the intersections of Machado Lane/E. Cypress Road and Sellers Avenue/E. Cypress Road would not be extended by more than five feet, and would not generate a safety hazard. The proposed project is anticipated to increase queue length by a maximum of three vehicles at the intersection of Main Street/E. Cypress Road, which would be considered an overflow condition. However, the Main Street/E. Cypress Road already operates at overflow conditions, and implementation of the proposed project would not substantially worsen the unacceptable conditions. Furthermore, as noted in the Traffic Impact Analysis, the City's planned improvements to the Main Street/E. Cypress Road intersection are expected to alleviate such queuing issues.

During project construction, public roads in the vicinity would remain open and available for use by emergency vehicles and other traffic. In addition, the new internal roadways would provide two points of access to the project site, which would be adequate for emergency vehicle access. All interior drive aisles and parking stalls would comply with City design standards, and, thus, on-site circulation would be expected to function acceptably for emergency response vehicles. As such, the proposed on-site vehicle circulation would allow for emergency vehicle access and would not impede current response times to the project site.

Implementation of the proposed project would introduce additional vehicle traffic along E. Cypress Road and Machado Lane. However, the proposed project would be consistent with the General Plan land use designation for the site and impacts related to hazards and emergency access associated with the proposed project were already analyzed and anticipated in the General Plan EIR.

Based on the above, the proposed project would not substantially increase hazards due to a geometric design feature or incompatible uses, or result in inadequate emergency access, and a ***less-than-significant*** impact would occur.

XVIII. TRIBAL CULTURAL RESOURCES.

Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American Tribe, and that is:

	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k).	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Discussion

a,b. As discussed in Section V, Cultural Resources, of this IS/MND, a records search of the CHRIS, performed on May 11, 2022, was completed by NWIC for cultural resource site records and survey reports within the project site. The CHRIS search indicated that the project site does not contain recorded archaeological resources; however, a low potential exists for unrecorded historic-period archaeological resources to be found within the project area, and a moderate to high potential exists for unrecorded Native American resources to be found within the site.

In addition, the Native American Heritage Commission (NAHC) conducted a records search of the Sacred Land File (SLF) on May 29, 2022. Per the NAHC SLF, the site does not contain known tribal cultural resources.

In compliance with AB 52 (PRC Section 21080.3.1), a project notification letter was distributed to the chairpersons of the following tribes on April 4, 2022: Amah Mutsun Tribal Band of Mission San Juan Bautista, Chicken Ranch Rancheria of Me-Wuk Indians, Guidiville Indian Rancheria, Indian Canyon Mutsun Band of Costanoan, Muwekma Ohlone Indian Tribe of the SF Bay Area, Nashville Enterprise Miwok-Maidu-Nishinam Tribe, North Valley Yokuts Tribe, The Ohlone Indian Tribe, Tule River Indian Tribe, Wilton Rancheria, and The Confederated Villages of Lisjan. A request for additional information was received from The Confederated Villages of Lisjan Chairperson Corrina Gould on April 4, 2022, and a request to consult on the project was received from the Indian Canyon Band of Costanoan Ohlone People on April 7, 2022. The requested information was provided to The Confederated Villages of Lisjan. The Indian Canyon Band of Costanoan Ohlone People was contacted to schedule a meeting, and consultation is currently underway.

Based on the history of disturbance at the project site and former agricultural uses, as well as the lack of identified tribal cultural resources at the site, tribal cultural resources are not expected to occur within the site. Nevertheless, the possibility exists that development of

the proposed project could result in a substantial adverse change in the significance of a tribal cultural resource if previously unknown tribal cultural resources are uncovered during grading or other ground-disturbing activities. Thus, a ***potentially significant*** impact related to tribal cultural resources could occur.

Mitigation Measure(s)

Implementation of the following mitigation measure would reduce the above potential impact to a *less-than-significant* level.

XVIII-1. Implement Mitigation Measures V-1 and V-2.

XIX. UTILITIES AND SERVICE SYSTEMS.	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
<i>Would the project:</i>				
a. Require or result in the relocation or construction of new or expanded water, wastewater treatment, or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e. Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Discussion

a-c. Electricity, telecommunications, water, and sanitary sewer services would be provided to the project site by way of new connections to existing infrastructure in the immediate project area. Brief discussions of water, sewer service, stormwater drainage, electrical, natural gas, and telecommunications that would serve the proposed project are included below.

Water

The proposed project would include construction of new eight-inch water lines throughout the project site, in Machado Lane, and would connect to the existing water main in E. Cypress Road.

Water service for the proposed project would be provided by the DWD. Pursuant to the DWD's 2020 UWMP, DWD's primary water supply for the distribution system is treated surface water from the United States Bureau of Reclamation's Central Valley Project (CVP) purchased from the Contra Costa Water District (CCWD). CVP water is conveyed through the Contra Costa Canal and Los Vaqueros system, and treated at the Randall-Bold Water Treatment Plant in Oakley, which is jointly owned by DWD and CCWD.⁴⁴ According to the DWD 2020 UWMP, the DWD has a baseline demand of 177 gallons per

⁴⁴ Diablo Water District. *2020 Urban Water Management Plan*. June 2021.

capita per day (GPCD).⁴⁵ Thus, the project is projected to increase water demand by 46,197 gallons per day (177 gallons per capita x 261 residents), or 51.8 acre-feet per year.

According to the DWD 2020 UWMP, the DWD's projected water supply exceeds the water demand for normal, single-dry, and multiple-dry years until at least 2040.⁴⁶ For example, during a normal year in 2025, the anticipated supply exceeds the anticipated demand by 4,965 acre-feet per year. Therefore, the DWD would have sufficient water supply to accommodate the 51.80 acre-feet per year increase associated with the proposed project.

Furthermore, the project site has been anticipated for development by the City of Oakley's General Plan EIR. The DWD's demand estimates consider increases in demand due to buildout of the City's General Plan;⁴⁷ consequently, the DWD has anticipated some level of increased water demand due to development of the project site compared to existing conditions.

Wastewater

The proposed project would include construction of new eight-inch sanitary sewer lines throughout the project site. The proposed sanitary sewer lines within the project site would direct wastewater to the existing eight-inch sanitary sewer main within Machado Lane.

Sanitary sewer services would be provided to the project site by ISD. The wastewater system is composed of collection, treatment, and effluent recycling facilities. ISD operates and maintains the sewer system, which collects wastewater flows from individual developments within the City and conveys them to ISD's Water Recycling Facility. Wastewater is ultimately treated and stored either at the facility in a large 76 million gallon holding pond, or the treated water is conveyed to an outfall pipe in the San Joaquin River. The Water Recycling Facility has an average daily flow of 2.3 million gallons per day (MGD). The facility has a treatment capacity of approximately 4.3 MGD.⁴⁸

Using standard industry assumptions that (1) domestic water use represents 40 percent of consumption; and (2) wastewater generation represents 90 percent of domestic water use, the proposed project would generate approximately 16,630 gallons of wastewater per day (46,197 gallons x 0.4 x 0.9). The addition of wastewater from the proposed project would represent less than 0.4 percent of the Water Recycling Facility's available capacity. Therefore, future development of 76 residences would not require the construction of new or expansion of existing wastewater treatment facilities, as the Water Recycling Facility has adequate capacity to serve the proposed project.

Furthermore, given that the project is consistent with the site's current General Plan land use designation, the type and intensity of growth and associated wastewater generation has already been analyzed in the General Plan EIR. The General Plan EIR determined that impacts related to wastewater treatment capacity would be less than significant.

⁴⁵ Diablo Water District. *2020 Urban Water Management Plan* [pg. 3-5]. June 2021.

⁴⁶ Diablo Water District. *2020 Urban Water Management Plan* [pg. 5-5 to 5-6]. June 2021.

⁴⁷ Diablo Water District. *2020 Urban Water Management Plan* [pg. 2-2]. June 2021.

⁴⁸ Ironhouse Sanitary District. *Sewer System Management Plan* [pg. 1-3]. April 2017.

Therefore, given the available capacity within the wastewater facility, the proposed project would not result in inadequate capacity to serve the project's projected demand in addition to the existing commitments.

Stormwater

As discussed above in Section X, Hydrology and Water Quality, of this IS/MND, stormwater runoff from impervious surfaces would be directed towards the on-site bioretention area. The proposed on-site drainage systems would be required to comply with the City's SWPPP and Erosion and Sediment Control Plan, as well as the County C.3 standards. Additionally, because the site has been anticipated for development by the City's General Plan, impacts to stormwater systems resulting from development of the site have been analyzed in the City's General Plan EIR. Therefore, the proposed project would not significantly increase stormwater flows into ISD's existing system and sufficient water supplies would be available to serve the project.

Electricity and Telecommunications

Electricity and telecommunications utilities would be provided by way of connections to existing infrastructure located within the immediate project vicinity. PG&E would provide electricity services to the project site, while AT&T would provide telecommunication services. The proposed project would not require major upgrades to, or extension of, existing infrastructure. Thus, impacts related to electricity and telecommunications infrastructure would be less than significant.

Conclusion

Based on the above, the proposed project would not require or result in the relocation or construction of new or expanded water, wastewater treatment, stormwater, electric power, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects. Sufficient water supplies would be available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years. Furthermore, adequate wastewater capacity would also be available to serve the project's projected demand in addition to ISD's existing commitments. Thus, a **less-than-significant** impact would occur.

- d,e. Solid waste, recyclable materials, and compostable material from the City of Oakley is hauled to Potrero Hills Landfill, located in Solano County. The landfill has a maximum permitted throughput of 4,330 tons per day. According to the California Department of Resources Recycling and Recovery (CalRecycle), the Potrero Hills Landfill has a remaining capacity of 13,872,000 cubic yards out of a total permitted capacity of 83,100,000 cubic yards.⁴⁹ Due to the substantial amount of available capacity remaining at Potrero Hills Landfill, sufficient capacity would be available to accommodate the project's solid waste disposal needs. Additionally, because the site has been anticipated for development by the City General Plan, impacts related to solid waste resulting from development of the site have already been evaluated in the City's General Plan EIR.

Furthermore, as required by CALGreen Code Section 4.408, the proposed project would be required to submit a Waste Management Plan to the City detailing on-site sorting of

⁴⁹ California Department of Resources Recycling and Recovery (CalRecycle). *Facility/Site Summary: Potrero Hill Landfill (48-AA-0075)*. Available at: <https://www2.calrecycle.ca.gov/SolidWaste/Site/Summary/3591>. Accessed May 2022.

construction debris. Implementation of the Waste Management Plan would ensure that the proposed project meets established diversion requirements for reused or recycled construction waste.

Based on the above, the proposed project would comply with applicable federal, State, and local statutes and regulations related to solid waste. Therefore, the proposed project would have a ***less-than-significant*** impact related to solid waste.

XX. WILDFIRE.

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:

	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Substantially impair an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	✘	<input type="checkbox"/>
b. Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	<input type="checkbox"/>	<input type="checkbox"/>	✘	<input type="checkbox"/>
c. Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	<input type="checkbox"/>	<input type="checkbox"/>	✘	<input type="checkbox"/>
d. Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	<input type="checkbox"/>	<input type="checkbox"/>	✘	<input type="checkbox"/>

Discussion

a-d. According to the CALFIRE Fire and Resource Assessment Program, the project site is not located within a Very High or High FHSZ.⁵⁰ In addition, the project site is located near existing development and roadways. The presence of urban development and paved areas would preclude the uncontrolled spread of wildfire. Thus, the proposed project would not result in substantial risks or hazards related to wildfires, and a ***less-than-significant*** impact would occur.

⁵⁰ California Department of Forestry and Fire Protection. *Contra Costa County, Very High Fire Hazard Severity Zones in LRA*. January 7, 2009.

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

Discussion

a. As discussed in Section IV, Biological Resources, of this IS/MND, while a limited potential exists for the western burrowing owl as well as nesting raptors and migratory birds protected by the MBTA to occur on-site, the proposed project would comply with all applicable ECCCHCP/NCCP requirements, which would reduce impacts to biological resources to a less-than-significant level. In addition, the project site does not contain any eligible historical on-site structures or known historic or prehistoric resources. As a result, implementation of the proposed project is not anticipated to result in impacts related to historic or prehistoric resources. Nevertheless, Mitigation Measures V-1 and V-2 would ensure that, in the event that prehistoric resources are discovered within the project site, such resources would be protected in compliance with the requirements of CEQA and other State standards.

Considering the above, the proposed project would not degrade the quality of the environment, substantially reduce or impact the habitat of fish or wildlife species, cause fish or wildlife populations 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. Therefore, with implementation of the mitigation measures identified herein, a **less-than-significant** impact would occur.

b. The proposed project, in conjunction with other development within the City of Oakley, could incrementally contribute to cumulative impacts in the area. However, as demonstrated in this IS/MND, all potential environmental impacts that could occur as a result of project implementation would be reduced to a less-than-significant level through compliance with the mitigation measures included in this IS/MND, as well as applicable

General Plan policies, Municipal Code standards, and other applicable local and State regulations.

All cumulative impacts related to air quality, noise, and transportation are either less than significant after mitigation or less than significant and do not require mitigation. Given the scope of the project, any incremental effects would not be considerable relative to the effects of all past, current, and probably future projects. In addition, buildout of the site has already been anticipated by the City for residential uses. As such, potential impacts resulting from development of the project have been generally analyzed in the General Plan EIR. Therefore, when viewed in conjunction with other closely related past, present, or reasonably foreseeable future projects, with the implementation of mitigation, development of the proposed project would not result in a cumulatively considerable contribution to cumulative impacts, and the project's incremental contribution to cumulative impacts would be **less than significant**.

- c. As described in this IS/MND, the proposed project would comply with all applicable General Plan policies, Municipal Code standards, other applicable local and State regulations, and mitigation measures included herein. In addition, as discussed in Section VII, Geology and Soils, Section IX, Hazards and Hazardous Materials, and Section XIII, Noise, of this IS/MND, the proposed project would not cause substantial effects to human beings, including effects related to exposure to hazardous materials and noise. Therefore, with implementation of the required mitigation measures, the proposed project would result in a **less-than-significant** impact.

Appendix A
Air Quality and Greenhouse Gas Emissions – CalEEMod Results

Machado Lane Property Project - Bay Area AQMD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

**Machado Lane Property Project
Bay Area AQMD Air District, Annual**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	76.00	Dwelling Unit	20.10	136,800.00	217

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	64
Climate Zone	4			Operational Year	2025
Utility Company	Pacific Gas and Electric Company				
CO2 Intensity (lb/MWhr)	203.98	CH4 Intensity (lb/MWhr)	0.033	N2O Intensity (lb/MWhr)	0.004

1.3 User Entered Comments & Non-Default Data

- Project Characteristics -
- Land Use - Lot acreage adjusted to match site plan.
- Construction Phase - Construction phase timing adjusted based on AQ Questionnaire.
- Demolition -
- Grading -
- Mobile Land Use Mitigation -
- Area Mitigation - Per AQ Questionnaire, only natural gas hearths would be installed
- Energy Mitigation -
- Water Mitigation - Outdoor water conservation strategy applied to reflect compliance with MWEL0.
- Vehicle Trips - Trip generation rate adjusted per project-specific TIA prepared by TJKM (June 2022).

Machado Lane Property Project - Bay Area AQMD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	600.00
tblConstructionPhase	NumDays	370.00	600.00
tblConstructionPhase	NumDays	20.00	30.00
tblConstructionPhase	NumDays	35.00	30.00
tblConstructionPhase	NumDays	20.00	15.00
tblConstructionPhase	NumDays	10.00	30.00
tblLandUse	LotAcreage	24.68	20.10
tblVehicleTrips	ST_TR	9.54	9.43
tblVehicleTrips	SU_TR	8.55	9.43
tblVehicleTrips	WD_TR	9.44	9.43

2.0 Emissions Summary

Machado Lane Property Project - Bay Area AQMD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	0.5093	2.5733	2.5722	4.9100e-003	0.4657	0.1188	0.5845	0.2149	0.1110	0.3260	0.0000	429.7464	429.7464	0.1065	2.4700e-003	433.1449
2024	0.6481	1.9740	2.4561	4.4000e-003	0.0400	0.0888	0.1288	0.0108	0.0840	0.0948	0.0000	382.8553	382.8553	0.0748	3.6800e-003	385.8208
2025	0.4588	1.2881	1.7136	3.0800e-003	0.0281	0.0535	0.0817	7.6000e-003	0.0507	0.0583	0.0000	268.2271	268.2271	0.0520	2.5000e-003	270.2720
Maximum	0.6481	2.5733	2.5722	4.9100e-003	0.4657	0.1188	0.5845	0.2149	0.1110	0.3260	0.0000	429.7464	429.7464	0.1065	3.6800e-003	433.1449

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	0.5093	2.5733	2.5722	4.9100e-003	0.4657	0.1188	0.5845	0.2149	0.1110	0.3260	0.0000	429.7460	429.7460	0.1065	2.4700e-003	433.1444
2024	0.6481	1.9740	2.4561	4.4000e-003	0.0400	0.0888	0.1288	0.0108	0.0840	0.0948	0.0000	382.8549	382.8549	0.0748	3.6800e-003	385.8204
2025	0.4588	1.2881	1.7136	3.0800e-003	0.0281	0.0535	0.0817	7.6000e-003	0.0507	0.0583	0.0000	268.2268	268.2268	0.0520	2.5000e-003	270.2717
Maximum	0.6481	2.5733	2.5722	4.9100e-003	0.4657	0.1188	0.5845	0.2149	0.1110	0.3260	0.0000	429.7460	429.7460	0.1065	3.6800e-003	433.1444

Machado Lane Property Project - Bay Area AQMD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	1-1-2023	3-31-2023	0.8989	0.8989
2	4-1-2023	6-30-2023	0.7994	0.7994
3	7-1-2023	9-30-2023	0.6949	0.6949
4	10-1-2023	12-31-2023	0.6960	0.6960
5	1-1-2024	3-31-2024	0.6511	0.6511
6	4-1-2024	6-30-2024	0.6501	0.6501
7	7-1-2024	9-30-2024	0.6572	0.6572
8	10-1-2024	12-31-2024	0.6583	0.6583
9	1-1-2025	3-31-2025	0.6062	0.6062
10	4-1-2025	6-30-2025	0.6120	0.6120
11	7-1-2025	9-30-2025	0.5204	0.5204
		Highest	0.8989	0.8989

Machado Lane Property Project - Bay Area AQMD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.0954	0.0163	1.2151	1.3700e-003		0.0971	0.0971		0.0971	0.0971	9.6604	3.2937	12.9542	0.0191	5.5000e-004	13.5971
Energy	0.0109	0.0933	0.0397	6.0000e-004		7.5400e-003	7.5400e-003		7.5400e-003	7.5400e-003	0.0000	163.0818	163.0818	0.0110	3.0600e-003	164.2682
Mobile	0.2860	0.3175	2.6571	5.5100e-003	0.6101	4.0900e-003	0.6142	0.1630	3.8100e-003	0.1668	0.0000	521.4503	521.4503	0.0339	0.0249	529.7303
Waste						0.0000	0.0000		0.0000	0.0000	18.5006	0.0000	18.5006	1.0934	0.0000	45.8344
Water						0.0000	0.0000		0.0000	0.0000	1.5710	3.4900	5.0609	0.1619	3.8800e-003	10.2646
Total	1.3924	0.4270	3.9119	7.4800e-003	0.6101	0.1087	0.7188	0.1630	0.1084	0.2714	29.7320	691.3158	721.0478	1.3193	0.0324	763.6947

Machado Lane Property Project - Bay Area AQMD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.6482	0.0121	0.5661	7.0000e-005		3.5800e-003	3.5800e-003		3.5800e-003	3.5800e-003	0.0000	7.3735	7.3735	1.0100e-003	1.2000e-004	7.4339
Energy	0.0109	0.0933	0.0397	6.0000e-004		7.5400e-003	7.5400e-003		7.5400e-003	7.5400e-003	0.0000	163.0818	163.0818	0.0110	3.0600e-003	164.2682
Mobile	0.2860	0.3175	2.6571	5.5100e-003	0.6101	4.0900e-003	0.6142	0.1630	3.8100e-003	0.1668	0.0000	521.4503	521.4503	0.0339	0.0249	529.7303
Waste						0.0000	0.0000		0.0000	0.0000	18.5006	0.0000	18.5006	1.0934	0.0000	45.8344
Water						0.0000	0.0000		0.0000	0.0000	1.5710	3.2878	4.8587	0.1619	3.8700e-003	10.0604
Total	0.9451	0.4228	3.2629	6.1800e-003	0.6101	0.0152	0.6253	0.1630	0.0149	0.1779	20.0716	695.1934	715.2649	1.3011	0.0320	757.3273

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	32.12	1.00	16.59	17.38	0.00	86.01	13.00	0.00	86.23	34.44	32.49	-0.56	0.80	1.38	1.36	0.83

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2023	2/10/2023	5	30	
2	Site Preparation	Site Preparation	2/11/2023	3/24/2023	5	30	
3	Grading	Grading	3/25/2023	5/5/2023	5	30	

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

4	Paving	Paving	5/6/2023	5/26/2023	5	15
5	Building Construction	Building Construction	5/27/2023	9/12/2025	5	600
6	Architectural Coating	Architectural Coating	6/10/2023	9/26/2025	5	600

Acres of Grading (Site Preparation Phase): 45

Acres of Grading (Grading Phase): 90

Acres of Paving: 0

Residential Indoor: 277,020; Residential Outdoor: 92,340; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	18.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	27.00	8.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	5.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.9700e-003	0.0000	1.9700e-003	3.0000e-004	0.0000	3.0000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0340	0.3223	0.2947	5.8000e-004		0.0150	0.0150		0.0139	0.0139	0.0000	50.9881	50.9881	0.0143	0.0000	51.3451
Total	0.0340	0.3223	0.2947	5.8000e-004	1.9700e-003	0.0150	0.0169	3.0000e-004	0.0139	0.0142	0.0000	50.9881	50.9881	0.0143	0.0000	51.3451

Machado Lane Property Project - Bay Area AQMD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Demolition - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.0000e-005	1.2200e-003	2.9000e-004	1.0000e-005	1.5000e-004	1.0000e-005	1.6000e-004	4.0000e-005	1.0000e-005	5.0000e-005	0.0000	0.5371	0.5371	2.0000e-005	9.0000e-005	0.5629
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.8000e-004	3.9000e-004	4.9900e-003	2.0000e-005	1.7800e-003	1.0000e-005	1.7900e-003	4.7000e-004	1.0000e-005	4.8000e-004	0.0000	1.3934	1.3934	4.0000e-005	4.0000e-005	1.4058
Total	6.0000e-004	1.6100e-003	5.2800e-003	3.0000e-005	1.9300e-003	2.0000e-005	1.9500e-003	5.1000e-004	2.0000e-005	5.3000e-004	0.0000	1.9305	1.9305	6.0000e-005	1.3000e-004	1.9687

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.9700e-003	0.0000	1.9700e-003	3.0000e-004	0.0000	3.0000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0340	0.3223	0.2947	5.8000e-004		0.0150	0.0150		0.0139	0.0139	0.0000	50.9880	50.9880	0.0143	0.0000	51.3450
Total	0.0340	0.3223	0.2947	5.8000e-004	1.9700e-003	0.0150	0.0169	3.0000e-004	0.0139	0.0142	0.0000	50.9880	50.9880	0.0143	0.0000	51.3450

Machado Lane Property Project - Bay Area AQMD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Demolition - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.0000e-005	1.2200e-003	2.9000e-004	1.0000e-005	1.5000e-004	1.0000e-005	1.6000e-004	4.0000e-005	1.0000e-005	5.0000e-005	0.0000	0.5371	0.5371	2.0000e-005	9.0000e-005	0.5629
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.8000e-004	3.9000e-004	4.9900e-003	2.0000e-005	1.7800e-003	1.0000e-005	1.7900e-003	4.7000e-004	1.0000e-005	4.8000e-004	0.0000	1.3934	1.3934	4.0000e-005	4.0000e-005	1.4058
Total	6.0000e-004	1.6100e-003	5.2800e-003	3.0000e-005	1.9300e-003	2.0000e-005	1.9500e-003	5.1000e-004	2.0000e-005	5.3000e-004	0.0000	1.9305	1.9305	6.0000e-005	1.3000e-004	1.9687

3.3 Site Preparation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.2949	0.0000	0.2949	0.1515	0.0000	0.1515	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0399	0.4129	0.2737	5.7000e-004		0.0190	0.0190		0.0175	0.0175	0.0000	50.1760	50.1760	0.0162	0.0000	50.5817
Total	0.0399	0.4129	0.2737	5.7000e-004	0.2949	0.0190	0.3139	0.1515	0.0175	0.1690	0.0000	50.1760	50.1760	0.0162	0.0000	50.5817

Machado Lane Property Project - Bay Area AQMD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Site Preparation - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.9000e-004	4.7000e-004	5.9900e-003	2.0000e-005	2.1300e-003	1.0000e-005	2.1400e-003	5.7000e-004	1.0000e-005	5.8000e-004	0.0000	1.6721	1.6721	5.0000e-005	5.0000e-005	1.6870
Total	6.9000e-004	4.7000e-004	5.9900e-003	2.0000e-005	2.1300e-003	1.0000e-005	2.1400e-003	5.7000e-004	1.0000e-005	5.8000e-004	0.0000	1.6721	1.6721	5.0000e-005	5.0000e-005	1.6870

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.2949	0.0000	0.2949	0.1515	0.0000	0.1515	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0399	0.4129	0.2737	5.7000e-004		0.0190	0.0190		0.0175	0.0175	0.0000	50.1760	50.1760	0.0162	0.0000	50.5817
Total	0.0399	0.4129	0.2737	5.7000e-004	0.2949	0.0190	0.3139	0.1515	0.0175	0.1690	0.0000	50.1760	50.1760	0.0162	0.0000	50.5817

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Site Preparation - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.9000e-004	4.7000e-004	5.9900e-003	2.0000e-005	2.1300e-003	1.0000e-005	2.1400e-003	5.7000e-004	1.0000e-005	5.8000e-004	0.0000	1.6721	1.6721	5.0000e-005	5.0000e-005	1.6870
Total	6.9000e-004	4.7000e-004	5.9900e-003	2.0000e-005	2.1300e-003	1.0000e-005	2.1400e-003	5.7000e-004	1.0000e-005	5.8000e-004	0.0000	1.6721	1.6721	5.0000e-005	5.0000e-005	1.6870

3.4 Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1381	0.0000	0.1381	0.0548	0.0000	0.0548	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0498	0.5177	0.4208	9.3000e-004		0.0214	0.0214		0.0197	0.0197	0.0000	81.8028	81.8028	0.0265	0.0000	82.4642
Total	0.0498	0.5177	0.4208	9.3000e-004	0.1381	0.0214	0.1594	0.0548	0.0197	0.0745	0.0000	81.8028	81.8028	0.0265	0.0000	82.4642

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Grading - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.7000e-004	5.3000e-004	6.6500e-003	2.0000e-005	2.3700e-003	1.0000e-005	2.3800e-003	6.3000e-004	1.0000e-005	6.4000e-004	0.0000	1.8579	1.8579	5.0000e-005	5.0000e-005	1.8744
Total	7.7000e-004	5.3000e-004	6.6500e-003	2.0000e-005	2.3700e-003	1.0000e-005	2.3800e-003	6.3000e-004	1.0000e-005	6.4000e-004	0.0000	1.8579	1.8579	5.0000e-005	5.0000e-005	1.8744

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1381	0.0000	0.1381	0.0548	0.0000	0.0548	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0498	0.5177	0.4208	9.3000e-004		0.0214	0.0214		0.0197	0.0197	0.0000	81.8027	81.8027	0.0265	0.0000	82.4641
Total	0.0498	0.5177	0.4208	9.3000e-004	0.1381	0.0214	0.1594	0.0548	0.0197	0.0745	0.0000	81.8027	81.8027	0.0265	0.0000	82.4641

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Grading - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.7000e-004	5.3000e-004	6.6500e-003	2.0000e-005	2.3700e-003	1.0000e-005	2.3800e-003	6.3000e-004	1.0000e-005	6.4000e-004	0.0000	1.8579	1.8579	5.0000e-005	5.0000e-005	1.8744
Total	7.7000e-004	5.3000e-004	6.6500e-003	2.0000e-005	2.3700e-003	1.0000e-005	2.3800e-003	6.3000e-004	1.0000e-005	6.4000e-004	0.0000	1.8579	1.8579	5.0000e-005	5.0000e-005	1.8744

3.5 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	7.7500e-003	0.0764	0.1094	1.7000e-004		3.8300e-003	3.8300e-003		3.5200e-003	3.5200e-003	0.0000	15.0202	15.0202	4.8600e-003	0.0000	15.1416
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	7.7500e-003	0.0764	0.1094	1.7000e-004		3.8300e-003	3.8300e-003		3.5200e-003	3.5200e-003	0.0000	15.0202	15.0202	4.8600e-003	0.0000	15.1416

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Paving - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.9000e-004	2.0000e-004	2.4900e-003	1.0000e-005	8.9000e-004	0.0000	8.9000e-004	2.4000e-004	0.0000	2.4000e-004	0.0000	0.6967	0.6967	2.0000e-005	2.0000e-005	0.7029
Total	2.9000e-004	2.0000e-004	2.4900e-003	1.0000e-005	8.9000e-004	0.0000	8.9000e-004	2.4000e-004	0.0000	2.4000e-004	0.0000	0.6967	0.6967	2.0000e-005	2.0000e-005	0.7029

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	7.7500e-003	0.0764	0.1094	1.7000e-004		3.8300e-003	3.8300e-003		3.5200e-003	3.5200e-003	0.0000	15.0201	15.0201	4.8600e-003	0.0000	15.1416
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	7.7500e-003	0.0764	0.1094	1.7000e-004		3.8300e-003	3.8300e-003		3.5200e-003	3.5200e-003	0.0000	15.0201	15.0201	4.8600e-003	0.0000	15.1416

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Paving - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.9000e-004	2.0000e-004	2.4900e-003	1.0000e-005	8.9000e-004	0.0000	8.9000e-004	2.4000e-004	0.0000	2.4000e-004	0.0000	0.6967	0.6967	2.0000e-005	2.0000e-005	0.7029
Total	2.9000e-004	2.0000e-004	2.4900e-003	1.0000e-005	8.9000e-004	0.0000	8.9000e-004	2.4000e-004	0.0000	2.4000e-004	0.0000	0.6967	0.6967	2.0000e-005	2.0000e-005	0.7029

3.6 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1219	1.1148	1.2589	2.0900e-003		0.0542	0.0542		0.0510	0.0510	0.0000	179.6487	179.6487	0.0427	0.0000	180.7171
Total	0.1219	1.1148	1.2589	2.0900e-003		0.0542	0.0542		0.0510	0.0510	0.0000	179.6487	179.6487	0.0427	0.0000	180.7171

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	6.6000e-004	0.0276	8.6200e-003	1.3000e-004	4.0700e-003	1.6000e-004	4.2300e-003	1.1800e-003	1.5000e-004	1.3300e-003	0.0000	12.2385	12.2385	2.5000e-004	1.8100e-003	12.7843
Worker	5.3600e-003	3.6700e-003	0.0464	1.4000e-004	0.0165	9.0000e-005	0.0166	4.4000e-003	8.0000e-005	4.4800e-003	0.0000	12.9588	12.9588	3.7000e-004	3.6000e-004	13.0741
Total	6.0200e-003	0.0312	0.0550	2.7000e-004	0.0206	2.5000e-004	0.0209	5.5800e-003	2.3000e-004	5.8100e-003	0.0000	25.1974	25.1974	6.2000e-004	2.1700e-003	25.8584

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1219	1.1148	1.2589	2.0900e-003		0.0542	0.0542		0.0510	0.0510	0.0000	179.6485	179.6485	0.0427	0.0000	180.7169
Total	0.1219	1.1148	1.2589	2.0900e-003		0.0542	0.0542		0.0510	0.0510	0.0000	179.6485	179.6485	0.0427	0.0000	180.7169

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Building Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	6.6000e-004	0.0276	8.6200e-003	1.3000e-004	4.0700e-003	1.6000e-004	4.2300e-003	1.1800e-003	1.5000e-004	1.3300e-003	0.0000	12.2385	12.2385	2.5000e-004	1.8100e-003	12.7843
Worker	5.3600e-003	3.6700e-003	0.0464	1.4000e-004	0.0165	9.0000e-005	0.0166	4.4000e-003	8.0000e-005	4.4800e-003	0.0000	12.9588	12.9588	3.7000e-004	3.6000e-004	13.0741
Total	6.0200e-003	0.0312	0.0550	2.7000e-004	0.0206	2.5000e-004	0.0209	5.5800e-003	2.3000e-004	5.8100e-003	0.0000	25.1974	25.1974	6.2000e-004	2.1700e-003	25.8584

3.6 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1928	1.7611	2.1179	3.5300e-003		0.0803	0.0803		0.0756	0.0756	0.0000	303.7223	303.7223	0.0718	0.0000	305.5179
Total	0.1928	1.7611	2.1179	3.5300e-003		0.0803	0.0803		0.0756	0.0756	0.0000	303.7223	303.7223	0.0718	0.0000	305.5179

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Building Construction - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.0800e-003	0.0466	0.0143	2.1000e-004	6.8800e-003	2.7000e-004	7.1500e-003	1.9900e-003	2.6000e-004	2.2500e-003	0.0000	20.3647	20.3647	4.2000e-004	3.0100e-003	21.2728
Worker	8.4700e-003	5.5300e-003	0.0733	2.3000e-004	0.0280	1.4000e-004	0.0281	7.4400e-003	1.3000e-004	7.5600e-003	0.0000	21.3643	21.3643	5.7000e-004	5.6000e-004	21.5455
Total	9.5500e-003	0.0522	0.0876	4.4000e-004	0.0348	4.1000e-004	0.0352	9.4300e-003	3.9000e-004	9.8100e-003	0.0000	41.7290	41.7290	9.9000e-004	3.5700e-003	42.8183

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1928	1.7611	2.1179	3.5300e-003		0.0803	0.0803		0.0756	0.0756	0.0000	303.7220	303.7220	0.0718	0.0000	305.5175
Total	0.1928	1.7611	2.1179	3.5300e-003		0.0803	0.0803		0.0756	0.0756	0.0000	303.7220	303.7220	0.0718	0.0000	305.5175

Machado Lane Property Project - Bay Area AQMD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Building Construction - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.0800e-003	0.0466	0.0143	2.1000e-004	6.8800e-003	2.7000e-004	7.1500e-003	1.9900e-003	2.6000e-004	2.2500e-003	0.0000	20.3647	20.3647	4.2000e-004	3.0100e-003	21.2728
Worker	8.4700e-003	5.5300e-003	0.0733	2.3000e-004	0.0280	1.4000e-004	0.0281	7.4400e-003	1.3000e-004	7.5600e-003	0.0000	21.3643	21.3643	5.7000e-004	5.6000e-004	21.5455
Total	9.5500e-003	0.0522	0.0876	4.4000e-004	0.0348	4.1000e-004	0.0352	9.4300e-003	3.9000e-004	9.8100e-003	0.0000	41.7290	41.7290	9.9000e-004	3.5700e-003	42.8183

3.6 Building Construction - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1251	1.1410	1.4718	2.4700e-003		0.0483	0.0483		0.0454	0.0454	0.0000	212.2063	212.2063	0.0499	0.0000	213.4534
Total	0.1251	1.1410	1.4718	2.4700e-003		0.0483	0.0483		0.0454	0.0454	0.0000	212.2063	212.2063	0.0499	0.0000	213.4534

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Building Construction - 2025

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	7.4000e-004	0.0324	9.7900e-003	1.4000e-004	4.8000e-003	1.9000e-004	4.9900e-003	1.3900e-003	1.8000e-004	1.5700e-003	0.0000	13.9712	13.9712	2.9000e-004	2.0700e-003	14.5940
Worker	5.5700e-003	3.4800e-003	0.0481	1.5000e-004	0.0195	9.0000e-005	0.0196	5.1900e-003	8.0000e-005	5.2800e-003	0.0000	14.5659	14.5659	3.6000e-004	3.7000e-004	14.6842
Total	6.3100e-003	0.0359	0.0579	2.9000e-004	0.0243	2.8000e-004	0.0246	6.5800e-003	2.6000e-004	6.8500e-003	0.0000	28.5371	28.5371	6.5000e-004	2.4400e-003	29.2783

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1251	1.1410	1.4718	2.4700e-003		0.0483	0.0483		0.0454	0.0454	0.0000	212.2061	212.2061	0.0499	0.0000	213.4531
Total	0.1251	1.1410	1.4718	2.4700e-003		0.0483	0.0483		0.0454	0.0454	0.0000	212.2061	212.2061	0.0499	0.0000	213.4531

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Building Construction - 2025

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	7.4000e-004	0.0324	9.7900e-003	1.4000e-004	4.8000e-003	1.9000e-004	4.9900e-003	1.3900e-003	1.8000e-004	1.5700e-003	0.0000	13.9712	13.9712	2.9000e-004	2.0700e-003	14.5940
Worker	5.5700e-003	3.4800e-003	0.0481	1.5000e-004	0.0195	9.0000e-005	0.0196	5.1900e-003	8.0000e-005	5.2800e-003	0.0000	14.5659	14.5659	3.6000e-004	3.7000e-004	14.6842
Total	6.3100e-003	0.0359	0.0579	2.9000e-004	0.0243	2.8000e-004	0.0246	6.5800e-003	2.6000e-004	6.8500e-003	0.0000	28.5371	28.5371	6.5000e-004	2.4400e-003	29.2783

3.7 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.2327					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0139	0.0945	0.1313	2.2000e-004		5.1300e-003	5.1300e-003		5.1300e-003	5.1300e-003	0.0000	18.5111	18.5111	1.1100e-003	0.0000	18.5388
Total	0.2466	0.0945	0.1313	2.2000e-004		5.1300e-003	5.1300e-003		5.1300e-003	5.1300e-003	0.0000	18.5111	18.5111	1.1100e-003	0.0000	18.5388

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Architectural Coating - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.3000e-004	6.4000e-004	8.0400e-003	2.0000e-005	2.8600e-003	1.0000e-005	2.8800e-003	7.6000e-004	1.0000e-005	7.8000e-004	0.0000	2.2450	2.2450	6.0000e-005	6.0000e-005	2.2649
Total	9.3000e-004	6.4000e-004	8.0400e-003	2.0000e-005	2.8600e-003	1.0000e-005	2.8800e-003	7.6000e-004	1.0000e-005	7.8000e-004	0.0000	2.2450	2.2450	6.0000e-005	6.0000e-005	2.2649

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.2327					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0139	0.0945	0.1313	2.2000e-004		5.1300e-003	5.1300e-003		5.1300e-003	5.1300e-003	0.0000	18.5111	18.5111	1.1100e-003	0.0000	18.5388
Total	0.2466	0.0945	0.1313	2.2000e-004		5.1300e-003	5.1300e-003		5.1300e-003	5.1300e-003	0.0000	18.5111	18.5111	1.1100e-003	0.0000	18.5388

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Architectural Coating - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.3000e-004	6.4000e-004	8.0400e-003	2.0000e-005	2.8600e-003	1.0000e-005	2.8800e-003	7.6000e-004	1.0000e-005	7.8000e-004	0.0000	2.2450	2.2450	6.0000e-005	6.0000e-005	2.2649
Total	9.3000e-004	6.4000e-004	8.0400e-003	2.0000e-005	2.8600e-003	1.0000e-005	2.8800e-003	7.6000e-004	1.0000e-005	7.8000e-004	0.0000	2.2450	2.2450	6.0000e-005	6.0000e-005	2.2649

3.7 Architectural Coating - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.4205					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0237	0.1597	0.2371	3.9000e-004		7.9800e-003	7.9800e-003		7.9800e-003	7.9800e-003	0.0000	33.4476	33.4476	1.8800e-003	0.0000	33.4947
Total	0.4442	0.1597	0.2371	3.9000e-004		7.9800e-003	7.9800e-003		7.9800e-003	7.9800e-003	0.0000	33.4476	33.4476	1.8800e-003	0.0000	33.4947

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Architectural Coating - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.5700e-003	1.0200e-003	0.0136	4.0000e-005	5.1800e-003	3.0000e-005	5.2000e-003	1.3800e-003	2.0000e-005	1.4000e-003	0.0000	3.9564	3.9564	1.1000e-004	1.0000e-004	3.9899
Total	1.5700e-003	1.0200e-003	0.0136	4.0000e-005	5.1800e-003	3.0000e-005	5.2000e-003	1.3800e-003	2.0000e-005	1.4000e-003	0.0000	3.9564	3.9564	1.1000e-004	1.0000e-004	3.9899

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.4205					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0237	0.1597	0.2371	3.9000e-004		7.9800e-003	7.9800e-003		7.9800e-003	7.9800e-003	0.0000	33.4476	33.4476	1.8800e-003	0.0000	33.4947
Total	0.4442	0.1597	0.2371	3.9000e-004		7.9800e-003	7.9800e-003		7.9800e-003	7.9800e-003	0.0000	33.4476	33.4476	1.8800e-003	0.0000	33.4947

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Architectural Coating - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.5700e-003	1.0200e-003	0.0136	4.0000e-005	5.1800e-003	3.0000e-005	5.2000e-003	1.3800e-003	2.0000e-005	1.4000e-003	0.0000	3.9564	3.9564	1.1000e-004	1.0000e-004	3.9899
Total	1.5700e-003	1.0200e-003	0.0136	4.0000e-005	5.1800e-003	3.0000e-005	5.2000e-003	1.3800e-003	2.0000e-005	1.4000e-003	0.0000	3.9564	3.9564	1.1000e-004	1.0000e-004	3.9899

3.7 Architectural Coating - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.3098					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0165	0.1105	0.1746	2.9000e-004		4.9700e-003	4.9700e-003		4.9700e-003	4.9700e-003	0.0000	24.6389	24.6389	1.3400e-003	0.0000	24.6725
Total	0.3263	0.1105	0.1746	2.9000e-004		4.9700e-003	4.9700e-003		4.9700e-003	4.9700e-003	0.0000	24.6389	24.6389	1.3400e-003	0.0000	24.6725

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Architectural Coating - 2025

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0900e-003	6.8000e-004	9.3900e-003	3.0000e-005	3.8100e-003	2.0000e-005	3.8300e-003	1.0100e-003	2.0000e-005	1.0300e-003	0.0000	2.8448	2.8448	7.0000e-005	7.0000e-005	2.8679
Total	1.0900e-003	6.8000e-004	9.3900e-003	3.0000e-005	3.8100e-003	2.0000e-005	3.8300e-003	1.0100e-003	2.0000e-005	1.0300e-003	0.0000	2.8448	2.8448	7.0000e-005	7.0000e-005	2.8679

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.3098					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0165	0.1105	0.1746	2.9000e-004		4.9700e-003	4.9700e-003		4.9700e-003	4.9700e-003	0.0000	24.6389	24.6389	1.3400e-003	0.0000	24.6725
Total	0.3263	0.1105	0.1746	2.9000e-004		4.9700e-003	4.9700e-003		4.9700e-003	4.9700e-003	0.0000	24.6389	24.6389	1.3400e-003	0.0000	24.6725

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Architectural Coating - 2025

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	tons/yr										MT/yr						
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0900e-003	6.8000e-004	9.3900e-003	3.0000e-005	3.8100e-003	2.0000e-005	3.8300e-003	1.0100e-003	2.0000e-005	1.0300e-003	0.0000	2.8448	2.8448	7.0000e-005	7.0000e-005	2.8679	
Total	1.0900e-003	6.8000e-004	9.3900e-003	3.0000e-005	3.8100e-003	2.0000e-005	3.8300e-003	1.0100e-003	2.0000e-005	1.0300e-003	0.0000	2.8448	2.8448	7.0000e-005	7.0000e-005	2.8679	

Machado Lane Property Project - Bay Area AQMD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.2860	0.3175	2.6571	5.5100e-003	0.6101	4.0900e-003	0.6142	0.1630	3.8100e-003	0.1668	0.0000	521.4503	521.4503	0.0339	0.0249	529.7303
Unmitigated	0.2860	0.3175	2.6571	5.5100e-003	0.6101	4.0900e-003	0.6142	0.1630	3.8100e-003	0.1668	0.0000	521.4503	521.4503	0.0339	0.0249	529.7303

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Single Family Housing	716.68	716.68	716.68	1,655,249	1,655,249
Total	716.68	716.68	716.68	1,655,249	1,655,249

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Single Family Housing	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Single Family Housing	0.553839	0.058700	0.188468	0.120786	0.022796	0.005663	0.010629	0.007566	0.000983	0.000556	0.026354	0.000841	0.002820

Machado Lane Property Project - Bay Area AQMD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	55.0817	55.0817	8.9100e-003	1.0800e-003	55.6264
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	55.0817	55.0817	8.9100e-003	1.0800e-003	55.6264
NaturalGas Mitigated	0.0109	0.0933	0.0397	6.0000e-004		7.5400e-003	7.5400e-003		7.5400e-003	7.5400e-003	0.0000	108.0001	108.0001	2.0700e-003	1.9800e-003	108.6419
NaturalGas Unmitigated	0.0109	0.0933	0.0397	6.0000e-004		7.5400e-003	7.5400e-003		7.5400e-003	7.5400e-003	0.0000	108.0001	108.0001	2.0700e-003	1.9800e-003	108.6419

Machado Lane Property Project - Bay Area AQMD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Single Family Housing	2.02385e+006	0.0109	0.0933	0.0397	6.0000e-004		7.5400e-003	7.5400e-003		7.5400e-003	7.5400e-003	0.0000	108.0001	108.0001	2.0700e-003	1.9800e-003	108.6419
Total		0.0109	0.0933	0.0397	6.0000e-004		7.5400e-003	7.5400e-003		7.5400e-003	7.5400e-003	0.0000	108.0001	108.0001	2.0700e-003	1.9800e-003	108.6419

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Single Family Housing	2.02385e+006	0.0109	0.0933	0.0397	6.0000e-004		7.5400e-003	7.5400e-003		7.5400e-003	7.5400e-003	0.0000	108.0001	108.0001	2.0700e-003	1.9800e-003	108.6419
Total		0.0109	0.0933	0.0397	6.0000e-004		7.5400e-003	7.5400e-003		7.5400e-003	7.5400e-003	0.0000	108.0001	108.0001	2.0700e-003	1.9800e-003	108.6419

Machado Lane Property Project - Bay Area AQMD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	595325	55.0817	8.9100e-003	1.0800e-003	55.6264
Total		55.0817	8.9100e-003	1.0800e-003	55.6264

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	595325	55.0817	8.9100e-003	1.0800e-003	55.6264
Total		55.0817	8.9100e-003	1.0800e-003	55.6264

6.0 Area Detail

6.1 Mitigation Measures Area

Use only Natural Gas Hearths

Machado Lane Property Project - Bay Area AQMD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.6482	0.0121	0.5661	7.0000e-005		3.5800e-003	3.5800e-003		3.5800e-003	3.5800e-003	0.0000	7.3735	7.3735	1.0100e-003	1.2000e-004	7.4339
Unmitigated	1.0954	0.0163	1.2151	1.3700e-003		0.0971	0.0971		0.0971	0.0971	9.6604	3.2937	12.9542	0.0191	5.5000e-004	13.5971

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0963					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.5343					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.4479	9.8200e-003	0.6514	1.3400e-003		0.0939	0.0939		0.0939	0.0939	9.6604	2.3720	12.0324	0.0183	5.5000e-004	12.6533
Landscaping	0.0169	6.4900e-003	0.5638	3.0000e-005		3.1300e-003	3.1300e-003		3.1300e-003	3.1300e-003	0.0000	0.9218	0.9218	8.8000e-004	0.0000	0.9439
Total	1.0954	0.0163	1.2151	1.3700e-003		0.0971	0.0971		0.0971	0.0971	9.6604	3.2937	12.9542	0.0191	5.5000e-004	13.5971

Machado Lane Property Project - Bay Area AQMD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0963					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.5343					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	6.5000e-004	5.5700e-003	2.3700e-003	4.0000e-005		4.5000e-004	4.5000e-004		4.5000e-004	4.5000e-004	0.0000	6.4517	6.4517	1.2000e-004	1.2000e-004	6.4900
Landscaping	0.0169	6.4900e-003	0.5638	3.0000e-005		3.1300e-003	3.1300e-003		3.1300e-003	3.1300e-003	0.0000	0.9218	0.9218	8.8000e-004	0.0000	0.9439
Total	0.6482	0.0121	0.5661	7.0000e-005		3.5800e-003	3.5800e-003		3.5800e-003	3.5800e-003	0.0000	7.3735	7.3735	1.0000e-003	1.2000e-004	7.4339

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

Machado Lane Property Project - Bay Area AQMD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	4.8587	0.1619	3.8700e-003	10.0604
Unmitigated	5.0609	0.1619	3.8800e-003	10.2646

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	4.95171 / 3.12173	5.0609	0.1619	3.8800e-003	10.2646
Total		5.0609	0.1619	3.8800e-003	10.2646

Machado Lane Property Project - Bay Area AQMD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	4.95171 / 2.49738	4.8587	0.1619	3.8700e-003	10.0604
Total		4.8587	0.1619	3.8700e-003	10.0604

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	18.5006	1.0934	0.0000	45.8344
Unmitigated	18.5006	1.0934	0.0000	45.8344

Machado Lane Property Project - Bay Area AQMD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	91.14	18.5006	1.0934	0.0000	45.8344
Total		18.5006	1.0934	0.0000	45.8344

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	91.14	18.5006	1.0934	0.0000	45.8344
Total		18.5006	1.0934	0.0000	45.8344

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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Machado Lane Property Project - Bay Area AQMD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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User Defined Equipment

Equipment Type	Number
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11.0 Vegetation

Machado Lane Property Project - Bay Area AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

**Machado Lane Property Project
Bay Area AQMD Air District, Summer**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	76.00	Dwelling Unit	20.10	136,800.00	217

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	64
Climate Zone	4			Operational Year	2025
Utility Company	Pacific Gas and Electric Company				
CO2 Intensity (lb/MWhr)	203.98	CH4 Intensity (lb/MWhr)	0.033	N2O Intensity (lb/MWhr)	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Lot acreage adjusted to match site plan.

Construction Phase - Construction phase timing adjusted based on AQ Questionnaire.

Demolition -

Grading -

Mobile Land Use Mitigation -

Area Mitigation - Per AQ Questionnaire, only natural gas hearths would be installed

Energy Mitigation -

Water Mitigation - Outdoor water conservation strategy applied to reflect compliance with MWELO.

Vehicle Trips - Trip generation rate adjusted per project-specific TIA prepared by TJKM (June 2022).

Machado Lane Property Project - Bay Area AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	600.00
tblConstructionPhase	NumDays	370.00	600.00
tblConstructionPhase	NumDays	20.00	30.00
tblConstructionPhase	NumDays	35.00	30.00
tblConstructionPhase	NumDays	20.00	15.00
tblConstructionPhase	NumDays	10.00	30.00
tblLandUse	LotAcreage	24.68	20.10
tblVehicleTrips	ST_TR	9.54	9.43
tblVehicleTrips	SU_TR	8.55	9.43
tblVehicleTrips	WD_TR	9.44	9.43

2.0 Emissions Summary

Machado Lane Property Project - Bay Area AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2023	5.0696	34.5467	28.5293	0.0635	19.8049	1.4253	21.0716	10.1417	1.3113	11.3071	0.0000	6,157.2467	6,157.2467	1.9479	0.0313	6,206.9750
2024	4.9516	15.0503	18.7972	0.0337	0.3171	0.6776	0.9946	0.0853	0.6410	0.7263	0.0000	3,235.8460	3,235.8460	0.6291	0.0305	3,260.6531
2025	4.8324	13.9972	18.6673	0.0336	0.3171	0.5824	0.8994	0.0853	0.5509	0.6362	0.0000	3,228.1104	3,228.1104	0.6246	0.0297	3,252.5739
Maximum	5.0696	34.5467	28.5293	0.0635	19.8049	1.4253	21.0716	10.1417	1.3113	11.3071	0.0000	6,157.2467	6,157.2467	1.9479	0.0313	6,206.9750

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2023	5.0696	34.5467	28.5293	0.0635	19.8049	1.4253	21.0716	10.1417	1.3113	11.3071	0.0000	6,157.2467	6,157.2467	1.9479	0.0313	6,206.9750
2024	4.9516	15.0503	18.7972	0.0337	0.3171	0.6776	0.9946	0.0853	0.6410	0.7263	0.0000	3,235.8460	3,235.8460	0.6291	0.0305	3,260.6531
2025	4.8324	13.9972	18.6673	0.0336	0.3171	0.5824	0.8994	0.0853	0.5509	0.6362	0.0000	3,228.1104	3,228.1104	0.6246	0.0297	3,252.5739
Maximum	5.0696	34.5467	28.5293	0.0635	19.8049	1.4253	21.0716	10.1417	1.3113	11.3071	0.0000	6,157.2467	6,157.2467	1.9479	0.0313	6,206.9750

Machado Lane Property Project - Bay Area AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	82.4034	1.5887	108.1261	0.1922		14.4385	14.4385		14.4385	14.4385	1,548.7537	480.7017	2,029.4555	1.9258	0.1093	2,110.1671
Energy	0.0598	0.5110	0.2174	3.2600e-003		0.0413	0.0413		0.0413	0.0413		652.3272	652.3272	0.0125	0.0120	656.2036
Mobile	1.7526	1.6051	14.5102	0.0319	3.4841	0.0225	3.5066	0.9280	0.0209	0.9489		3,328.2325	3,328.2325	0.1921	0.1434	3,375.7713
Total	84.2158	3.7048	122.8538	0.2273	3.4841	14.5023	17.9864	0.9280	14.5008	15.4288	1,548.7537	4,461.2614	6,010.0151	2.1304	0.2647	6,142.1420

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	3.7603	1.0723	6.6898	6.7200e-003		0.1156	0.1156		0.1156	0.1156	0.0000	1,288.0900	1,288.0900	0.0353	0.0234	1,295.9477
Energy	0.0598	0.5110	0.2174	3.2600e-003		0.0413	0.0413		0.0413	0.0413		652.3272	652.3272	0.0125	0.0120	656.2036
Mobile	1.7526	1.6051	14.5102	0.0319	3.4841	0.0225	3.5066	0.9280	0.0209	0.9489		3,328.2325	3,328.2325	0.1921	0.1434	3,375.7713
Total	5.5727	3.1884	21.4174	0.0419	3.4841	0.1794	3.6635	0.9280	0.1779	1.1058	0.0000	5,268.6496	5,268.6496	0.2399	0.1788	5,327.9225

Machado Lane Property Project - Bay Area AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	93.38	13.94	82.57	81.57	0.00	98.76	79.63	0.00	98.77	92.83	100.00	-18.10	12.34	88.74	32.45	13.26

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2023	2/10/2023	5	30	
2	Site Preparation	Site Preparation	2/11/2023	3/24/2023	5	30	
3	Grading	Grading	3/25/2023	5/5/2023	5	30	
4	Paving	Paving	5/6/2023	5/26/2023	5	15	
5	Building Construction	Building Construction	5/27/2023	9/12/2025	5	600	
6	Architectural Coating	Architectural Coating	6/10/2023	9/26/2025	5	600	

Acres of Grading (Site Preparation Phase): 45

Acres of Grading (Grading Phase): 90

Acres of Paving: 0

Residential Indoor: 277,020; Residential Outdoor: 92,340; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37

Machado Lane Property Project - Bay Area AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	18.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	27.00	8.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	5.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Machado Lane Property Project - Bay Area AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Demolition - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.1313	0.0000	0.1313	0.0199	0.0000	0.0199			0.0000			0.0000
Off-Road	2.2691	21.4844	19.6434	0.0388		0.9975	0.9975		0.9280	0.9280		3,746.9840	3,746.9840	1.0494		3,773.2183
Total	2.2691	21.4844	19.6434	0.0388	0.1313	0.9975	1.1288	0.0199	0.9280	0.9479		3,746.9840	3,746.9840	1.0494		3,773.2183

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.2800e-003	0.0784	0.0190	3.6000e-004	0.0105	6.6000e-004	0.0112	2.8800e-003	6.3000e-004	3.5100e-003		39.4555	39.4555	1.3000e-003	6.2500e-003	41.3512
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0406	0.0233	0.3586	1.0700e-003	0.1232	6.1000e-004	0.1238	0.0327	5.6000e-004	0.0333		109.3267	109.3267	2.7600e-003	2.5900e-003	110.1686
Total	0.0419	0.1017	0.3776	1.4300e-003	0.1337	1.2700e-003	0.1350	0.0356	1.1900e-003	0.0368		148.7823	148.7823	4.0600e-003	8.8400e-003	151.5197

Machado Lane Property Project - Bay Area AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Demolition - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.1313	0.0000	0.1313	0.0199	0.0000	0.0199			0.0000			0.0000
Off-Road	2.2691	21.4844	19.6434	0.0388		0.9975	0.9975		0.9280	0.9280	0.0000	3,746.9840	3,746.9840	1.0494		3,773.2183
Total	2.2691	21.4844	19.6434	0.0388	0.1313	0.9975	1.1288	0.0199	0.9280	0.9479	0.0000	3,746.9840	3,746.9840	1.0494		3,773.2183

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.2800e-003	0.0784	0.0190	3.6000e-004	0.0105	6.6000e-004	0.0112	2.8800e-003	6.3000e-004	3.5100e-003		39.4555	39.4555	1.3000e-003	6.2500e-003	41.3512
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0406	0.0233	0.3586	1.0700e-003	0.1232	6.1000e-004	0.1238	0.0327	5.6000e-004	0.0333		109.3267	109.3267	2.7600e-003	2.5900e-003	110.1686
Total	0.0419	0.1017	0.3776	1.4300e-003	0.1337	1.2700e-003	0.1350	0.0356	1.1900e-003	0.0368		148.7823	148.7823	4.0600e-003	8.8400e-003	151.5197

Machado Lane Property Project - Bay Area AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Site Preparation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					19.6570	0.0000	19.6570	10.1025	0.0000	10.1025			0.0000			0.0000
Off-Road	2.6595	27.5242	18.2443	0.0381		1.2660	1.2660		1.1647	1.1647		3,687.308 1	3,687.308 1	1.1926		3,717.121 9
Total	2.6595	27.5242	18.2443	0.0381	19.6570	1.2660	20.9230	10.1025	1.1647	11.2672		3,687.308 1	3,687.308 1	1.1926		3,717.121 9

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0487	0.0280	0.4303	1.2800e-003	0.1479	7.3000e-004	0.1486	0.0392	6.8000e-004	0.0399		131.1921	131.1921	3.3100e-003	3.1100e-003	132.2023
Total	0.0487	0.0280	0.4303	1.2800e-003	0.1479	7.3000e-004	0.1486	0.0392	6.8000e-004	0.0399		131.1921	131.1921	3.3100e-003	3.1100e-003	132.2023

Machado Lane Property Project - Bay Area AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Site Preparation - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					19.6570	0.0000	19.6570	10.1025	0.0000	10.1025			0.0000			0.0000
Off-Road	2.6595	27.5242	18.2443	0.0381		1.2660	1.2660		1.1647	1.1647	0.0000	3,687.308 1	3,687.308 1	1.1926		3,717.121 9
Total	2.6595	27.5242	18.2443	0.0381	19.6570	1.2660	20.9230	10.1025	1.1647	11.2672	0.0000	3,687.308 1	3,687.308 1	1.1926		3,717.121 9

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0487	0.0280	0.4303	1.2800e-003	0.1479	7.3000e-004	0.1486	0.0392	6.8000e-004	0.0399		131.1921	131.1921	3.3100e-003	3.1100e-003	132.2023
Total	0.0487	0.0280	0.4303	1.2800e-003	0.1479	7.3000e-004	0.1486	0.0392	6.8000e-004	0.0399		131.1921	131.1921	3.3100e-003	3.1100e-003	132.2023

Machado Lane Property Project - Bay Area AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					9.2036	0.0000	9.2036	3.6538	0.0000	3.6538			0.0000			0.0000
Off-Road	3.3217	34.5156	28.0512	0.0621		1.4245	1.4245		1.3105	1.3105		6,011.4777	6,011.4777	1.9442		6,060.0836
Total	3.3217	34.5156	28.0512	0.0621	9.2036	1.4245	10.6281	3.6538	1.3105	4.9643		6,011.4777	6,011.4777	1.9442		6,060.0836

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0541	0.0311	0.4781	1.4200e-003	0.1643	8.1000e-004	0.1651	0.0436	7.5000e-004	0.0443		145.7690	145.7690	3.6800e-003	3.4600e-003	146.8915
Total	0.0541	0.0311	0.4781	1.4200e-003	0.1643	8.1000e-004	0.1651	0.0436	7.5000e-004	0.0443		145.7690	145.7690	3.6800e-003	3.4600e-003	146.8915

Machado Lane Property Project - Bay Area AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Grading - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					9.2036	0.0000	9.2036	3.6538	0.0000	3.6538			0.0000			0.0000
Off-Road	3.3217	34.5156	28.0512	0.0621		1.4245	1.4245		1.3105	1.3105	0.0000	6,011.4777	6,011.4777	1.9442		6,060.0836
Total	3.3217	34.5156	28.0512	0.0621	9.2036	1.4245	10.6281	3.6538	1.3105	4.9643	0.0000	6,011.4777	6,011.4777	1.9442		6,060.0836

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0541	0.0311	0.4781	1.4200e-003	0.1643	8.1000e-004	0.1651	0.0436	7.5000e-004	0.0443		145.7690	145.7690	3.6800e-003	3.4600e-003	146.8915
Total	0.0541	0.0311	0.4781	1.4200e-003	0.1643	8.1000e-004	0.1651	0.0436	7.5000e-004	0.0443		145.7690	145.7690	3.6800e-003	3.4600e-003	146.8915

Machado Lane Property Project - Bay Area AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694		2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694		2,207.5841	2,207.5841	0.7140		2,225.4336

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0406	0.0233	0.3586	1.0700e-003	0.1232	6.1000e-004	0.1238	0.0327	5.6000e-004	0.0333		109.3267	109.3267	2.7600e-003	2.5900e-003	110.1686
Total	0.0406	0.0233	0.3586	1.0700e-003	0.1232	6.1000e-004	0.1238	0.0327	5.6000e-004	0.0333		109.3267	109.3267	2.7600e-003	2.5900e-003	110.1686

Machado Lane Property Project - Bay Area AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Paving - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694	0.0000	2,207.584 1	2,207.584 1	0.7140		2,225.433 6
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694	0.0000	2,207.584 1	2,207.584 1	0.7140		2,225.433 6

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0406	0.0233	0.3586	1.0700e-003	0.1232	6.1000e-004	0.1238	0.0327	5.6000e-004	0.0333		109.3267	109.3267	2.7600e-003	2.5900e-003	110.1686
Total	0.0406	0.0233	0.3586	1.0700e-003	0.1232	6.1000e-004	0.1238	0.0327	5.6000e-004	0.0333		109.3267	109.3267	2.7600e-003	2.5900e-003	110.1686

Machado Lane Property Project - Bay Area AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.2099	2,555.2099	0.6079		2,570.4061
Total	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.2099	2,555.2099	0.6079		2,570.4061

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.7000e-003	0.3431	0.1096	1.6200e-003	0.0542	2.0800e-003	0.0563	0.0156	1.9900e-003	0.0176		173.9688	173.9688	3.5600e-003	0.0257	181.7218
Worker	0.0730	0.0420	0.6454	1.9200e-003	0.2218	1.1000e-003	0.2229	0.0588	1.0100e-003	0.0598		196.7881	196.7881	4.9600e-003	4.6700e-003	198.3035
Total	0.0817	0.3851	0.7550	3.5400e-003	0.2760	3.1800e-003	0.2792	0.0744	3.0000e-003	0.0774		370.7570	370.7570	8.5200e-003	0.0304	380.0253

Machado Lane Property Project - Bay Area AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Building Construction - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584	0.0000	2,555.2099	2,555.2099	0.6079		2,570.4061
Total	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584	0.0000	2,555.2099	2,555.2099	0.6079		2,570.4061

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.7000e-003	0.3431	0.1096	1.6200e-003	0.0542	2.0800e-003	0.0563	0.0156	1.9900e-003	0.0176		173.9688	173.9688	3.5600e-003	0.0257	181.7218
Worker	0.0730	0.0420	0.6454	1.9200e-003	0.2218	1.1000e-003	0.2229	0.0588	1.0100e-003	0.0598		196.7881	196.7881	4.9600e-003	4.6700e-003	198.3035
Total	0.0817	0.3851	0.7550	3.5400e-003	0.2760	3.1800e-003	0.2792	0.0744	3.0000e-003	0.0774		370.7570	370.7570	8.5200e-003	0.0304	380.0253

Machado Lane Property Project - Bay Area AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769		2,555.6989	2,555.6989	0.6044		2,570.8077
Total	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769		2,555.6989	2,555.6989	0.6044		2,570.8077

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.4600e-003	0.3433	0.1072	1.6000e-003	0.0542	2.1000e-003	0.0563	0.0156	2.0000e-003	0.0176		171.2555	171.2555	3.5400e-003	0.0253	178.8876
Worker	0.0682	0.0375	0.6016	1.8600e-003	0.2218	1.0500e-003	0.2229	0.0588	9.6000e-004	0.0598		191.9055	191.9055	4.4900e-003	4.3500e-003	193.3146
Total	0.0767	0.3808	0.7088	3.4600e-003	0.2760	3.1500e-003	0.2791	0.0744	2.9600e-003	0.0774		363.1610	363.1610	8.0300e-003	0.0297	372.2022

Machado Lane Property Project - Bay Area AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Building Construction - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769	0.0000	2,555.6989	2,555.6989	0.6044		2,570.8077
Total	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769	0.0000	2,555.6989	2,555.6989	0.6044		2,570.8077

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.4600e-003	0.3433	0.1072	1.6000e-003	0.0542	2.1000e-003	0.0563	0.0156	2.0000e-003	0.0176		171.2555	171.2555	3.5400e-003	0.0253	178.8876
Worker	0.0682	0.0375	0.6016	1.8600e-003	0.2218	1.0500e-003	0.2229	0.0588	9.6000e-004	0.0598		191.9055	191.9055	4.4900e-003	4.3500e-003	193.3146
Total	0.0767	0.3808	0.7088	3.4600e-003	0.2760	3.1500e-003	0.2791	0.0744	2.9600e-003	0.0774		363.1610	363.1610	8.0300e-003	0.0297	372.2022

Machado Lane Property Project - Bay Area AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Building Construction - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.474 4	2,556.474 4	0.6010		2,571.498 1
Total	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.474 4	2,556.474 4	0.6010		2,571.498 1

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.2500e-003	0.3420	0.1053	1.5700e-003	0.0542	2.0900e-003	0.0563	0.0156	2.0000e-003	0.0176		168.2077	168.2077	3.5200e-003	0.0249	175.7020
Worker	0.0641	0.0338	0.5638	1.8000e-003	0.2218	1.0000e-003	0.2228	0.0588	9.2000e-004	0.0598		187.2959	187.2959	4.0700e-003	4.0800e-003	188.6135
Total	0.0723	0.3758	0.6691	3.3700e-003	0.2760	3.0900e-003	0.2791	0.0744	2.9200e-003	0.0774		355.5036	355.5036	7.5900e-003	0.0289	364.3155

Machado Lane Property Project - Bay Area AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Building Construction - 2025

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963	0.0000	2,556.474 4	2,556.474 4	0.6010		2,571.498 1
Total	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963	0.0000	2,556.474 4	2,556.474 4	0.6010		2,571.498 1

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.2500e-003	0.3420	0.1053	1.5700e-003	0.0542	2.0900e-003	0.0563	0.0156	2.0000e-003	0.0176		168.2077	168.2077	3.5200e-003	0.0249	175.7020
Worker	0.0641	0.0338	0.5638	1.8000e-003	0.2218	1.0000e-003	0.2228	0.0588	9.2000e-004	0.0598		187.2959	187.2959	4.0700e-003	4.0800e-003	188.6135
Total	0.0723	0.3758	0.6691	3.3700e-003	0.2760	3.0900e-003	0.2791	0.0744	2.9200e-003	0.0774		355.5036	355.5036	7.5900e-003	0.0289	364.3155

Machado Lane Property Project - Bay Area AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	3.2100					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708		281.4481	281.4481	0.0168		281.8690
Total	3.4016	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708		281.4481	281.4481	0.0168		281.8690

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0135	7.7700e-003	0.1195	3.6000e-004	0.0411	2.0000e-004	0.0413	0.0109	1.9000e-004	0.0111		36.4423	36.4423	9.2000e-004	8.6000e-004	36.7229
Total	0.0135	7.7700e-003	0.1195	3.6000e-004	0.0411	2.0000e-004	0.0413	0.0109	1.9000e-004	0.0111		36.4423	36.4423	9.2000e-004	8.6000e-004	36.7229

Machado Lane Property Project - Bay Area AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Architectural Coating - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	3.2100					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708	0.0000	281.4481	281.4481	0.0168		281.8690
Total	3.4016	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708	0.0000	281.4481	281.4481	0.0168		281.8690

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0135	7.7700e-003	0.1195	3.6000e-004	0.0411	2.0000e-004	0.0413	0.0109	1.9000e-004	0.0111		36.4423	36.4423	9.2000e-004	8.6000e-004	36.7229
Total	0.0135	7.7700e-003	0.1195	3.6000e-004	0.0411	2.0000e-004	0.0413	0.0109	1.9000e-004	0.0111		36.4423	36.4423	9.2000e-004	8.6000e-004	36.7229

Machado Lane Property Project - Bay Area AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Architectural Coating - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	3.2100					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609		281.4481	281.4481	0.0159		281.8443
Total	3.3907	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609		281.4481	281.4481	0.0159		281.8443

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0126	6.9400e-003	0.1114	3.4000e-004	0.0411	1.9000e-004	0.0413	0.0109	1.8000e-004	0.0111		35.5381	35.5381	8.3000e-004	8.1000e-004	35.7990
Total	0.0126	6.9400e-003	0.1114	3.4000e-004	0.0411	1.9000e-004	0.0413	0.0109	1.8000e-004	0.0111		35.5381	35.5381	8.3000e-004	8.1000e-004	35.7990

Machado Lane Property Project - Bay Area AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Architectural Coating - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	3.2100					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609	0.0000	281.4481	281.4481	0.0159		281.8443
Total	3.3907	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609	0.0000	281.4481	281.4481	0.0159		281.8443

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0126	6.9400e-003	0.1114	3.4000e-004	0.0411	1.9000e-004	0.0413	0.0109	1.8000e-004	0.0111		35.5381	35.5381	8.3000e-004	8.1000e-004	35.7990
Total	0.0126	6.9400e-003	0.1114	3.4000e-004	0.0411	1.9000e-004	0.0413	0.0109	1.8000e-004	0.0111		35.5381	35.5381	8.3000e-004	8.1000e-004	35.7990

Machado Lane Property Project - Bay Area AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Architectural Coating - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	3.2100					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515		281.4481	281.4481	0.0154		281.8319
Total	3.3808	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515		281.4481	281.4481	0.0154		281.8319

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0119	6.2500e-003	0.1044	3.3000e-004	0.0411	1.9000e-004	0.0413	0.0109	1.7000e-004	0.0111		34.6844	34.6844	7.5000e-004	7.6000e-004	34.9284
Total	0.0119	6.2500e-003	0.1044	3.3000e-004	0.0411	1.9000e-004	0.0413	0.0109	1.7000e-004	0.0111		34.6844	34.6844	7.5000e-004	7.6000e-004	34.9284

Machado Lane Property Project - Bay Area AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Architectural Coating - 2025

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	3.2100					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515	0.0000	281.4481	281.4481	0.0154		281.8319
Total	3.3808	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515	0.0000	281.4481	281.4481	0.0154		281.8319

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0119	6.2500e-003	0.1044	3.3000e-004	0.0411	1.9000e-004	0.0413	0.0109	1.7000e-004	0.0111		34.6844	34.6844	7.5000e-004	7.6000e-004	34.9284
Total	0.0119	6.2500e-003	0.1044	3.3000e-004	0.0411	1.9000e-004	0.0413	0.0109	1.7000e-004	0.0111		34.6844	34.6844	7.5000e-004	7.6000e-004	34.9284

Machado Lane Property Project - Bay Area AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.7526	1.6051	14.5102	0.0319	3.4841	0.0225	3.5066	0.9280	0.0209	0.9489		3,328,232 5	3,328,232 5	0.1921	0.1434	3,375,771 3
Unmitigated	1.7526	1.6051	14.5102	0.0319	3.4841	0.0225	3.5066	0.9280	0.0209	0.9489		3,328,232 5	3,328,232 5	0.1921	0.1434	3,375,771 3

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Single Family Housing	716.68	716.68	716.68	1,655,249	1,655,249
Total	716.68	716.68	716.68	1,655,249	1,655,249

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Single Family Housing	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Single Family Housing	0.553839	0.058700	0.188468	0.120786	0.022796	0.005663	0.010629	0.007566	0.000983	0.000556	0.026354	0.000841	0.002820

Machado Lane Property Project - Bay Area AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0598	0.5110	0.2174	3.2600e-003		0.0413	0.0413		0.0413	0.0413		652.3272	652.3272	0.0125	0.0120	656.2036
NaturalGas Unmitigated	0.0598	0.5110	0.2174	3.2600e-003		0.0413	0.0413		0.0413	0.0413		652.3272	652.3272	0.0125	0.0120	656.2036

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Single Family Housing	5544.78	0.0598	0.5110	0.2174	3.2600e-003		0.0413	0.0413		0.0413	0.0413		652.3272	652.3272	0.0125	0.0120	656.2036
Total		0.0598	0.5110	0.2174	3.2600e-003		0.0413	0.0413		0.0413	0.0413		652.3272	652.3272	0.0125	0.0120	656.2036

Machado Lane Property Project - Bay Area AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - Natural Gas

Mitigated

	Natural Gas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Single Family Housing	5.54478	0.0598	0.5110	0.2174	3.2600e-003		0.0413	0.0413		0.0413	0.0413		652.3272	652.3272	0.0125	0.0120	656.2036
Total		0.0598	0.5110	0.2174	3.2600e-003		0.0413	0.0413		0.0413	0.0413		652.3272	652.3272	0.0125	0.0120	656.2036

6.0 Area Detail

6.1 Mitigation Measures Area

Use only Natural Gas Hearths

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	3.7603	1.0723	6.6898	6.7200e-003		0.1156	0.1156		0.1156	0.1156	0.0000	1,288.0900	1,288.0900	0.0353	0.0234	1,295.9477
Unmitigated	82.4034	1.5887	108.1261	0.1922		14.4385	14.4385		14.4385	14.4385	1,548.7537	480.7017	2,029.4555	1.9258	0.1093	2,110.1671

Machado Lane Property Project - Bay Area AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.5277					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.9275					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	78.7601	1.5165	101.8619	0.1918		14.4038	14.4038		14.4038	14.4038	1,548.7537	469.4118	2,018.1655	1.9150	0.1093	2,098.6069
Landscaping	0.1881	0.0722	6.2642	3.3000e-004		0.0348	0.0348		0.0348	0.0348		11.2900	11.2900	0.0108		11.5603
Total	82.4034	1.5887	108.1261	0.1922		14.4386	14.4386		14.4386	14.4386	1,548.7537	480.7017	2,029.4555	1.9258	0.1093	2,110.1671

Machado Lane Property Project - Bay Area AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.5277					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.9275					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.1170	1.0002	0.4256	6.3800e-003		0.0809	0.0809		0.0809	0.0809	0.0000	1,276.8000	1,276.8000	0.0245	0.0234	1,284.3874
Landscaping	0.1881	0.0722	6.2642	3.3000e-004		0.0348	0.0348		0.0348	0.0348		11.2900	11.2900	0.0108		11.5603
Total	3.7603	1.0723	6.6898	6.7100e-003		0.1156	0.1156		0.1156	0.1156	0.0000	1,288.0900	1,288.0900	0.0353	0.0234	1,295.9476

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

Machado Lane Property Project - Bay Area AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

Fire Pumps and Emergency Generators

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

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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User Defined Equipment

Equipment Type	Number
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11.0 Vegetation

Machado Lane Property Project - Bay Area AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

**Machado Lane Property Project
Bay Area AQMD Air District, Winter**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	76.00	Dwelling Unit	20.10	136,800.00	217

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	64
Climate Zone	4			Operational Year	2025
Utility Company	Pacific Gas and Electric Company				
CO2 Intensity (lb/MWhr)	203.98	CH4 Intensity (lb/MWhr)	0.033	N2O Intensity (lb/MWhr)	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Lot acreage adjusted to match site plan.

Construction Phase - Construction phase timing adjusted based on AQ Questionnaire.

Demolition -

Grading -

Mobile Land Use Mitigation -

Area Mitigation - Per AQ Questionnaire, only natural gas hearths would be installed

Energy Mitigation -

Water Mitigation - Outdoor water conservation strategy applied to reflect compliance with MWELO.

Vehicle Trips - Trip generation rate adjusted per project-specific TIA prepared by TJKM (June 2022).

Machado Lane Property Project - Bay Area AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	600.00
tblConstructionPhase	NumDays	370.00	600.00
tblConstructionPhase	NumDays	20.00	30.00
tblConstructionPhase	NumDays	35.00	30.00
tblConstructionPhase	NumDays	20.00	15.00
tblConstructionPhase	NumDays	10.00	30.00
tblLandUse	LotAcreage	24.68	20.10
tblVehicleTrips	ST_TR	9.54	9.43
tblVehicleTrips	SU_TR	8.55	9.43
tblVehicleTrips	WD_TR	9.44	9.43

2.0 Emissions Summary

Machado Lane Property Project - Bay Area AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2023	5.0716	34.5539	28.5091	0.0634	19.8049	1.4253	21.0716	10.1417	1.3113	11.3071	0.0000	6,146.914 3	6,146.914 3	1.9484	0.0322	6,196.810 9
2024	4.9537	15.0806	18.7732	0.0336	0.3171	0.6776	0.9946	0.0853	0.6410	0.7263	0.0000	3,220.009 1	3,220.009 1	0.6298	0.0313	3,245.084 5
2025	4.8346	14.0264	18.6468	0.0335	0.3171	0.5824	0.8994	0.0853	0.5509	0.6362	0.0000	3,212.689 1	3,212.689 1	0.6253	0.0305	3,237.403 9
Maximum	5.0716	34.5539	28.5091	0.0634	19.8049	1.4253	21.0716	10.1417	1.3113	11.3071	0.0000	6,146.914 3	6,146.914 3	1.9484	0.0322	6,196.810 9

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2023	5.0716	34.5539	28.5091	0.0634	19.8049	1.4253	21.0716	10.1417	1.3113	11.3071	0.0000	6,146.914 3	6,146.914 3	1.9484	0.0322	6,196.810 9
2024	4.9537	15.0806	18.7732	0.0336	0.3171	0.6776	0.9946	0.0853	0.6410	0.7263	0.0000	3,220.009 1	3,220.009 1	0.6298	0.0313	3,245.084 5
2025	4.8346	14.0264	18.6468	0.0335	0.3171	0.5824	0.8994	0.0853	0.5509	0.6362	0.0000	3,212.689 1	3,212.689 1	0.6253	0.0305	3,237.403 9
Maximum	5.0716	34.5539	28.5091	0.0634	19.8049	1.4253	21.0716	10.1417	1.3113	11.3071	0.0000	6,146.914 3	6,146.914 3	1.9484	0.0322	6,196.810 9

Machado Lane Property Project - Bay Area AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	82.4034	1.5887	108.1261	0.1922		14.4385	14.4385		14.4385	14.4385	1,548.7537	480.7017	2,029.4555	1.9258	0.1093	2,110.1671
Energy	0.0598	0.5110	0.2174	3.2600e-003		0.0413	0.0413		0.0413	0.0413		652.3272	652.3272	0.0125	0.0120	656.2036
Mobile	1.5726	1.8445	15.5903	0.0301	3.4841	0.0225	3.5066	0.9280	0.0210	0.9489		3,143.5064	3,143.5064	0.2176	0.1570	3,195.7411
Total	84.0358	3.9441	123.9338	0.2256	3.4841	14.5023	17.9864	0.9280	14.5008	15.4288	1,548.7537	4,276.5353	5,825.2891	2.1559	0.2783	5,962.1118

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	3.7603	1.0723	6.6898	6.7200e-003		0.1156	0.1156		0.1156	0.1156	0.0000	1,288.0900	1,288.0900	0.0353	0.0234	1,295.9477
Energy	0.0598	0.5110	0.2174	3.2600e-003		0.0413	0.0413		0.0413	0.0413		652.3272	652.3272	0.0125	0.0120	656.2036
Mobile	1.5726	1.8445	15.5903	0.0301	3.4841	0.0225	3.5066	0.9280	0.0210	0.9489		3,143.5064	3,143.5064	0.2176	0.1570	3,195.7411
Total	5.3927	3.4278	22.4975	0.0401	3.4841	0.1794	3.6635	0.9280	0.1779	1.1059	0.0000	5,083.9236	5,083.9236	0.2654	0.1924	5,147.8924

Machado Lane Property Project - Bay Area AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	93.58	13.09	81.85	82.21	0.00	98.76	79.63	0.00	98.77	92.83	100.00	-18.88	12.73	87.69	30.86	13.66

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2023	2/10/2023	5	30	
2	Site Preparation	Site Preparation	2/11/2023	3/24/2023	5	30	
3	Grading	Grading	3/25/2023	5/5/2023	5	30	
4	Paving	Paving	5/6/2023	5/26/2023	5	15	
5	Building Construction	Building Construction	5/27/2023	9/12/2025	5	600	
6	Architectural Coating	Architectural Coating	6/10/2023	9/26/2025	5	600	

Acres of Grading (Site Preparation Phase): 45

Acres of Grading (Grading Phase): 90

Acres of Paving: 0

Residential Indoor: 277,020; Residential Outdoor: 92,340; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37

Machado Lane Property Project - Bay Area AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	18.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	27.00	8.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	5.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Machado Lane Property Project - Bay Area AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Demolition - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.1313	0.0000	0.1313	0.0199	0.0000	0.0199			0.0000			0.0000
Off-Road	2.2691	21.4844	19.6434	0.0388		0.9975	0.9975		0.9280	0.9280		3,746.9840	3,746.9840	1.0494		3,773.2183
Total	2.2691	21.4844	19.6434	0.0388	0.1313	0.9975	1.1288	0.0199	0.9280	0.9479		3,746.9840	3,746.9840	1.0494		3,773.2183

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.2100e-003	0.0829	0.0193	3.6000e-004	0.0105	6.6000e-004	0.0112	2.8800e-003	6.3000e-004	3.5100e-003		39.4927	39.4927	1.3000e-003	6.2600e-003	41.3901
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0416	0.0288	0.3434	9.9000e-004	0.1232	6.1000e-004	0.1238	0.0327	5.6000e-004	0.0333		101.5775	101.5775	3.1300e-003	2.9900e-003	102.5455
Total	0.0428	0.1117	0.3627	1.3500e-003	0.1337	1.2700e-003	0.1350	0.0356	1.1900e-003	0.0368		141.0701	141.0701	4.4300e-003	9.2500e-003	143.9355

Machado Lane Property Project - Bay Area AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Demolition - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.1313	0.0000	0.1313	0.0199	0.0000	0.0199			0.0000			0.0000
Off-Road	2.2691	21.4844	19.6434	0.0388		0.9975	0.9975		0.9280	0.9280	0.0000	3,746.9840	3,746.9840	1.0494		3,773.2183
Total	2.2691	21.4844	19.6434	0.0388	0.1313	0.9975	1.1288	0.0199	0.9280	0.9479	0.0000	3,746.9840	3,746.9840	1.0494		3,773.2183

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.2100e-003	0.0829	0.0193	3.6000e-004	0.0105	6.6000e-004	0.0112	2.8800e-003	6.3000e-004	3.5100e-003		39.4927	39.4927	1.3000e-003	6.2600e-003	41.3901
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0416	0.0288	0.3434	9.9000e-004	0.1232	6.1000e-004	0.1238	0.0327	5.6000e-004	0.0333		101.5775	101.5775	3.1300e-003	2.9900e-003	102.5455
Total	0.0428	0.1117	0.3627	1.3500e-003	0.1337	1.2700e-003	0.1350	0.0356	1.1900e-003	0.0368		141.0701	141.0701	4.4300e-003	9.2500e-003	143.9355

Machado Lane Property Project - Bay Area AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Site Preparation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					19.6570	0.0000	19.6570	10.1025	0.0000	10.1025			0.0000			0.0000
Off-Road	2.6595	27.5242	18.2443	0.0381		1.2660	1.2660		1.1647	1.1647		3,687.308 1	3,687.308 1	1.1926		3,717.121 9
Total	2.6595	27.5242	18.2443	0.0381	19.6570	1.2660	20.9230	10.1025	1.1647	11.2672		3,687.308 1	3,687.308 1	1.1926		3,717.121 9

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0499	0.0345	0.4121	1.1900e-003	0.1479	7.3000e-004	0.1486	0.0392	6.8000e-004	0.0399		121.8929	121.8929	3.7600e-003	3.5800e-003	123.0546
Total	0.0499	0.0345	0.4121	1.1900e-003	0.1479	7.3000e-004	0.1486	0.0392	6.8000e-004	0.0399		121.8929	121.8929	3.7600e-003	3.5800e-003	123.0546

Machado Lane Property Project - Bay Area AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Site Preparation - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					19.6570	0.0000	19.6570	10.1025	0.0000	10.1025			0.0000			0.0000
Off-Road	2.6595	27.5242	18.2443	0.0381		1.2660	1.2660		1.1647	1.1647	0.0000	3,687.308 1	3,687.308 1	1.1926		3,717.121 9
Total	2.6595	27.5242	18.2443	0.0381	19.6570	1.2660	20.9230	10.1025	1.1647	11.2672	0.0000	3,687.308 1	3,687.308 1	1.1926		3,717.121 9

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0499	0.0345	0.4121	1.1900e-003	0.1479	7.3000e-004	0.1486	0.0392	6.8000e-004	0.0399		121.8929	121.8929	3.7600e-003	3.5800e-003	123.0546
Total	0.0499	0.0345	0.4121	1.1900e-003	0.1479	7.3000e-004	0.1486	0.0392	6.8000e-004	0.0399		121.8929	121.8929	3.7600e-003	3.5800e-003	123.0546

Machado Lane Property Project - Bay Area AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					9.2036	0.0000	9.2036	3.6538	0.0000	3.6538			0.0000			0.0000
Off-Road	3.3217	34.5156	28.0512	0.0621		1.4245	1.4245		1.3105	1.3105		6,011.4777	6,011.4777	1.9442		6,060.0836
Total	3.3217	34.5156	28.0512	0.0621	9.2036	1.4245	10.6281	3.6538	1.3105	4.9643		6,011.4777	6,011.4777	1.9442		6,060.0836

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0555	0.0383	0.4579	1.3200e-003	0.1643	8.1000e-004	0.1651	0.0436	7.5000e-004	0.0443		135.4366	135.4366	4.1800e-003	3.9800e-003	136.7273
Total	0.0555	0.0383	0.4579	1.3200e-003	0.1643	8.1000e-004	0.1651	0.0436	7.5000e-004	0.0443		135.4366	135.4366	4.1800e-003	3.9800e-003	136.7273

Machado Lane Property Project - Bay Area AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Grading - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					9.2036	0.0000	9.2036	3.6538	0.0000	3.6538			0.0000			0.0000
Off-Road	3.3217	34.5156	28.0512	0.0621		1.4245	1.4245		1.3105	1.3105	0.0000	6,011.4777	6,011.4777	1.9442		6,060.0836
Total	3.3217	34.5156	28.0512	0.0621	9.2036	1.4245	10.6281	3.6538	1.3105	4.9643	0.0000	6,011.4777	6,011.4777	1.9442		6,060.0836

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0555	0.0383	0.4579	1.3200e-003	0.1643	8.1000e-004	0.1651	0.0436	7.5000e-004	0.0443		135.4366	135.4366	4.1800e-003	3.9800e-003	136.7273
Total	0.0555	0.0383	0.4579	1.3200e-003	0.1643	8.1000e-004	0.1651	0.0436	7.5000e-004	0.0443		135.4366	135.4366	4.1800e-003	3.9800e-003	136.7273

Machado Lane Property Project - Bay Area AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694		2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694		2,207.5841	2,207.5841	0.7140		2,225.4336

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0416	0.0288	0.3434	9.9000e-004	0.1232	6.1000e-004	0.1238	0.0327	5.6000e-004	0.0333		101.5775	101.5775	3.1300e-003	2.9900e-003	102.5455
Total	0.0416	0.0288	0.3434	9.9000e-004	0.1232	6.1000e-004	0.1238	0.0327	5.6000e-004	0.0333		101.5775	101.5775	3.1300e-003	2.9900e-003	102.5455

Machado Lane Property Project - Bay Area AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Paving - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694	0.0000	2,207.584 1	2,207.584 1	0.7140		2,225.433 6
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694	0.0000	2,207.584 1	2,207.584 1	0.7140		2,225.433 6

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0416	0.0288	0.3434	9.9000e-004	0.1232	6.1000e-004	0.1238	0.0327	5.6000e-004	0.0333		101.5775	101.5775	3.1300e-003	2.9900e-003	102.5455
Total	0.0416	0.0288	0.3434	9.9000e-004	0.1232	6.1000e-004	0.1238	0.0327	5.6000e-004	0.0333		101.5775	101.5775	3.1300e-003	2.9900e-003	102.5455

Machado Lane Property Project - Bay Area AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.2099	2,555.2099	0.6079		2,570.4061
Total	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.2099	2,555.2099	0.6079		2,570.4061

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.4100e-003	0.3631	0.1133	1.6200e-003	0.0542	2.0900e-003	0.0563	0.0156	2.0000e-003	0.0176		174.2177	174.2177	3.5400e-003	0.0258	181.9896
Worker	0.0749	0.0518	0.6182	1.7900e-003	0.2218	1.1000e-003	0.2229	0.0588	1.0100e-003	0.0598		182.8394	182.8394	5.6400e-003	5.3700e-003	184.5819
Total	0.0833	0.4149	0.7315	3.4100e-003	0.2760	3.1900e-003	0.2792	0.0744	3.0100e-003	0.0774		357.0571	357.0571	9.1800e-003	0.0312	366.5715

Machado Lane Property Project - Bay Area AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Building Construction - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584	0.0000	2,555.2099	2,555.2099	0.6079		2,570.4061
Total	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584	0.0000	2,555.2099	2,555.2099	0.6079		2,570.4061

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.4100e-003	0.3631	0.1133	1.6200e-003	0.0542	2.0900e-003	0.0563	0.0156	2.0000e-003	0.0176		174.2177	174.2177	3.5400e-003	0.0258	181.9896
Worker	0.0749	0.0518	0.6182	1.7900e-003	0.2218	1.1000e-003	0.2229	0.0588	1.0100e-003	0.0598		182.8394	182.8394	5.6400e-003	5.3700e-003	184.5819
Total	0.0833	0.4149	0.7315	3.4100e-003	0.2760	3.1900e-003	0.2792	0.0744	3.0100e-003	0.0774		357.0571	357.0571	9.1800e-003	0.0312	366.5715

Machado Lane Property Project - Bay Area AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769		2,555.6989	2,555.6989	0.6044		2,570.8077
Total	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769		2,555.6989	2,555.6989	0.6044		2,570.8077

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.1500e-003	0.3633	0.1110	1.6000e-003	0.0542	2.1000e-003	0.0563	0.0156	2.0100e-003	0.0176		171.5062	171.5062	3.5200e-003	0.0254	179.1565
Worker	0.0703	0.0462	0.5782	1.7300e-003	0.2218	1.0500e-003	0.2229	0.0588	9.6000e-004	0.0598		178.3316	178.3316	5.1200e-003	5.0100e-003	179.9516
Total	0.0784	0.4095	0.6892	3.3300e-003	0.2760	3.1500e-003	0.2791	0.0744	2.9700e-003	0.0774		349.8378	349.8378	8.6400e-003	0.0304	359.1082

Machado Lane Property Project - Bay Area AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Building Construction - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769	0.0000	2,555.6989	2,555.6989	0.6044		2,570.8077
Total	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769	0.0000	2,555.6989	2,555.6989	0.6044		2,570.8077

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.1500e-003	0.3633	0.1110	1.6000e-003	0.0542	2.1000e-003	0.0563	0.0156	2.0100e-003	0.0176		171.5062	171.5062	3.5200e-003	0.0254	179.1565
Worker	0.0703	0.0462	0.5782	1.7300e-003	0.2218	1.0500e-003	0.2229	0.0588	9.6000e-004	0.0598		178.3316	178.3316	5.1200e-003	5.0100e-003	179.9516
Total	0.0784	0.4095	0.6892	3.3300e-003	0.2760	3.1500e-003	0.2791	0.0744	2.9700e-003	0.0774		349.8378	349.8378	8.6400e-003	0.0304	359.1082

Machado Lane Property Project - Bay Area AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Building Construction - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.474 4	2,556.474 4	0.6010		2,571.498 1
Total	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.474 4	2,556.474 4	0.6010		2,571.498 1

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	7.9300e-003	0.3619	0.1090	1.5700e-003	0.0542	2.1000e-003	0.0563	0.0156	2.0100e-003	0.0176		168.4588	168.4588	3.5000e-003	0.0249	175.9708
Worker	0.0662	0.0416	0.5434	1.6700e-003	0.2218	1.0000e-003	0.2228	0.0588	9.2000e-004	0.0598		174.0723	174.0723	4.6500e-003	4.6900e-003	175.5871
Total	0.0741	0.4035	0.6524	3.2400e-003	0.2760	3.1000e-003	0.2791	0.0744	2.9300e-003	0.0774		342.5311	342.5311	8.1500e-003	0.0296	351.5578

Machado Lane Property Project - Bay Area AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Building Construction - 2025

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963	0.0000	2,556.474 4	2,556.474 4	0.6010		2,571.498 1
Total	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963	0.0000	2,556.474 4	2,556.474 4	0.6010		2,571.498 1

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	7.9300e-003	0.3619	0.1090	1.5700e-003	0.0542	2.1000e-003	0.0563	0.0156	2.0100e-003	0.0176		168.4588	168.4588	3.5000e-003	0.0249	175.9708
Worker	0.0662	0.0416	0.5434	1.6700e-003	0.2218	1.0000e-003	0.2228	0.0588	9.2000e-004	0.0598		174.0723	174.0723	4.6500e-003	4.6900e-003	175.5871
Total	0.0741	0.4035	0.6524	3.2400e-003	0.2760	3.1000e-003	0.2791	0.0744	2.9300e-003	0.0774		342.5311	342.5311	8.1500e-003	0.0296	351.5578

Machado Lane Property Project - Bay Area AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	3.2100					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708		281.4481	281.4481	0.0168		281.8690
Total	3.4016	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708		281.4481	281.4481	0.0168		281.8690

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0139	9.5900e-003	0.1145	3.3000e-004	0.0411	2.0000e-004	0.0413	0.0109	1.9000e-004	0.0111		33.8592	33.8592	1.0400e-003	1.0000e-003	34.1818
Total	0.0139	9.5900e-003	0.1145	3.3000e-004	0.0411	2.0000e-004	0.0413	0.0109	1.9000e-004	0.0111		33.8592	33.8592	1.0400e-003	1.0000e-003	34.1818

Machado Lane Property Project - Bay Area AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Architectural Coating - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	3.2100					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708	0.0000	281.4481	281.4481	0.0168		281.8690
Total	3.4016	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708	0.0000	281.4481	281.4481	0.0168		281.8690

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0139	9.5900e-003	0.1145	3.3000e-004	0.0411	2.0000e-004	0.0413	0.0109	1.9000e-004	0.0111		33.8592	33.8592	1.0400e-003	1.0000e-003	34.1818
Total	0.0139	9.5900e-003	0.1145	3.3000e-004	0.0411	2.0000e-004	0.0413	0.0109	1.9000e-004	0.0111		33.8592	33.8592	1.0400e-003	1.0000e-003	34.1818

Machado Lane Property Project - Bay Area AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Architectural Coating - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	3.2100					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609		281.4481	281.4481	0.0159		281.8443
Total	3.3907	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609		281.4481	281.4481	0.0159		281.8443

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0130	8.5600e-003	0.1071	3.2000e-004	0.0411	1.9000e-004	0.0413	0.0109	1.8000e-004	0.0111		33.0244	33.0244	9.5000e-004	9.3000e-004	33.3244
Total	0.0130	8.5600e-003	0.1071	3.2000e-004	0.0411	1.9000e-004	0.0413	0.0109	1.8000e-004	0.0111		33.0244	33.0244	9.5000e-004	9.3000e-004	33.3244

Machado Lane Property Project - Bay Area AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Architectural Coating - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	3.2100					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609	0.0000	281.4481	281.4481	0.0159		281.8443
Total	3.3907	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609	0.0000	281.4481	281.4481	0.0159		281.8443

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0130	8.5600e-003	0.1071	3.2000e-004	0.0411	1.9000e-004	0.0413	0.0109	1.8000e-004	0.0111		33.0244	33.0244	9.5000e-004	9.3000e-004	33.3244
Total	0.0130	8.5600e-003	0.1071	3.2000e-004	0.0411	1.9000e-004	0.0413	0.0109	1.8000e-004	0.0111		33.0244	33.0244	9.5000e-004	9.3000e-004	33.3244

Machado Lane Property Project - Bay Area AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Architectural Coating - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	3.2100					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515		281.4481	281.4481	0.0154		281.8319
Total	3.3808	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515		281.4481	281.4481	0.0154		281.8319

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0123	7.7100e-003	0.1006	3.1000e-004	0.0411	1.9000e-004	0.0413	0.0109	1.7000e-004	0.0111		32.2356	32.2356	8.6000e-004	8.7000e-004	32.5161
Total	0.0123	7.7100e-003	0.1006	3.1000e-004	0.0411	1.9000e-004	0.0413	0.0109	1.7000e-004	0.0111		32.2356	32.2356	8.6000e-004	8.7000e-004	32.5161

Machado Lane Property Project - Bay Area AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Architectural Coating - 2025

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	3.2100					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515	0.0000	281.4481	281.4481	0.0154		281.8319
Total	3.3808	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515	0.0000	281.4481	281.4481	0.0154		281.8319

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0123	7.7100e-003	0.1006	3.1000e-004	0.0411	1.9000e-004	0.0413	0.0109	1.7000e-004	0.0111		32.2356	32.2356	8.6000e-004	8.7000e-004	32.5161
Total	0.0123	7.7100e-003	0.1006	3.1000e-004	0.0411	1.9000e-004	0.0413	0.0109	1.7000e-004	0.0111		32.2356	32.2356	8.6000e-004	8.7000e-004	32.5161

Machado Lane Property Project - Bay Area AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.5726	1.8445	15.5903	0.0301	3.4841	0.0225	3.5066	0.9280	0.0210	0.9489		3,143.506 4	3,143.506 4	0.2176	0.1570	3,195.741 1
Unmitigated	1.5726	1.8445	15.5903	0.0301	3.4841	0.0225	3.5066	0.9280	0.0210	0.9489		3,143.506 4	3,143.506 4	0.2176	0.1570	3,195.741 1

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Single Family Housing	716.68	716.68	716.68	1,655,249	1,655,249
Total	716.68	716.68	716.68	1,655,249	1,655,249

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Single Family Housing	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Single Family Housing	0.553839	0.058700	0.188468	0.120786	0.022796	0.005663	0.010629	0.007566	0.000983	0.000556	0.026354	0.000841	0.002820

Machado Lane Property Project - Bay Area AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0598	0.5110	0.2174	3.2600e-003		0.0413	0.0413		0.0413	0.0413		652.3272	652.3272	0.0125	0.0120	656.2036
NaturalGas Unmitigated	0.0598	0.5110	0.2174	3.2600e-003		0.0413	0.0413		0.0413	0.0413		652.3272	652.3272	0.0125	0.0120	656.2036

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Single Family Housing	5544.78	0.0598	0.5110	0.2174	3.2600e-003		0.0413	0.0413		0.0413	0.0413		652.3272	652.3272	0.0125	0.0120	656.2036
Total		0.0598	0.5110	0.2174	3.2600e-003		0.0413	0.0413		0.0413	0.0413		652.3272	652.3272	0.0125	0.0120	656.2036

Machado Lane Property Project - Bay Area AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Single Family Housing	5.54478	0.0598	0.5110	0.2174	3.2600e-003		0.0413	0.0413		0.0413	0.0413		652.3272	652.3272	0.0125	0.0120	656.2036
Total		0.0598	0.5110	0.2174	3.2600e-003		0.0413	0.0413		0.0413	0.0413		652.3272	652.3272	0.0125	0.0120	656.2036

6.0 Area Detail

6.1 Mitigation Measures Area

Use only Natural Gas Hearths

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	3.7603	1.0723	6.6898	6.7200e-003		0.1156	0.1156		0.1156	0.1156	0.0000	1,288.0900	1,288.0900	0.0353	0.0234	1,295.9477
Unmitigated	82.4034	1.5887	108.1261	0.1922		14.4385	14.4385		14.4385	14.4385	1,548.7537	480.7017	2,029.4555	1.9258	0.1093	2,110.1671

Machado Lane Property Project - Bay Area AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.5277					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.9275					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	78.7601	1.5165	101.8619	0.1918		14.4038	14.4038		14.4038	14.4038	1,548.7537	469.4118	2,018.1655	1.9150	0.1093	2,098.6069
Landscaping	0.1881	0.0722	6.2642	3.3000e-004		0.0348	0.0348		0.0348	0.0348		11.2900	11.2900	0.0108		11.5603
Total	82.4034	1.5887	108.1261	0.1922		14.4386	14.4386		14.4386	14.4386	1,548.7537	480.7017	2,029.4555	1.9258	0.1093	2,110.1671

Machado Lane Property Project - Bay Area AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.5277					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.9275					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.1170	1.0002	0.4256	6.3800e-003		0.0809	0.0809		0.0809	0.0809	0.0000	1,276.8000	1,276.8000	0.0245	0.0234	1,284.3874
Landscaping	0.1881	0.0722	6.2642	3.3000e-004		0.0348	0.0348		0.0348	0.0348		11.2900	11.2900	0.0108		11.5603
Total	3.7603	1.0723	6.6898	6.7100e-003		0.1156	0.1156		0.1156	0.1156	0.0000	1,288.0900	1,288.0900	0.0353	0.0234	1,295.9476

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

Machado Lane Property Project - Bay Area AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

Fire Pumps and Emergency Generators

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

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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User Defined Equipment

Equipment Type	Number
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11.0 Vegetation

Machado Lane Property Project

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Bay Area AQMD Air District, Mitigation Report

Construction Mitigation Summary

Phase	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Architectural Coating	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Building Construction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Demolition	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grading	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Site Preparation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

OFFROAD Equipment Mitigation

Machado Lane Property Project

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Equipment Type	Fuel Type	Tier	Number Mitigated	Total Number of Equipment	DPF	Oxidation Catalyst
Air Compressors	Diesel	No Change	0	1	No Change	0.00
Concrete/Industrial Saws	Diesel	No Change	0	1	No Change	0.00
Cranes	Diesel	No Change	0	1	No Change	0.00
Excavators	Diesel	No Change	0	5	No Change	0.00
Forklifts	Diesel	No Change	0	3	No Change	0.00
Generator Sets	Diesel	No Change	0	1	No Change	0.00
Graders	Diesel	No Change	0	1	No Change	0.00
Pavers	Diesel	No Change	0	2	No Change	0.00
Paving Equipment	Diesel	No Change	0	2	No Change	0.00
Rollers	Diesel	No Change	0	2	No Change	0.00
Rubber Tired Dozers	Diesel	No Change	0	6	No Change	0.00
Scrapers	Diesel	No Change	0	2	No Change	0.00
Tractors/Loaders/Backhoes	Diesel	No Change	0	9	No Change	0.00
Welders	Diesel	No Change	0	1	No Change	0.00

Machado Lane Property Project

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Unmitigated tons/yr							Unmitigated mt/yr					
Air Compressors	5.40600E-002	3.64670E-001	5.43010E-001	8.90000E-004	1.80800E-002	1.80800E-002	0.00000E+000	7.65976E+001	7.65976E+001	4.33000E-003	0.00000E+000	7.67060E+001
Concrete/Industrial Saws	5.01000E-003	3.87600E-002	5.48600E-002	9.00000E-005	1.92000E-003	1.92000E-003	0.00000E+000	8.06486E+000	8.06486E+000	4.00000E-004	0.00000E+000	8.07479E+000
Cranes	8.69000E-002	9.14050E-001	4.66850E-001	1.51000E-003	3.83000E-002	3.52400E-002	0.00000E+000	1.33074E+002	1.33074E+002	4.30400E-002	0.00000E+000	1.34150E+002
Excavators	1.41500E-002	1.16150E-001	2.44330E-001	3.90000E-004	5.69000E-003	5.23000E-003	0.00000E+000	3.40266E+001	3.40266E+001	1.10000E-002	0.00000E+000	3.43017E+001
Forklifts	8.47100E-002	7.95040E-001	1.02513E+000	1.38000E-003	4.58700E-002	4.22000E-002	0.00000E+000	1.20862E+002	1.20862E+002	3.90900E-002	0.00000E+000	1.21839E+002
Generator Sets	8.54200E-002	7.62980E-001	1.09919E+000	1.97000E-003	3.31700E-002	3.31700E-002	0.00000E+000	1.69562E+002	1.69562E+002	6.83000E-003	0.00000E+000	1.69733E+002
Graders	5.75000E-003	6.98000E-002	2.53900E-002	1.00000E-004	2.26000E-003	2.08000E-003	0.00000E+000	8.72061E+000	8.72061E+000	2.82000E-003	0.00000E+000	8.79112E+000
Pavers	2.88000E-003	2.82400E-002	4.32500E-002	7.00000E-005	1.33000E-003	1.22000E-003	0.00000E+000	6.19449E+000	6.19449E+000	2.00000E-003	0.00000E+000	6.24458E+000
Paving Equipment	2.56000E-003	2.40400E-002	3.83500E-002	6.00000E-005	1.17000E-003	1.08000E-003	0.00000E+000	5.36782E+000	5.36782E+000	1.74000E-003	0.00000E+000	5.41122E+000
Rollers	2.31000E-003	2.41500E-002	2.77800E-002	4.00000E-005	1.33000E-003	1.22000E-003	0.00000E+000	3.45784E+000	3.45784E+000	1.12000E-003	0.00000E+000	3.48580E+000
Rubber Tired Dozers	6.16200E-002	6.41440E-001	2.79570E-001	7.70000E-004	2.88800E-002	2.65700E-002	0.00000E+000	6.75218E+001	6.75218E+001	2.18400E-002	0.00000E+000	6.80678E+001
Scrapers	2.36000E-002	2.48500E-001	1.84110E-001	4.60000E-004	9.74000E-003	8.96000E-003	0.00000E+000	4.00104E+001	4.00104E+001	1.29400E-002	0.00000E+000	4.03339E+001
Tractors/Loaders/Backhoes	1.25640E-001	1.26932E+000	1.95906E+000	2.74000E-003	5.81000E-002	5.34500E-002	0.00000E+000	2.40235E+002	2.40235E+002	7.77000E-002	0.00000E+000	2.42178E+002
Welders	7.07300E-002	4.13770E-001	4.99110E-001	7.70000E-004	1.42300E-002	1.42300E-002	0.00000E+000	5.64662E+001	5.64662E+001	5.74000E-003	0.00000E+000	5.66098E+001

Machado Lane Property Project

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Mitigated tons/yr							Mitigated mt/yr					
Air Compressors	5.40600E-002	3.64670E-001	5.43010E-001	8.90000E-004	1.80800E-002	1.80800E-002	0.00000E+000	7.65975E+001	7.65975E+001	4.33000E-003	0.00000E+000	7.67059E+001
Concrete/Industrial Saws	5.01000E-003	3.87600E-002	5.48600E-002	9.00000E-005	1.92000E-003	1.92000E-003	0.00000E+000	8.06485E+000	8.06485E+000	4.00000E-004	0.00000E+000	8.07478E+000
Cranes	8.69000E-002	9.14050E-001	4.66850E-001	1.51000E-003	3.83000E-002	3.52400E-002	0.00000E+000	1.33074E+002	1.33074E+002	4.30400E-002	0.00000E+000	1.34150E+002
Excavators	1.41500E-002	1.16150E-001	2.44330E-001	3.90000E-004	5.69000E-003	5.23000E-003	0.00000E+000	3.40266E+001	3.40266E+001	1.10000E-002	0.00000E+000	3.43017E+001
Forklifts	8.47100E-002	7.95040E-001	1.02512E+000	1.38000E-003	4.58700E-002	4.22000E-002	0.00000E+000	1.20862E+002	1.20862E+002	3.90900E-002	0.00000E+000	1.21839E+002
Generator Sets	8.54200E-002	7.62970E-001	1.09919E+000	1.97000E-003	3.31700E-002	3.31700E-002	0.00000E+000	1.69562E+002	1.69562E+002	6.83000E-003	0.00000E+000	1.69733E+002
Graders	5.75000E-003	6.98000E-002	2.53900E-002	1.00000E-004	2.26000E-003	2.08000E-003	0.00000E+000	8.72060E+000	8.72060E+000	2.82000E-003	0.00000E+000	8.79111E+000
Pavers	2.88000E-003	2.82400E-002	4.32500E-002	7.00000E-005	1.33000E-003	1.22000E-003	0.00000E+000	6.19449E+000	6.19449E+000	2.00000E-003	0.00000E+000	6.24457E+000
Paving Equipment	2.56000E-003	2.40400E-002	3.83500E-002	6.00000E-005	1.17000E-003	1.08000E-003	0.00000E+000	5.36781E+000	5.36781E+000	1.74000E-003	0.00000E+000	5.41121E+000
Rollers	2.31000E-003	2.41500E-002	2.77800E-002	4.00000E-005	1.33000E-003	1.22000E-003	0.00000E+000	3.45783E+000	3.45783E+000	1.12000E-003	0.00000E+000	3.48579E+000
Rubber Tired Dozers	6.16200E-002	6.41440E-001	2.79570E-001	7.70000E-004	2.88800E-002	2.65700E-002	0.00000E+000	6.75217E+001	6.75217E+001	2.18400E-002	0.00000E+000	6.80677E+001
Scrapers	2.36000E-002	2.48500E-001	1.84110E-001	4.60000E-004	9.74000E-003	8.96000E-003	0.00000E+000	4.00103E+001	4.00103E+001	1.29400E-002	0.00000E+000	4.03338E+001
Tractors/Loaders/Balckhoes	1.25640E-001	1.26931E+000	1.95905E+000	2.74000E-003	5.81000E-002	5.34500E-002	0.00000E+000	2.40235E+002	2.40235E+002	7.77000E-002	0.00000E+000	2.42177E+002
Welders	7.07300E-002	4.13770E-001	4.99110E-001	7.70000E-004	1.42300E-002	1.42300E-002	0.00000E+000	5.64661E+001	5.64661E+001	5.74000E-003	0.00000E+000	5.66097E+001

Machado Lane Property Project

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Air Compressors	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.17497E-006	1.17497E-006	0.00000E+000	0.00000E+000	1.17331E-006
Concrete/Industrial Saws	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.23995E-006	1.23995E-006	0.00000E+000	0.00000E+000	1.23842E-006
Cranes	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.20234E-006	1.20234E-006	0.00000E+000	0.00000E+000	1.19269E-006
Excavators	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.46944E-006	1.46944E-006	0.00000E+000	0.00000E+000	1.16612E-006
Forklifts	0.00000E+000	0.00000E+000	9.75486E-006	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.15834E-006	1.15834E-006	0.00000E+000	0.00000E+000	1.14905E-006
Generator Sets	0.00000E+000	1.31065E-005	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.23848E-006	1.23848E-006	0.00000E+000	0.00000E+000	1.17832E-006
Graders	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.14671E-006	1.14671E-006	0.00000E+000	0.00000E+000	1.13751E-006
Pavers	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.60139E-006
Paving Equipment	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.86295E-006	1.86295E-006	0.00000E+000	0.00000E+000	1.84801E-006
Rollers	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	2.89198E-006	2.89198E-006	0.00000E+000	0.00000E+000	2.86878E-006
Rubber Tired Dozers	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.18480E-006	1.18480E-006	0.00000E+000	0.00000E+000	1.17530E-006
Scrapers	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.24968E-006	1.24968E-006	0.00000E+000	0.00000E+000	1.23965E-006
Tractors/Loaders/Backhoes	0.00000E+000	7.87823E-006	5.10449E-006	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.20715E-006	1.20715E-006	0.00000E+000	0.00000E+000	1.19747E-006
Welders	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.23968E-006	1.23968E-006	0.00000E+000	0.00000E+000	1.23654E-006

Fugitive Dust Mitigation

Yes/No	Mitigation Measure	Mitigation Input	Mitigation Input	Mitigation Input
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Machado Lane Property Project

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Operational Percent Reduction Summary

Category	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Architectural Coating	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hearth	99.85	43.28	99.64	97.01	99.52	99.52	100.00	-172.00	46.38	99.34	78.18	48.71
Landscaping	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Natural Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water Indoor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.79	3.99	0.02	0.26	1.99
Water Outdoor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Operational Mobile Mitigation

Project Setting: Suburban Center

Mitigation	Category	Measure	% Reduction	Input Value 1	Input Value 2	Input Value 3
No	Land Use	Increase Density	0.00	0.00	0.00	
No	Land Use	Increase Diversity	-0.01	0.13		
No	Land Use	Improve Walkability Design	0.00	0.00		
No	Land Use	Improve Destination Accessibility	0.00	0.00		
No	Land Use	Increase Transit Accessibility	0.25	0.00		

Machado Lane Property Project

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

No	Land Use	Integrate Below Market Rate Housing	0.00	0.00	
	Land Use	Land Use SubTotal	0.00		
No	Neighborhood Enhancements	Improve Pedestrian Network	2.00	Project Site and Connecting Off-Site	
No	Neighborhood Enhancements	Provide Traffic Calming Measures			
No	Neighborhood Enhancements	Implement NEV Network	0.00		
	Neighborhood Enhancements	Neighborhood Enhancements Subtotal	0.00		
No	Parking Policy Pricing	Limit Parking Supply	0.00	0.00	
No	Parking Policy Pricing	Unbundle Parking Costs	0.00	0.00	
No	Parking Policy Pricing	On-street Market Pricing	0.00	0.00	
	Parking Policy Pricing	Parking Policy Pricing Subtotal	0.00		
No	Transit Improvements	Provide BRT System	0.00	0.00	
No	Transit Improvements	Expand Transit Network	0.00	0.00	
No	Transit Improvements	Increase Transit Frequency	0.00		0.00
	Transit Improvements	Transit Improvements Subtotal	0.00		
		Land Use and Site Enhancement Subtotal	0.00		
No	Commute	Implement Trip Reduction Program			
No	Commute	Transit Subsidy			
No	Commute	Implement Employee Parking "Cash Out"	4.50		
No	Commute	Workplace Parking Charge		0.00	
No	Commute	Encourage Telecommuting and Alternative Work Schedules	0.00		

Machado Lane Property Project

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

No	Commuter	Market Commute Trip Reduction Option	0.00		
No	Commuter	Employee Vanpool/Shuttle	0.00	2.00	
No	Commuter	Provide Ride Sharing Program	10.00		
	Commuter	Commuter Subtotal	0.00		
No	School Trip	Implement School Bus Program	0.00		
		Total VMT Reduction	0.00		

Area Mitigation

Measure Implemented	Mitigation Measure	Input Value
Yes	Only Natural Gas Hearth	
No	No Hearth	
No	Use Low VOC Cleaning Supplies	
No	Use Low VOC Paint (Residential Interior)	100.00
No	Use Low VOC Paint (Residential Exterior)	150.00
No	Use Low VOC Paint (Non-residential Interior)	100.00
No	Use Low VOC Paint (Non-residential Exterior)	150.00
No	Use Low VOC Paint (Parking)	150.00
No	% Electric Lawnmower	0.00
No	% Electric Leafblower	0.00
No	% Electric Chainsaw	0.00

Energy Mitigation Measures

Machado Lane Property Project

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Measure Implemented	Mitigation Measure	Input Value 1	Input Value 2
No	Exceed Title 24		
No	Install High Efficiency Lighting	0.00	
No	On-site Renewable	0.00	0.00

Appliance Type	Land Use Subtype	% Improvement
ClothWasher		30.00
DishWasher		15.00
Fan		50.00
Refrigerator		15.00

Water Mitigation Measures

Measure Implemented	Mitigation Measure	Input Value 1	Input Value 2
Yes	Apply Water Conservation on Strategy	0.00	20.00
No	Use Reclaimed Water	0.00	0.00
No	Use Grey Water	0.00	
No	Install low-flow bathroom faucet	32.00	
No	Install low-flow Kitchen faucet	18.00	
No	Install low-flow Toilet	20.00	
No	Install low-flow Shower	20.00	
No	Turf Reduction	0.00	
No	Use Water Efficient Irrigation Systems	6.10	

Machado Lane Property Project

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

No	Water Efficient Landscape	0.00	0.00
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Solid Waste Mitigation

Mitigation Measures	Input Value
Institute Recycling and Composting Services Percent Reduction in Waste Disposed	

Appendix B
Planning Survey Report

Application Form and Planning Survey Report

To Comply With and Receive Permit Coverage Under The East Contra Costa County Habitat Conservation Plan and Natural Community Conservation Plan

Please complete this application to apply for take authorization under the state and federal East Contra Costa County HCP/NCCP incidental take permits. The East Contra Costa County Habitat Conservancy ("Conservancy") or local jurisdiction (City of Brentwood, City of Clayton, City of Oakley, City of Pittsburg, and Contra Costa County) may request more information in order to deem the application complete.

I. PROJECT OVERVIEW

PROJECT INFORMATION	
PROJECT NAME: Cosetti Ranch	
PROJECT TYPE: <input checked="" type="checkbox"/> Residential <input type="checkbox"/> Commercial <input type="checkbox"/> Transportation <input type="checkbox"/> Utility <input type="checkbox"/> Other	
PROJECT DESCRIPTION (BRIEF): Construction of a 76-lot residential subdivision with access from Machado Lane. A detailed project description is included in Attachment A.	
PROJECT ADDRESS/LOCATION: West side of Machado Lane and south of Cypress Road in the city of Oakley, Contra Costa County, California.	
PARCEL/PROJECT SIZE (ACRES): 21.13+/- acres (20.12+/- project site and 1.01+/- off-site component).	
PROJECT APN(S): 033-190-003-5, 033-190-004-3, 033-180-001, 033-170-021, 033-170-022, 033-170-020 and 033-170-019.	
APPLICATION SUBMITTAL DATE: May 2022	FINAL PSR DATE: (City/County/Conservancy use)
LEAD PLANNER: Joshua McMurray	
JURISDICTION: <input type="checkbox"/> City of Brentwood <input type="checkbox"/> City of Clayton <input checked="" type="checkbox"/> City of Oakley <input type="checkbox"/> City of Pittsburg <input type="checkbox"/> Contra Costa County <input type="checkbox"/> Participating Special Entity*	
<small>*Participating Special Entities are organizations not subject to the authority of a local jurisdiction. Such organizations may include school districts, irrigation districts, transportation agencies, local park districts, geological hazard abatement districts, or other utilities or special districts that own land or provide public services.</small>	
DEVELOPMENT FEE ZONE: <input checked="" type="checkbox"/> Zone I <input type="checkbox"/> Zone II <input type="checkbox"/> Zone III <input type="checkbox"/> Zone IV	
<small>See figure 9-1 of the HCP/NCCP at www.cocohcp.org for a generalized development fee zone map. Detailed development fee zone maps by jurisdiction are available from the jurisdiction.</small>	

PROJECT APPLICANT INFORMATION	
APPLICANT'S NAME: MLC Holdings, Inc.	
AUTHORIZED AGENT'S NAME AND TITLE: Paul Manyisha, Forward Planning Manager	
PHONE NO.: (925) 324-6178	APPLICANT'S E-MAIL: paul.manyisha@mlcholdings.net
MAILING ADDRESS: 2603 Camino Ramon, Suite 140, San Ramon, CA 94583	

BIOLOGIST INFORMATION ¹	
BIOLOGICAL/ENVIRONMENTAL FIRM: Moore Biological Consultants	
CONTACT NAME AND TITLE: Diane S. Moore, M.S.	
PHONE NO.: (209) 745-1159	CONTACT'S E-MAIL: moorebio@softcom.net
MAILING ADDRESS: Moore Biological Consultants, 10330 Twin Cities Rd., Ste. 30, Galt, California 95632	

¹ A USFWS/CDFW-approved biologist (project-specific) is required to conduct the surveys. Please submit biologist(s) approval request to the Conservancy.

II. PROJECT DETAILS

Please complete and/or provide the following attachments:

1) Project Description

Attach as **Attachment A: Project Description**. Provide a detailed written description that concisely and completely describes the project and location. Include the following information:

- All activities proposed for the site or project, including roads utilized, construction staging areas, and the installation of underground facilities, to ensure the entire project is covered by the HCP/NCCP permit
- Proposed construction dates, including details on construction phases, if applicable
- Reference a City/County application number for the project, if applicable
- General Best Management Practices, if applicable
- If the project will have temporary impacts, please provide a restoration plan describing how the site will be restored to pre-project conditions, including revegetation seed mixes or plantings and timing

2) Project Vicinity Map

Provide a project vicinity map. Attach as **Figure 1 in Attachment B: Figures**.

3) Project Site Plans

Provide any project site plans for the project. Attach as **Figure 2 in Attachment B: Figures**.

4) CEQA Document

Indicate the status of CEQA documents prepared for the project. Provide additional comments below table if necessary.

Type of Document	Status	Date Completed
<input checked="" type="checkbox"/> Initial Study	underway	Anticipated 2022
<input type="checkbox"/> Notice of Preparation		
<input type="checkbox"/> Draft EIR		
<input type="checkbox"/> Final EIR		
<input type="checkbox"/> Notice of Categorical Exemption		
<input type="checkbox"/> Notice of Statutory Exemption		
<input type="checkbox"/> Other (describe)		

III. EXISTING CONDITIONS AND IMPACTS

Please complete and/or provide the following attachments:

1) Field-Verified Land Cover Map²

Attach a field-verified land cover map in **Attachment B: Figures** and label as **Figure 3**. The map should contain all land cover types present on-site overlaid on aerial/satellite imagery. Map colors for the land cover types should conform to the HCP/NCCP (see *Figure 3-3: Landcover in the Inventory Area* for land cover type legend).

2) Photographs of the Project Site

Attach representative photos of the project site in **Attachment B: Figures** and label as **Figure 4**. Please provide captions for each photo.

² For PSEs and city or county public works projects, please also identify permanent and temporary impact areas by overlaying crosshatching (permanent impacts) and hatching (temporary impacts) on the land cover map.

3) Land Cover Types and Impacts and Supplemental Tables

- For all terrestrial land cover types please provide calculations to the nearest **hundredth of an acre (0.01)**. For aquatic land cover types please provide calculations to the nearest **thousandth of an acre (0.001)**.
- **Permanent Impacts** are broadly defined in the ECCC HCP/NCCP to include all areas removed from an undeveloped or habitat-providing state and includes land in the same parcel or project that is not developed, graded, physically altered, or directly affected in any way but is isolated from natural areas by the covered activity. Unless such undeveloped land is dedicated to the Preserve System or is a deed-restricted creek setback, the development mitigation fee will apply (if proposed, would require Conservancy approval).
- **Temporary Impacts** are broadly defined in the ECCC HCP/NCCP as any impact on vegetation or habitat that does not result in permanent habitat removal (i.e. vegetation can eventually recover).
- If **wetland (riparian woodland/scrub, wetland, or aquatic)** land cover types are present on the parcel but will not be impacted please discuss in the following section 4) Jurisdictional Wetlands and Waters. Wetland impact fees will only be charged if wetland features are impacted. However, development fees will apply to the entire parcel.
- **Stream** land cover type is considered a linear feature where impacts are calculated based on length impacted. The acreage within a stream, below Top of Bank (TOB), must be assigned to the adjacent land cover type(s). Insert area of impact to stream below TOB in parentheses after the Land Cover acreage number (e.g., Riparian Woodland/Scrub: 10 (0.036) – where 10 is the total impacted acreage including 0.036 acre, which is the acreage within stream TOB). Complete following supplemental **Stream Feature Detail** table to provide information for linear feet.
- **Total Impacts** acreage should be the total parcel acreage (development project) or project footprint acreage (rural infrastructure or utility project).

*Proposed for HCP/NCCP
Dedication on the Parcel
(Requires Conservancy Approval)*

Table 1: Land Cover Types and Impacts

Land Cover Type	Permanent Impacts	Temporary Impacts	Stream Setback	Preserve System Dedication
<i>Grassland</i>				
Annual Grassland				
Alkali Grassland				
Ruderal	19.88			
<i>Shrubland</i>				
Chaparral and Scrub				
<i>Woodland</i>				
Oak Savannah				
Oak Woodland				
<i>Riparian</i>				
Riparian Woodland/Scrub				
<i>Wetland</i>				
Permanent Wetland				
Seasonal Wetland				
Alkali Wetland				
<i>Aquatic</i>				
Aquatic (Reservoir/Open Water)				
Slough/Channel				
Pond				
Stream (in linear feet)				
<i>Irrigated Agriculture</i>				
Pasture				
Cropland				
Orchard				
Vineyard				
<i>Other</i>				
Nonnative woodland				
Wind turbines				
<i>Developed (not counted toward Fees)</i>				
Urban	1.25			
Aqueduct				
Turf				
Landfill				
TOTAL IMPACTS	21.13			

Identify any uncommon vegetation and uncommon landscape features³:

Supplemental to Table 1: Uncommon Vegetation and Landscape Features

	Permanent Impacts	Temporary Impacts
<i>Uncommon Grassland Alliances</i>		
Purple Needlegrass Grassland		
Blue Wildrye Grassland		
Creeping Ryegrass Grassland		
Wildflower Fields		
Squirreltail Grassland		
One-sided Bluegrass Grassland		
Serpentine Bunchgrass Grassland		
Saltgrass Grassland		
Alkali Sacaton Bunchgrass Grassland		
<input type="checkbox"/> Other		
<i>Uncommon Landscape Features</i>		
Rock Outcrops		
Caves		
Springs and seeps		
Scalds		
Sand Deposits		
<input type="checkbox"/> Mines ⁴		
<input type="checkbox"/> Buildings (bat roosts) ³		
<input checked="" type="checkbox"/> Potential nest sites (trees or cliffs) ³	32 trees (all will be removed)	

Please provide details of impacts to stream features:

Stream Name: None

Watershed:

Supplemental to Table 1: Stream Feature Detail⁵

Stream Width	Stream Type ⁶	Permanent Impacts (linear feet) ⁷	Temporary Impacts (linear feet) ⁷
<input type="checkbox"/> ≤ 25 feet wide <input type="checkbox"/> > 25 feet wide	<input type="checkbox"/> Perennial <input type="checkbox"/> Intermittent <input type="checkbox"/> Ephemeral, 3rd or higher order <input type="checkbox"/> Ephemeral, 1st or 2nd order		
<input type="checkbox"/> ≤ 25 feet wide <input type="checkbox"/> > 25 feet wide	<input type="checkbox"/> Perennial <input type="checkbox"/> Intermittent <input type="checkbox"/> Ephemeral, 3rd or higher order <input type="checkbox"/> Ephemeral, 1st or 2nd order		
<input type="checkbox"/> ≤ 25 feet wide <input type="checkbox"/> > 25 feet wide	<input type="checkbox"/> Perennial <input type="checkbox"/> Intermittent <input type="checkbox"/> Ephemeral, 3rd or higher order <input type="checkbox"/> Ephemeral, 1st or 2nd order		

³ These acreages are for Conservancy tracking purposes. Impacts to these uncommon vegetation and landscape features should be accounted for within the land cover types in Table 1 (e.g., x acres of purple needlegrass in this supplemental table should be accounted for within annual grassland in Table 1).

⁴ Insert amount/number, not acreage. Provide additional information on these features in Attachment A: Project Description.

⁵ Use more than 1 row as necessary to describe impacts to streams on site.

⁶ See glossary (Appendix A) for definition of stream type and order.

⁷ Stream length is measured along stream centerline, based on length of impact to any part of the stream channel, TOB to TOB.

4) Summary of Land Cover Types

Please provide a written summary of descriptions for land cover types found on site including characteristic vegetation.

Initial field surveys at the site were conducted on November 9 and 11, 2020. This report reflects current site conditions based on a May 13, 2022 field survey.

Ruderal Grassland: The project site primarily consists of ruderal grassland with a majority of the site being recently cut and prepared for a hay harvest (Figures 4a and 4b). Grasslands in the site have been highly disturbed by routine farming of the site, mowing and/or disking, and other human activities. There is a ruderal grassland strip along the south edge of the site that is not subject to disking and/or mowing or farming activities. Dominant grasses in the site include oats (*Avena* sp.), ripgut brome (*Bromus diandrus*), and soft brome (*Bromus hordeaceus*). Other grassland species such as radish (*Raphanus sativa*), Canadian horseweed (*Erigeron canadensis*), black mustard (*Brassica nigra*), common mallow (*Malva neglecta*), morning glory (*Convolvulus arvensis*), yellow star-thistle (*Centaurea solstitialis*), and prickly lettuce (*Lactuca serriola*) are intermixed with the grasses.

Urban/Developed: Urban/Developed areas within the site include the barn structure in the southeast part of the site (Figure 4d), Cypress Lane along the north edge of the site, and Machado Lane and three driveway entrances off of Machado Lane along the east edge of the site (Figure 3). The north tip of Machado Lane is a well-defined paved road with striping, while the remaining portion of the road is heavily traveled gravel (Figure 4e).

There are 32 trees in the project site, most of which are located near the south fence-line (Figures 5a and 4c). There are a small willow (*Salix* sp.), a black walnut (*Juglans californica*), and two ornamental trees in the remains of an irrigation return basin in the northeast corner of the site (Figure 4f). Trees in the south part of the site are mostly stone fruit and nut trees that are generally in very poor health, some of which have very few leaves and appear close to being dead (Figure 4c). There are a few coast live oak (*Quercus agrifolia*) trees along the west fence of the fenced-off area in the southeast part of the site. The most notable large trees near the site are a coast live oak just south of the south edge of the site and some large trees in the parcels south and southeast of the site.

5) Jurisdictional Wetlands and Waters

If wetlands and waters are present on the project site, project proponents must conduct a delineation of jurisdictional wetlands and waters. Jurisdictional wetlands and waters are defined on pages 1-18 and 1-19 of the ECCC HCP/NCCP as the following land cover types: permanent wetland, seasonal wetland, alkali wetland, aquatic, pond, slough/channel, and stream. It should be noted that these features differ for federal and state jurisdictions. If you have identified any of these land cover types in Table 1, complete the section below.

- a) Attach the wetland delineation report as **Attachment E: Wetland Delineation**. If a wetland delineation has not been completed, please explain below in section 4c.
- b) **Please check the following permits the project may require. Please submit copies of these permits to the Conservancy prior to the start of construction:**
- | | |
|--|--|
| <input type="checkbox"/> CWA Section 404 Permit ⁸ | <input type="checkbox"/> CWA Section 401 Water Quality Certification |
| <input type="checkbox"/> Waste Discharge Requirements | <input type="checkbox"/> Lake and Streambed Alteration Agreement |
- c) **Provide any additional information on impacts to jurisdictional wetland and waters below, including status of the permit(s):**

An assessment of potentially jurisdictional Waters of the U.S. or wetlands in the site was undertaken on November 9 and 11, 2020, and May 13, 2022. There are no potentially jurisdictional Waters of the U.S. or wetlands of any type in the site. The site consists primarily of highly disturbed upland ruderal grassland vegetation and the on-site soils appear well draining.

⁸ The USACE Sacramento District issued a Regional General Permit 1 (RGP) related to ECCC HCP/NCCP covered activities. The RGP is designed to streamline wetland permitting in the entire ECCC HCP/NCCP Plan Area by coordinating the avoidance, minimization, and mitigation measures in the Plan with the Corps' wetland permitting requirement. Applicants seeking authorization under this RGP shall notify the Corps in accordance with RGP general condition number 18 (Notification).

There is a small depression that is the remnants of an irrigation return basin in the northeast corner of the site (Figure 4f). The basin no longer is in use, does not have an ordinary high water mark, has soils that appear well draining, and primarily supports upland grassland species. The basin was constructed in uplands for the purpose of recycling irrigation tailwater and does not meet the technical and regulatory criteria of jurisdictional Waters of the U.S. or wetlands.

6) Species-Specific Planning Survey Requirements

Based on the land cover types found on-site and identified in Table 1, check the applicable boxes in Table 2a.

Table 2a. Species –Specific Planning Survey Requirements

Land Cover Type in Project Area	Required Survey Species	Habitat Element in Project Area	Planning Survey Requirement ⁹	Info in HCP
<input checked="" type="checkbox"/> Grasslands, oak savannah, agriculture, or ruderal	<input type="checkbox"/> San Joaquin kit fox	Assumed if within modeled range of species	If within modeled range of species, identify and map potential breeding or denning habitat within the project site and a 250-ft radius around the project footprint.	pp. 6-37 to 6-38
	<input checked="" type="checkbox"/> Western burrowing owl	Assumed	Identify and map potential breeding habitat within the project site and a 500-ft radius around the project footprint. Please note the HCP requires buffers for occupied burrows. Surveys may need to encompass an area larger than the project footprint.	pp. 6-39 to 6-41
<input type="checkbox"/> Aquatic (ponds, wetlands, streams, sloughs, channels, and marshes)	<input type="checkbox"/> Giant garter snake	Aquatic habitat accessible from the San Joaquin River	Identify and map potential habitat.	pp. 6-43 to 6-45
	<input type="checkbox"/> California tiger salamander	Ponds and wetlands Vernal pools Reservoirs Small lakes	Identify and map potential breeding habitat. Document habitat quality and features. Provide the Conservancy with photo-documentation and report.	pp. 6-45
	<input type="checkbox"/> California red-legged frog	Slow-moving streams, ponds and wetlands	Identify and map potential breeding habitat. Document habitat quality and features. Provide the Conservancy with photo-documentation and report.	p. 6-46
	<input type="checkbox"/> Covered shrimp	Seasonal wetlands Vernal pools Sandstone rock outcrops Sandstone depressions	Identify and map potential habitat. Please note the HCP requires a 50 foot non-disturbance buffer from seasonal wetlands that may be occupied by covered shrimp. Surveys may need to encompass an area larger than the project footprint.	pp. 6-46 to 6-48
<input checked="" type="checkbox"/> Any	<input type="checkbox"/> Townsend’s big-eared bat	Rock formations with caves Mines Abandoned buildings outside urban area	Map and document potential breeding or roosting habitat.	pp. 6-36 to 6-37
	<input checked="" type="checkbox"/> Swainson’s hawk	Potential nest sites within 1,000 feet of project	Inspect large trees for presence of nest sites. Document and map.	pp. 6-41 to 6-43
	<input checked="" type="checkbox"/> Golden Eagle	Potential nest sites with ½ mile of project	Inspect large trees for presence of nest sites. Document and map.	pp. 6-38 to 6-39

Surveys for all covered species must be conducted by a qualified biologist (USFWS/CDFW project-specific approved). Please submit biologist approval request to the East Contra Costa County Habitat Conservancy.

Surveys for all covered species must be conducted according to the respective USFWS or CDFW survey protocols, as identified in Chapter 6.4.3 in the HCP/NCCP.

7) Planning Survey Species Habitat Maps

Provide Planning Survey Species Habitat Maps as required in Table 2a, attach as **Figure 5 in Attachment B: Figures**.

⁹ The planning survey requirements in this table are not comprehensive. Please refer to Chapter 6.4.3 in the ECCC HCP/NCCP for more detail.

8) Results of Species Specific Surveys

Provide a written summary describing the results of the planning surveys. Please discuss the location, quantity, and quality of suitable habitat for specified covered wildlife species on the project site.

General Setting: The 21.13+/- acre project site is in Oakley, in Contra Costa County, California (Figure 1). The site is within Section 30, in Township 2 North, Range 3 East of the USGS 7.5-minute Brentwood topographic quadrangle. The project site is at an elevation of approximately 15 feet above mean sea level.

Surrounding land uses in this portion of Oakley are primarily residential intermixed with larger ranchette-style homes and open space. Cypress Road bounds the north edge of the site and Machado Lane bounds the east edge of the site. There is a disked agricultural field to the west of the site, similar to the large field in the site. The south edge of the site is bordered by a home site and a materials storage yard (Figure 3).

Western Burrowing Owl: The project site contains ruderal grassland and is within the range of western burrowing owl (*Athene cunicularia*). California Department of Fish and Wildlife's (CDFW) California Natural Diversity Database (CNDDDB, 2022) contains a record of western burrowing owl in the site (Figure 5b); this record is from 1992. The CNDDDB (2022) contains several records of burrowing owl within 1 mile of the project site. The site was inspected for burrowing owls and ground squirrel burrows with evidence of burrowing owl occupancy (i.e., white wash, pellets, feathers). There are a few ground squirrel burrows along the edges of the return pond in the northeast part of the site, at the base of a few trees within the site, and along the fence line in the south part of the site (Figure 4g). Comprehensive inspection of potential burrowing owl habitat was accomplished by walking meandering transects throughout the property. No western burrowing owls or burrows with evidence of burrowing owl occupancy were observed.

Swainson's Hawk: The site contains areas of ruderal grassland and is along the western edge of the range of Swainson's hawks (*Buteo swainsoni*). There are 32 trees in the site that are potentially suitable for nesting Swainson's hawks, although most of the on-site trees are unlikely to be used by nesting hawks of any species due to their small sizes. There are several potential nest trees near and visible from the site. Trees in the site and visible from the site were inspected for raptor stick nests. No raptor stick nests were observed in any of the trees within the site, but a large raptor stick nest was observed in a large oak tree situated just south of the site. No Swainson's hawks were observed during the May 2022 field survey, which was conducted in the heart of the Swainson's hawks nesting season. CDFW's CNDDDB (2022) contains an occurrence of Swainson's hawk within 1,000 feet of the site. This occurrence is from 2006 and is located in one of the trees associated with a residence along the east side of Machado Lane (Figure 5b). Swainson's hawks exhibit very high nest site fidelity, returning to the same tree or nesting territory every year. It is possible that Swainson's hawk will return to this general vicinity to nest in future years.

Golden Eagle: The site contains ruderal grassland and is within the range of golden eagles (*Aquila chrysaetos*). CDFW's CNDDDB (2022) contains no occurrences of golden eagle within 0.5 miles of the site or within the larger geographical area depicted in Figure 5b. There are 32 trees in the site that are potentially suitable for nesting golden eagles, although most of the on-site trees are unlikely to be used by nesting raptors of any species due to their small sizes. There are several potential nest trees near and visible from the site. Trees on the site and visible from the site were inspected for raptor stick nests. No raptor stick nests were observed in any of the trees within the site, but a large raptor stick nest was observed in a large oak tree situated just south of the site. No golden eagles were observed and this species nests more often on cliffs in remote natural areas than in trees near urban areas.

9) Covered and No-Take Plants

Please check the applicable boxes in Table 2b based on the land cover types found in the project area. If suitable land cover types are present on site, surveys must be conducted using approved CDFW/USFWS methods during the appropriate season for identification of covered and no-take species (see page 6-9 of the ECCC HCP/NCCP). Reference populations of covered and no-take plants should be visited, where possible, prior to conducting surveys to confirm that the plant species is visible and detectable at the time surveys are conducted. In order to complete all the necessary covered and no-take plant surveys, spring, summer, and fall surveys may be required.

Table 2b. Covered and No-Take Plant Species

Plant Species	Covered (C) or No-Take (N)	Associated Land Cover Type	Typical Habitat or Physical Conditions, if Known	Typical Blooming Period	Suitable Land Cover Type Present
Adobe navarretia (<i>Navarretia nigelliformis</i> ssp. <i>radians</i>) ^a	C	Annual Grassland	Generally found on clay barrens in Annual Grassland ^b	Apr–Jun	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Alkali milkvetch (<i>Astragalus tener</i> ssp. <i>tener</i>)	N	Alkali grassland Alkali wetland Annual grassland Seasonal wetland	Generally found in vernal moist habitat in soils with a slight to strongly elevated pH	Mar–Jun	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Big tarplant (<i>Blepharizonia plumosa</i>)	C	Annual grassland	Elevation below 1500 feet ^d most often on Altamont Series or Complex soils	Jul–Oct	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Brewer’s dwarf flax (<i>Hesperolinon breweri</i>)	C	Annual grassland Chaparral and scrub Oak savanna Oak woodland	Generally, restricted to grassland areas within a 500+ buffer from oak woodland and/or chaparral/scrub ^d	May–Jul	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Brittlescale (<i>Atriplex depressa</i>)	C	Alkali grassland Alkali wetland	Restricted to soils of the Pescadero or Solano soil series; generally found in southeastern region of plan area ^d	May–Oct	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Caper-fruited tropidocarpum (<i>Tropidocarpum capparideum</i>)	N	Alkali grassland		Mar–Apr	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Contra Costa goldfields (<i>Lasthenia conjugens</i>)	N	Alkali grassland Alkali wetland Annual grassland Seasonal wetland	Generally found in vernal pools	Mar–Jun	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Diablo Helianthella (<i>Helianthella castanea</i>)	C	Chaparral and scrub Oak savanna Oak woodland	Elevations generally above 650 feet ^d	Mar–Jun	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Diamond-petaled poppy (<i>Eschscholzia rhombipetala</i>)	N	Annual grassland		Mar–Apr	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Large-flowered fiddleneck (<i>Amsinckia grandiflora</i>)	N	Annual grassland	Generally on clay soil	Apr–May	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Mount Diablo buckwheat (<i>Eriogonum truncatum</i>)	N	Annual grassland Chaparral and scrub	Ecotone of grassland and chaparral/scrub	Apr–Sep	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Mount Diablo fairy-lantern (<i>Calochortus pulchellus</i>)	C	Annual grassland Chaparral and scrub Oak savanna Oak woodland	Elevations generally between 650 and 2,600 ^d	Apr–Jun	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Mount Diablo Manzanita (<i>Arctostaphylos auriculata</i>)	C	Chaparral and scrub	Elevations generally between 700 and 1,860 feet; restricted to the eastern and northern flanks of Mt. Diablo ^d and the vicinity of Black Diamond Mines	Jan–Mar	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Recurved larkspur (<i>Delphinium recurvatum</i>)	C	Alkali grassland Alkali wetland		Mar–Jun	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Round-leaved filaree (<i>California macrophylla</i>) ^c	C	Annual grassland		Mar–May	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
San Joaquin spearscale (<i>Extriplex joaquiniana</i>) ^e	C	Alkali grassland Alkali wetland		Apr–Oct	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Showy madia (<i>Madia radiata</i>)	C	Annual grassland Oak savanna Oak woodland	Primarily occupies open grassland or grassland on edge of oak woodland	Mar–May	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

^a The species *Navarretia nigelliformis* subsp. *nigelliformis* is no longer considered to occur within Contra Costa County based on specimen annotations at the UC and Jepson Herbaria at the University of California Berkeley as well as the opinions of experts in the genus. This taxon is now recognized as *Navarretia nigelliformis* subsp. *radians*. Any subspecies of *Navarretia nigelliformis* encountered as a part of botanical surveys in support of a PSR should be considered as covered under this HCP/NCCP.

^b Habitat for the *Navarretia nigelliformis* subspecies that occurs within the inventory are inaccurately described in the HCP/NCCP as vernal pools. The entity within the Inventory generally occupies clay barrens within Annual Grassland habitat, which is an upland habitat type.

^c From California Native Plant Society. 2007. *Inventory of Rare and Endangered Plants* (online edition, v7-07d). Sacramento, CA. Species may be identifiable outside of the typical blooming period; a professional botanist shall determine if a covered or no take plant occurs on the project site. Reference population of covered and no-take plants should be visited, where possible, prior to conducting surveys to confirm that the plant is visible and detectable at the time surveys are conducted.

^d See Species Profiles in Appendix D of the Final HCP/NCCP. Reference populations of covered and no-take plants should be visited, where possible, prior to conducting surveys to confirm that the plant species is visible and detectable at the time surveys are conducted.

^e In the recent update to the Jepson eflora (JFP 2013) *Atriplex joaquiniana* has been circumscribed and segregated into a new genus called *Extriplex* based on the work of Elizabeth Zacharias and Bruce Baldwin (2010). The etymology of the genus *Extriplex* means, “beyond or outside *Atriplex*”.

10) Results of Covered and No-Take Plant Species

Provide a written summary describing the results of the planning surveys conducted as required in Table 2b. Describe the methods used to survey the site for all covered and no-take plants, including the dates and times of all surveys conducted (see Tables 3-8 and 6-5 of the ECCC HCP/NCCP for covered and no-take plants), including reference populations visited prior to conducting surveys.

If any covered or no-take plant species were found, include the following information in the results summary:

- Description and number of occurrences and their rough population size.
- Description of the “health” of each occurrence, as defined on pages 5-49 and 5-50 of the HCP/NCCP.
- A map of all the occurrences.
- Justification of surveying time window, if outside of the plant’s blooming period.
- The CNDDDB form(s) submitted to CDFW (if this is a new occurrence).
- A description of the anticipated impacts that the covered activity will have on the occurrence and how the project will avoid impacts to all covered and no-take plant species. If impacts to covered plant species cannot be avoided and plants will be removed by covered activity, the Conservancy must be notified and has the option to salvage the covered plants. All projects must demonstrate avoidance of all six no-take plants (see table 6-5 of the HCP/NCCP).

Survey Methods

Surveys to assess potentially suitable habitat for special-status plants was undertaken on October 21, 2020 and May 13, 2022. The site was systematically searched by walking throughout the site.

Survey Results and Discussion

The site contains areas of ruderal grassland that is periodically mowed and/or disked and an established nursery. Due to an absence of potentially suitable habitat for special-status plants, focused surveys during the blooming period of each species in Table 2b were not warranted.

IV. SPECIES-SPECIFIC AVOIDANCE AND MINIMIZATION REQUIREMENTS

Please complete and/or provide the following attachments:

1) Species-Specific Avoidance and Minimization for Selected Covered Wildlife

Complete the following table and check the applicable box for covered species determined by the planning surveys.

Table 3. Summary of Applicable Preconstruction Surveys, Avoidance and Minimization, and Construction Monitoring Requirements¹⁰

Species	Preconstruction Survey Requirements	Avoidance and Minimization Requirements	Construction Monitoring Required	Info in HCP
<input type="checkbox"/> San Joaquin kit fox	<ul style="list-style-type: none"> • On project footprint and 250-ft radius, map all dens (>5 in. diameter) and determine status • Provide written survey results to USFWS within 5 working days after surveying 	<ul style="list-style-type: none"> • Monitor dens • Destroy unoccupied dens • Discourage use of occupied (non-natal) dens 	<ul style="list-style-type: none"> • Establish exclusion zones (>50 ft for potential dens, and >100 ft for known dens) • Notify USFWS of occupied natal dens 	pp. 6-37 to 6-38
<input checked="" type="checkbox"/> Western burrowing owl	<ul style="list-style-type: none"> • On project footprint and 500-ft radius, identify and map all owls and burrows, and determine status • Document use of habitat (e.g. breeding, foraging) 	<ul style="list-style-type: none"> • Avoid occupied nests during breeding season (Feb-Sep) • Avoid occupied burrows during nonbreeding season (Sep – Feb) • Install one-way doors in occupied burrow (if avoidance not possible) • Monitor burrows with doors installed 	<ul style="list-style-type: none"> • Establish buffer zones (250 ft around nests) • Establish buffer zones (160 ft around burrows) 	pp. 6-39 to 6-41

¹⁰ The requirements in this table are not comprehensive; they are detailed in the next section on the following page.

<input type="checkbox"/>	Giant garter snake	<ul style="list-style-type: none"> Delineate aquatic habitat up to 200 ft from water's edge on each side Document any occurrences 	<ul style="list-style-type: none"> Limit construction to Oct-May Dewater habitat April 15 – Sep 30 prior to construction Minimize clearing for construction 	<ul style="list-style-type: none"> Delineate 200 ft buffer around potential habitat near construction Provide field report on monitoring efforts Stop construction activities if snake is encountered; allow snake to passively relocate Remove temporary fill or debris from construction site Mandatory training for construction personnel 	pp. 6-43 to 6-45
<input type="checkbox"/>	California tiger salamander	<ul style="list-style-type: none"> Provide written notification to USFWS and CDFW regarding timing of construction and likelihood of occurrence on site 	<ul style="list-style-type: none"> Allow agency staff to translocate species, if requested 	<ul style="list-style-type: none"> None 	p. 6-45
<input type="checkbox"/>	California red-legged frog	<ul style="list-style-type: none"> Provide written notification to USFWS and CDFW regarding timing of construction and likelihood of occurrence on site 	<ul style="list-style-type: none"> Allow agency staff to translocate species, if requested 	<ul style="list-style-type: none"> None 	p. 6-46
<input type="checkbox"/>	Covered shrimp	<ul style="list-style-type: none"> Establish presence/absence Document and evaluate use of all habitat features (e.g. vernal pools, rock outcrops) 	<ul style="list-style-type: none"> Establish buffer near construction activities Prohibit incompatible activities 	<ul style="list-style-type: none"> Establish buffer around outer edge of all hydric vegetation associated with habitat (50 ft or immediate watershed, whichever is larger) Mandatory training for construction personnel 	pp. 6-46 to 6-48
<input type="checkbox"/>	Townsend's big-eared bat	<ul style="list-style-type: none"> Establish presence/absence Determine if potential sites were recently occupied (guano) 	<ul style="list-style-type: none"> Seal hibernacula before Nov Seal nursery sites before April Delay construction near occupied sites until hibernation or nursery seasons are over 	<ul style="list-style-type: none"> None 	pp. 6-36 to 6-37
<input checked="" type="checkbox"/>	Swainson's hawk	<ul style="list-style-type: none"> Determine whether potential nests are occupied 	<ul style="list-style-type: none"> No construction within 1,000 ft of occupied nests within breeding season (March 15 - Sep 15) If necessary, remove active nest tree after nesting season to prevent occupancy in second year. 	<ul style="list-style-type: none"> Establish 1,000 ft buffer around active nest and monitor compliance (no activity within established buffer) 	pp. 6-41 to 6-43
<input checked="" type="checkbox"/>	Golden Eagle	<ul style="list-style-type: none"> Establish presence/absence of nesting eagles 	<ul style="list-style-type: none"> No construction within ½ mile near active nests (most activity late Jan – Aug) 	<ul style="list-style-type: none"> Establish ½ mile buffer around active nest and monitor compliance with buffer 	pp. 6-38 to 6-39

2) Required Preconstruction Surveys, Avoidance and Minimization, and Construction Monitoring

All preconstruction surveys shall be conducted in accordance with the requirements set forth in Section 6.4.3, Species-Level Measures, and Table 6-1 of the ECCC HCP/NCCP. Detailed descriptions of preconstruction surveys, avoidance and minimization, and construction monitoring applicable to each of the wildlife species in Table 3 are located below. Please remove the species-specific measures that do not apply to your project (highlight entire section and delete).

WESTERN BURROWING OWL

Preconstruction Surveys

Prior to any ground disturbance related to covered activities, a USFWS/CDFW- approved biologist will conduct a preconstruction survey in areas identified in the planning surveys as having potential burrowing owl habitat. The surveys will establish the presence or absence of western burrowing owl and/or habitat features and evaluate use by owls in accordance with CDFW survey guidelines (California Department of Fish and Game 1995).

On the parcel where the activity is proposed, the biologist will survey the proposed disturbance footprint and a 500-foot radius from the perimeter of the proposed footprint to identify burrows and owls. Adjacent parcels under different land ownership will not be surveyed. Surveys should take place near sunrise or sunset in accordance with CDFW guidelines. All burrows or burrowing owls will be identified and mapped. Surveys will take place no more than 30 days prior to construction. During the breeding season (February 1– August 31), surveys will document whether burrowing owls are nesting in or directly adjacent to disturbance areas. During the nonbreeding season (September 1–January 31), surveys will document whether burrowing owls are using habitat in or directly adjacent to any

disturbance area. Survey results will be valid only for the season (breeding or nonbreeding) during which the survey is conducted.

Avoidance and Minimization and Construction Monitoring

This measure incorporates avoidance and minimization guidelines from CDFW's *Staff Report on Burrowing Owl Mitigation* (California Department of Fish and Game 1995).

If burrowing owls are found during the breeding season (February 1 – August 31), the project proponent will avoid all nest sites that could be disturbed by project construction during the remainder of the breeding season or while the nest is occupied by adults or young. Avoidance will include establishment of a non-disturbance buffer zone (described below). Construction may occur during the breeding season if a qualified biologist monitors the nest and determines that the birds have not begun egg-laying and incubation or that the juveniles from the occupied burrows have fledged. During the nonbreeding season (September 1 – January 31), the project proponent should avoid the owls and the burrows they are using, if possible. Avoidance will include the establishment of a buffer zone (described below).

During the breeding season, buffer zones of at least 250 feet in which no construction activities can occur will be established around each occupied burrow (nest site). Buffer zones of 160 feet will be established around each burrow being used during the nonbreeding season. The buffers will be delineated by highly visible, temporary construction fencing.

If occupied burrows for burrowing owls are not avoided, passive relocation will be implemented. Owls should be excluded from burrows in the immediate impact zone and within a 160-foot buffer zone by installing one-way doors in burrow entrances. These doors should be in place for 48 hours prior to excavation. The project area should be monitored daily for 1 week to confirm that the owl has abandoned the burrow. Whenever possible, burrows should be excavated using hand tools and refilled to prevent reoccupation (California Department of Fish and Game 1995). Plastic tubing or a similar structure should be inserted in the tunnels during excavation to maintain an escape route for any owls inside the burrow.

SWAINSON'S HAWK

Preconstruction Survey

Prior to any ground disturbance related to covered activities that occurs during the nesting season (March 15–September 15), a qualified biologist will conduct a preconstruction survey no more than 1 month prior to construction to establish whether Swainson's hawk nests within 1,000 feet of the project site are occupied. If potentially occupied nests within 1,000 feet are off the project site, then their occupancy will be determined by observation from public roads or by observations of Swainson's hawk activity (e.g., foraging) near the project site. If nests are occupied, minimization measures and construction monitoring are required (see below).

Avoidance and Minimization and Construction Monitoring

During the nesting season (March 15–September 15), covered activities within 1,000 feet of occupied nests or nests under construction will be prohibited to prevent nest abandonment. If site-specific conditions or the nature of the covered activity (e.g., steep topography, dense vegetation, limited activities) indicate that a smaller buffer could be used, the Implementing Entity will coordinate with CDFW/USFWS to determine the appropriate buffer size.

If young fledge prior to September 15, covered activities can proceed normally. If the active nest site is shielded from view and noise from the project site by other development, topography, or other features, the project applicant can apply to the Implementing Entity for a waiver of this avoidance measure. Any waiver must also be approved by USFWS and CDFW. While the nest is occupied, activities outside the buffer can take place.

All active nest trees will be preserved on site, if feasible. Nest trees, including non-native trees, lost to covered activities will be mitigated by the project proponent according to the requirements below.

Mitigation for Loss of Nest Trees

The loss of non-riparian Swainson's hawk nest trees will be mitigated by the project proponent by:

- If feasible on-site, planting 15 saplings for every tree lost with the objective of having at least 5 mature trees established for every tree lost according to the requirements listed below.

AND either

- 1) Pay the Implementing Entity an additional fee to purchase, plant, maintain, and monitor 15 saplings on the HCP/NCCP Preserve System for every tree lost according to the requirements listed below, OR
- 2) The project proponent will plant, maintain, and monitor 15 saplings for every tree lost at a site to be approved by the Implementing Entity (e.g., within an HCP/NCCP Preserve or existing open space linked to HCP/NCCP preserves), according to the requirements listed below.

The following requirements will be met for all planting options:

- Tree survival shall be monitored at least annually for 5 years, then every other year until year 12. All trees lost during the first 5 years will be replaced. Success will be reached at the end of 12 years if at least 5 trees per tree lost survive without supplemental irrigation or protection from herbivory. Trees must also survive for at least three years without irrigation.
- Irrigation and fencing to protect from deer and other herbivores may be needed for the first several years to ensure maximum tree survival.
- Native trees suitable for this site should be planted. When site conditions permit, a variety of native trees will be planted for each tree lost to provide trees with different growth rates, maturation, and life span, and to provide a variety of tree canopy structures for Swainson's hawk. This variety will help to ensure that nest trees will be available in the short term (5-10 years for cottonwoods and willows) and in the long term (e.g., Valley oak, sycamore). This will also minimize the temporal loss of nest trees.
- Riparian woodland restoration conducted as a result of covered activities (i.e., loss of riparian woodland) can be used to offset the nest tree planting requirement above, if the nest trees are riparian species.
- Whenever feasible and when site conditions permit, trees should be planted in clumps together or with existing trees to provide larger areas of suitable nesting habitat and to create a natural buffer between nest trees and adjacent development (if plantings occur on the development site).
- Whenever feasible, plantings on the site should occur closest to suitable foraging habitat outside the UDA.
- Trees planted in the HCP/NCCP preserves or other approved offsite location will occur within the known range of Swainson's hawk in the inventory area and as close as possible to high-quality foraging habitat.

GOLDEN EAGLE

Preconstruction Survey

Prior to implementation of covered activities, a qualified biologist will conduct a preconstruction survey to establish whether nests of golden eagles are occupied (see Section 6.3.1, *Planning Surveys*). If nests are occupied, minimization requirements and construction monitoring will be required.

Avoidance and Minimization

Covered activities will be prohibited within 0.5 mile of active nests. Nests can be built and active at almost any time of the year, although mating and egg incubation occurs late January through August, with peak activity in March through July. If site-specific conditions or the nature of the covered activity (e.g., steep topography, dense vegetation, limited activities) indicate that a smaller buffer could be appropriate or that a larger buffer should be implemented, the Implementing Entity will coordinate with CDFW/USFWS to determine the appropriate buffer size.

Construction Monitoring

Construction monitoring will focus on ensuring that no covered activities occur within the buffer zone established around an active nest. Although no known golden eagle nest sites occur within or near the ULL, covered activities inside and outside of the Preserve System have the potential to disturb golden eagle nest sites. Construction monitoring will ensure that direct effects to golden eagles are minimized.

3) Construction Monitoring Plan

Before implementing a covered activity, the applicant will develop and submit a construction monitoring plan to the planning department of the local land use jurisdiction and the East Contra Costa County Habitat Conservancy for review and approval. Elements of a brief construction monitoring plan will include the following:

- Results of planning and preconstruction surveys.¹¹
- Description of avoidance and minimization measures to be implemented, including a description of project-specific refinements to the measures or additional measures not included in the HCP/NCCP.
- Description of monitoring activities, including monitoring frequency and duration, and specific activities to be monitored.
- Description of the onsite authority of the construction monitor to modify implementation of the activity.

Check box to acknowledge this requirement.

V. SPECIFIC CONDITIONS ON COVERED ACTIVITIES

1) Check off the HCP conservation measures that apply to the project.

APPLIES TO ALL PROJECTS

Conservation Measure 1.11. Avoid Direct Impacts on Extremely Rare Plants, Fully Protected Wildlife Species, or Migratory Birds. This conservation measure applies to all projects. All projects will avoid all impacts on extremely rare plants and fully protected species listed in Table 6-5 of the ECCC HCP/NCCP. See HCP pp. 6-23 to 6-25, and Table 6-5.

APPLIES TO PROJECTS THAT IMPACT COVERED PLANT SPECIES

Conservation Measure 3.10. Plant Salvage when Impacts are Unavoidable. This condition applies to projects that cannot avoid impacts on covered plants and help protect covered plants by prescribing salvage whenever avoidance of impacts is not feasible. Project proponents wishing to remove populations of covered plants must notify the Conservancy of their construction schedule to allow the Conservancy the option of salvaging the populations. See HCP pp. 6-48 to 6-50.

APPLIES TO PROJECTS THAT INCLUDE ARE ADJACENT TO STREAMS, PONDS, OR WETLANDS

Conservation Measure 2.12. Wetland, Pond, and Stream Avoidance and Minimization. All projects will implement measures described in the HCP to avoid and minimize impacts on wetlands, ponds, streams, and riparian woodland/scrub. See HCP pp. 6-33 to 6-35.

APPLIES TO NEW DEVELOPMENT PROJECTS

Conservation Measure 1.10. Maintain Hydrologic Conditions and Minimize Erosion. All new development must avoid or minimize direct and indirect impacts on local hydrological conditions and erosion by incorporating the applicable Provision C.3 Amendments of the Contra Costa County Clean Water Program’s (CCCCWP’s) amended NPDES Permit (order no. R2-2003-0022; permit no. CAS002912). The overall goal of this measure is to ensure that new development covered under the HCP has no or minimal adverse effects on downstream fisheries to avoid take of fish listed under ESA or CESA. See HCP pp. 6-21 to 6-22.

APPLIES TO NEW DEVELOPMENT PROJECTS THAT INCLUDE OR ARE ADJACENT TO STREAMS, PONDS, OR WETLANDS

Conservation Measure 1.7. Establish Stream Setbacks. A stream setback will be applied to all development projects covered by the HCP according to the stream types listed in Table 6-2 of the HCP. See HCP pp. 6-15 to 6-18 and Table 6-2.

APPLIES TO NEW DEVELOPMENT PROJECTS ADJACENT TO EXISTING PUBLIC OPEN SPACE, HCP PRESERVES, OR LIKELY HCP ACQUISITION SITES

Conservation Measure 1.6. Minimize Development Footprint Adjacent to Open Space. Project applicants are encouraged to minimize their development footprint and set aside portions of their land to contribute to the HCP Preserve System. Land set aside that contributes to the HCP biological goals and objectives may be credited against development fees. See HCP pages 6-14 to 6-15.

Conservation Measure 1.8. Establish Fuel Management Buffer to Protect Preserves and Property. Buffer zones will provide a buffer between development and wildlands that allows adequate fuel management to minimize the risk of wildlife damage to property or to the preserve. The minimum buffer zone for new development is 100 feet. See HCP pages 6-18 to 6-19.

¹¹ If the preconstruction surveys do not trigger construction monitoring, results of preconstruction surveys should still be submitted to the local jurisdiction and the East Contra Costa County Habitat Conservancy.

Conservation Measure 1.9. Incorporate Urban-Wildlife Interface Design Elements. These projects will incorporate design elements at the urban-wildlife interface to minimize the indirect impacts of development on the adjacent preserve. See HCP pp. 6-20 to 6-21.

APPLIES TO ROAD MAINTENANCE PROJECTS OUTSIDE THE UDA

Conservation Measure 1.12. Implement Best Management Practices for Rural Road Maintenance. Road maintenance activities have the potential to affect covered species by introducing sediment and other pollutants into downstream waterways, spreading invasive weeds, and disturbing breeding wildlife. In order to avoid and minimize these impacts, BMPs described in the HCP will be used where appropriate and feasible. See HCP pp. 6-25 to 6-26.

APPLIES TO NEW ROADS OR ROAD IMPROVEMENTS OUTSIDE THE UDA

Conservation Measure 1.14. Design Requirements for Covered Roads Outside the Urban Development Area (UDA). New roads or road improvements outside the UDA have impacts on many covered species far beyond the direct impacts of their project footprints. To minimize the impacts of new, expanded, and improved roads in agricultural and natural areas of the inventory area, road and bridge construction projects will adopt siting, design, and construction requirements described in the HCP and listed in Table 6-6. See HCP pp. 6-27 to 6-33 and Table 6-6.

APPLIES TO FLOOD CONTROL MAINTENANCE ACTIVITIES

Conservation Measure 1.13. Implement Best Management Practices for Flood Control Facility Maintenance. Flood control maintenance activities have the potential to affect covered species by introducing sediment and other pollutants into downstream waterways and disturbing breeding wildlife. In order to avoid and minimize these impacts, BMPs described in the HCP will be used where appropriate and feasible. See HCP pp. 6-26 to 6-27.

2) **For all checked conservation measures, describe how the project will comply with each measure. Attach as Attachment C: Project Compliance to HCP Conditions.**

VI. MITIGATION MEASURES

1) **Mitigation Fee Calculator(s)**

Complete and attach the fee calculator (use permanent and/or temporary impact fee calculator as appropriate), and attach as **Attachment D: Fee Calculator(s)**.

2) **Briefly describe the amount of fees to be paid and when applicant plans to submit payment.**

The 21.13+/- acre site contains 19.88 acres of ruderal grassland and 1.25 acres of urban land.

The site is within Fee Zone 1. Construction is expected to commence in 2022.

Using the current fee schedule, fees would be paid on 19.88+/- acres within Fee Zone 1, at a cost of \$18,937.95 per acre (\$376,486.48). Fees will be paid pursuant to the fee schedule that is in place at the time construction commences.

ATTACHMENT A: PROJECT DESCRIPTION

Cosetti Ranch

Project Description

May 2022

The 21.13+/- acre project site is west of Machado Road and south of East Cypress Road in Oakley, Contra Costa County, California (Figure 1). The site is within Section 30, in Township 2 North, Range 3 East of the USGS 7.5-minute Brentwood topographic quadrangle.

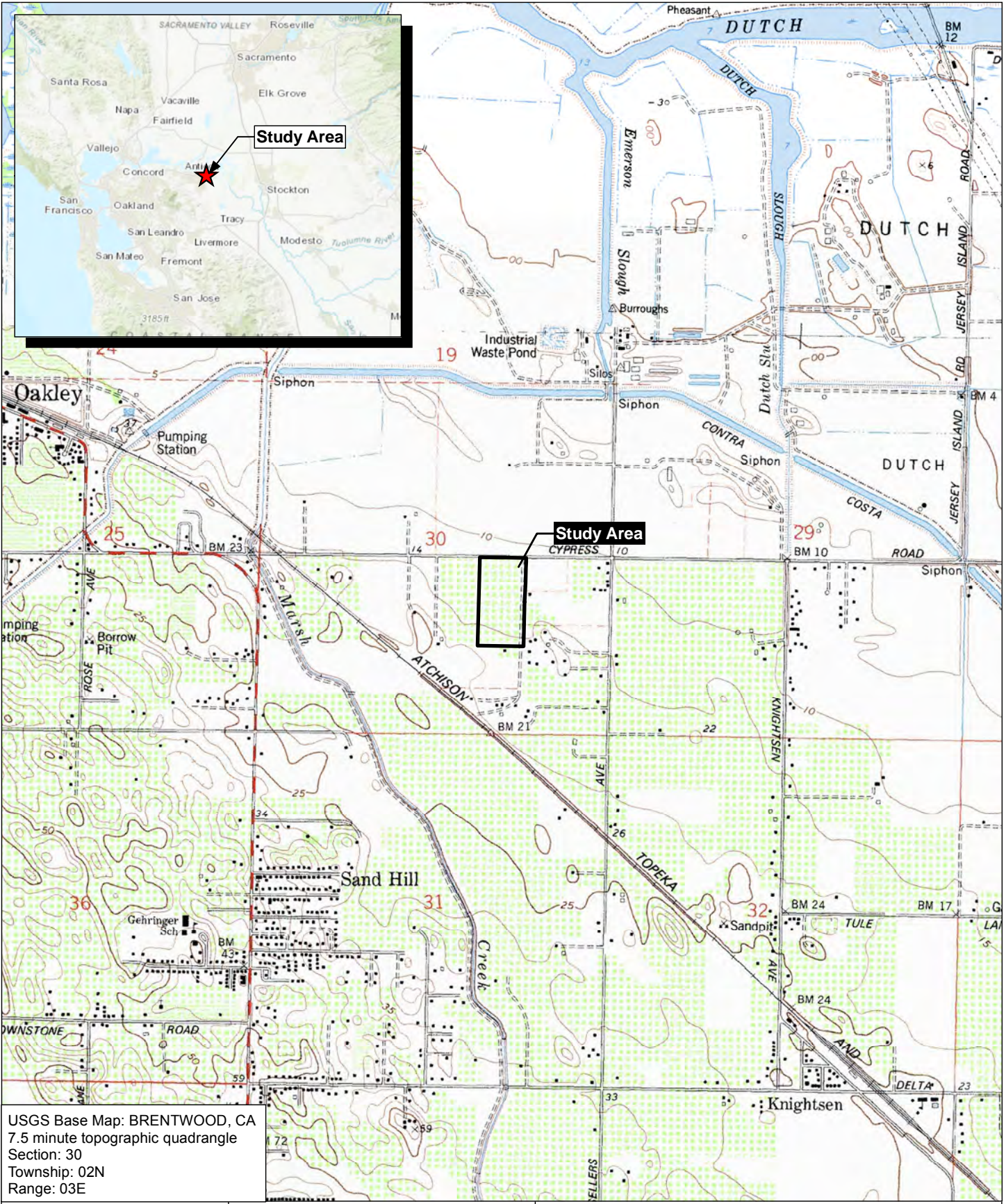
MLC Holdings, Inc. plans to divide the property in to a 76-lot single family high density residential subdivision (Figures 2a -2c). Access to the subdivision will be from Machado Lane and a network of roads will provide access to all of lots in the subdivision. The subdivision road network is designed in a manner to connect to future development on these adjacent parcels to the south and west of the site. The project will also require road widening and construction of a sidewalk along East Cypress Road, as well as road widening and shoulder improvements along the north part of Machado Lane.

There will be a bioretention basin constructed in the northeast corner of the site where stormwater will be detained prior to discharge into the City's storm drain system. The proposed project will connect to existing City infrastructure to provide sewer and water to the site.

Standard construction best management practices (BMPs) will be employed during construction to minimize the potential for erosion and off-site transport of fines. BMPs will include use of water trucks, appropriate compaction of soil, and installation of straw wattles, silt fences or other technologies along the perimeter of the site during construction, and stabilization of bare soils as appropriate with seeding, straw, and/or hydromulch.

Construction is expected to begin in late-2022 and is expected to continue through 2023.

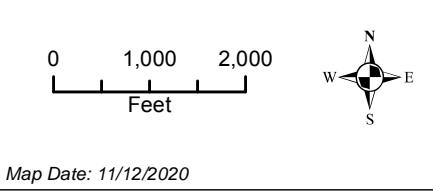
ATTACHMENT B: FIGURES



USGS Base Map: BRENTWOOD, CA
 7.5 minute topographic quadrangle
 Section: 30
 Township: 02N
 Range: 03E

Figure 1

Moore Biological Consultants

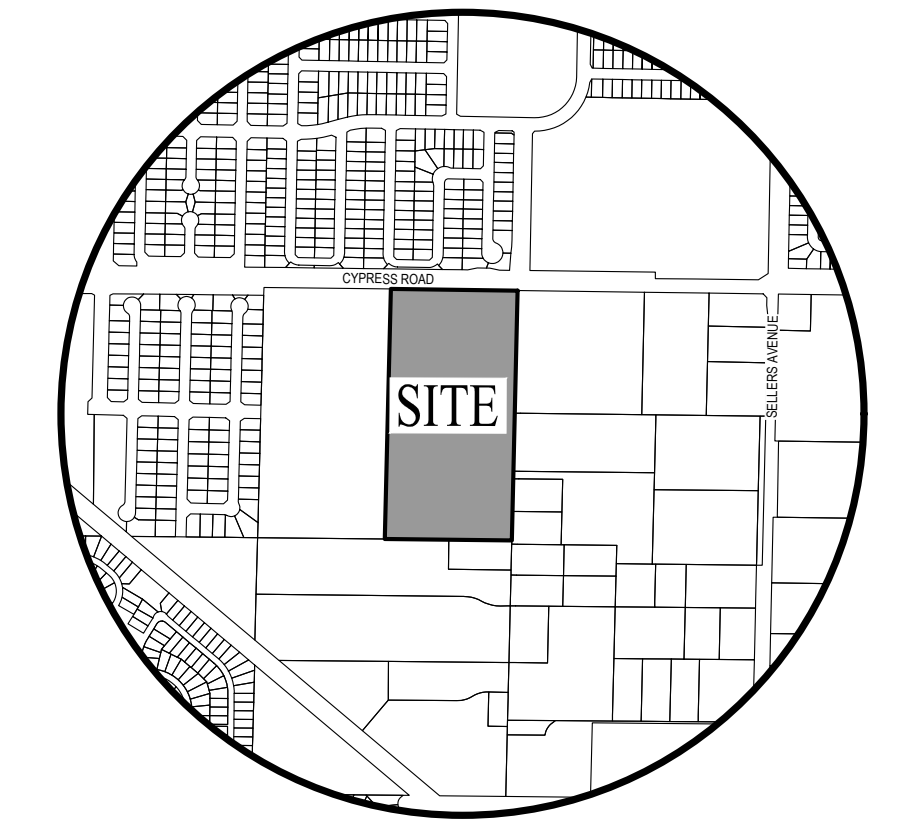


Site Map/USGS

Cosetti Ranch

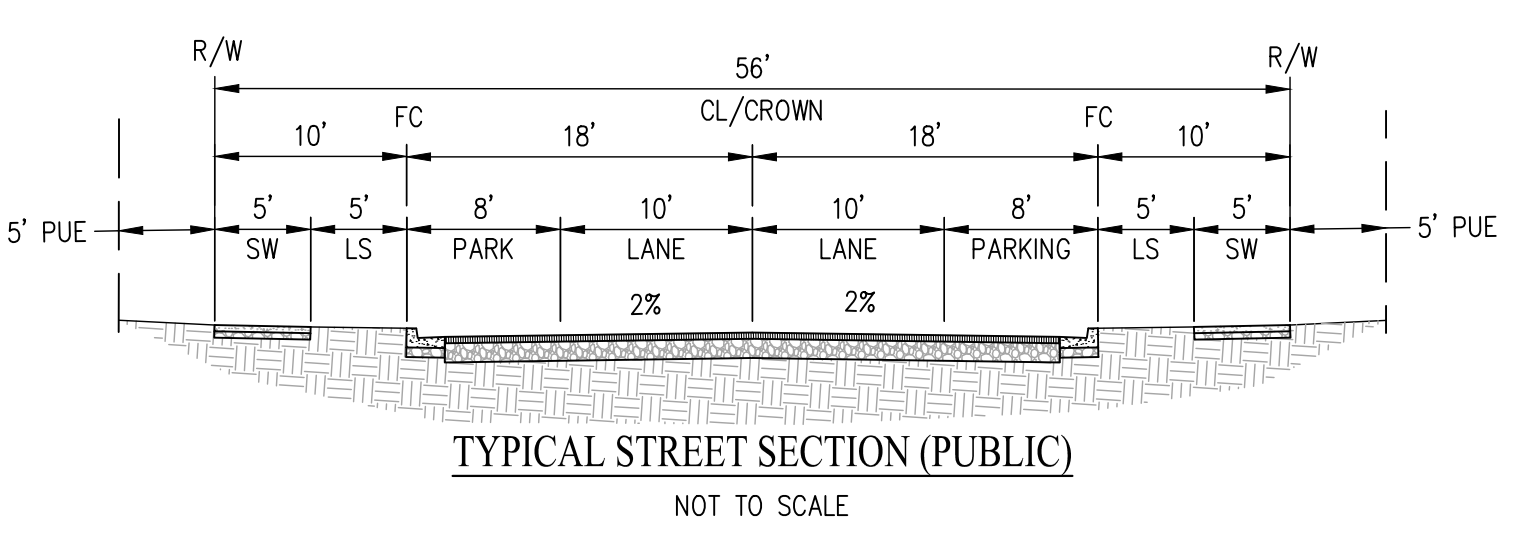
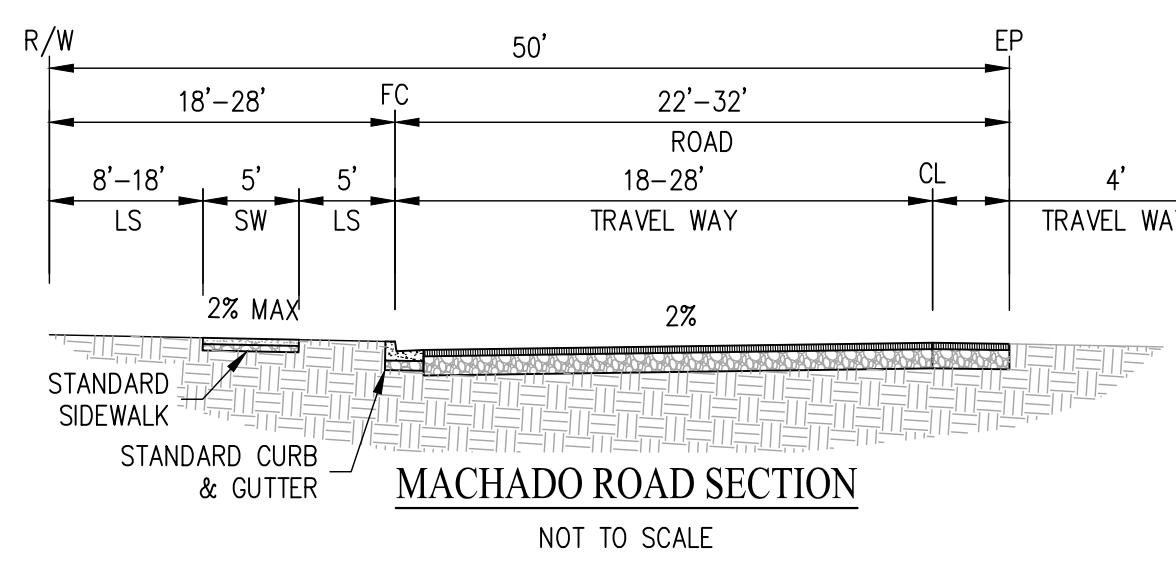
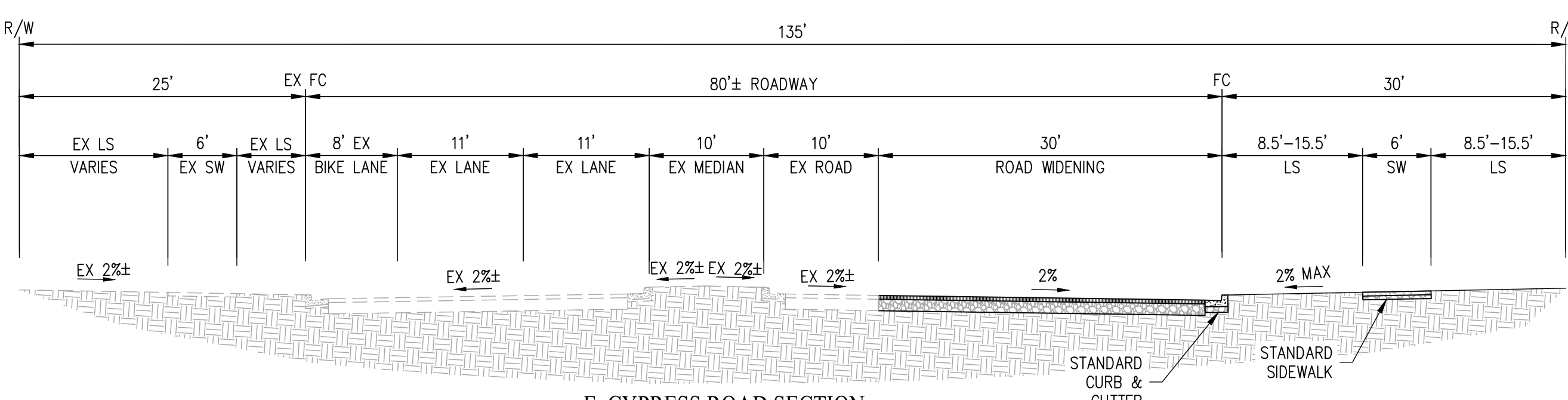
City of Oakley, Contra Costa County, CA

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GENERAL NOTES

- ASSESSORS PARCEL NO. 033-190-003, -004
- SITE AREA: GROSS: 20.11± ACRES
NET: 17.73± ACRES (E. CYPRESS RD & MACHADO LANE DEDICATIONS)
- LOTS: RESIDENTIAL: 76 (LOTS 1-76)
WATER QUALITY: PARCEL A
EVA: PARCEL B
- DWELLING UNITS: 76
- SITE DENSITY: GROSS: 3.78 DU/AC
NET: 4.29 DU/AC
- EXISTING GENERAL PLAN: SINGLE FAMILY RESIDENTIAL-HIGH
PROPOSED GENERAL PLAN: SINGLE FAMILY RESIDENTIAL-HIGH
- EXISTING ZONING: P-IY (PLANNED DEVELOPMENT)
PROPOSED ZONING: PROPOSED - P-1 (PLANNED DEVELOPMENT) DISTRICT
- EXISTING LAND USE: VACANT LAND
PROPOSED LAND USE: SINGLE FAMILY RESIDENTIAL
- BENCHMARK: THE CITY OF OAKLEY BM 3854
ELEVATION: 8.485' (NGVD29)
- BASIS OF BEARINGS: THE BASIS OF BEARINGS FOR THIS SURVEY IS DETERMINED BY FOUND MONUMENTS ON THE CENTERLINE OF CYPRESS ROAD. THE BEARING BEING N89°17'16"E PER SUBDIVISION 8679 (475 M 1).
- FLOOD ZONE: ZONE X: AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN
SOURCE: FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA), FLOOD INSURANCE RATE MAP, MAP NUMBER 06013C0355G
DATE: MARCH 21, 2017
- UTILITIES: WATER: DIABLO WATER DISTRICT
SEWER: IRONHOUSE SANITARY DISTRICT
STORM DRAIN: CITY OF OAKLEY
GAS & ELECTRIC: PG&E
TELEPHONE: AT&T
- DIMENSIONS: ALL DIMENSIONS ARE PRELIMINARY AND SUBJECT TO FINAL MAP
- GRADING: GRADING SHOWN IS PRELIMINARY AND SUBJECT TO CHANGE DURING FINAL DESIGN. PAD GRADES SHOWN ON SITE DEVELOPMENT PERMIT PLANS MUST BE IN SUBSTANTIAL CONFORMANCE WITH THOSE DEPICTED ON THE APPROVED TENTATIVE MAP.
- PHASING: PROJECT MAY BE CONSTRUCTED IN PHASES
- FINAL MAP: THIS PROJECT MAY BE PHASED. MULTIPLE FINAL MAPS MAY BE FILED UPON APPROVAL OF THE VESTING TENTATIVE SUBDIVISION MAP.



**VESTING TENTATIVE MAP
MACHADO PROPERTY**

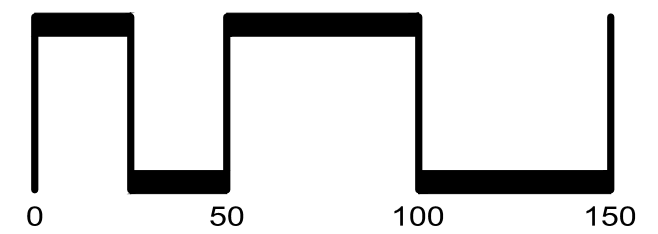
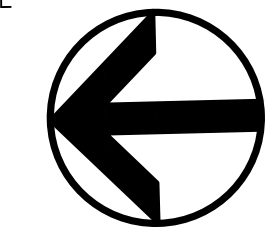
CITY OF OAKLEY CONTRA COSTA COUNTY CALIFORNIA



E. CYPRESS ROAD SECTION
NOT TO SCALE

MACHADO ROAD SECTION
NOT TO SCALE

TYPICAL STREET SECTION (PUBLIC)
NOT TO SCALE



SAN RAMON (925) 866-0322
ROSEVILLE (916) 788-4456
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SHEET NO.
C1.0
OF 5 SHEETS

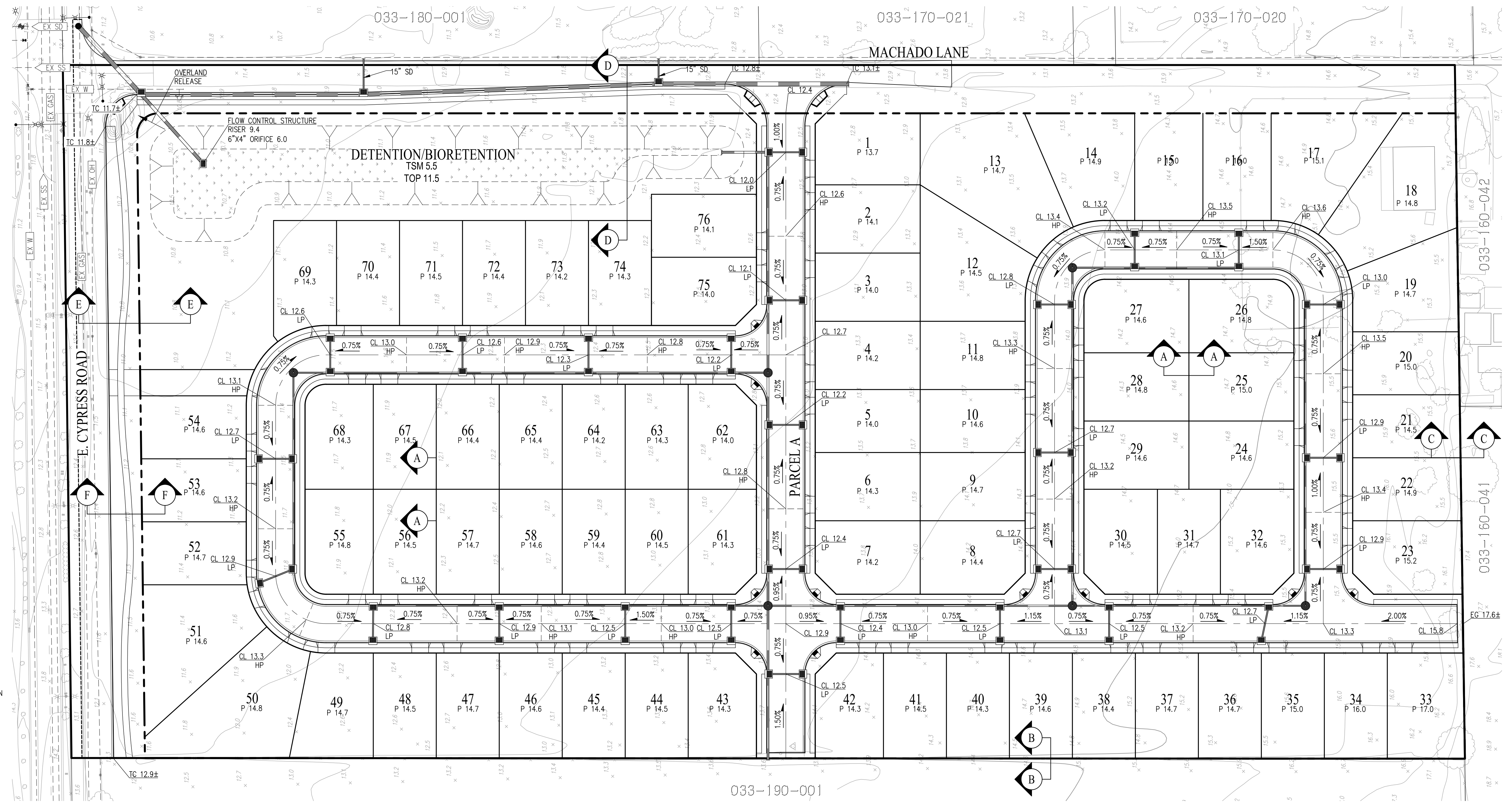
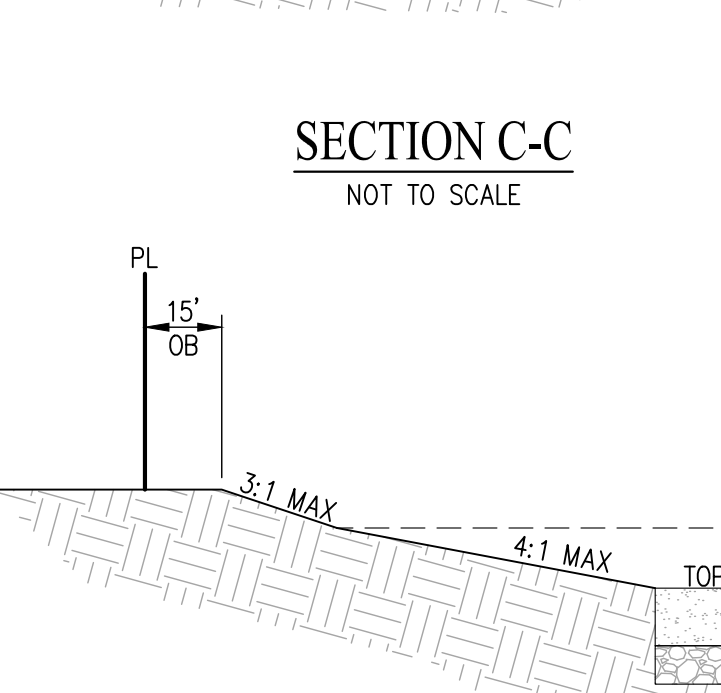
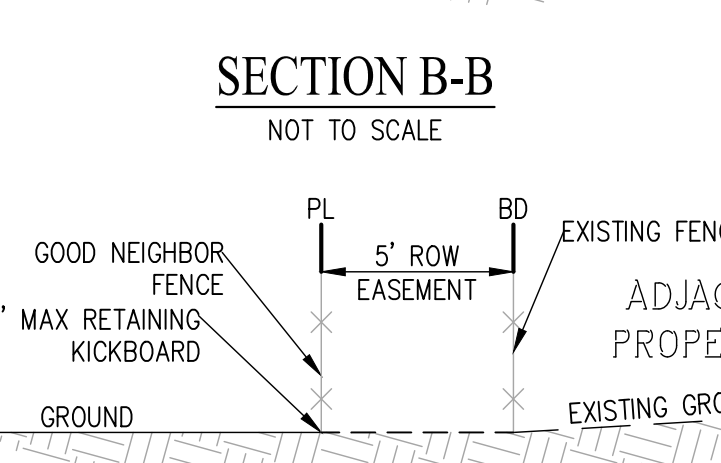
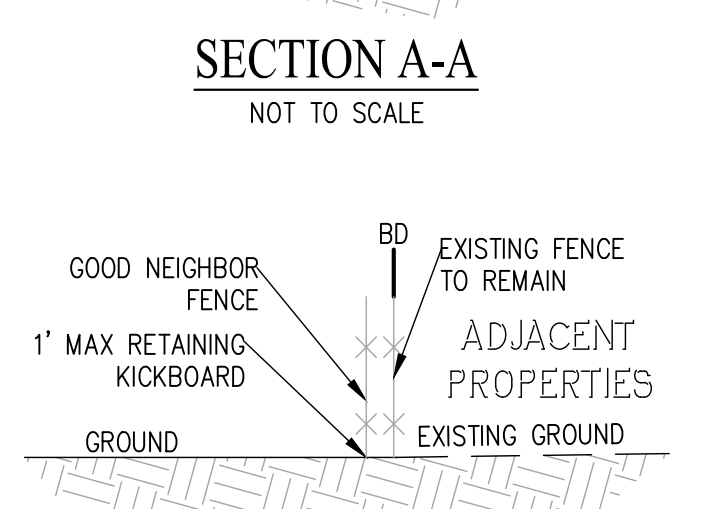
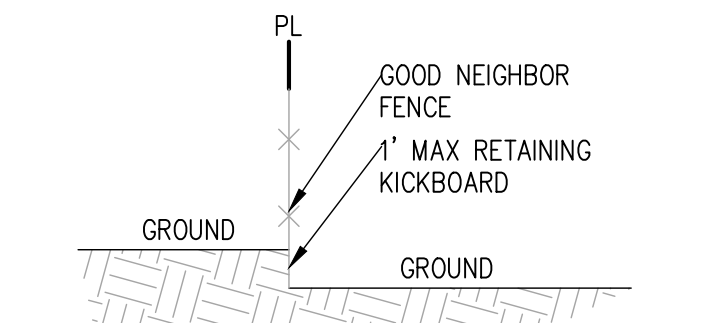
DATE: NOVEMBER 2021

Figure 2a: HMT YFWS[HW] Sb

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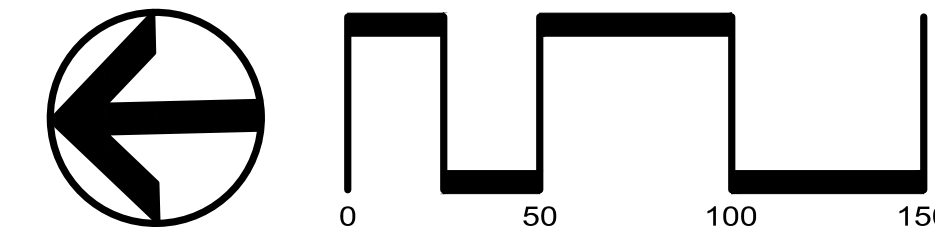
LEGEND:

- PROJECT BOUNDARY
- PROPOSED LOT LINE
- PROPOSED FACE OF CURB
- APPROXIMATE PAD ELEVATION
- EXISTING CONTOUR LINE
- EXISTING SPOT GRADE
- STORM DRAIN
- STORM DRAIN FORCE MAIN
- MANHOLE
- BUBBLE UP EMITTER
- CATCH BASIN
- DRAIN INLET
- SLOPE



PRELIMINARY GRADING PLAN MACHADO PROPERTY

CITY OF OAKLEY CONTRA COSTA COUNTY CALIFORNIA



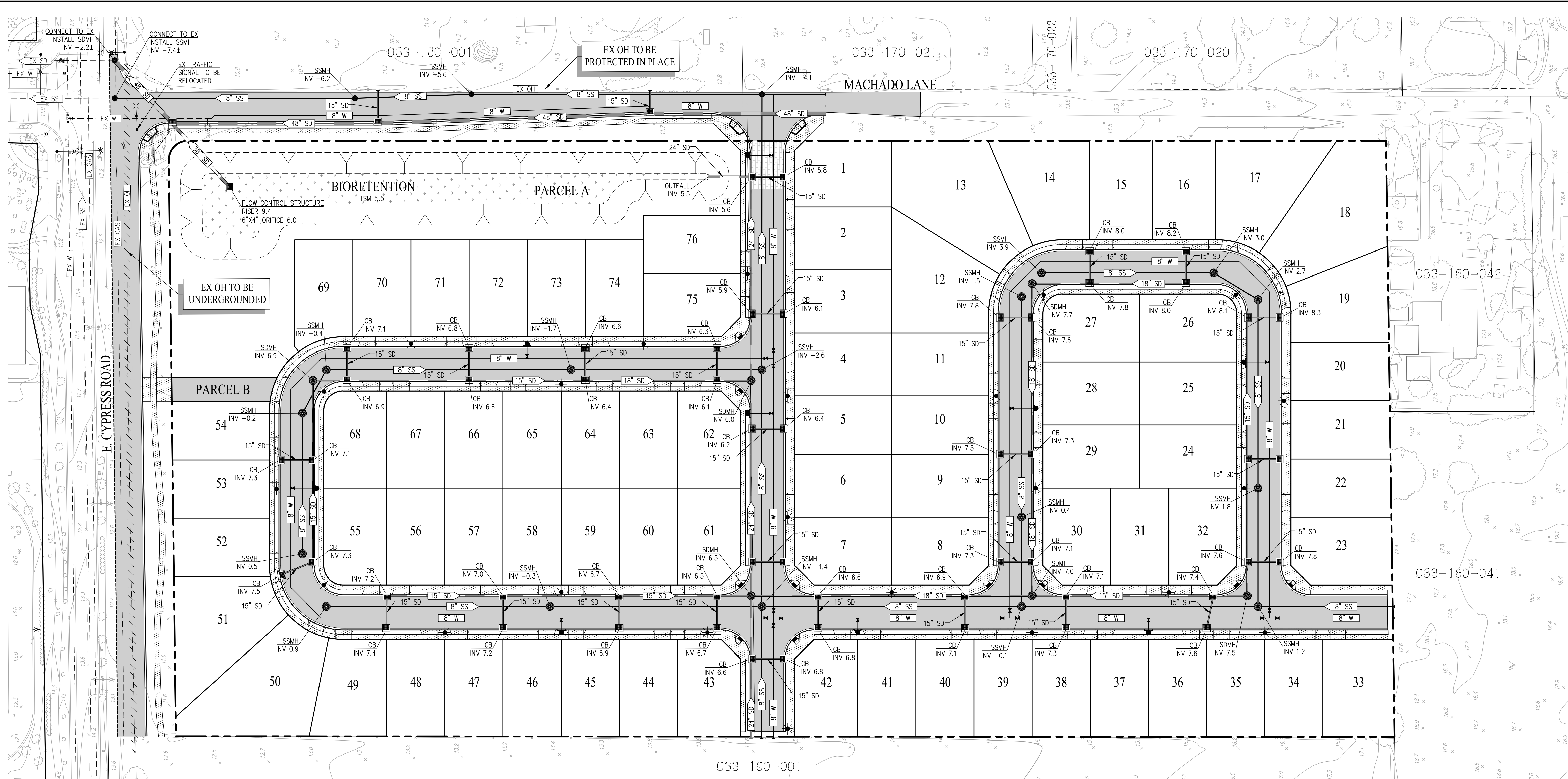
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CIVIL ENGINEERS SURVEYORS PLANNERS

SHEET NO.
C3.0
OF 5 SHEETS

DATE: NOVEMBER 2021

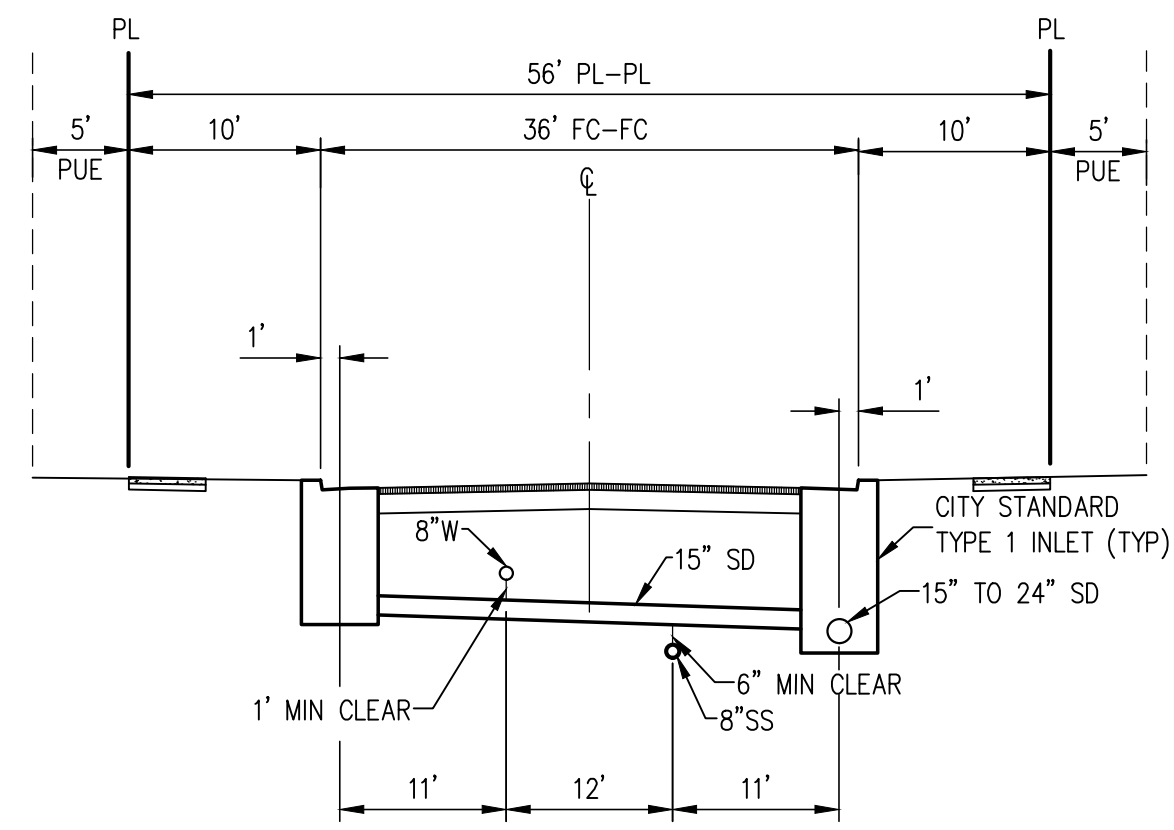
Figure 2E: Bdw [Sdk9dM] YPlan

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LEGEND

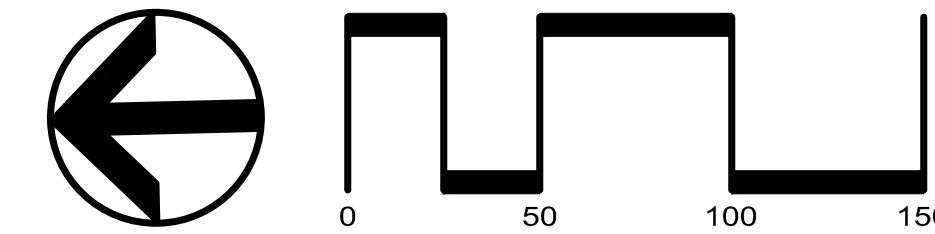
	PROJECT BOUNDARY
	STORM DRAIN
	STORM DRAIN FORCE MAIN
	SANITARY SEWER
	WATER LINE
	MANHOLE
	BUBBLE UP
	CATCH BASIN
	FIELD INLET
	STORM DRAIN PUMP
	FIRE HYDRANT
	PROJECT BOUNDARY
	PROPOSED RIGHT OF WAY
	PROPOSED LOT LINE
	PROPOSED FACE OF CURB
	EXISTING EASEMENT



TYPICAL UTILITY SECTION
NOT TO SCALE

PRELIMINARY UTILITY PLAN MACHADO PROPERTY

CITY OF OAKLEY CONTRA COSTA COUNTY CALIFORNIA



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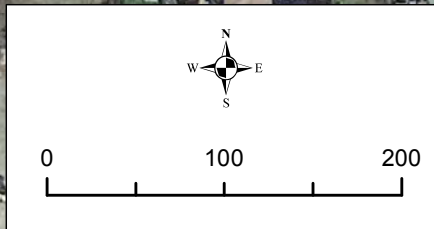
SHEET NO.
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OF 5 SHEETS

DATE: NOVEMBER 2021



Figure 2c: B&W [SckGf\fkPlan

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	Ruderal Grassland (Acres)	Urban/Developed (Acres)
On-Site	18.99	1.13
Off-Site	0.89	0.12
Total	19.88	1.25

Figure 3

- On-Site (20.12 ac.)
- Off-Site (1.01 ac.)
- Ruderal Grassland
- Urban/Developed

Field Verified Landcover Map

Cosetti Ranch

City of Oakley, Contra Costa County, CA

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Rows of recently cut hay in the body of the site, looking north from the south part of the site; 05/13/22.



Area of ruderal grassland in the east part of the site, looking north from just west of Machado Road; 05/13/22. Farm equipment is currently being stored in this area.

FIGURE 4a



North edge of the site, looking west along Cypress Road from the northeast corner of the site; 05/13/22.



West edge of the site, looking south along the west fence line from the northwest corner of the site; 05/13/22.

FIGURE 4b



South edge of the site, looking east from the southwest part of the site; 05/13/22.



Scattered trees near the south edge of the site, looking west from just west of the fenced-off structure in the southeast part of the site; 05/13/22.

FIGURE 4c



Fenced-off area in the southeast corner of the site, looking southwest from the northeast corner of the fenced-off area; 05/13/22. There is a structure along with a few boats within this area.



Close-up of the structure in the southeast part of the site, looking southeast; 05/13/22.

FIGURE 4d



Machado Lane, looking south from the northeast corner of the site; 05/13/22. The project will include road improvements to Machado Lane, which is situated along the east edge of the site.



Machado Lane, looking north from the southeast corner of the site; 05/13/22.

FIGURE 4e



Recently cut hay within the off-site sliver to the east of the project site, looking south from the north end of Machado Lane; 05/13/22. Road improvements related to Machado Lane will extend east in to this area.



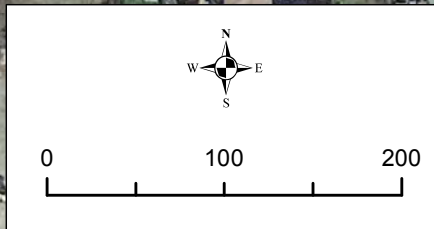
Remnant return pond and a few trees in the northeast corner of the site, looking northeast; 05/13/22. This return pond is related to past agricultural activities within the body of the site.

FIGURE 4f



Ground squirrel burrows at the base of a tree near the fenced-off area in the southeast corner of the site; 05/13/22. Most of the burrows in the site are either at the base of trees or along fencelines.

FIGURE 4g



	Ruderal Grassland (Acres)	Urban/Developed (Acres)
On-Site	18.99	1.13
Off-Site	0.89	0.12
Total	19.88	1.25

Figure 5a

- On-Site (20.12 ac.)
- Off-Site (1.01 ac.)
- Ruderal Grassland; assumed habitat for western burrowing owl.
- Urban/Developed
- Trees; assumed habitat for Swainson's hawk, golden eagle, and white-tailed kite.

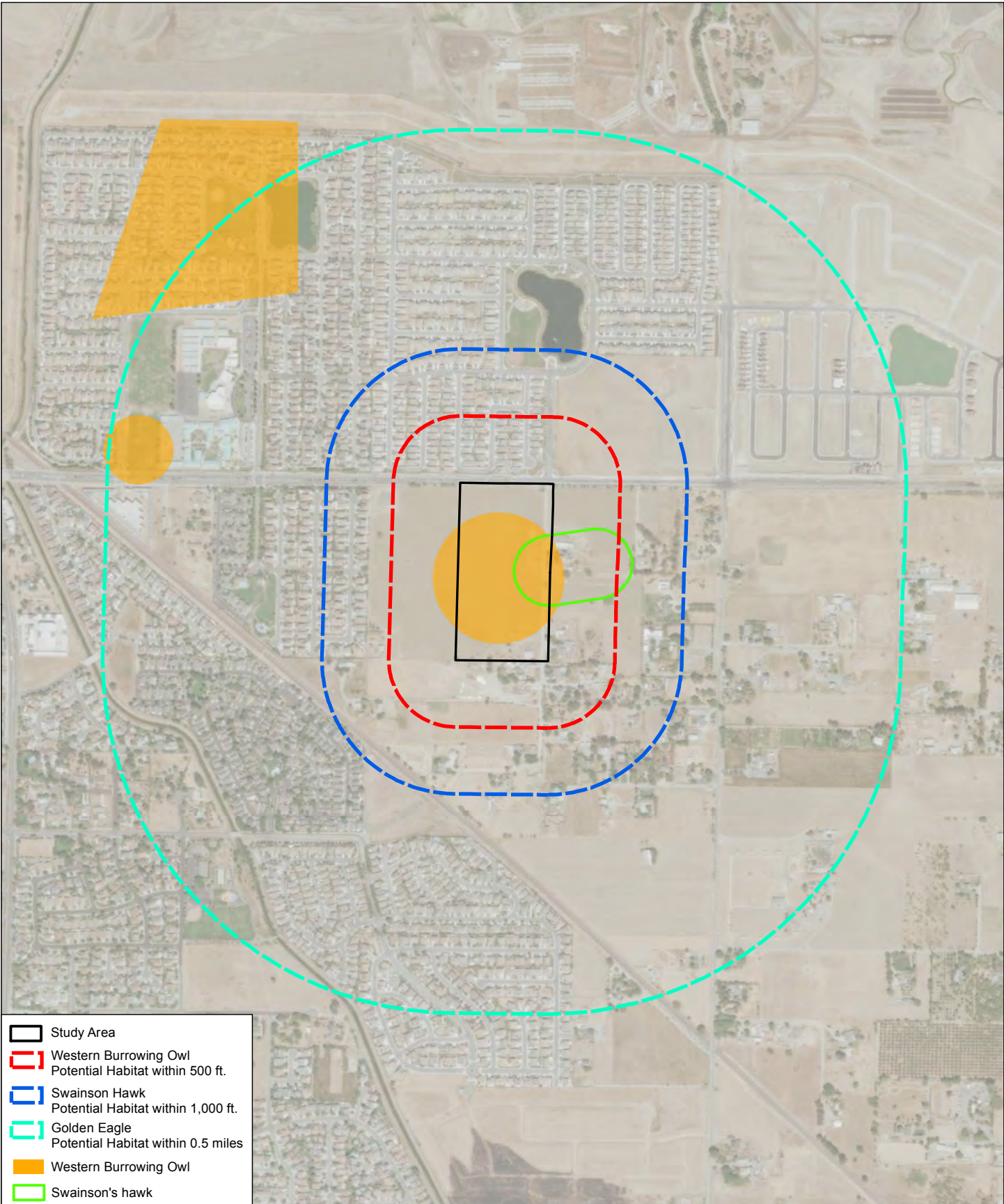
Map Date: 11/12/2020
Aerial Source: Google Earth (02/2020)

Planning Survey Species Habitat Map

Cosetti Ranch

City of Oakley, Contra Costa County, CA

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-  Study Area
-  Western Burrowing Owl Potential Habitat within 500 ft.
-  Swainson Hawk Potential Habitat within 1,000 ft.
-  Golden Eagle Potential Habitat within 0.5 miles
-  Western Burrowing Owl
-  Swainson's hawk

Figure 5b

0 500 1,000




Regional Species Habitat Map

Cosetti Ranch

City of Oakley, Contra Costa County, CA

Moore Biological Consultants

*Map Date: 11/12/2020
Aerial Photo: DigitalGlobe (2020)*

ATTACHMENT C: PROJECT COMPLIANCE TO HCP CONDITIONS

Cosetti Ranch

Project Compliance to HCP Conditions

May 2022

HCP/NCCP Conservation Measure 1.11. Avoid Direct Impacts on Extremely Rare Plants, Fully Protected Wildlife Species, or Covered Migratory Birds:

The potential for special-status plants to occur within the site is considered extremely remote, as described in Section III (10).

Species-specific pre-construction surveys, and if needed, monitoring and avoidance requirements for burrowing owl, Swainson's hawk, and golden eagle will be conducted as described in Section IV (2). There is no suitable habitat in the site for ringtail (*Bassariscus astutus*), a "fully protected species," per California Fish and Game Code Section 4700. Similarly, there is no suitable nesting habitat in the site for peregrine falcon (*Falco peregrinus*), a "fully protected species," per California Fish and Game Code Section 3511.

White-tailed kite (*Elanus caeruleus*), another "fully protected species," per California Fish and Game Code Section 3511 could potentially nest in trees in and near the site. Prior to any ground disturbance related to covered activities that occur during the nesting season (March 15-August 31), a qualified biologist will conduct a preconstruction survey no more than 1 month prior to construction to establish whether white-tailed kite is nesting in trees in or visible from the site. In the event active nests are found, the applicant shall notify the Implementing Entity (i.e., City of Brentwood) and consult with CDFW for further guidance.

On-site tree, shrubs, and grasslands could be used by other species of nesting birds protected by the Migratory Bird Treaty Act. If possible, vegetation removal will occur outside of the general bird nesting season (February 1 through August 31). Alternately, a qualified biologist will conduct a preconstruction survey no more than 2 weeks prior to vegetation removal. In the event active nests are found, the applicant shall notify the Implementing Entity and consult with CDFW for further guidance.

HCP/NCCP Conservation Measure 1.10. Maintain Hydrologic Conditions and Minimize Erosion:

The project has been designed to maintain hydrologic conditions and minimize erosion. Standard construction best management practices (BMPs) will be employed during construction to minimize the potential for erosion and off-site transport of fines. BMPs will include use of water trucks, appropriate compaction of soil, and installation of straw wattles, silt fences or other technologies along the perimeter of the site during construction, and stabilization of bare soils as appropriate with seeding, straw, and/or hydromulch.

ATTACHMENT D: FEE CALCULATOR

ECCC HCP/NCCP 2022 Fee Calculator Worksheet
Clayton, Oakley, Pittsburg, County, PSE¹
Permanent Impacts

PROJECT APPLICANT: MLC Holdings, Inc.

PROJECT NAME: Cosetti Ranch

APN(s): 033-190-003-5, 033-190-004-3, 033-180-001, 033-170-021, 033-170-022, 033-170-020 and 033-170-019

JURISDICTION: Oakley

DATE: May 2022

<u>DEVELOPMENT FEE</u>	<u>PERMANENT IMPACTS (ACRES)</u>	<u>2022 FEE/ACRE</u> <i>subject to change²</i>		
See appropriate ordinance or HCP/NCCP Figure 9-1 to determine Fee Zone	Fee Zone 1	19.88	x	\$18,937.95 = \$376,486.48
	Fee Zone 2		x	\$37,875.90 = \$0.00
	Fee Zone 3		x	\$9,468.98 = \$0.00
	Fee Zone 4 ³		x	\$28,406.93 = \$0.00
	Development Fee Total			= \$376,486.48

<u>WETLAND MITIGATION FEE</u>	<u>PERMANENT IMPACTS (ACRES)</u>	<u>2022 FEE/ACRE</u> <i>subject to change²</i>		
Impacts to riparian/scrub, wetlands, ponds, aquatic, and slough/channel are charged both a wetland mitigation fee and a development fee. Please also include these impact acres to development fee above. ⁴	Riparian woodland / scrub		x	\$105,515.99 = \$0.00
	Perennial Wetland		x	\$159,911.71 = \$0.00
	Seasonal Wetland		x	\$374,220.31 = \$0.00
	Alkali Wetland		x	\$378,310.21 = \$0.00
	Ponds		x	\$205,923.71 = \$0.00
	Aquatic (open water)		x	\$102,962.44 = \$0.00
	Slough / Channel		x	\$147,029.10 = \$0.00

<u>STREAMS</u>	<u>PERMANENT IMPACTS (LINEAR FEET)</u>	<u>2022 FEE/LINEAR FT</u> <i>subject to change²</i>		
Streams 25 feet wide or less			x	\$542.59 = \$0.00
Streams greater than 25 feet wide			x	\$814.47 = \$0.00
	Wetland Mitigation Fee Total			= \$0.00

<u>FEE REDUCTION⁵</u>		
	Development Fee reduction for land in lieu of fee	=
	Development Fee reduction (up to 33%) for permanent assessments	=
	Wetland Mitigation Fee reduction for wetland restoration/creation performed by applicant	=
	Reduction Total	= \$0.00

<u>FINAL FEE CALCULATION</u>		
	Development Fee Total	\$376,486.48
	Wetland Mitigation Fee Total	+ \$0.00
	Mitigation Fee Subtotal	= \$376,486.48
	Contribution to Recovery⁶	+ _____
	TOTAL AMOUNT TO BE PAID	= \$376,486.48

¹ The City of Brentwood is on a separate fee schedule until the 2017 Fee Audit has been adopted by the city. For projects within Brentwood, please use the Brentwood fee calculator worksheets.
² Development fees are adjusted annually (no later than March 15 of each year) according to a formula that includes both a Home Price Index (HPI) and a Consumer Price Index (CPI). The Wetland Mitigation Fees are adjusted according to a CPI.
³ Fee Zone 4 is not shown on Figure 9-1 of the HCP/NCCP but refers to the fee applicable to those few covered activities located in northeastern Antioch (p. 9-21).
⁴ Per Chapter 9.3.1 of the HCP/NCCP, for every acre of impact on wetlands, streams, ponds, and riparian woodland/scrub, applicants will pay the appropriate development fee (according to fee zone) towards land acquisition and the conservation program as a whole, as well as a wetland mitigation fee to cover the costs of successful restoration or creation.
⁵ Fee reductions must be reviewed and approved by the Conservancy.
⁶ Participating Special Entities (PSEs) are required to pay fees over and above permanent and temporary impact mitigation fees to cover indirect costs of extending permit coverage, including a portion of the costs of the initial preparation of the Plan, and a portion of the costs of conservation actions designed to contribute to species recovery. This amount will be determined in accordance with the Contribution to Recovery Implementation Policy adopted by the Conservancy Governing Board on December 8, 2014.

Appendix C
CNDDDB Search Results

SciName	ComName	TaxonGroup	ElmCode	TotalOccs	FedList	CalList	GRank	SRank	RPlantRank	OthrStatus	Habitats	GenHab	MicroHab	ReturnOccs
Blepharizonia plumosa	big tarplant	Dicots	PDAST1C011	53	None	None	G1G2	S1S2	1B.1	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	Valley & foothill grassland	Valley and foothill grassland.	Dry hills and plains in annual grassland. Clay to clay-loam soils; usually on slopes and often in burned areas. 60-505 m.	6
Centromadia parryi ssp. congdonii	Congdon's tarplant	Dicots	PDAST4R0P1	98	None	None	G3T2	S2	1B.1	BLM_S-Sensitive | SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	Valley & foothill grassland Marsh & swamp | Salt marsh | Wetland	Valley and foothill grassland.	Alkaline soils, sometimes described as heavy white clay. 0-245 m.	1
Cicuta maculata var. bolanderi	Bolander's water-hemlock	Dicots	PDAP10M051	17	None	None	G5T4T5	S2?	2B.1		Marsh | Wetland	Marshes and swamps.	In fresh or brackish water. 0-20 m.	1
Extriplex joaquinana	San Joaquin spearscale	Dicots	PDCHE041F3	127	None	None	G2	S2	1B.2	BLM_S-Sensitive | SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	Alkali playa | Chenopod scrub | Meadow & seep | Valley & foothill grassland	Chenopod scrub, alkali meadow, playas, valley and foothill grassland.	In seasonal alkali wetlands or alkali sink scrub with Distichlis spicata, Frankenia, etc. 0-800 m.	3
Hesperolinon breweri	Brewer's western flax	Dicots	PDLIN01030	29	None	None	G2	S2	1B.2		Chaparral | Cismontane woodland | Ultramafic | Valley & foothill grassland	Chaparral, cismontane woodland, valley and foothill grassland.	Often in rocky serpentine soil in serpentine chaparral and serpentine grassland. 195-910 m.	1
Oenothera deltoides ssp. howellii	Antioch Dunes evening-primrose	Dicots	PDONA0C0B4	10	Endangered	Endangered	G5T1	S1	1B.1	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden | SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden |	Interior dunes Brackish marsh | Freshwater marsh |	Interior dunes.	Remnant river bluffs and sand dunes east of Antioch. 1-15 m.	1
Symphotrichum lentum	Suisun Marsh aster	Dicots	PDASTE8470	175	None	None	G2	S2	1B.2	SB_USDA-US Dept of Agriculture SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden |	Marsh & swamp | Wetland	Marshes and swamps (brackish and freshwater).	Most often seen along sloughs with Phragmites, Scirpus, blackberry, Typha, etc. 0-15 m.	1
Tropidocarpum capparideum	caper-fruited tropidocarpum	Dicots	PDBRA2R010	20	None	None	G1	S1	1B.1	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden |	Valley & foothill grassland	Valley and foothill grassland.	Alkaline clay. 0-360 m.	1

SciName	ComName	TaxonGroup	ElmCode	TotalOccs	FedList	CallList	GRank	SRank	RPlantRank	OthrStatus	Habitats	GenHab	MicroHab	ReturnOccs
Agelaius tricolor	tricolored blackbird	Birds	ABPBXB0020	955	None	Threatened	G1G2	S1S2		BLM_S-Sensitive | CDFW_SSC-Species of Special Concern | IUCN_EN-Endangered | NABCI_RWL-Red Watch List | USFWS_BCC-Birds of Conservation Concern	Freshwater marsh | Marsh & swamp | Swamp | Wetland	Highly colonial species, most numerous in Central Valley and vicinity. Largely endemic to California.	Requires open water, protected nesting substrate, and foraging area with insect prey within a few km of the colony.	1
Anniella pulchra	Northern California legless lizard	Reptiles	ARACCO1020	383	None	None	G3	S3		CDFW_SSC-Species of Special Concern | USFS_S-Sensitive	Chaparral | Coastal dunes | Coastal scrub	Sandy or loose loamy soils under sparse vegetation.	Soil moisture is essential. They prefer soils with a high moisture content.	3
Athene cunicularia	burrowing owl	Birds	ABNSB10010	2011	None	None	G4	S3		BLM_S-Sensitive | CDFW_SSC-Species of Special Concern | IUCN_LC-Least Concern | USFWS_BCC-Birds of Conservation Concern	Coastal prairie | Coastal scrub | Great Basin grassland | Great Basin scrub | Mojavean desert scrub | Sonoran desert scrub | Valley & foothill grassland	Open, dry annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation.	Subterranean nester, dependent upon burrowing mammals, most notably, the California ground squirrel.	48
Elanus leucurus	white-tailed kite	Birds	ABNKCO6010	184	None	None	G5	S3S4		BLM_S-Sensitive | CDFW_FP-Fully Protected | IUCN_LC-Least Concern	Cismontane woodland | Marsh & swamp | Riparian woodland | Valley & foothill grassland | Wetland	Rolling foothills and valley margins with scattered oaks and river bottomlands or marshes next to deciduous woodland.	Open grasslands, meadows, or marshes for foraging close to isolated, dense-topped trees for nesting and perching.	4
Emys marmorata	western pond turtle	Reptiles	ARAADO2030	1404	None	None	G3G4	S3		BLM_S-Sensitive | CDFW_SSC-Species of Special Concern | IUCN_VU-Vulnerable | USFS_S-Sensitive	Aquatic | Artificial flowing waters | Klamath/North coast flowing waters | Klamath/North coast standing waters | Marsh & swamp | Sacramento/San Joaquin flowing waters | Sacramento/San Joaquin standing waters | South coast flowing waters | South coast standing waters | Wetland	A thoroughly aquatic turtle of ponds, marshes, rivers, streams and irrigation ditches, usually with aquatic vegetation, below 6000 ft elevation.	Needs basking sites and suitable (sandy banks or grassy open fields) upland habitat up to 0.5 km from water for egg-laying.	7
Lanius ludovicianus	loggerhead shrike	Birds	ABPBR01030	110	None	None	G4	S4		CDFW_SSC-Species of Special Concern | IUCN_LC-Least Concern	Broadleaved upland forest | Desert wash | Joshua tree woodland | Mojavean desert scrub | Pinon & juniper woodlands | Riparian woodland | Sonoran desert scrub	Broken woodlands, savannah, pinyon-juniper, Joshua tree, and riparian woodlands, desert oases, scrub and washes.	Prefers open country for hunting, with perches for scanning, and fairly dense shrubs and brush for nesting.	1

SciName	ComName	TaxonGroup	ElmCode	TotalOccs	FedList	CallList	GRank	SRank	RPlantRank	OthrStatus	Habitats	GenHab	MicroHab	ReturnOccs
Agelaius tricolor	tricolored blackbird	Birds	ABPBXB0020	955	None	Threatened	G1G2	S1S2		BLM_S-Sensitive | CDFW_SSC-Species of Special Concern | IUCN_EN-Endangered | NABCI_RWL-Red Watch List | USFWS_BCC-Birds of Conservation Concern	Freshwater marsh | Marsh & swamp | Wetland	Highly colonial species, most numerous in Central Valley and vicinity. Largely endemic to California.	Requires open water, protected nesting substrate, and foraging area with insect prey within a few km of the colony.	1
Ambystoma californiense pop. 1	California tiger salamander - central California DPS	Amphibians	AAAAA01181	1265	Threatened	Threatened	G2G3T3	S3		CDFW_WL-Watch List | IUCN_VU-Vulnerable	Cismontane woodland | Meadow & seep | Riparian woodland | Valley & foothill grassland | Vernal pool | Wetland	Lives in vacant or mammal-occupied burrows throughout most of the year; in grassland, savanna, or open woodland habitats. Endemic to the grasslands of the Central Valley, Central Coast mountains, and South Coast mountains, in astatic rain-filled pools.	Need underground refuges, especially ground squirrel burrows, and vernal pools or other seasonal water sources for breeding.	21
Branchinecta lynchi	vernal pool fairy shrimp	Crustaceans	ICBRA03030	795	Threatened	None	G3	S3		IUCN_VU-Vulnerable	Valley & foothill grassland | Vernal pool | Wetland		Inhabit small, clear-water sandstone-depression pools and grassed swale, earth slump, or basalt-flow depression pools.	3
Buteo swainsoni	Swainson's hawk	Birds	ABNKC19070	2548	None	Threatened	G5	S3		BLM_S-Sensitive | IUCN_LC-Least Concern | SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden | SB_UCBG-UC Botanic Garden at Berkeley	Great Basin grassland | Riparian forest | Riparian woodland | Valley & foothill grassland	Breeds in grasslands with scattered trees, juniper-sage flats, riparian areas, savannahs, and agricultural or ranch lands with groves or lines of trees.	Requires adjacent suitable foraging areas such as grasslands, or alfalfa or grain fields supporting rodent populations.	11
Oenothera deltooides ssp. howellii	Antioch Dunes evening-primrose	Dicots	PDONA0C0B4	10	Endangered	Endangered	G5T1	S1	1B.1		Interior dunes	Interior dunes. Annual grasslands or grassy open stages with scattered shrubby vegetation.	Remnant river bluffs and sand dunes east of Antioch. 1-15 m.	1
Vulpes macrotis mutica	San Joaquin kit fox	Mammals	AMAJA03041	1020	Endangered	Threatened	G4T2	S2			Chenopod scrub | Valley & foothill grassland		Need loose-textured sandy soils for burrowing, and suitable prey base.	3

Appendix D
Environmental Noise Assessment



Environmental Noise Assessment

Oakley Machado Subdivision

City of Oakley, California

July 8, 2022

Project #220308

Prepared for:



Raney Planning & Management

1501 Sports Drive

Sacramento, California 95834

Prepared by:

Saxelby Acoustics LLC

Luke Saxelby, INCE Bd. Cert.

Principal Consultant

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INTRODUCTION

The Oakley Machado Subdivision project consists of the development of a 76-lot single-family subdivision on a vacant parcel. The project is bordered by single-family residentials to the north, east, and south. The project is located south of East Cypress Lane and west of Machado Lane in the City of Oakley, California.

Figure 1 shows the project site plan. **Figure 2** shows an aerial photo of the project site.

ENVIRONMENTAL SETTING

BACKGROUND INFORMATION ON NOISE

Fundamentals of Acoustics

Acoustics is the science of sound. Sound may be thought of as mechanical energy of a vibrating object transmitted by pressure waves through a medium to human (or animal) ears. If the pressure variations occur frequently enough (at least 20 times per second), then they can be heard and are called sound. The number of pressure variations per second is called the frequency of sound, and is expressed as cycles per second or Hertz (Hz).

Noise is a subjective reaction to different types of sounds. Noise is typically defined as (airborne) sound that is loud, unpleasant, unexpected or undesired, and may therefore be classified as a more specific group of sounds. Perceptions of sound and noise are highly subjective from person to person.

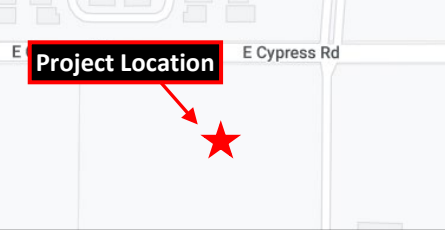
Measuring sound directly in terms of pressure would require a very large and awkward range of numbers. To avoid this, the decibel scale was devised. The decibel scale uses the hearing threshold (20 micropascals), as a point of reference, defined as 0 dB. Other sound pressures are then compared to this reference pressure, and the logarithm is taken to keep the numbers in a practical range. The decibel scale allows a million-fold increase in pressure to be expressed as 120 dB, and changes in levels (dB) correspond closely to human perception of relative loudness.

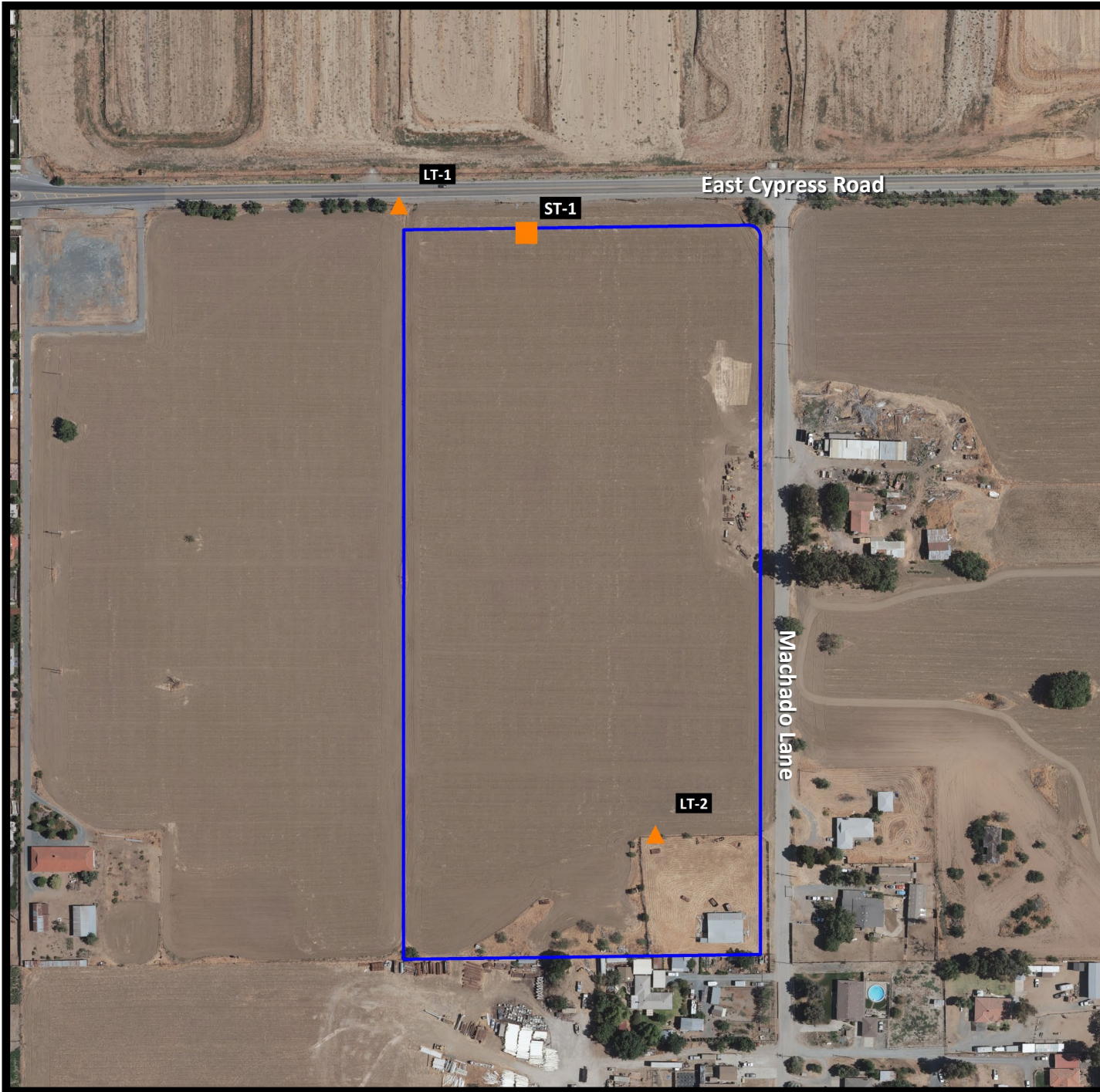
The perceived loudness of sounds is dependent upon many factors, including sound pressure level and frequency content. However, within the usual range of environmental noise levels, perception of loudness is relatively predictable, and can be approximated by A-weighted sound levels. There is a strong correlation between A-weighted sound levels (expressed as dBA) and the way the human ear perceives sound. For this reason, the A-weighted sound level has become the standard tool of environmental noise assessment.



Oakley Machado Subdivision
City of Oakley, California

Figure 1
Project Site Plan





**Oakley Machado
Subdivision**

City of Oakley, California

Figure 2
Noise Measurement Sites

Legend

- Project Site
- ▲ Noise Measurement - Long Term
- Noise Measurement Site - Short Term



Projection: UTM Zone 10 / WGS84 / meters
Rev. Date: 04/21/2022



The decibel scale is logarithmic, not linear. In other words, two sound levels 10-dB apart differ in acoustic energy by a factor of 10. When the standard logarithmic decibel is A-weighted, an increase of 10-dBA is generally perceived as a doubling in loudness. For example, a 70-dBA sound is half as loud as an 80-dBA sound, and twice as loud as a 60 dBA sound.

Community noise is commonly described in terms of the ambient noise level, which is defined as the all-encompassing noise level associated with a given environment. A common statistical tool is the average, or equivalent, sound level (L_{eq}), which corresponds to a steady-state A-weighted sound level containing the same total energy as a time varying signal over a given time period (usually one hour). The L_{eq} is the foundation of the composite noise descriptor, L_{dn} , and shows very good correlation with community response to noise.

The day/night average level (DNL or L_{dn}) is based upon the average noise level over a 24-hour day, with a +10-decibel weighing applied to noise occurring during nighttime (10:00 p.m. to 7:00 a.m.) hours. The nighttime penalty is based upon the assumption that people react to nighttime noise exposures as though they were twice as loud as daytime exposures. Because L_{dn} represents a 24-hour average, it tends to disguise short-term variations in the noise environment.

Table 1 lists several examples of the noise levels associated with common situations. **Appendix A** provides a summary of acoustical terms used in this report.

TABLE 1: TYPICAL NOISE LEVELS

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
	--110--	Rock Band
Jet Fly-over at 300 m (1,000 ft.)	--100--	
Gas Lawn Mower at 1 m (3 ft.)	--90--	
Diesel Truck at 15 m (50 ft.), at 80 km/hr. (50 mph)	--80--	Food Blender at 1 m (3 ft.) Garbage Disposal at 1 m (3 ft.)
Noisy Urban Area, Daytime Gas Lawn Mower, 30 m (100 ft.)	--70--	Vacuum Cleaner at 3 m (10 ft.)
Commercial Area Heavy Traffic at 90 m (300 ft.)	--60--	Normal Speech at 1 m (3 ft.)
Quiet Urban Daytime	--50--	Large Business Office Dishwasher in Next Room
Quiet Urban Nighttime	--40--	Theater, Large Conference Room (Background)
Quiet Suburban Nighttime	--30--	Library
Quiet Rural Nighttime	--20--	Bedroom at Night, Concert Hall (Background)
	--10--	Broadcast/Recording Studio
Lowest Threshold of Human Hearing	--0--	Lowest Threshold of Human Hearing

Source: Caltrans, *Technical Noise Supplement, Traffic Noise Analysis Protocol*. September, 2013.

Effects of Noise on People

The effects of noise on people can be placed in three categories:

- Subjective effects of annoyance, nuisance, and dissatisfaction
- Interference with activities such as speech, sleep, and learning
- Physiological effects such as hearing loss or sudden startling

Environmental noise typically produces effects in the first two categories. Workers in industrial plants can experience noise in the last category. There is no completely satisfactory way to measure the subjective effects of noise or the corresponding reactions of annoyance and dissatisfaction. A wide variation in individual thresholds of annoyance exists and different tolerances to noise tend to develop based on an individual's past experiences with noise.

Thus, an important way of predicting a human reaction to a new noise environment is the way it compares to the existing environment to which one has adapted: the so-called ambient noise level. In general, the more a new noise exceeds the previously existing ambient noise level, the less acceptable the new noise will be judged by those hearing it.

With regard to increases in A-weighted noise level, the following relationships occur:

- Except in carefully controlled laboratory experiments, a change of 1-dBA cannot be perceived;
- Outside of the laboratory, a 3-dBA change is considered a just-perceivable difference;
- A change in level of at least 5-dBA is required before any noticeable change in human response would be expected; and
- A 10-dBA change is subjectively heard as approximately a doubling in loudness, and can cause an adverse response.

Stationary point sources of noise—including stationary mobile sources such as idling vehicles—attenuate (lessen) at a rate of approximately 6-dB per doubling of distance from the source, depending on environmental conditions (i.e. atmospheric conditions and either vegetative or manufactured noise barriers, etc.). Widely distributed noises, such as a large industrial facility spread over many acres, or a street with moving vehicles, would typically attenuate at a lower rate.

EXISTING AND FUTURE NOISE AND VIBRATION ENVIRONMENTS

EXISTING NOISE RECEPTORS

Some land uses are considered more sensitive to noise than others. Land uses often associated with sensitive receptors generally include residences, schools, libraries, hospitals, and passive recreational areas. Sensitive noise receptors may also include threatened or endangered noise sensitive biological species, although many jurisdictions have not adopted noise standards for wildlife areas. Noise sensitive land uses are typically given special attention in order to achieve protection from excessive noise.

Sensitivity is a function of noise exposure (in terms of both exposure duration and insulation from noise) and the types of activities involved. In the vicinity of the project site, sensitive land uses include existing single-family residential uses located south of the project site.

EXISTING GENERAL AMBIENT NOISE LEVELS

The existing noise environment in the project area is primarily defined by traffic on East Cypress Road directly north of the project site.

To quantify the existing ambient noise environment in the project vicinity, Saxelby Acoustics conducted continuous (24-hr.) noise level measurements at two locations on the project site and short-term noise level measurements at one location. Noise measurement locations are shown on **Figure 2**. A summary of the noise level measurement survey results is provided in **Table 2**. **Appendix B** contains the complete results of the noise monitoring.

The sound level meters were programmed to record the maximum, median, and average noise levels at each site during the survey. The maximum value, denoted L_{max} , represents the highest noise level measured. The average value, denoted L_{eq} , represents the energy average of all of the noise received by the sound level meter microphone during the monitoring period. The median value, denoted L_{50} , represents the sound level exceeded 50 percent of the time during the monitoring period.

Larson Davis Laboratories (LDL) model 820 and 831 precision integrating sound level meters were used for the ambient noise level measurement survey. The meters were calibrated before and after use with a CAL 200 acoustical calibrator to ensure the accuracy of the measurements. The equipment used meets all pertinent specifications of the American National Standards Institute for Type 1 sound level meters (ANSI S1.4).

TABLE 2: SUMMARY OF EXISTING BACKGROUND NOISE MEASUREMENT DATA

Site	Date	L_{dn}	Daytime L_{eq}	Daytime L_{50}	Daytime L_{max}	Nighttime L_{eq}	Nighttime L_{50}	Nighttime L_{max}
LT-1	4/12/2022	72	70	52	87	65	41	87
LT-2	4/12/2022	57	53	50	68	51	46	66
ST-1	4/13/2022 – 4:53 pm	N/A	60	58	70	N/A	N/A	N/A

Notes:

- All values shown in dBA
- Daytime hours: 7:00 a.m. to 10:00 p.m.
- Nighttime Hours: 10:00 p.m. to 7:00 a.m.
- Source: Saxelby Acoustics 2022

FUTURE TRAFFIC NOISE ENVIRONMENT AT OFF-SITE RECEPTORS

OFF-SITE TRAFFIC NOISE IMPACT ASSESSMENT METHODOLOGY

To assess noise impacts due to project-related traffic increases on the local roadway network, traffic noise levels are predicted at sensitive receptors for Existing and Existing Plus Project conditions.

Noise levels due to traffic are calculated using the Federal Highway Administration Highway Traffic Noise Prediction Model (FHWA RD-77-108). The model is based upon the Calveno reference noise factors for automobiles, medium trucks and heavy trucks, with consideration given to vehicle volume, speed, roadway configuration, distance to the receiver, and the acoustical characteristics of the site.

The FHWA model was developed to predict hourly L_{eq} values for free-flowing traffic conditions. To predict traffic noise levels in terms of L_{dn} , it is necessary to adjust the input volume to account for the day/night distribution of traffic.

Project trip generation volumes were provided by the project traffic engineer (TJKM 2022), truck usage and vehicle speeds on the local area roadways were estimated from field observations. The predicted increases in traffic noise levels on the local roadway network for Existing conditions which would result from the project are provided in terms of L_{dn} . Therefore, this analysis of off-site traffic noise increases is considered conservative.

Traffic noise levels are predicted at the sensitive receptors located at the closest typical setback distance along each project-area roadway segment. In some locations sensitive receptors may not receive full shielding from noise barriers or may be located at distances which vary from the assumed calculation distance.

Tables 3 summarize the modeled traffic noise levels at the nearest sensitive receptors along each roadway segment in the Project area. **Appendix C** provides the complete inputs and results of the FHWA traffic noise modeling.

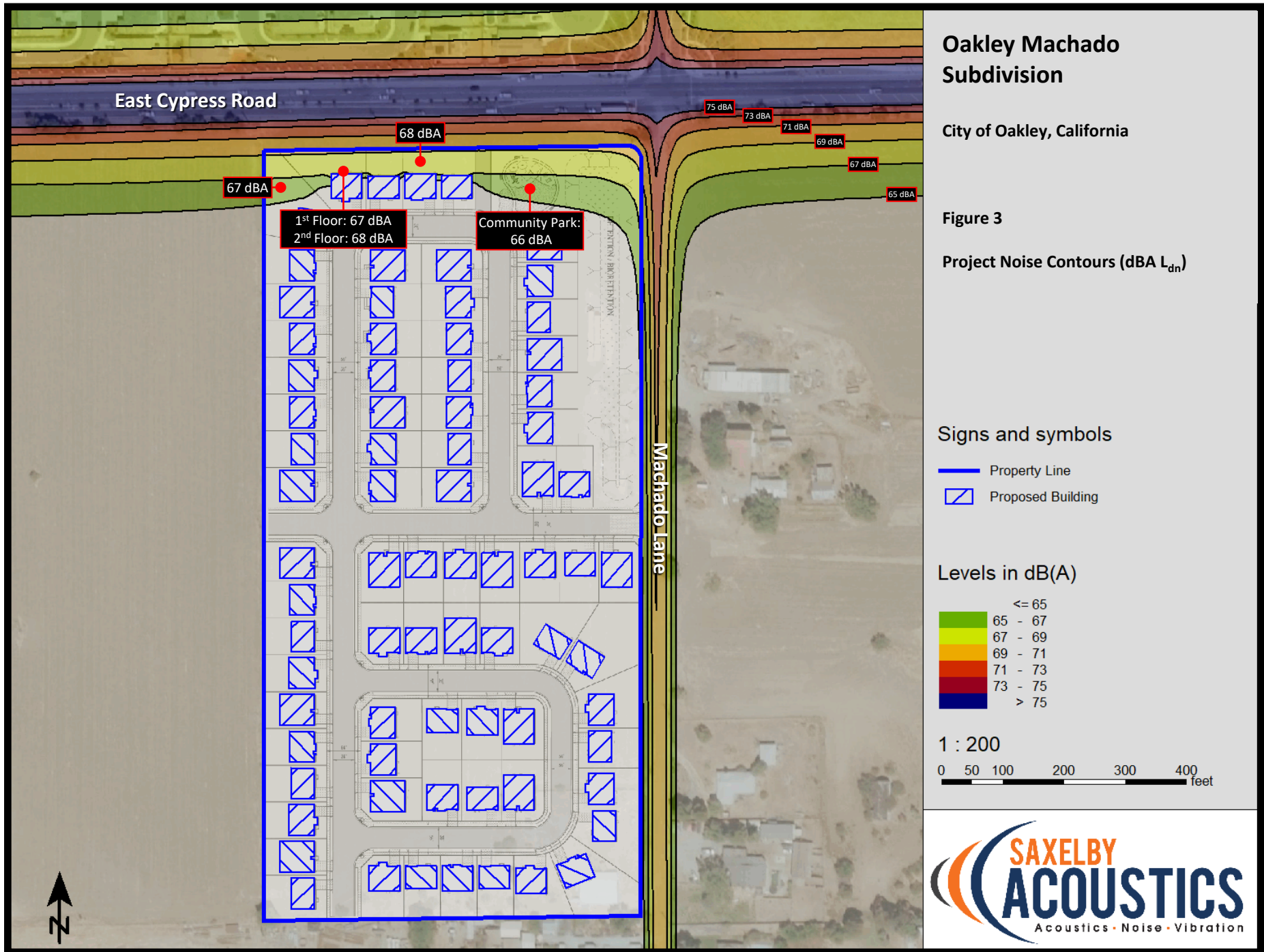
TABLE 3: EXISTING TRAFFIC NOISE LEVELS AND PROJECT-RELATED TRAFFIC NOISE LEVEL INCREASES

Roadway	Segment	Predicted Exterior Noise Level (dBA L _{dn}) at Closest Sensitive Receptors		
		Existing No Project	Existing + Project	Change
Main St	South of W Cypress Rd	67.9	68.1	0.2
W. Cypress Rd	West of Main Street	70.1	70.1	0.0
E Cypress Rd	Main St and Machado Ln	69.3	69.5	0.2
E Cypress Rd	Machado Ln and Sellers Ave	63.4	63.4	0.0
E Cypress Rd	East of Sellers Ave	60.0	60.0	0.0
Main St	North of W Cypress Rd	64.1	64.2	0.1
Machado Lane	South of E Cypress Rd	56.6	59.8	3.2

Based upon the data in **Table 3**, the proposed project is predicted to result in an increase in a maximum traffic noise level increase of 3.2 dBA.

EVALUATION OF TRANSPORTATION NOISE ON PROJECT SITE

Saxelby Acoustics used the SoundPLAN noise model to calculate traffic noise levels at the proposed single-family uses due to traffic on East Cypress Road. Traffic noise levels include a +1 dBA adjustment for future conditions. The results of this analysis are shown graphically on **Figure 3**.



East Cypress Road

67 dBA

68 dBA

1st Floor: 67 dBA
2nd Floor: 68 dBA

Community Park:
66 dBA

75 dBA

73 dBA

71 dBA

69 dBA

67 dBA

65 dBA

Machado Lane



CONSTRUCTION NOISE ENVIRONMENT

During the construction of the proposed project, including roads, water and sewer lines, and related infrastructure, noise from construction activities would temporarily add to the noise environment in the project vicinity. As shown in **Table 5**, activities involved in construction would generate maximum noise levels ranging from 76 to 90 dB at a distance of 50 feet.

TABLE 4: CONSTRUCTION EQUIPMENT NOISE

Type of Equipment	Maximum Level, dBA at 50 feet
Auger Drill Rig	84
Backhoe	78
Compactor	83
Compressor (air)	78
Concrete Saw	90
Dozer	82
Dump Truck	76
Excavator	81
Generator	81
Jackhammer	89
Pneumatic Tools	85

Source: *Roadway Construction Noise Model User's Guide*. Federal Highway Administration. FHWA-HEP-05-054. January 2006.

CONSTRUCTION VIBRATION ENVIRONMENT

The primary vibration-generating activities associated with the proposed project would occur during construction when activities such as grading, utilities placement, and parking lot construction occur. **Table 6** shows the typical vibration levels produced by construction equipment.

TABLE 5: VIBRATION LEVELS FOR VARIOUS CONSTRUCTION EQUIPMENT

Type of Equipment	Peak Particle Velocity at 25 feet (inches/second)	Peak Particle Velocity at 50 feet (inches/second)	Peak Particle Velocity at 100 feet (inches/second)
Large Bulldozer	0.089	0.031	0.011
Loaded Trucks	0.076	0.027	0.010
Small Bulldozer	0.003	0.001	0.000
Auger/drill Rigs	0.089	0.031	0.011
Jackhammer	0.035	0.012	0.004
Vibratory Hammer	0.070	0.025	0.009
Vibratory Compactor/roller	0.210 (Less than 0.20 at 26 feet)	0.074	0.026

Source: *Transit Noise and Vibration Impact Assessment Guidelines*. Federal Transit Administration. May 2006.

REGULATORY CONTEXT

FEDERAL

There are no federal regulations related to noise that apply to the Proposed Project.

STATE

California Environmental Quality Act

The California Environmental Quality Act (CEQA) Guidelines, Appendix G, indicate that a significant noise impact may occur if a project exposes persons to noise or vibration levels in excess of local general plans or noise ordinance standards, or cause a substantial permanent or temporary increase in ambient noise levels. CEQA standards are discussed more below under the Thresholds of Significance section.

LOCAL

City of Oakley General plan

GOAL 9.1 PROTECT COMMUNITY FROM EXCESSIVE NOISE

Protect residents from the harmful and annoying effects of exposure to excessive noise

Policies

- 9.1.1. New development shall use the land use compatibility table shown in Figure 9-1 and the standards contained within Tables 9-7 and 9-8 for determining noise compatibility.
- 9.1.2. New development of noise-sensitive uses shall not be allowed where the noise level due to non-transportation noise sources will exceed the noise level standards of Table 9-1 as measured immediately within the property line or within a designated outdoor activity area (location is at the discretion of the Community Development Director) of the new development, unless effective noise mitigation measures have been incorporated into the development design to achieve the standards specified in Table 9-1.
- 9.1.3. Noise created by new proposed non-transportation noise sources shall be mitigated so as not to exceed the noise level standards of Table 9-7 as measured immediately within the property line of lands designated for noise-sensitive uses. Note: For the purposes of the Noise Element, transportation noise sources are defined as traffic on public roadways, railroad line operations and aircraft in flight. Control of noise from these sources is preempted by Federal and State regulations. Other noise sources are presumed to be subject to local regulations, such as a noise control ordinance. Non-transportation noise sources may include industrial operations, outdoor recreation facilities, Heating, Ventilation, Air Conditioning (HVAC) units, loading docks, etc.
- 9.1.4. Where proposed non-residential land uses are likely to produce noise levels exceeding the performance standards of Table 9-7 at existing or planned noise-sensitive uses, an acoustical analysis shall be required as part of the environmental review process so that noise mitigation may be included in the project design. The requirements for the contents of an acoustical analysis are given by Table 9-8.
- 9.1.5. Noise created by new transportation noise sources shall be mitigated so as not to exceed the levels specified in Table 9-9 at outdoor activity areas or interior spaces of existing noise-sensitive land uses.
- 9.1.6. It is anticipated that roadway improvement projects will be needed to accommodate build-out of the general plan. Therefore, existing noise-sensitive uses may be exposed to increased noise levels due to roadway improvement projects as a result of increased roadway capacity, increases in travel speeds, etc. It may not be practical to reduce increased traffic noise levels consistent with those contained Table 9-9. Therefore, as an alternative, the following criteria may be used as a test of significance for roadway improvement projects:
- Where existing traffic noise levels are less than 60 dB Ldn at the outdoor activity areas of noise-sensitive uses, a +5 dB Ldn increase in noise levels due to roadway improvement projects will be considered significant; and
 - Where existing traffic noise levels range between 60 and 65 dB Ldn at the outdoor activity areas of noise-sensitive uses, a +3 dB Ldn increase in noise levels due to roadway improvement projects will be considered significant; and
 - Where existing traffic noise levels are greater than 65 dB Ldn at the outdoor activity areas of noise-sensitive uses, a +1.5 dB Ldn increase in noise levels due to roadway improvement projects will be considered significant

- 9.1.7. Where noise mitigation measures are required to achieve the standards of Tables 9-7 and 9-9, the emphasis of such measures shall be placed upon site planning and project design. The use of noise barriers shall be considered a means of achieving the noise standards only after all other practical design-related noise mitigation measures have been integrated into the project. Note: Existing dwellings and new single-family dwellings may not be subject to City review with respect to satisfaction of the standards of the Noise Element. As a consequence, such dwellings may be constructed in areas where noise levels exceed the standards of the Noise Element. It is not the responsibility of the City to ensure that such dwellings meet the noise standards of the Noise Element, or the noise standards imposed by lending agencies such as U.S. Department of Housing and Urban Development (HUD), the Federal Housing Administration (FHA) and the State of California Department of Veteran Affairs (Cal Vet). If homes are located and constructed in accordance with the Noise Element, it is expected that the resulting exterior and interior noise levels will conform to the HUD/FHA/Cal Vet noise standards.
- 9.1.8. Obtrusive, discretionary noise generated from residences, motor vehicles, commercial establishments, and/or industrial facilities should be minimized or prohibited.
- 9.1.9. Activities associated with agricultural operations are recognized as noise sources which may be considered annoying to some residents. These activities can occur during the daytime and nighttime hours. Activities include crop dusting, tractor operations, zongollos, etc. The city will require that all new development of residential uses adjacent to agricultural uses provide full disclosure of potential noise sources to future residents consistent with the City's right to farm ordinance.

Programs

- 9.1.A. The City has adopted and will update as necessary a Noise Ordinance to govern nuisance noise introduced by residential, commercial, or industrial uses. The purpose of this Ordinance is to regulate excessive noise produced by sources including, but not limited to, car stereos, parties, commercial and industrial activities (except where approved by the City), and other discretionary noise observed to be a nuisance to adjacent communities or businesses. 9-12 Noise Element
- 9.1.B. Prior to approval of development, roadway, infrastructure, and other ground-disturbing projects, review projects to identify potential for noise levels to exceed the standards established in Policies 9.1.1 through 9.1.7 and require mitigation measures to ensure that noise is reduced to an acceptable level

GOAL 9.2 ENSURE COMPATIBILITY BETWEEN NOISE PRODUCING LAND USES AND OTHER USES

Protect the economic base of the City by preventing incompatible land uses from encroaching upon existing or planned noise-producing uses..

Policies

- 9.2.1. New development of noise-sensitive land uses shall not be permitted in areas exposed to existing or projected levels of noise from transportation noise sources which exceed the levels specified in Table 9-9, unless the project design includes effective mitigation measures to reduce exterior noise and noise levels in interior spaces to the levels specified in Table 9-9.

Programs

9.2.A. Where noise-sensitive land uses are proposed in areas exposed to existing or projected exterior noise levels exceeding the levels specified in Table 9-9 or the performance standards of Table 9-7 (**Table 1**), an acoustical analysis shall be required as part of the environmental review process so that noise mitigation may be included in the project design.

TABLE 9-7: NOISE LEVELS PERFORMANCE STANDARDS FOR NEW PROJECTS AFFECTED BY OR INCLUDING NON-TRANSPORTATION NOISE SOURCES

Noise Level Descriptor	Daytime (7 a.m. to 10 p.m.)	Nighttime (10 p.m. to 7a.m.)
Hourly L_{eq} , dB	55	45

- Each of the noise levels specified above shall be lowered by five dB for simple tone noises, noises consisting primarily of speech or music, or for recurring impulsive noises (e.g., humming sounds, outdoor speaker systems). These noise levels standards do not apply to residential units established in conjunction with industrial or commercial uses (e.g., caretaker dwellings).
- The City can impose noise level standards which are more restrictive than those specified above based upon determination of existing low ambient noise levels.
- Fixed noise sources which are typically of concern include, but are not limited to the following:

HVAC Systems	Cooling Towers/Evaporative Condensers
Pump Systems	Lift Stations
Emergency Generators	Boilers
Steam Valves	Steam Turbines
Generators	Fans
Air Compressors	Heavy Equipment
Conveyor Systems	Transformers
Pile Drivers	Grinders
Drill Rigs	Gas or Diesel Motors
Welders	Cutting Equipment
Outdoor Speakers	Blowers
- The types of uses which may typically produce the noise sources described above include but are not limited to: industrial facilities including pumps stations, trucking operations, tire shops, auto maintenance shops, metal fabricating shops shopping centers, drive-up windows, car washes, loading docks, public works project, batch plants, bottling and canning plants, recycling centers, electric generating stations, race tracks, landfills, and gravel operations, and athletic fields.

TABLE 9-8: REQUIREMENTS FOR AN ACOUSTICAL ANALYSIS

An acoustical analysis prepared pursuant to the Noise Element shall:
A. Be the financial responsibility of the applicant.
B. Be prepared by a qualified person experienced in the fields of environmental noise assessment and architectural acoustics.
C. Include representative noise level measurements with sufficient sampling periods and locations to adequately describe local conditions and the predominant noise sources.
D. Estimate existing and projected cumulative (20 years) noise levels in terms of Ldn or CNEL and/or the stands of Table 1, and compare those levels to the adopted policies of the Noise Element.
E. Recommend appropriate mitigation to achieve compliance with the adopted policies and standards of the Noise Element, giving preferences to proper site planning and design over mitigation measures which require the construction noise barriers or structural modification to building which contain noise sensitive land uses.
F. Estimate noise exposure after the prescribed mitigation measures have been implemented.
G. Describe a post-project assessment program which could be used to evaluate the effectiveness of the proposed mitigation measures.

TABLE 9-9: MAXIMUM ALLOWABLE NOISE EXPOSURE TRANSPORTATION NOISE SOURCES

Land Use	Outdoor Activity	Interior Spaces	
Residential	65	45	--
Transient Lodging	65 ³	45	--
Hospitals, Nursing Homes	65	45	--
Theaters, Auditoriums, Music Halls	--	--	35
Churches, Meeting Halls	65	--	40
Office Buildings	--	--	45
School, Libraries, Museums	--	--	45
Playgrounds, Neighborhood, Parks	70	--	--

1. Where the location of outdoor activity areas is unknown, the exterior noise level standard shall be applied to the property line of the receiving land use.
2. Where it is not practical to mitigate exterior noise levels at patio or balconies of apartment complexes, a common area such as a pool or recreation area may be designated as the outdoor activity area.
3. As determined for a typical worst case hour during periods of use.
4. In the case of hotel/motel facilities or other transient lodging, outdoor activity areas such as pool areas may not be included in the project design. In these cases, only the interior noise level criterion will apply.

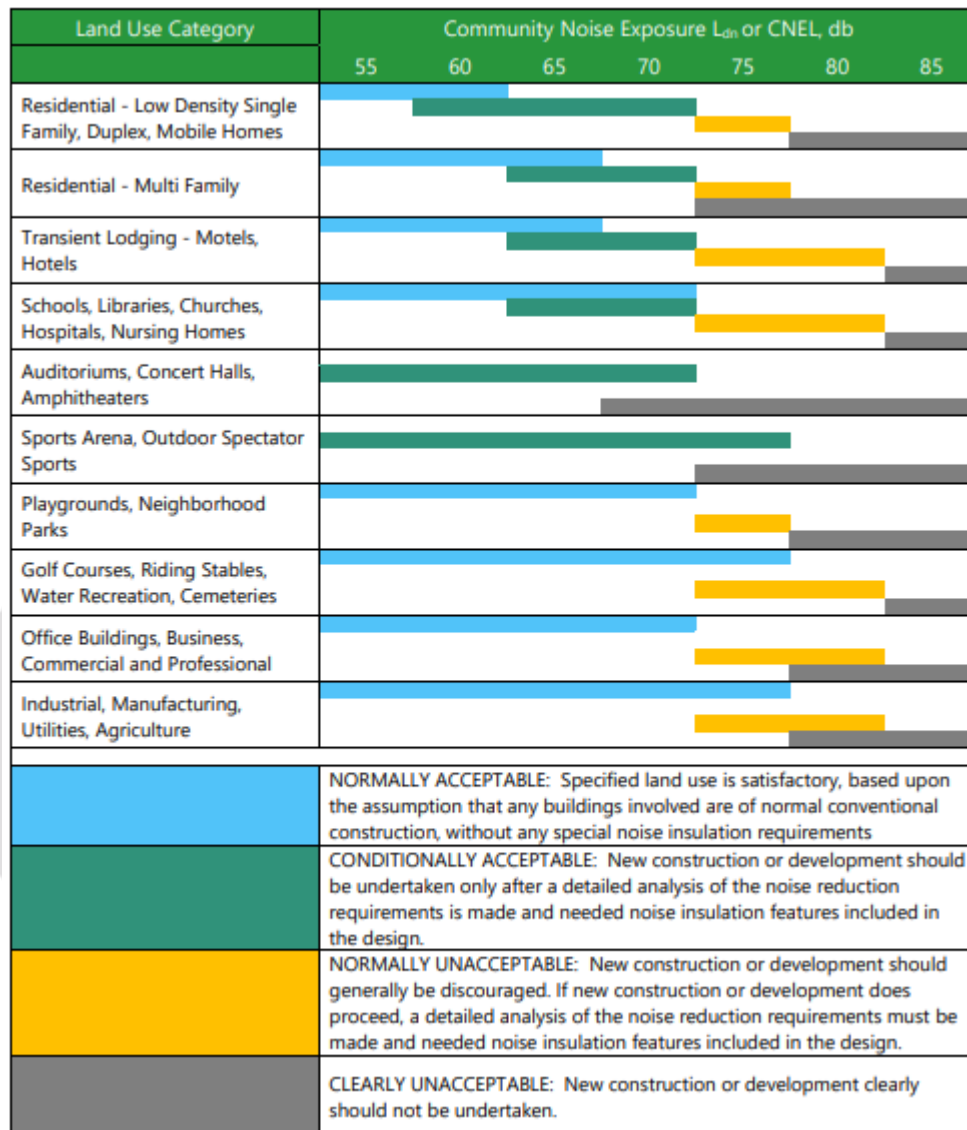


FIGURE 9-1: LAND COMPATIBILITY FOR COMMUNITY NOISE ENVIRONMENTS

Criteria for Acceptable Vibration

Vibration is like noise in that it involves a source, a transmission path, and a receiver. While vibration is related to noise, it differs in that noise is generally considered to be pressure waves transmitted through air, whereas vibration usually consists of the excitation of a structure or surface. As with noise, vibration consists of an amplitude and frequency. A person’s perception of the vibration will depend on their individual sensitivity to vibration, as well as the amplitude and frequency of the source and the response of the system which is vibrating.

Vibration can be measured in terms of acceleration, velocity, or displacement. A common practice is to monitor vibration measures in terms of peak particle velocities (p.p.v.) in inches per second. Standards pertaining to perception as well as damage to structures have been developed for vibration levels defined in terms of peak particle velocities.

Human and structural response to different vibration levels is influenced by a number of factors, including ground type, distance between source and receptor, duration, and the number of perceived vibration events. **Table 6**, which was developed by Caltrans, shows the vibration levels which would normally be required to result in damage to structures. The vibration levels are presented in terms of peak particle velocity in inches per second.

Table 6 indicates that the threshold for architectural damage to structures is 0.20 in/sec p.p.v. A threshold of 0.2 in/sec p.p.v. is considered to be a reasonable threshold for short-term construction projects.

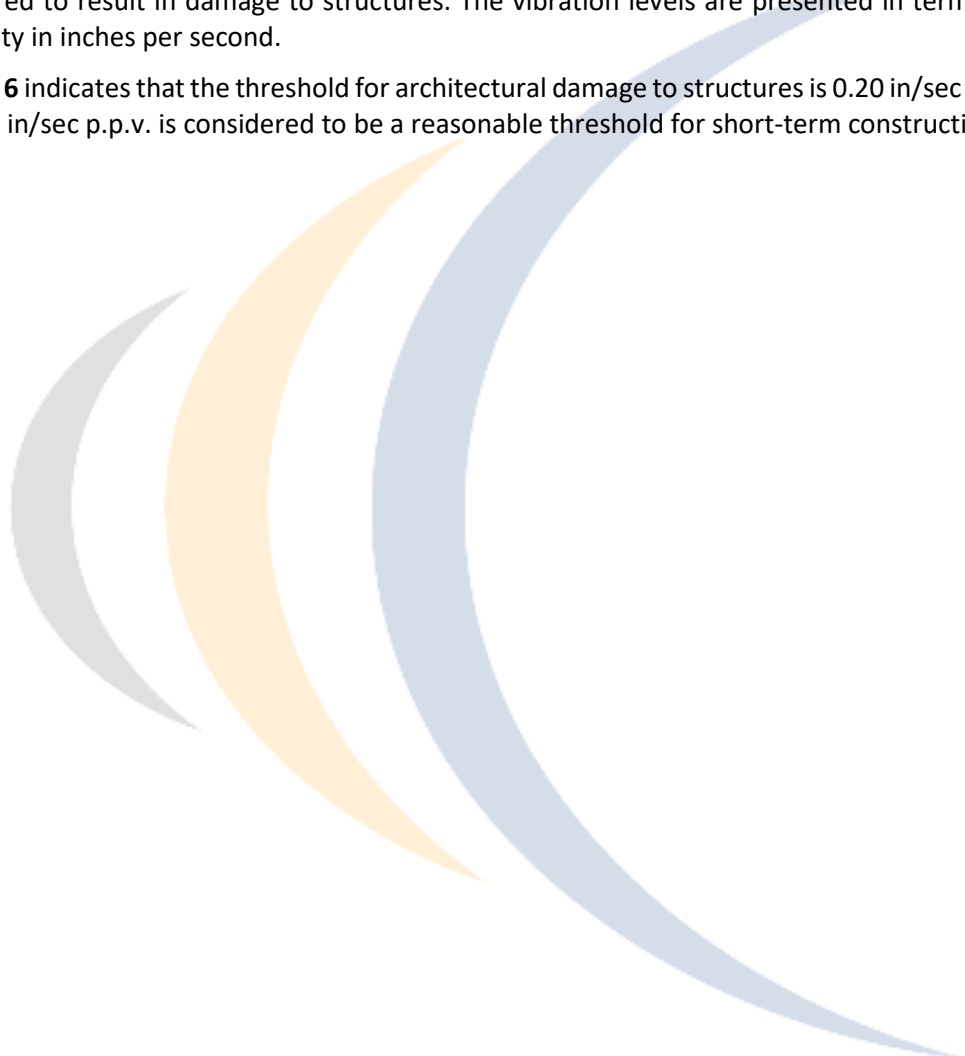


TABLE 6: EFFECTS OF VIBRATION ON PEOPLE AND BUILDINGS

Peak Particle Velocity		Human Reaction	Effect on Buildings
mm/second	in/second		
0.15-0.30	0.006-0.019	Threshold of perception; possibility of intrusion	Vibrations unlikely to cause damage of any type
2.0	0.08	Vibrations readily perceptible	Recommended upper level of the vibration to which ruins and ancient monuments should be subjected
2.5	0.10	Level at which continuous vibrations begin to annoy people	Virtually no risk of “architectural” damage to normal buildings
5.0	0.20	Vibrations annoying to people in buildings (this agrees with the levels established for people standing on bridges and subjected to relative short periods of vibrations)	Threshold at which there is a risk of “architectural” damage to normal dwelling - houses with plastered walls and ceilings. Special types of finish such as lining of walls, flexible ceiling treatment, etc., would minimize “architectural” damage
10-15	0.4-0.6	Vibrations considered unpleasant by people subjected to continuous vibrations and unacceptable to some people walking on bridges	Vibrations at a greater level than normally expected from traffic, but would cause “architectural” damage and possibly minor structural damage

Source: *Transportation Related Earthborne Vibrations*. Caltrans. TAV-02-01-R9601. February 20, 2002.

IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Appendix G of the CEQA Guidelines states that a project would normally be considered to result in significant noise impacts if noise levels conflict with adopted environmental standards or plans, or if noise generated by the project would substantially increase existing noise levels at sensitive receivers on a permanent or temporary basis. Significance criteria for noise impacts are drawn from CEQA Guidelines Appendix G (Items XI [a-f]).

Would the project:

- a. Generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?
- b. Generate excessive groundborne vibration or groundborne noise levels?
- c. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

NOISE LEVEL INCREASE CRITERIA FOR LONG-TERM PROJECT-RELATED NOISE LEVEL INCREASES

The California Environmental Quality Act (CEQA) guidelines define a significant impact of a project if it “increases substantially the ambient noise levels for adjoining areas.” Generally, a project may have a significant effect on the environment if it will substantially increase the ambient noise levels for adjoining areas or expose people to severe noise levels. In practice, more specific professional standards have been developed. These standards state that a noise impact may be considered significant if it would generate noise that would conflict with local project criteria or ordinances, or substantially increase noise levels at noise sensitive land uses. The potential increase in traffic noise from the project is a factor in determining significance. Research into the human perception of changes in sound level indicates the following:

- A 3 dB change is barely perceptible,
- A 5 dB change is clearly perceptible, and
- A 10 dB change is perceived as being twice or half as loud.

A limitation of using a single noise level increase value to evaluate noise impacts is that it fails to account for pre-project-noise conditions. **Table 7** is based upon recommendations made by the Federal Interagency Committee on Noise (FICON) to provide guidance in the assessment of changes in ambient noise levels resulting from aircraft operations. The recommendations are based upon studies that relate aircraft noise levels to the percentage of persons highly annoyed by the noise. Although the FICON recommendations were specifically developed to assess aircraft noise impacts, it is widely accepted that they are applicable to all sources of noise described in terms of cumulative noise exposure metrics such as the L_{dn} .

TABLE 7: SIGNIFICANCE OF CHANGES IN NOISE EXPOSURE

Ambient Noise Level Without Project, L _{dn}	Increase Required for Significant Impact
<60 dB	+5.0 dB or more
60-65 dB	+3.0 dB or more
>65 dB	+1.5 dB or more

Source: Federal Interagency Committee on Noise (FICON)

Based on the **Table 7** data, an increase in the traffic noise level of 5 dB or more would be significant where the pre-project noise levels are less than 60 dB L_{dn}, or 3 dB or more where existing noise levels are between 60 to 65 dB L_{dn}. Extending this concept to higher noise levels, an increase in the traffic noise level of 1.5 dB or more may be significant where the pre-project traffic noise level exceeds 65 dB L_{dn}. The rationale for the **Table 7** criteria is that, as ambient noise levels increase, a smaller increase in noise resulting from a project is sufficient to cause annoyance.

PROJECT-SPECIFIC IMPACTS AND MITIGATION MEASURES

Impact 1: *Would the project generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?*

Traffic Noise Increases

As discussed, the substantial increase criteria range between +1.5 dBA to +5 dBA, depending on the existing noise levels. Under the proposed project, the maximum increase in traffic noise at the nearest sensitive receptor is predicted to be 3.2 dBA with existing noise levels to be less than 60 dB L_{dn} as shown in **Table 3**. Therefore, impacts resulting from increased traffic noise would be considered **less-than-significant**.

Operational Noise Increases

The proposed project would include typical residential noise which would be compatible with the existing adjacent residential uses.

Construction Noise

During the construction phases of the project, noise from construction activities would add to the noise environment in the immediate project vicinity. As indicated in **Table 5**, activities involved in construction would generate maximum noise levels ranging from 76 to 90 dBA L_{max} at a distance of 50 feet. The great majority of the building construction would occur at distances of 50 feet or greater from the nearest residences, and at distances where construction noise would not be perceptible. Construction noise associated with streets would be similar to noise that would be associated with public works projects, such as a roadway widening or paving projects.

Construction activities would be temporary in nature and are anticipated to occur during normal daytime working hours.

Noise would also be generated during the construction phase by increased truck traffic on area roadways. A project-generated noise source would be truck traffic associated with transport of heavy materials and equipment to and from the construction site. This noise increase would be of short duration and would likely occur primarily during daytime hours.

Construction activities are conditionally exempt from the Noise Ordinance during certain hours. Construction activities are exempt from the noise standard from 8 AM to 5 PM Monday through Friday, and from 9 AM to 4 PM on Saturdays. No construction shall occur on Sundays or City holidays.

Although construction activities are temporary in nature and would likely occur during normal daytime working hours, construction-related noise could result in sleep interference at existing noise-sensitive land uses in the vicinity of the construction if construction activities were to occur outside the normal daytime hours. Therefore, impacts resulting from noise levels temporarily exceeding the threshold of significance due to construction would be considered **potentially significant**.

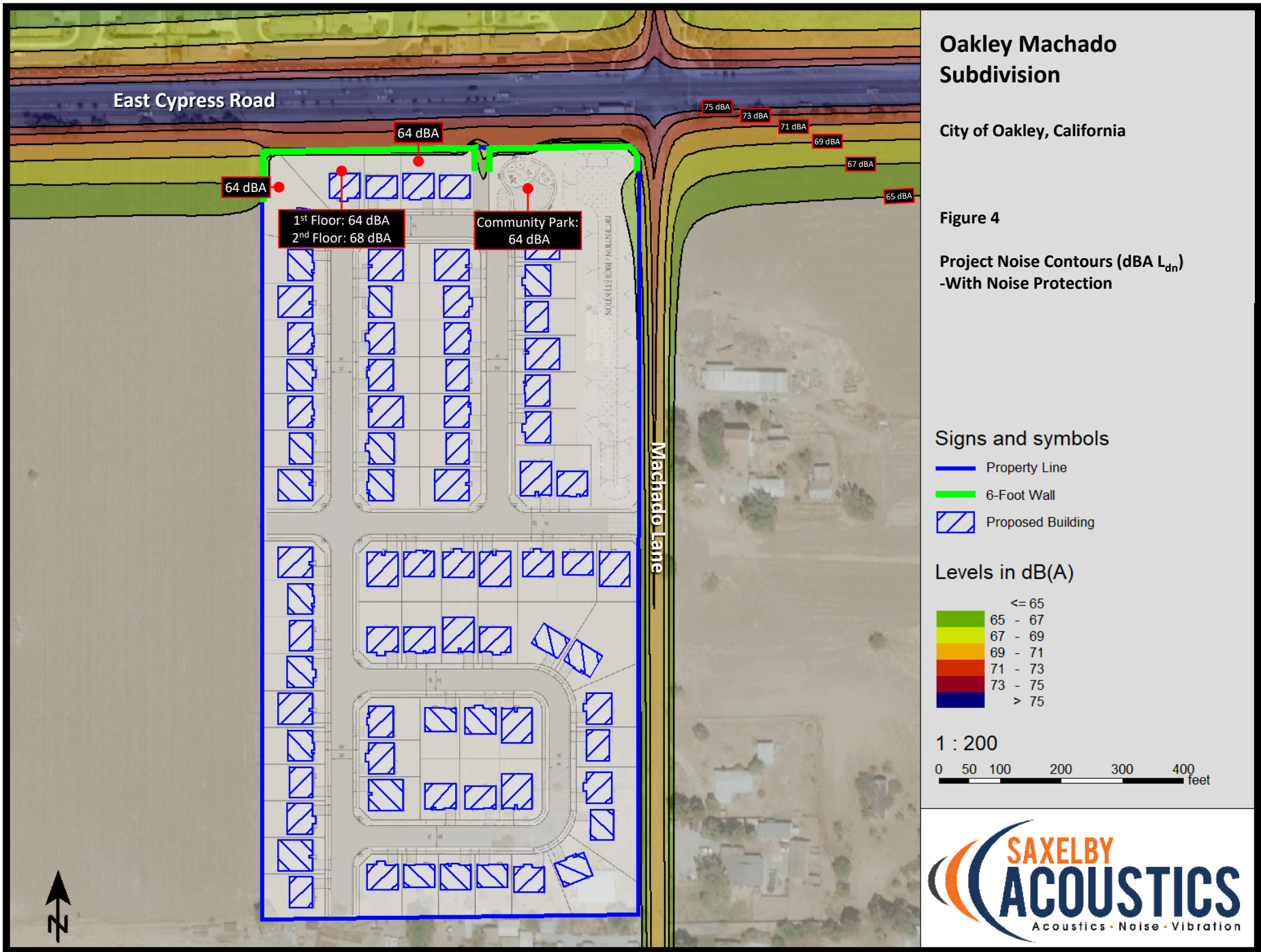
Transportation Noise on Project Site (Non-CEQA Issue)

Exterior Transportation Noise

Compliance with City standards on new noise-sensitive receptors is not a CEQA consideration. However, this information is provided here so that a determination can be made regarding the ability of the proposed project to meet the requirements of the City of Oakley for exterior and interior noise levels at new sensitive uses proposed under the project.

As shown on **Figure 3**, the outdoor activity areas along East Cypress Road on the proposed project would be exposed to exterior noise levels exceeding the City's 65 dBA L_{dn} exterior noise standard for residential uses.

With construction of the sound wall design show in **Figure 4**, proposed noise-sensitive residential uses would be exposed to exterior noise levels of 65 dBA L_{dn} , or less. This would comply with the City's 65 dBA L_{dn} standard.



East Cypress Road

64 dBA

64 dBA

1st Floor: 64 dBA
2nd Floor: 68 dBA

Community Park:
64 dBA

75 dBA

73 dBA

71 dBA

69 dBA

67 dBA

65 dBA

Machado Lane



Interior Transportation Noise

Modern building construction methods typically yield an exterior-to-interior noise level reduction of 25 dBA. Therefore, where exterior noise levels are 70 dBA L_{dn} , or less, no additional interior noise control measures are typically required. For this project, exterior noise levels are predicted to be less than 68 dBA L_{dn} at first and second floor locations.

This would result in interior noise levels of less than 43 dBA L_{dn} at first and second floor receivers based on typical building construction. This meets with the City of Oakley General Plan interior noise level standard of 45 dBA L_{dn} .

Mitigation Measure(s)

Implementation of the following mitigation measures would reduce the above impact to a *less-than-significant* level.

1(a) *Construction activities shall be limited to the hours set forth below:*

Monday-Friday 8:00 AM to 5:00 PM

Saturday 9:00 AM to 4:00 PM

Construction shall be prohibited on Sundays and City holidays. These criteria shall be included in the grading plan submitted by the applicant/developer for review and approval of the Community Development Director prior to issuance of grading permits. Exceptions to allow expanded construction activities shall be reviewed on a case-by-case basis as determined by the Chief Building Official and/or City Engineer.

1(b) *The project contractor shall ensure that the following construction noise BMPs are met on-site during all phases of construction:*

- All equipment driven by internal combustion engines shall be equipped with mufflers, air-inlet silencers where appropriate, and any other shrouds, shields, or other noise-reducing features in good operating condition that meet or exceed original factory specifications. Mobile or fixed “package” equipment (e.g., arc welders, air compressors) shall be equipped with shrouds and noise-control features that are readily available for that type of equipment.*
- All mobile or fixed noise-producing equipment used on the project site that are regulated for noise output by a federal, state, or local agency shall comply with such regulations while in the course of project activity.*
- The construction contractor shall utilize “quiet” models of air compressors and other stationary noise sources where technology exists.*
- At all times during project grading and construction, stationary noise-generating equipment shall be located as far as practicable from sensitive receptors and placed so that emitted noise is directed away from residences.*
- Unnecessary idling of internal combustion engines shall be prohibited.*

- *Construction staging areas shall be established at locations that would create the greatest distance between the construction-related noise sources and noise-sensitive receptors nearest the project site during all project construction activities, to the extent feasible.*
- *Construction site and access road speed limits shall be established and enforced during the construction period.*
- *The use of noise-producing signals, including horns, whistles, alarms, and bells, shall be for safety warning purposes only.*
- *Project-related public address or music systems shall not be audible at any adjacent receptor.*
- *Neighbors located adjacent to the construction site shall be notified of the construction schedule in writing.*
- *The construction contractor shall designate a “noise disturbance coordinator” who would be responsible for responding to any local complaints about construction noise. The disturbance coordinator shall be responsible for determining the cause of the noise complaint (e.g., starting too early, poor muffler, etc.) and instituting reasonable measures as warranted to correct the problem. A telephone number for the disturbance coordinator shall be conspicuously posted at the construction site.*

Construction noise BMPs shall be included in the grading plan submitted by the developer for review and approval by the Community Development Director prior to grading permit issuance.

Recommended Condition of Approval

*Prior to approval of project improvement plans, the plans for the proposed project shall show that the first-row lots shall be shielded from East Cypress Road through the use of 6-foot tall masonry sound walls per the approval of the City Engineer. The approximate locations of these barriers are shown on **Figure 4**. Other types of barriers may be employed but shall be reviewed by an acoustical engineer prior to being constructed. Sound wall heights are assumed to be relative to building pad elevations and may achieve the required wall height through use of earthen berm and wall combinations to achieve the total height.*

Impact 2: *Would the project generate excessive groundborne vibration or groundborne noise levels?*

Construction vibration impacts include human annoyance and building structural damage. Human annoyance occurs when construction vibration rises significantly above the threshold of perception. Building damage can take the form of cosmetic or structural.

With the exception of vibratory compactors, the **Table 6** data indicate that construction vibration levels anticipated for the project are less than the 0.2 in/sec threshold at distance of 20 feet. However, the proposed project includes parking lot and building construction which would occur at distances of approximately 10 feet from the adjacent single-family residential uses. Therefore, use of vibratory compactors within 26 feet of the adjacent residential buildings could cause vibrations in excess of 0.2 in/sec. Therefore, this is a **significant** impact.

Mitigation Measure(s)

Implementation of the following mitigation measures would reduce the above impact to a *less-than-significant* level.

MM2(a): Any compaction required less than 26 feet from the adjacent residential structures to the south should be accomplished by using static drum rollers which use weight instead of vibrations to achieve soil compaction. As an alternative to this requirement, pre-construction crack documentation and construction vibration monitoring could be conducted to ensure that construction vibrations do not cause damage to any adjacent structures.

Impact 3: *For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?*

There are no airports within two miles of the project site. Therefore, this impact is not applicable to the proposed project.

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Appendix A: Acoustical Terminology

Acoustics	The science of sound.
Ambient Noise	The distinctive acoustical characteristics of a given space consisting of all noise sources audible at that location. In many cases, the term ambient is used to describe an existing or pre-project condition such as the setting in an environmental noise study.
ASTC	Apparent Sound Transmission Class. Similar to STC but includes sound from flanking paths and correct for room reverberation. A larger number means more attenuation. The scale, like the decibel scale for sound, is logarithmic.
Attenuation	The reduction of an acoustic signal.
A-Weighting	A frequency-response adjustment of a sound level meter that conditions the output signal to approximate human response.
Decibel or dB	Fundamental unit of sound, A Bell is defined as the logarithm of the ratio of the sound pressure squared over the reference pressure squared. A Decibel is one-tenth of a Bell.
CNEL	Community Noise Equivalent Level. Defined as the 24-hour average noise level with noise occurring during evening hours (7 - 10 p.m.) weighted by +5 dBA and nighttime hours weighted by +10 dBA.
DNL	See definition of Ldn.
IIC	Impact Insulation Class. An integer-number rating of how well a building floor attenuates impact sounds, such as footsteps. A larger number means more attenuation. The scale, like the decibel scale for sound, is logarithmic.
Frequency	The measure of the rapidity of alterations of a periodic signal, expressed in cycles per second or hertz (Hz).
Ldn	Day/Night Average Sound Level. Similar to CNEL but with no evening weighting.
Leq	Equivalent or energy-averaged sound level.
Lmax	The highest root-mean-square (RMS) sound level measured over a given period of time.
L(n)	The sound level exceeded a described percentile over a measurement period. For instance, an hourly L50 is the sound level exceeded 50% of the time during the one-hour period.
Loudness	A subjective term for the sensation of the magnitude of sound.
NIC	Noise Isolation Class. A rating of the noise reduction between two spaces. Similar to STC but includes sound from flanking paths and no correction for room reverberation.
NNIC	Normalized Noise Isolation Class. Similar to NIC but includes a correction for room reverberation.
Noise	Unwanted sound.
NRC	Noise Reduction Coefficient. NRC is a single-number rating of the sound-absorption of a material equal to the arithmetic mean of the sound-absorption coefficients in the 250, 500, 1000, and 2,000 Hz octave frequency bands rounded to the nearest multiple of 0.05. It is a representation of the amount of sound energy absorbed upon striking a particular surface. An NRC of 0 indicates perfect reflection; an NRC of 1 indicates perfect absorption.
RT60	The time it takes reverberant sound to decay by 60 dB once the source has been removed.
Sabin	The unit of sound absorption. One square foot of material absorbing 100% of incident sound has an absorption of 1 Sabin.
SEL	Sound Exposure Level. SEL is a rating, in decibels, of a discrete event, such as an aircraft flyover or train pass by, that compresses the total sound energy into a one-second event.
SPC	Speech Privacy Class. SPC is a method of rating speech privacy in buildings. It is designed to measure the degree of speech privacy provided by a closed room, indicating the degree to which conversations occurring within are kept private from listeners outside the room.
STC	Sound Transmission Class. STC is an integer rating of how well a building partition attenuates airborne sound. It is widely used to rate interior partitions, ceilings/floors, doors, windows and exterior wall configurations. The STC rating is typically used to rate the sound transmission of a specific building element when tested in laboratory conditions where flanking paths around the assembly don't exist. A larger number means more attenuation. The scale, like the decibel scale for sound, is logarithmic.
Threshold of Hearing	The lowest sound that can be perceived by the human auditory system, generally considered to be 0 dB for persons with perfect hearing.
Threshold of Pain	Approximately 120 dB above the threshold of hearing.
Impulsive	Sound of short duration, usually less than one second, with an abrupt onset and rapid decay.
Simple Tone	Any sound which can be judged as audible as a single pitch or set of single pitches.

Appendix B: Continuous and Short-Term Ambient Noise Measurement Results



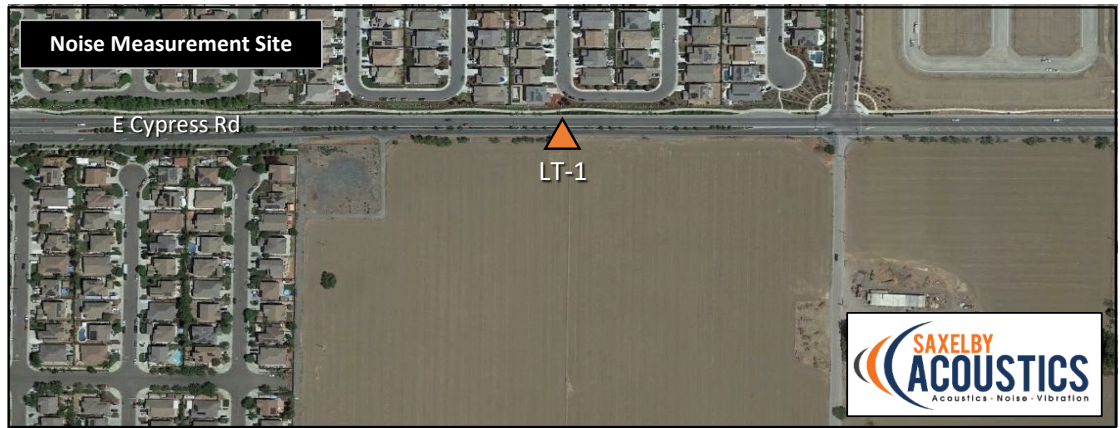
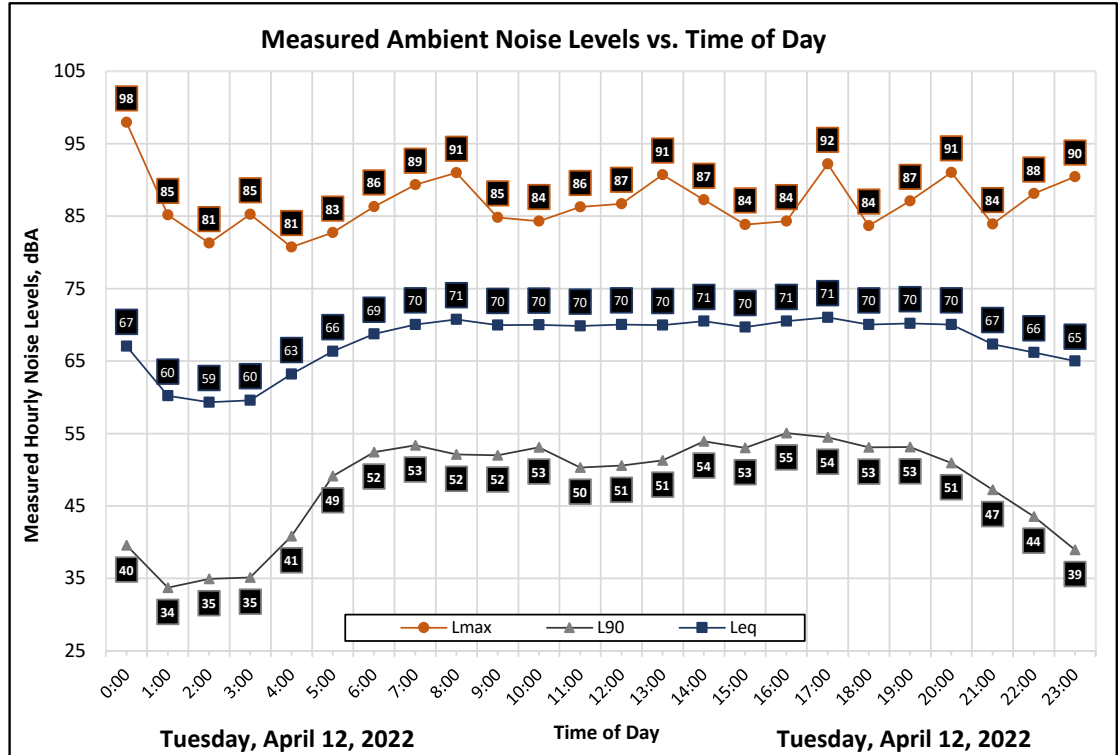
Appendix B1: Continuous Noise Monitoring Results

Date	Time	Measured Level, dBA			
		L _{eq}	L _{max}	L ₅₀	L ₉₀
Tuesday, April 12, 2022	0:00	67	98	40	40
Tuesday, April 12, 2022	1:00	60	85	34	34
Tuesday, April 12, 2022	2:00	59	81	35	35
Tuesday, April 12, 2022	3:00	60	85	35	35
Tuesday, April 12, 2022	4:00	63	81	41	41
Tuesday, April 12, 2022	5:00	66	83	49	49
Tuesday, April 12, 2022	6:00	69	86	52	52
Tuesday, April 12, 2022	7:00	70	89	53	53
Tuesday, April 12, 2022	8:00	71	91	52	52
Tuesday, April 12, 2022	9:00	70	85	52	52
Tuesday, April 12, 2022	10:00	70	84	53	53
Tuesday, April 12, 2022	11:00	70	86	50	50
Tuesday, April 12, 2022	12:00	70	87	51	51
Tuesday, April 12, 2022	13:00	70	91	51	51
Tuesday, April 12, 2022	14:00	71	87	54	54
Tuesday, April 12, 2022	15:00	70	84	53	53
Tuesday, April 12, 2022	16:00	71	84	55	55
Tuesday, April 12, 2022	17:00	71	92	54	54
Tuesday, April 12, 2022	18:00	70	84	53	53
Tuesday, April 12, 2022	19:00	70	87	53	53
Tuesday, April 12, 2022	20:00	70	91	51	51
Tuesday, April 12, 2022	21:00	67	84	47	47
Tuesday, April 12, 2022	22:00	66	88	44	44
Tuesday, April 12, 2022	23:00	65	90	39	39

Statistics	Leq	Lmax	L50	L90
Day Average	70	87	52	52
Night Average	65	86	41	41
Day Low	67	84	47	47
Day High	71	92	55	55
Night Low	59	81	34	34
Night High	69	98	52	52
Ldn	72	Day %	86	
CNEL	73	Night %	14	

Site: LT-1
 Project: Machado Subdivision
 Location: Northern Project Boundary
 Coordinates: 37.9905825°, -121.6843567°

Meter: LDL 820-2
 Calibrator: CAL200



Appendix B2: Continuous Noise Monitoring Results

Site: LT-2

Project: Machado Subdivision

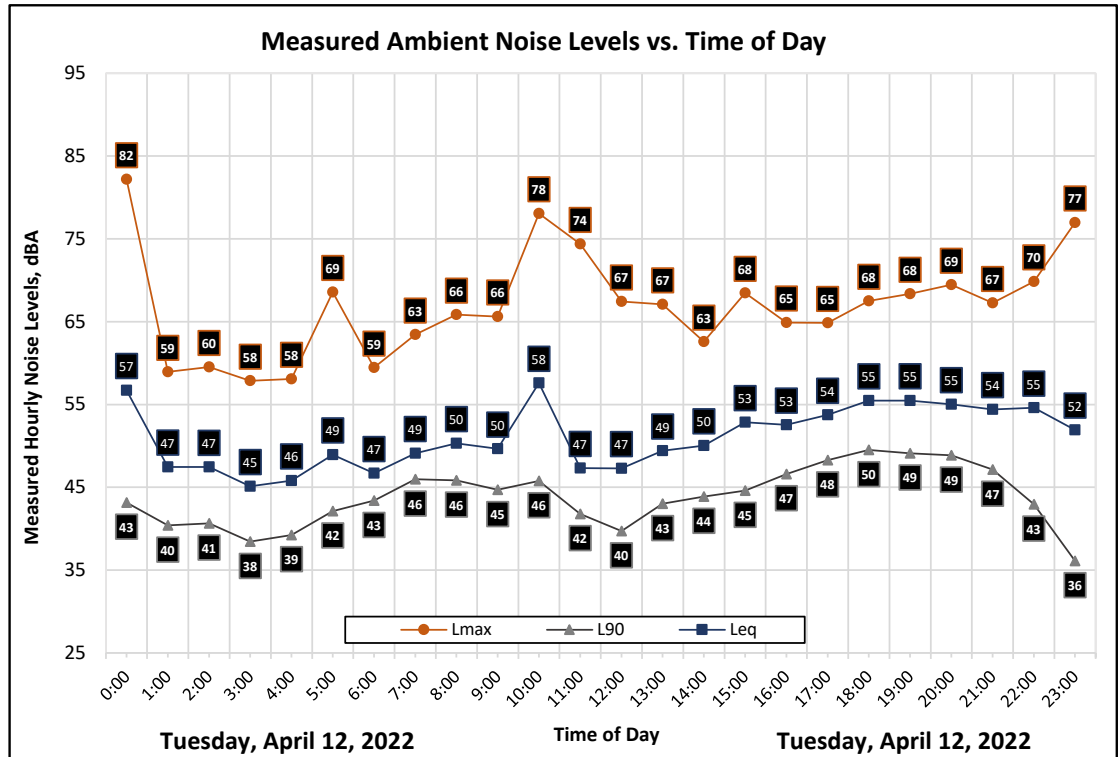
Meter: LDL 820-3

Location: South-East Project Boundary

Calibrator: CAL200

Coordinates: 37.9875858°, -121.6828745°

Date	Time	Measured Level, dBA			
		L _{eq}	L _{max}	L ₅₀	L ₉₀
Tuesday, April 12, 2022	0:00	57	82	49	43
Tuesday, April 12, 2022	1:00	47	59	46	40
Tuesday, April 12, 2022	2:00	47	60	46	41
Tuesday, April 12, 2022	3:00	45	58	43	38
Tuesday, April 12, 2022	4:00	46	58	44	39
Tuesday, April 12, 2022	5:00	49	69	45	42
Tuesday, April 12, 2022	6:00	47	59	46	43
Tuesday, April 12, 2022	7:00	49	63	48	46
Tuesday, April 12, 2022	8:00	50	66	49	46
Tuesday, April 12, 2022	9:00	50	66	48	45
Tuesday, April 12, 2022	10:00	58	78	49	46
Tuesday, April 12, 2022	11:00	47	74	45	42
Tuesday, April 12, 2022	12:00	47	67	44	40
Tuesday, April 12, 2022	13:00	49	67	47	43
Tuesday, April 12, 2022	14:00	50	63	48	44
Tuesday, April 12, 2022	15:00	53	68	49	45
Tuesday, April 12, 2022	16:00	53	65	51	47
Tuesday, April 12, 2022	17:00	54	65	52	48
Tuesday, April 12, 2022	18:00	55	68	54	50
Tuesday, April 12, 2022	19:00	55	68	54	49
Tuesday, April 12, 2022	20:00	55	70	50	43
Tuesday, April 12, 2022	21:00	54	67	52	47
Tuesday, April 12, 2022	22:00	55	77	43	36
Tuesday, April 12, 2022	23:00	52	77	43	36



Statistics	Leq	Lmax	L50	L90
Day Average	53	68	50	46
Night Average	51	66	46	41
Day Low	47	63	44	40
Day High	58	78	54	50
Night Low	45	58	43	36
Night High	57	82	50	43
L _{dn}	57	Day %		77
CNEL	58	Night %		23



Appendix B1 : Short Term Noise Monitoring Results

Site: ST-1

Project: Machado Subdivision

Location: Northern Boundary

Coordinates: 37.9904419°, -121.6835947°

Meter: LDL 831-1

Calibrator: CAL200

Start: 2022-04-13 16:43:30

Stop: 2022-04-13 16:53:30

SLM: SoundAdvisor™ Model 831C

Serial: 11709

Measurement Results, dBA

Duration: 0:10

L_{eq} : 60

L_{max} : 70

L_{min} : 46

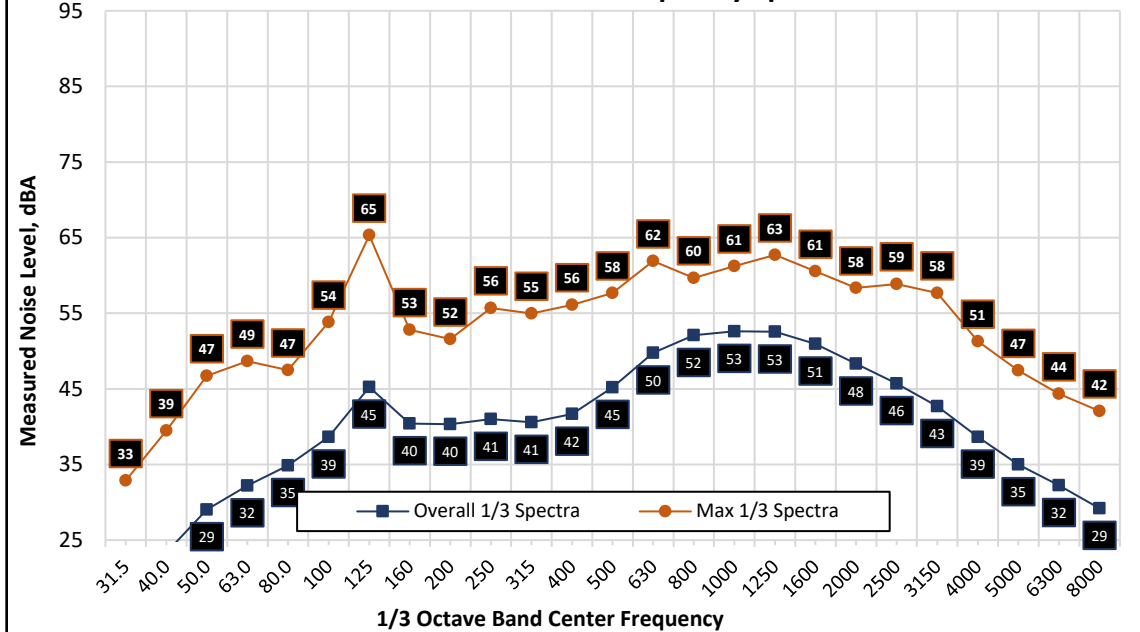
L_{50} : 58

L_{90} : 52

Notes

Primary Noise Makers are the traffic from E Cypress Road.

Measured Ambient Noise Frequency Spectrum



Noise Measurement Site



Appendix C: Traffic Noise Calculation Inputs and Results



Appendix C-1

FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Project #: 211206

Description: Machado Subdivision - Existing Traffic

Ldn/CNEL: Ldn

Hard/Soft: Soft

Segment	Roadway	Segment	ADT	Day %	Eve %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance	Offset (dB)	Contours (ft.) - No Offset			Level, dBA
												60 dBA	65 dBA	70 dBA	
1	Main St	South of W Cypress Rd	11,380	80	0	20	1.0%	1.0%	45	25	-5	181	84	39	67.9
2	W. Cypress Rd	West of Main Street	7,260	84	0	16	1.0%	1.0%	45	12	-5	122	57	26	70.1
3	E Cypress Rd	Between Main St and Machado Ln	14,840	84	0	16	1.0%	3.0%	45	26	-5	233	108	50	69.3
4	E Cypress Rd	Between Machado Ln and Sellers Ave	8,520	90	0	10	1.0%	1.0%	25	30	0	51	24	11	63.4
5	E Cypress Rd	East of Sellers Ave	8,390	90	0	10	1.0%	1.0%	35	35	-5	76	35	16	60.0
6	Main St	North of W Cypress Rd	10,700	90	0	10	1.0%	1.0%	35	22	-5	89	41	19	64.1
7	Machado Lane	South of E Cypress Rd	200	90	0	10	1.0%	1.0%	35	22	0	6	3	1	51.8
8	E Cypress Rd	Between Machado Ln and Sellers Ave	8,520	90	0	10	1.0%	1.0%	35	165	0	76	35	16	55.0
9	Machado Lane	South of E Cypress Rd	200	90	0	10	1.0%	1.0%	35	23	0	6	3	1	51.5



Appendix C-2

FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Project #: 211206

Description: Machado Subdivision - Existing Plus Project Traffic

Ldn/CNEL: Ldn

Hard/Soft: Soft

Segment	Roadway	Segment	ADT	Day %	Eve %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance	Offset (dB)	Contours (ft.) - No Offset			Level, dBA
												60 dBA	65 dBA	70 dBA	
1	Main St	South of W Cypress Rd	11,940	80	0	20	1.0%	1.0%	45	25	-5	187	87	40	68.1
2	W. Cypress Rd	West of Main Street	7,260	84	0	16	1.0%	1.0%	45	12	-5	122	57	26	70.1
3	E Cypress Rd	Between Main St and Machado Ln	15,530	84	0	16	1.0%	3.0%	45	26	-5	240	111	52	69.5
4	E Cypress Rd	Between Machado Ln and Sellers Ave	8,540	90	0	10	1.0%	1.0%	25	30	0	51	24	11	63.4
5	E Cypress Rd	East of Sellers Ave	8,400	90	0	10	1.0%	1.0%	35	35	-5	76	35	16	60.0
6	Main St	North of W Cypress Rd	10,830	90	0	10	1.0%	1.0%	35	22	-5	90	42	19	64.2
7	Machado Lane	South of E Cypress Rd	910	90	0	10	1.0%	1.0%	35	22	0	17	8	4	58.4
8	E Cypress Rd	Between Machado Ln and Sellers Ave	8,540	90	0	10	1.0%	1.0%	35	165	0	77	36	17	55.0
9	Machado Lane	South of E Cypress Rd	910	90	0	10	1.0%	1.0%	35	23	0	17	8	4	58.1



Appendix E
Traffic Impact Analysis



Machado Lane Residential Development Draft Traffic Impact Analysis

Oakley, CA

June 17, 2022



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Appendix A – Existing Conditions LOS Reports

Appendix B – Existing plus Project Conditions LOS Reports

Appendix C – Existing plus Project Conditions Mitigated LOS Reports

Appendix D – Background Conditions LOS Reports

Appendix E – Background plus Project Conditions LOS Reports

Appendix F – Background plus Project Conditions Mitigated LOS Reports

1.0 INTRODUCTION

This report describes results of the Transportation Impact Assessment (TIA) for a proposed Machado Lane residential development in the City of Oakley in Contra Costa County. The project site is located in east Oakley, on the southwest corner of the intersection at E. Cypress Road and Machado Lane. The proposed residential development includes 76 single-family residential lots. The entire development is within the City of Oakley. Direct access to and from the site is proposed via one driveway on Machado Lane. There are no existing sidewalks on Machado Lane in the vicinity of the project area.

This chapter discusses the TIS Purpose, project study area, and analysis scenarios. **Figure 1** shows the study area and project site location. **Figure 2** shows the project site plan, dated November 2021.

1.1 STUDY PURPOSE

The purpose of the TIA is to evaluate potential transportation impacts that could result from the proposed project, identify short-term and long-term multi-modal circulation needs where relevant to site access and/or project impacts, identify potential mitigation measures for any significant transportation impacts, and evaluate the adequacy of the proposed site plan for accommodating multi-modal site access and meeting City of Oakley Guidelines.

1.2 STUDY INTERSECTIONS

TJKM evaluated transportation conditions at three existing study intersections, and one proposed new driveway which would provide access to the project site. All intersections were evaluated based on conditions provided from recent traffic counts conducted for the a.m. (7:00 a.m.-9:00 a.m.) and p.m. (4:00 p.m.-6:00 p.m.) peak periods for a typical weekday. The following study intersections were selected in consultation with City staff based on the anticipated trip generation and travel pattern for project trips:

1. Main Street / E. Cypress Road
2. Machado Lane / E. Cypress Road
3. Sellers Avenue / E. Cypress Road
4. Machado Lane / Project Driveway*

* Indicates intersection would be evaluated under "plus Project" scenarios only

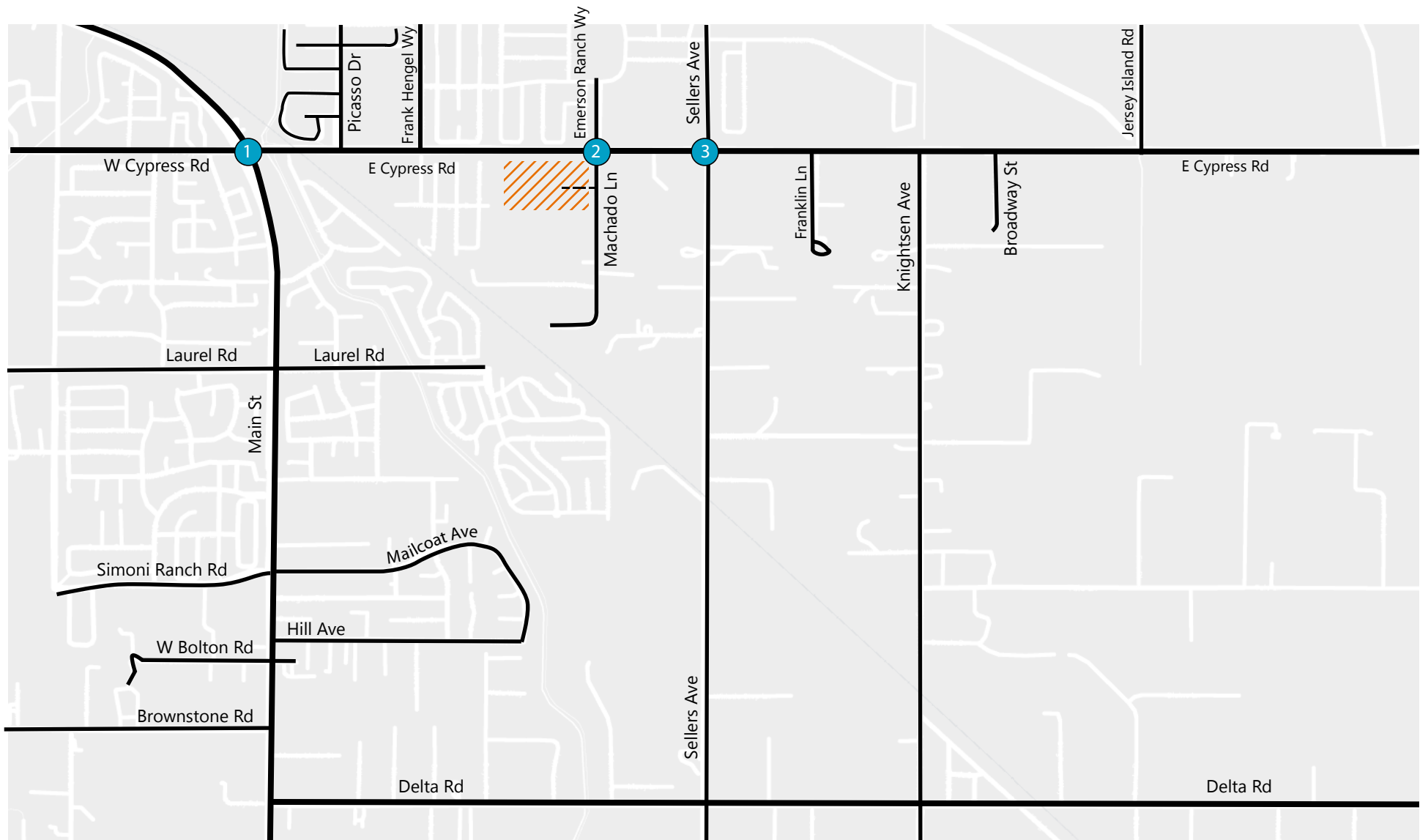
1.3 STUDY SCENARIOS

The roadway operations analysis addresses the following six traffic scenarios:

- **Existing Conditions** – This scenario describes existing transportation conditions in the study area based on the current roadway and sidewalk network characteristics, transit service, and the existing Oakley Citywide Traffic Model.
- **Existing plus Project Conditions** – This scenario is similar to Existing Conditions but with the additions of net new trips that would be generated by the project.

- **Background Conditions** –This scenario describes the projected peak hour traffic operations based on the net change to travel patterns anticipated from approved (but not yet constructed) or fully/partially occupied developments in the City at the time of the Existing Conditions assessment. This includes additional trips that would be generated if the proposed approved developments were to operate at full occupancy. The conditions in this scenario were developed using the Updated Citywide Vistro Model.
- **Background plus Project Conditions** – This scenario is similar to Background Conditions but with the inclusion of vehicle trips that would be generated by the project. The Background plus Project Conditions analysis provides an assessment of project impacts that takes into account other projects that would be completed within a similar timeframe as the project.

Figure 1: Vicinity Map



LEGEND

- Study Intersection
- Project Entrance
- Project Site



Figure 2: Project Site Plan



2.0 STUDY METHODOLOGY

2.1 VEHICLE MILES TRAVELED

The City of Oakley has not yet established standards of significance for vehicle miles traveled which is now a mandatory CEQA component of traffic studies. The Governor's Office of Planning and Research (OPR) *Technical Advisory* (December 2018) provides guidance to analysts and local jurisdictions for implementing VMT as a metric for determining the transportation impact for land use projects. The OPR guidelines state that for analysis purposes, "VMT" refers to automobile VMT, specifically passenger vehicles and light trucks. Heavy truck traffic is typically excluded. This study evaluates project-related VMT as outlined in the adopted CCTA VMT methodology. The methodology and implementation guidelines were adopted by CCTA in July 2020.

The CCTA guidelines include a screening process that describes five scenarios in which a project would be exempted from a VMT analysis requirement: 1) projects exempt from CEQA analysis, 2) small projects, 3) local serving projects, 4) projects in transit priority areas, and 5) projects in low VMT areas. It should be noted that even if a project satisfies one or more of the screening criteria, lead agencies may still require a VMT analysis if there is evidence that the project has characteristics that might lead to a significant amount of VMT. The project does not satisfy the requirements for screening criteria 1-4.

Under the CCTA VMT methodology, a low VMT area is defined as a city or unincorporated portion within one of the CCTA subregions where home-based VMT per resident is at least 15 percent below the countywide or where the commute VMT per employee is at least 15 percent below the regional average. A conservative reading of the methodology would indicate that when the citywide average VMT per resident is above the countywide average, projects cannot be screened out based on location, and a VMT analysis must be completed. In such cases, the appropriate significance thresholds based on countywide or regional average would be applied. The methodology also permits the applicable average VMT for the subject municipality or unincorporated CCTA subregion to be utilized instead of the countywide or regional average, if it is less stringent.

Under CCTA guidelines, a residential project would have a significant impact on VMT if it would generate residential VMT per capita higher than 85 percent of the City of Oakley average.

2.2 LEVEL OF SERVICE ANALYSIS METHODOLOGY

Level of Service (LOS) is a qualitative measure that describes operational conditions as they relate to the traffic stream and perceptions by motorists and passengers. LOS generally describes these conditions in terms of speed and travel time, delays, freedom to maneuver, traffic interruptions, comfort, convenience, and safety. The operational LOS are given letter designations from A to F, with A representing the best operating conditions (free-flow with little or no delay) and F representing the worst conditions (severely congested flow with high delays). Intersections are generally the capacity-controlling locations, with respect to traffic operations, on arterial and collector streets.

Signalized Intersections

The study intersections under traffic signal control were analyzed using Highway Capacity Manual 6th Edition (HCM 6) Operations Methodology for Signalized Intersections (Transportation Research Board, 2016), as described in Chapter 19. This methodology determines LOS based on overall average control delay per vehicle for the intersection during peak hour operating conditions. Control delay includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. The average control delay for signalized intersections was calculated using Vistro analysis software version 7.00-05 and correlated to a LOS designation. **Table 1** presents the HCM 6 delay and LOS definitions.

Unsignalized Intersections

Stop-control study intersections were analyzed using HCM 6 Operations Methodology for Unsignalized Intersections, as described in Chapters 20 and 21. LOS ratings for stop-control intersections are based on average control delay expressed in seconds per vehicle. At the side street of one-way stop-controlled intersections or two-way stop sign intersections, the control delay is calculated for each movement, not for the intersection as a whole. For approaches composed of a single lane, the control delay is computed as the average of all movements in that lane. The weighted average delay for the entire intersections is presented for all-way stop-controlled (AWSC) intersections, while the worst-movement delay is presented for side-street stop-controlled intersections. The average control delay for unsignalized intersections was calculated using Vistro analysis software version (7.00-04) and correlated to a LOS designation. At an unsignalized intersection, most of the major street traffic is not delayed, and by definition has acceptable conditions. The major street left-turn movements and minor street movements are all susceptible to delay of varying degrees. Generally, higher major street traffic volumes are associated with higher delay for minor movements. HCM 6 definitions for delay and LOS at signalized intersections are presented in **Table 1**. The analysis methodology described above was used to measure a.m. and p.m. peak hour traffic operations for all study intersections.

Table 1 describes the LOS thresholds from the HCM 6th edition for intersections. The intersection LOS thresholds differ between signalized and unsignalized intersections.

Table 1: Level of Service Thresholds Based on Intersection Control Delay

Level of Service	Description	Signalized Intersection Delay (D) (sec)	Unsignalized Intersection Delay (D) (sec)
A	Very low control delay, up to 10 seconds per vehicle. Progression is extremely favorable, and most vehicles arrive during the green phase. Many vehicles do not stop at all. Short cycle lengths may tend to contribute to low delay values.	$0 \leq D \leq 10$	$0 \leq D \leq 10$
B	Control delay greater than 10 and up to 20 seconds per vehicle. There is good progression or short cycle lengths or both. More vehicles stop causing higher levels of delay.	$10 < D \leq 20$	$10 < D \leq 15$

C	Control delay greater than 20 and up to 35 seconds per vehicle. Fair progression or longer cycle lengths, or both cause higher delays. Individual cycle failures may begin to appear. Cycle failure occurs when a given green phase does not serve queued vehicles and overflow occurs. The number of vehicles stopping is significant, though many still pass through the intersection without stopping.	$20 < D \leq 35$	$15 < D \leq 25$
D	Control delay greater than 35 and up to 55 seconds per vehicle. The influence of congestions becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high volumes. Many vehicles stop, the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.	$35 < D \leq 55$	$25 < D \leq 35$
E	Control delay greater than 55 and up to 80 seconds per vehicle. The limit of acceptable delay. High delays usually indicate poor progression, long cycle lengths, and high volumes. Individual cycle failures are frequent.	$55 < D \leq 80$	$35 < D \leq 50$
F	Control delay in excess of 80 seconds per vehicle. Unacceptable to most drivers. Oversaturation, arrival flow rates exceed the capacity of the intersection. Many individual cycle failures. Poor progression and long cycle lengths may also be contributing factors to higher delay.	$80 < D$	$50 < D$

Source: HCM 6th Edition

2.3 LEVEL OF SERVICE STANDARDS

Although level of service is no longer used for identifying impacts under CEQA, level of service analysis is still used for determining consistency with adopted agency plans and standards. Where standards refer to significant environmental impacts, this analysis instead identifies these as significant inconsistencies with adopted plans.

Per the City of Oakley General Plan, LOS D or a volume-to-capacity (V/C) ratio of 0.90 are the thresholds of acceptability for signalized intersections. Any signalized intersection operating worse than LOS D would be considered inconsistent with this standard. The intersection of Main Street and E. Cypress Road, which is a CMP intersection (Contra Costa County 2019 Congestion Management Program, CCTA, 2019), and the intersections along Main Street at Laurel Road and Delta Road, which are within Priority Development Areas (Plan Bay Area 2040, Metropolitan Transportation Commission, 2017), have standards of LOS E or better. For this study, the study intersections were analyzed using HCM 6th Edition Methodology as per the City’s guidance. Average control delay is reported in seconds per vehicle for signalized and all-way-stop-control intersections and critical delay for minor approaches is reported for two-way-stop-control intersections. Intersections operating worse than LOS D are considered inconsistent with the City’s standard.

Appendix G of the State CEQA Guidelines includes criteria for potential transportation impacts. Although no longer applicable for CEQA, they are still relevant issues for consideration by Oakley. These include whether a project would result in one of the following:

- 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, bicycle and pedestrian paths, and mass transit.
- Conflict with an applicable congestion management program, including, but not limited to LOS standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways.
- 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.
- Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).
- Result in inadequate emergency access.
- Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.
- Section 4B of the Contra Costa County Transportation Analysis Guidelines identifies significance criteria based on level of service analysis results. Significant impacts occur if:
 - The addition of project traffic results in the degradation of intersection operations from acceptable LOS D or better to unacceptable operations (LOS E or LOS F), except for intersections in Priority Development Areas ("PDA") where the minimum acceptable operational standard is LOS E;
 - The addition of project traffic to an intersection operating unacceptably before the addition of project trips results in an increase in average controlled delay (for signalized and all-way stop-controlled intersections) or worst movement/approach delay (for side-street stop-controlled intersections) at the intersection by 5.0 seconds or more.

3.0 EXISTING CONDITIONS

This section describes existing conditions in the immediate project site vicinity, including roadway facilities, bicycle and pedestrian facilities, and available transit service. In addition, existing traffic volumes and operations are presented for the study intersections, including the results of LOS calculations.

3.1 EXISTING SETTING AND ROADWAY SYSTEM

Relevant roadways in the project vicinity are discussed below and shown in **Figure 1**.

E. Cypress Road – E. Cypress Road is a two to four lane major arterial roadway. E. Cypress Road extends east-west between Main Street and Sandmound Boulevard. Residential, school, and agricultural uses, along with vacant land, characterize the lands along both sides of E. Cypress Road. Posted speed limits on E. Cypress Road are 35 miles per hour (mph) between Main Street and Frank Hengel Way and east of Summer Lake Drive, 45 mph between Frank Hengel Way and Sellers Avenue and between Bethel Island Road and Summer Lake Drive, and 50 mph between Sellers Avenue and Bethel Island Road.

Sellers Avenue – Sellers Avenue is a two lane, north-south collector roadway north of E. Cypress Road, and minor arterial south of E. Cypress Road. Residential and agricultural uses characterize the lands along both sides of Sellers Avenue. The maximum posted speed limit on Sellers Avenue is 50 mph between E. Cypress Road and Delta Road.

Machado Lane – Machado Lane is an unpaved, bidirectional roadway that provides access to single-family homes south of E. Cypress Road. Residential and agricultural uses characterize the lands along both sides of Machado Lane. There is no posted speed limit on Machado Lane.

Main Street – Main Street is a two to four lane major arterial roadway. Main Street is currently the major north-south transportation corridor in the City of Oakley. Mixed residential, commercial, and agricultural uses characterize the lands along both sides of Main Street between Rose Avenue and Laurel Avenue. Maximum speeds posted on Main Street are 35 mph west of Rose Avenue, 45 mph between Rose Avenue and Bernard Road, and 40 mph south of Bernard Road.

3.2 EXISTING PEDESTRIAN FACILITIES

Walkability is defined as the ability to travel easily and safely between various origins and destinations without having to rely on automobiles or other motorized travel. The ideal “walkable” community includes wide sidewalks, a mix of land uses providing residential, employment, and shopping opportunities, minimal conflict points with vehicle traffic, and access to transit facilities and services.

Pedestrian facilities are comprised of crosswalks, sidewalks, pedestrian signals, and off-street paths, which provide safe and convenient routes for pedestrians to access destinations such as institutions, businesses, public transportation, and recreation facilities.

There are no existing sidewalks provided along the project frontage. The closest sidewalk network is located on the north side of E. Cypress Road at the intersection of E. Cypress Road and Machado Lane. Sidewalks are also provided on local collectors and arterials such as Emerson Way, Sellers Avenue, Picasso Drive, and Main Street.

3.3 EXISTING BICYCLE FACILITIES

Bicycle facilities include the following:

Multi-Use Paths (Class I) – A path physically separated from motor vehicle traffic by an open space or barrier, and either within a highway or an independent right-of-way (ROW), used by bicyclists, pedestrians, joggers, skaters, and other non-motorized travelers. Class I paths are the most popular type of facility. Because the availability of uninterrupted ROW is limited, this type of facility may be difficult to locate and expensive to build, relative to other types of bicycle facilities, but inexpensive compared to new roadways. Ideal locations for bike paths are areas such as powerline easements, utility easements, canal banks, river levees, drainage easements, railroad or highway ROW, or regional community parks.

Bike Lanes (Class II) – A portion of a roadway designated by striping and pavement markings for the preferential or exclusive use of bicyclists. Bike lanes are intended to promote an orderly flow of bicycle and vehicle traffic. This type of facility is established by using the appropriate striping, pavement legends, and signs.

Bike Routes (Class III) – Bike routes are shared facilities between bicycle and motor vehicle traffic. They provide for specific bicycle demand and may be used to connect discontinuous segments of bike lanes. In addition, bike routes are located on residential streets and rural roads. If the pavement width is sufficient, and traffic volume/speeds warrant, an edge line may be painted to further delineate the bike route. Bike routes are signed with the G-93 Bike Route marker but no striping or legends are required.

The City of Oakley General Plan (September 2002), City of Oakley Parks, Recreation, and Trails Master Plan 2020 (Summer 2007), and the Contra Costa County Bicycle and Pedestrian Plan (October 2009) propose that several new bicycle facilities be constructed in the future which includes trunk line bikeway network passing through Main Street and Laurel Road and a local multi-use trail on E. Cypress Road and Sellers Avenue in the vicinity of the project area.

The existing bicycle facilities are at the following locations:

- East Cypress Road – Class II bicycle facilities are provided on the north side between Knightsen Avenue and Main Street, and on the south side between Main Street and 790 feet east of Frank Hengel Way.
- Main Street- Class II bicycle facilities are provided between Cypress Road and Simoni Ranch Road on both sides.
- Sellers Avenue – Class II bicycle facilities are provided north of E. Cypress Road.
- Laurel Road- Class II bicycle facilities are provided between Harvest Drive and Main Street on both sides.
- Marsh Creek Regional Trail- Class I bicycle facility provided along Marsh Creek which can be accessed through Delta road approximately 1.5 miles west of the project site.
- Via Delta de Anza Trail- Class I bicycle facility provided along Contra Costa Canal which can be accessed through Cypress Road and O' Hara Avenue approximately two miles west of the project site.

3.4 EXISTING TRANSIT FACILITIES

Tri-Delta Transit provides transit services in the City of Oakley, with three lines connecting Brentwood and the Pittsburg/Bay Point Bay Area Rapid Transit (BART) station. Due to Covid 19 conditions, some of the routes and schedules may not currently be in full operation.

- *Route 300*, the Pittsburg BART/Brentwood Park & Ride route, is a weekday express route connecting Brentwood to the Pittsburg/Bay Point BART station via Oakley and Antioch. This bus travels along Main Street, operating from 4:15 a.m. to approximately 10:00 p.m. with 15 to 30-minute headways.
- *Route 383*, the Oakley/Antioch/Freedom High School route, connects Oakley to Antioch and Freedom High School in Oakley. This route, in both clockwise and counterclockwise directions, provides only weekday service. The counterclockwise route runs with approximate one-hour headways, and the clockwise route runs twice during the a.m. peak hour period only.
- *Route 391*, the BART/Pittsburg/Antioch/Oakley/Brentwood route, provides weekday service to most East County Cities. The route operates from 4:00 a.m. to 1:15 a.m. with 30 to 60-minute headways.
- *Route 393*, the BART/Pittsburg/Antioch/Oakley/Brentwood route, provides weekend service to Route 391. The route operates from 5:20 a.m. to 2:00 a.m. with approximately 60-minute headways.

Table 2 summarizes the services and frequency during the weekday and on weekends for transit in the City of Oakley. **Figure 3** shows a map of transit routes operated by Tri-Delta Transit.

Table 2: Existing Transit Facilities

Route	From	To	Weekdays		Saturday		Sunday	
			Hours	Headway (min)	Hours	Headway (min)	Hours	Headway (min)
300	Pittsburg/ Bay Point BART Station	Brentwood Park & Ride	4:15 a.m. – 10:00 p.m.	10-30	....	....	....	....
383	Antioch Park & Ride	Antioch Park & Ride 1	6:52 a.m. – 5:26 p.m.	60-120	....	....	....	....
391	Pittsburg/ Bay Point BART Station	Brentwood Park & Ride	4:03 a.m. - 1:14 a.m.	30-60	....	....	....	....
393	Pacifica & Mariners Cove	Brentwood Park & Ride	....	....	5:22 a.m. – 1:39 a.m.	60	6:24 a.m. – 1:49 a.m.	60

Source: www.trideltatransit.com

Figure 3: Transit Service Map



3.5 EXISTING TRAFFIC CONDITIONS

Turning movement volumes for vehicles, bicycles and pedestrians at all study intersections were conducted for the a.m. and p.m. peak hours at all locations. TJKM collected intersection turning movement counts for a.m. (7:00 a.m. – 9:00 a.m.) and p.m. (4:00 p.m. – 6:00 p.m.) peaks on Wednesday, February 9, 2022. Since the City of Oakley is currently in the process of updating the model, the analysis may be updated with current counts at all intersections. Existing lane patterns and traffic control are illustrated in **Figure 4**. Existing turning movement volumes at each existing study intersection are illustrated in **Figure 5**.

3.6 INTERSECTION LEVEL OF SERVICE ANALYSIS – EXISTING CONDITIONS

Under Existing Conditions, intersections were analyzed based on lane geometries and traffic controls provided by the Existing Conditions scenario of the Citywide Traffic Model and observed in the field. **Table 3** summarizes peak hour levels of service at the study intersections under Existing Conditions. Detailed LOS worksheets for this scenario are provided in **Appendix A**. Under Existing Conditions, all study intersections operate at an acceptable LOS C or better during both peak hours, except the intersection at Main Street/E. Cypress Road (Intersection #1), which operate at LOS F during the a.m. peak hour.

Table 3: Intersection Level of Service Analysis – Existing Conditions

ID	Intersection	Control	Peak Hour	Existing Conditions	
				Average Delay ¹	LOS ²
1	Main Street / E. Cypress Road*	Signalized	A.M.	>80	F
			P.M.	31.3	C
2	Sellers Avenue / E. Cypress Road	Signalized	A.M.	12.8	B
			P.M.	11.2	B
3	Machado Lane / E. Cypress Road	Signalized	A.M.	16.0	B
			P.M.	16.3	B

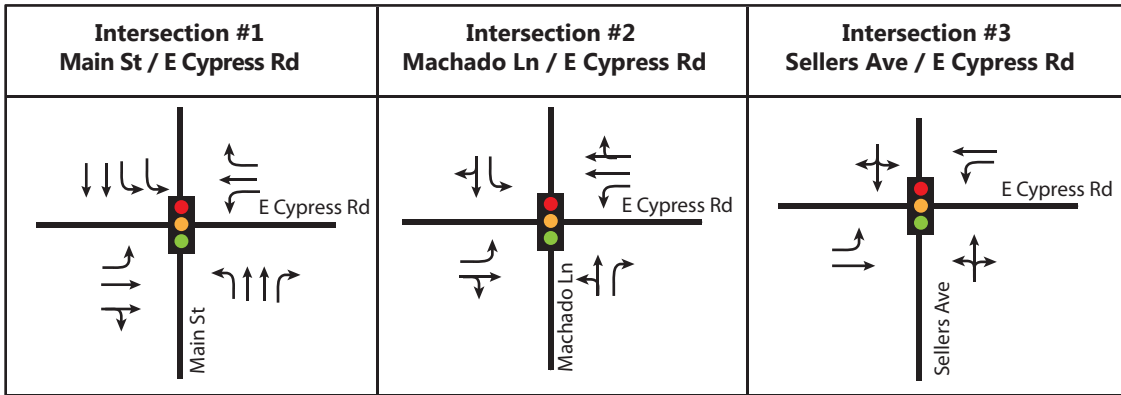
Notes: **Bold** text indicates unacceptable intersection operations.

* Indicates intersection is located in Priority Development Area and has standard of LOS E (Plan Bay Area 2050).

¹Delay: Average control delay in seconds per vehicle, reported values are overall for signalized and all-way-stop-control intersections; and critical minor approaches for one- and two-way stop-control intersections.

²LOS: Level of Service.

Figure 4: Existing Lane Pattern and Traffic Control



LEGEND



-  Traffic Signal
-  Stop Sign



Figure 5: Existing Peak Hour Traffic Volumes

Intersection #1 Main St / E Cypress Rd	Intersection #2 Machado Ln / E Cypress Rd	Intersection #3 Sellers Ave / E Cypress Rd
<p> 5 (16) ↑ 194 (268) ↓ 269 (323) ↙ 443 (202) ↗ 431 (233) ← 362 (213) ↓ 26 (28) ↑ 233 (269) → 76 (52) ↘ Main St 99 (128) ↗ 196 (233) ↑ 332 (244) ↘ E Cypress Rd </p>	<p> 80 (51) ↑ 0 (0) ↓ 84 (20) ↙ 109 (28) ↗ 469 (331) ← 0 (5) ↓ 56 (80) ↑ 392 (462) → 3 (6) ↘ Machado Ln 7 (1) ↗ 0 (2) ↑ 0 (6) ↘ E Cypress Rd </p>	<p> 8 (10) ↑ 2 (0) ↓ 1 (3) ↙ 1 (0) ↗ 501 (283) ← 95 (68) ↓ 11 (1) ↑ 289 (379) → 177 (96) ↘ Sellers Ave 96 (86) ↗ 5 (2) ↑ 47 (106) ↘ E Cypress Rd </p>

LEGEND

- XX AM Peak Hour Traffic Volume
- (XX) PM Peak Hour Traffic Volume



4.0 EXISTING PLUS PROJECT CONDITIONS

4.1 VEHICLE MILES TRAVELED

TJKM conducted Vehicle Miles Travelled (VMT) analysis for the project in compliance with Senate Bill 743 (SB 743) via the Contra Costa Transportation Authority's (CCTA) recommended VMT analysis methodology. The CCTA VMT analysis methodology provides different screening criteria and significance thresholds based on the project land use type. CCTA considers residential projects to have a significant impact on VMT if the project generated home-based VMT per resident is higher than the less stringent of the following:

- 85% of the home-based VMT per resident in the municipality or
- 85% of the existing County-wide average home-based VMT per resident.

TJKM performed a VMT analysis for the proposed multifamily housing project located at the southwest quadrant of the intersection of E. Cypress Road and Machado Lane in Oakley, CA. The project proposes build 76 single family units in a residential subdivision.

The VMT Analysis was performed with the Contra Costa Transportation Authority (CCTA) Model. The Travel Analysis Zone (TAZ) for this project in the model is #30269. 76 single family dwelling units were added into the TAZ for the base year to see if the project creates significant VMT impacts.

Two full model runs were performed for this project in accordance to CCTA VMT methodology. The first one is a base year 2020 run to analyze existing VMT per capita numbers for the City of Oakley. The second run is a base year plus project 2020 run with the housing units added in to see if its impact on VMT is significant.

From the 2020 Base Year run, the home based VMT per capita for the City of Oakley is **26.76**. For a project to not be significant, the 85% threshold is set at 0.85×26.76 which is **22.75**. This value is the less stringent home-based VMT per capita number as mentioned in the CCTA VMT methodology guidelines.

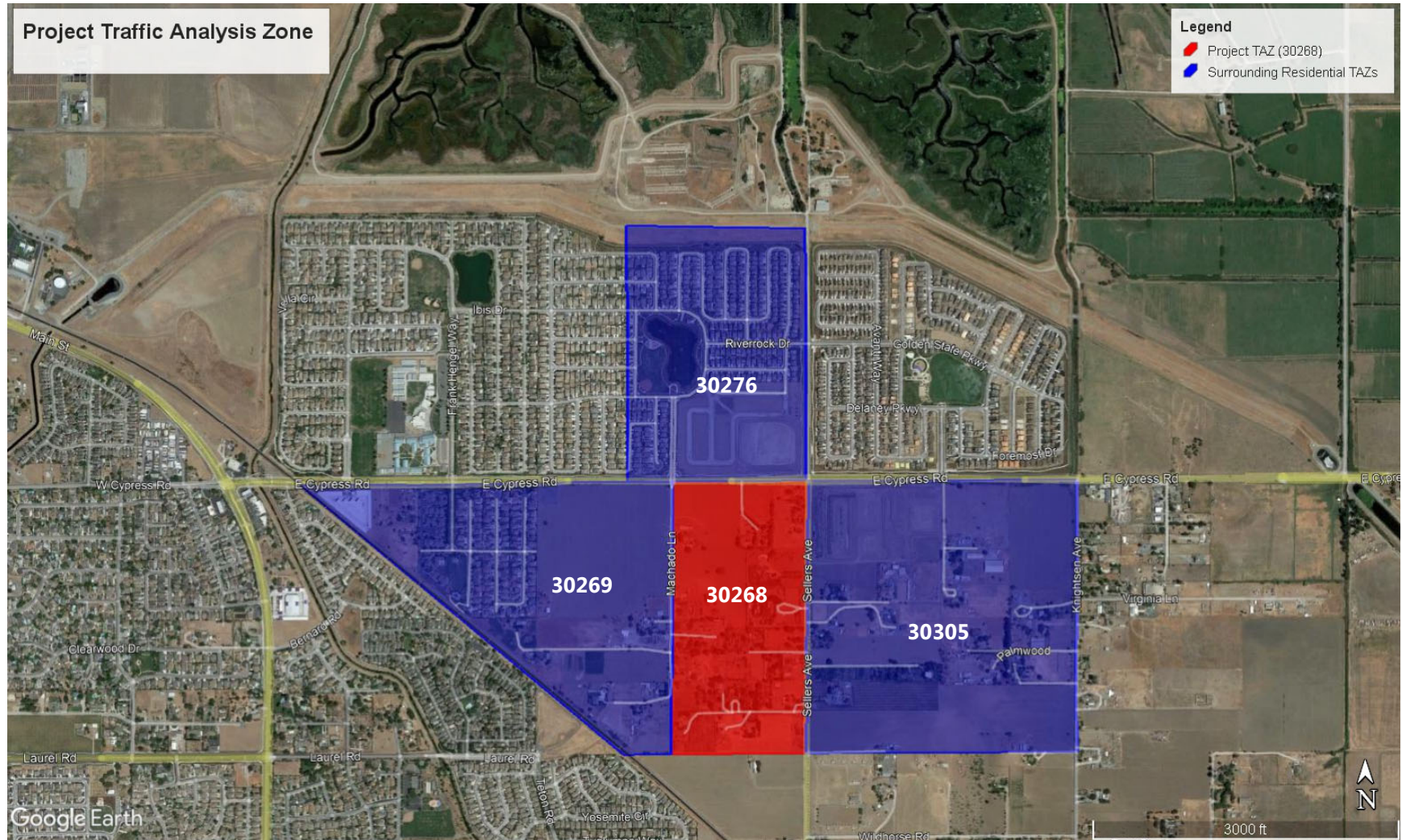
The 2020 Base Year plus Project model run added 76 Single Family Dwelling Units into TAZ #30269. The resultant home based VMT per capita for the project TAZ is **23.81**. Since this value is higher than the threshold, some mitigation is required for this project to have an insignificant impact on VMT.

A mitigation measure that this project may attempt is described below:

- Improve the pedestrian network – this strategy focuses on creating a pedestrian network within the project and connecting to nearby destinations. Sidewalk improvements count as part of this strategy and the maximum VMT reduction allowed is **5.7%**.

A 5.7% reduction in VMT for the project reduces the value from 23.81 to **22.45**. With the mitigation, the Machado Lane project is found to have a **less than significant impact** on the City of Oakley VMT for the base year. **Figure 6** illustrates the traffic analysis zones surrounding the proposed project.

Figure 6: Traffic Analysis Zones in Project Study Area



4.2 PROJECT TRIP GENERATION

The project vehicle trip generation rates were obtained from the reference *Trip Generation, 10th Edition*, published by the Institute of Transportation Engineers (ITE). Based on the applicable rates for Single-Family Detached Housing (ITE Code 210), the Project is forecasted to generate 1,964 daily vehicle trips, including 154 a.m. peak hour and 206 p.m. peak hour vehicle trips, as summarized in **Table 4**.

Table 4: Project Vehicle Trip Generation

	Land Use (ITE Code)	Size ¹	Daily		A.M. Peak ²			P.M. Peak ²						
			Rate	Trips	Rate	In:Out	In	Out	Total	Rate	In:Out	In	Out	Total
Proposed	Single-Family Detached Housing (210)	76 DU	9.43	717	0.70	26:74	14	39	53	0.94	63:37	45	26	71
Net New Trips				717			14	39	53			45	26	71

Notes:

Source: Institute of Transportation Engineers (ITE) Trip Generation Manual, 11th Edition

¹DU – Dwelling Units

²A.M. Peak – morning peak period (7:00 a.m.-9:00 a.m.); P.M. Peak – evening peak period (4:00p.m.-6:00 p.m.)

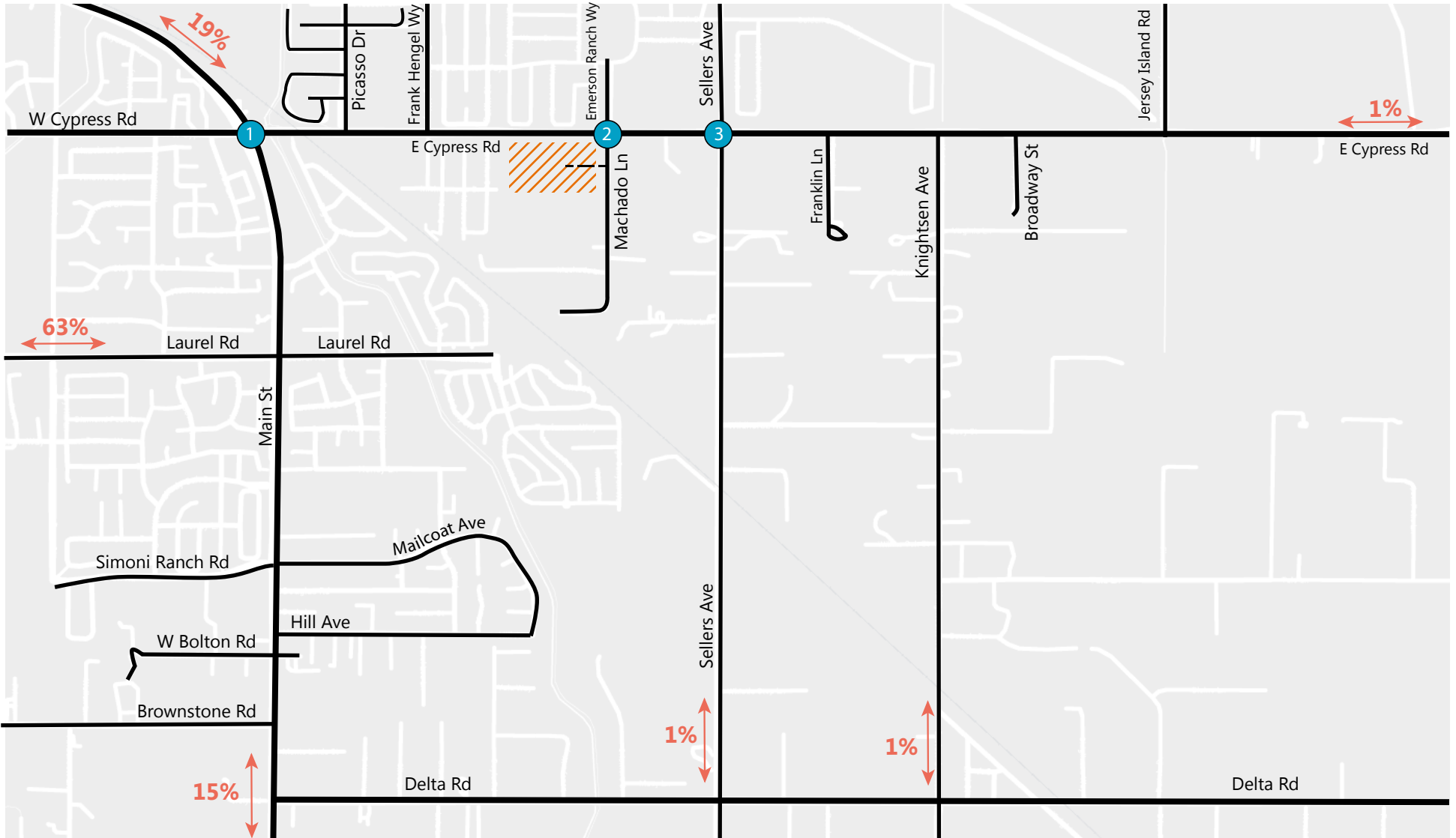
4.3 PROJECT TRIP DISTRIBUTION AND ASSIGNMENT

The peak-hour vehicle trips generated by the project were manually assigned to each study intersection based on the following origin and destination trip-distribution assumptions:

- 45 percent to/from SR 4 west of CA-160
- 15 percent to/from SR 4 east of CA-160
- 15 percent to/from Main Street south of Cypress Road
- 10 percent to/from Main Street west of Cypress Road
- 5 percent to/from CA-160
- 4 percent to/from Empire Avenue south of Laurel Road
- 3 percent to/from O'Hara Avenue south of Laurel Road
- 1 percent to/from Sellers Avenue south of Delta Road
- 1 percent to/from Knightsen Avenue south of Delta Road
- 1 percent to/from E. Cypress Road east of Jersey Island Road

Figures 7a and 7b illustrate the distribution of project trips to origins/destinations, and the assignment of project trips to study intersections based on the anticipated path(s) of travel.

Figure 7a: Trip Distribution & Assignment

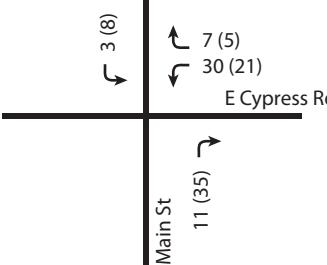
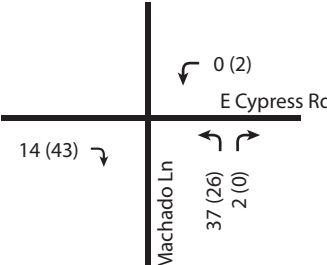
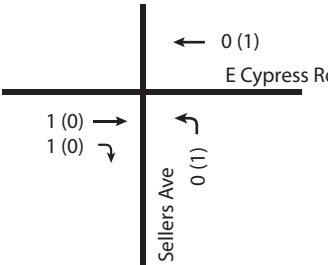


LEGEND

- x Study Intersection
- Project Entrance
- Project Site
- XX%** Trip Distribution



Figure 7b: Trip Distribution & Assignment

Intersection #1 Main St / E Cypress Rd	Intersection #2 Machado Ln / E Cypress Rd	Intersection #3 Sellers Ave / E Cypress Rd
 <p>Diagram of Intersection #1: Main St / E Cypress Rd. Shows traffic flow with AM Peak Hour Project Volume (XX) and PM Peak Hour Project Volume ((XX)).</p> <ul style="list-style-type: none"> Northbound Main St: 3 (8) Southbound Main St: 11 (35) Eastbound E Cypress Rd: 7 (5) left, 30 (21) through Westbound E Cypress Rd: 14 (43) 	 <p>Diagram of Intersection #2: Machado Ln / E Cypress Rd. Shows traffic flow with AM Peak Hour Project Volume (XX) and PM Peak Hour Project Volume ((XX)).</p> <ul style="list-style-type: none"> Northbound Machado Ln: 0 (2) Southbound Machado Ln: 37 (26) left, 2 (0) through Eastbound E Cypress Rd: 14 (43) 	 <p>Diagram of Intersection #3: Sellers Ave / E Cypress Rd. Shows traffic flow with AM Peak Hour Project Volume (XX) and PM Peak Hour Project Volume ((XX)).</p> <ul style="list-style-type: none"> Northbound Sellers Ave: 0 (1) Southbound Sellers Ave: 0 (1) Eastbound E Cypress Rd: 1 (0) left, 1 (0) through

LEGEND

- XX AM Peak Hour Project Volume
- (XX) PM Peak Hour Project Volume



4.4 INTERSECTION LEVEL OF SERVICE ANALYSIS – EXISTING PLUS PROJECT CONDITIONS

Figure 8 shows the peak hour volumes at each intersection under Existing plus Project Conditions. Table 5 summarizes peak hour levels of service at the study intersections under Existing plus Project Conditions, based on the addition of project trips to each study intersection. Detailed LOS worksheets for this scenario are provided in Appendix B. As shown, all study intersections operate at acceptable LOS under Existing plus Project conditions, except the intersection at Main Street/E. Cypress Road (Intersection #1), which operates at LOS F during the a.m. peak.

Table 5: Intersection Level of Service Analysis – Existing plus Project Conditions

ID	Intersection	Control	Peak Hour	Existing Conditions		Existing plus Project Conditions		
				Average Delay ¹	LOS ²	Average Delay ¹	LOS ²	Potential Significant LOS Impact?
1	Main Street / E. Cypress Road*	Signalized	A.M.	>80	F	>80	F	Yes
			P.M.	31.3	C	34.1	C	No
2	Sellers Avenue / E. Cypress Road	Signalized	A.M.	12.8	B	13.2	B	No
			P.M.	11.2	B	11.8	B	No
3	Machado Lane / E. Cypress Road	Signalized	A.M.	16.0	B	16.0	B	No
			P.M.	16.3	B	16.4	B	No
4	Machado Lane / Project Driveway	One-Way Stop	A.M.	-	-	8.7	A	No
			P.M.	-	-	8.8	A	No

Notes: **Bold** text indicates unacceptable intersection operations.

* Indicates intersection is located in Priority Development Area and has standard of LOS E (Plan Bay Area 2050).

¹Delay: Average control delay in seconds per vehicle, reported values are overall for signalized and all-way-stop-control intersections; and critical minor approaches for two-way- stop-control intersections.

²LOS: Level of Service.

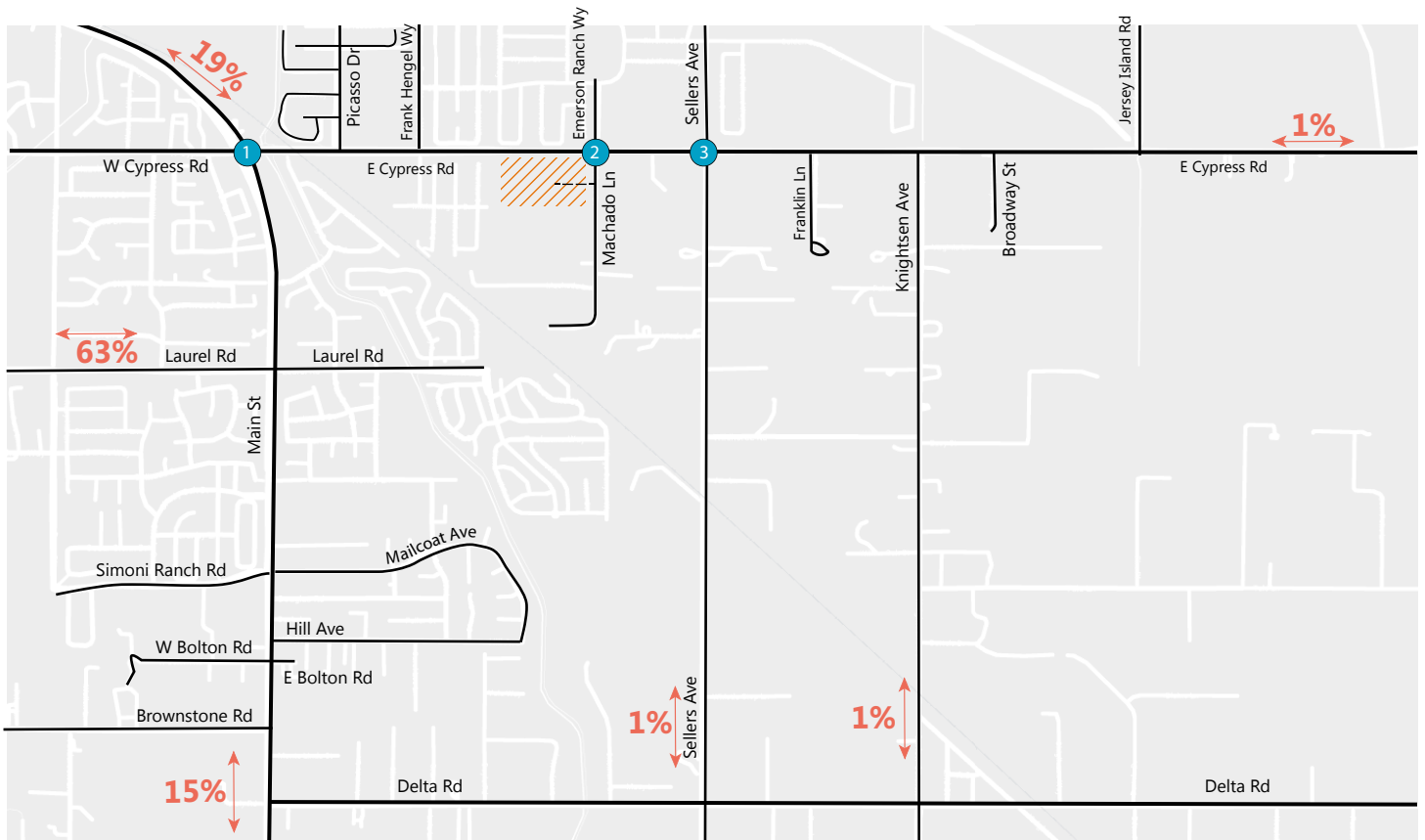
Traffic Impact Findings

The project impact to the intersection at Main Street/E. Cypress Road (Intersection #1) is potentially significant because the project adds five or more seconds of delay in the a.m. peak period.

The signalized intersection of Main Street/E. Cypress Road (Study Intersection #1) operates at unacceptable LOS F during the a.m. peak hour under Existing Conditions without and with the proposed project. During the a.m. peak hour, the addition of project traffic increases delay by over five seconds, and thus a potential significant impact, due to lack of acceptable signal service to the westbound left-turn movement, is observed. Converting the outermost westbound left-turn lane into an exclusive through lane and increasing phase splits at the northbound, eastbound and westbound approaches does not improve LOS to acceptable levels, however, reduces delay to levels below Existing Conditions. Detailed LOS worksheets for mitigations under Existing plus Project Conditions are provided in Appendix C.

Figure 8: Existing Plus Project Peak Hour Traffic Volumes

Intersection #1 Main St / E Cypress Rd	Intersection #2 Machado Ln / E Cypress Rd	Intersection #3 Sellers Ave / E Cypress Rd	Intersection #4 Project Dwy / Machado Ln
<p> AM Peak Hour Traffic Volumes: Northbound: 5 (16) Southbound: 194 (268) Westbound: 272 (331) Eastbound: 450 (207) Southbound: 431 (233) Westbound: 392 (234) Main St: 26 (28) (Northbound), 233 (269) (Southbound), 76 (52) (Westbound) E Cypress Rd: 99 (128) (Northbound), 196 (233) (Southbound), 343 (279) (Westbound) </p>	<p> AM Peak Hour Traffic Volumes: Northbound: 80 (51) Southbound: 0 (0) Westbound: 84 (20) Eastbound: 109 (28) Southbound: 496 (331) Westbound: 0 (7) Machado Ln: 56 (80) (Northbound), 392 (462) (Southbound), 17 (49) (Westbound) E Cypress Rd: 44 (27) (Northbound), 0 (2) (Southbound), 2 (6) (Westbound) </p>	<p> AM Peak Hour Traffic Volumes: Northbound: 8 (10) Southbound: 2 (0) Westbound: 1 (3) Eastbound: 1 (0) Southbound: 501 (284) Westbound: 95 (68) Sellers Ave: 11 (1) (Northbound), 290 (379) (Southbound), 178 (96) (Westbound) E Cypress Rd: 96 (87) (Northbound), 5 (2) (Southbound), 47 (106) (Westbound) </p>	<p> AM Peak Hour Traffic Volumes: Northbound: 14 (45) Southbound: 3 (11) Project Dwy: 39 (26) (Northbound), 0 (0) (Southbound) Machado Ln: 0 (0) (Northbound), 7 (9) (Southbound) </p>



LEGEND

- XX AM Peak Hour Traffic Volume
- (XX) PM Peak Hour Traffic Volume
- XX% Trip Distribution



5.0 BACKGROUND CONDITIONS

This scenario evaluates the project's contribution to potential background traffic impacts. Future impacts were evaluated taking into account key planned improvements in the City of Oakley. The most notable project is the completion of the Laurel Road extension between Main Street and Sellers Avenue. This includes a railroad grade separation and widening/construction of Laurel Road to four lanes in this section. In addition, Sellers Avenue is planned to be widened to four lanes between Laurel Road and E. Cypress Road. Cypress Road is planned to be fully improved to six lanes east of Sellers Avenue and to four lanes west of Sellers Avenue. Other roads and intersections are scheduled to be improved as well. **Figures 9a** and **9b** describe the details of the assumed future roadway system with the Laurel Road extension, including the distribution of traffic as depicted in the Updated Oakley Traffic Model and lane patterns and traffic control at each intersection.

5.1 BACKGROUND TRAFFIC GROWTH

Using the calibrated and validated updated Citywide Traffic Model, additional traffic projected to be generated from approved developments was forecasted for Background Conditions. The Background Conditions scenario includes additional traffic that would be generated by various approved projects completed within the City of Oakley and redistribution of traffic due to the Laurel Road extension. The approved projects include the Acacia Residential, Emerson Ranch Commercial, and Burroughs/WestGate Ventures Residential projects previously completed by TJKM, along with the following projects approved by the City of Oakley:

- Wendy's Restaurant at Bridgehead Rd/Main Street
- Diablo Water District Corporation Yard Office and Shopping Building
- Oakley Village Residential Subdivision

Additionally, the following planned improvements, as per the Capital Improvement Program, are considered at the study intersections with and without the proposed project:

- Main Street/E. Cypress Road is analyzed with the future planned upgrade to striping at the westbound approach. The intersection is analyzed with one exclusive left-turn lane, one shared through-left lane, and one right turn lane at the westbound approach.
- Machado Lane/E. Cypress Road is analyzed with upgrades to lane geometry due to widening of E. Cypress Road. The westbound approach has one additional through lane under Background Conditions.
- Sellers Avenue/E. Cypress Road is analyzed with the recent upgrade to lane geometry and signal timing. Additionally, the intersection considers planned widenings of Sellers Avenue and E. Cypress Road segments. The intersection is analyzed with one shared through-left lane and two right-turn lanes at the southbound approach; one exclusive left-turn lane, one shared through-right lane and two right-turn lanes at the northbound approach; one left-turn lane, two through lanes and one shared through-right lane at the eastbound approach; and two exclusive left-turn lanes, one through lane and one shared through-right lane at the westbound approach.

5.2 INTERSECTIONS LEVEL OF SERVICE ANALYSIS – BACKGROUND NO-PROJECT CONDITIONS

Figure 10 shows the forecasted volumes at each intersection under Background Conditions, based on the update of the Oakley Citywide Traffic Model. Table 6 summarizes peak hour levels of service at the study intersections under Background Conditions without the proposed Project. Detailed LOS worksheets for this scenario are provided in Appendix D. Under Background Conditions, all study intersections operate at unacceptable LOS F during the both peak hours.

Table 6: Intersection Level of Service – Background Conditions

ID	Intersection	Control	Peak Hour	Background Conditions	
				Average Delay ¹	LOS ²
1	Main Street / E. Cypress Road*	Signalized	A.M.	>80	F
			P.M.	>80	F
2	Sellers Avenue / E. Cypress Road	Signalized	A.M.	>80	F
			P.M.	>80	F
3	Machado Lane / E. Cypress Road	Signalized	A.M.	74.3	E
			P.M.	73.3	E

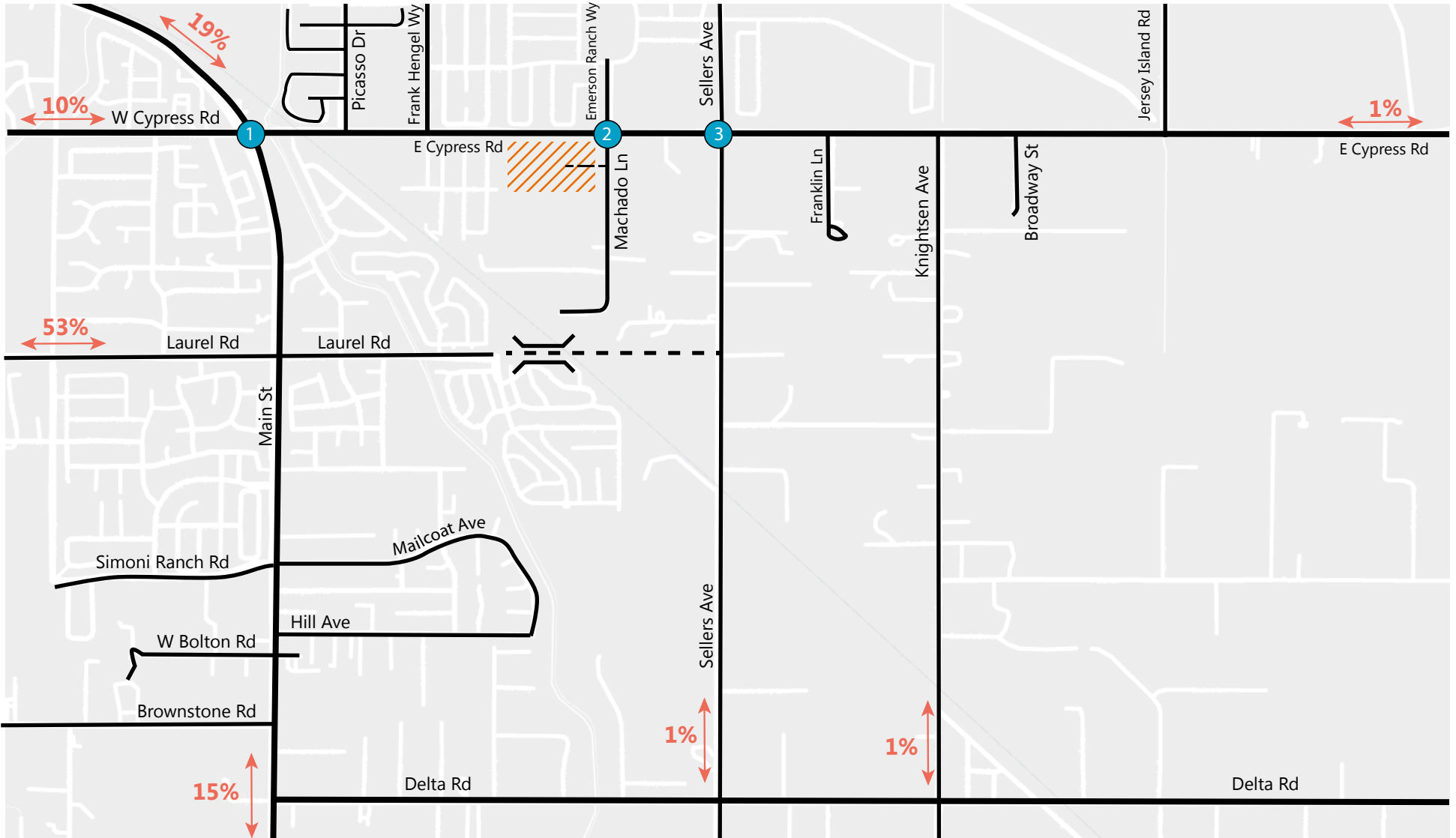
Notes: Bold text indicates unacceptable intersection operations.

* Indicates intersection is located in Priority Development Area and has standard of LOS E (Plan Bay Area 2050).

¹Delay: Average control delay in seconds per vehicle, reported values are overall for signalized and all-way-stop-control intersections; and critical minor approaches for one- and two-way stop-control intersections.

²LOS: Level of Service.

Figure 9a: Background Conditions Trip Distribution & Assignment

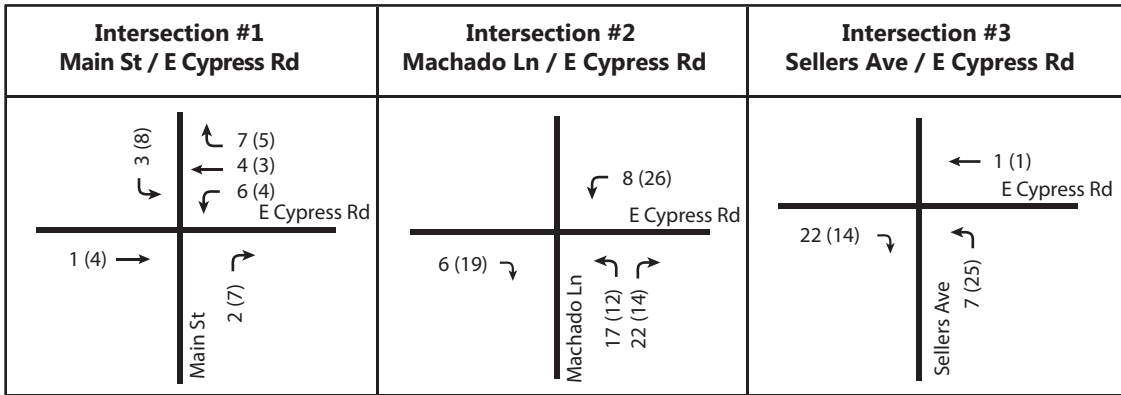


LEGEND

-  Study Intersection
-  Project Entrance
-  Project Site
-  Trip Distribution



Figure 9b: Background Conditions Trip Distribution & Assignment



LEGEND

- XX AM Peak Hour Project Volume
- (XX) PM Peak Hour Project Volume



Figure 10: Background Conditions Peak Hour Traffic Volumes

Intersection #1 Main St / E Cypress Rd	Intersection #2 Machado Ln / E Cypress Rd	Intersection #3 Sellers Ave / E Cypress Rd
<p> 6 (17) 218 (337) 463 (911) 938 (572) 935 (287) 734 (583) 26 (29) 514 (1101) 80 (65) Main St E Cypress Rd 111 (134) 259 (278) 400 (708) </p>	<p> 112 (72) 0 (0) 90 (24) 111 (35) 1868 (1293) 1 (7) 67 (115) 943 (2251) 11 (39) Machado Ln E Cypress Rd 38 (22) 0 (2) 2 (7) </p>	<p> 226 (190) 14 (18) 14 (14) 14 (13) 1553 (972) 367 (258) 95 (244) 752 (1818) 172 (188) Sellers Ave E Cypress Rd 196 (172) 16 (23) 85 (174) </p>

LEGEND

- XX AM Peak Hour Traffic Volume
- (XX) PM Peak Hour Traffic Volume



6.0 BACKGROUND PLUS PROJECT CONDITIONS

This scenario is identical to Background No-Project Conditions, but with the addition of projected traffic from the proposed project. Trip generation, distribution, and assignment for the proposed project are identical to that assumed under Existing plus Project Conditions.

6.1 INTERSECTION LEVEL OF SERVICE ANALYSIS – BACKGROUND PLUS PROJECT CONDITIONS

Figure 11 shows the forecasted volumes at each intersection under Background plus Project Conditions, based on the updated Oakley Citywide Traffic Model and the proposed project traffic. **Table 7** summarizes peak hour levels of service at the study intersections under Background plus Project Conditions, with Background Conditions results included for comparison purposes. Detailed LOS worksheets for Background plus Project Conditions are provided in **Appendix E**. Under Background plus Project Conditions, all study intersections operate at unacceptable LOS F during the a.m. and p.m. peak hours, except the intersection at Machado Lane/Project Driveway (Intersection #4), which operates at LOS A during both peak hours.

Table 7: Intersection Traffic Level of Service – Background plus Project Conditions

ID	Intersection	Control	Peak Hour	Background Conditions		Background plus Project Conditions		
				Average Delay ¹	LOS ²	Average Delay ¹	LOS ²	Potential Significant LOS Impact?
1	Main Street / E. Cypress Road*	Signalized	A.M.	>80	F	>80	F	Yes
			P.M.	>80	F	>80	F	Yes
2	Machado Lane / E. Cypress Road	Signalized	A.M.	>80	F	>80	F	Yes
			P.M.	>80	F	>80	F	Yes
3	Sellers Avenue / E. Cypress Road	Signalized	A.M.	74.3	E	74.3	E	No
			P.M.	73.3	E	73.4	E	No
4	Machado Lane / Project Driveway	One-Way Stop	A.M.	-	-	9.0	A	No
			P.M.	-	-	9.1	A	No

Notes: **Bold** text indicates unacceptable intersection operations.

* Indicates intersection is located in Priority Development Area and has standard of LOS E (Plan Bay Area 2050).

¹Delay: Average control delay in seconds per vehicle, reported values are overall for signalized and all-way-stop-control intersections; and critical minor approaches for one- and two-way stop-control intersections.

²LOS: Level of Service.

Traffic Impact Findings

The project impacts to the intersections of Main Street/E. Cypress Road (Intersection #1), Machado Lane/E. Cypress Road (Intersection #2) are potentially significant because the project adds five or more seconds of delay to intersections operating at LOS F without the project traffic.

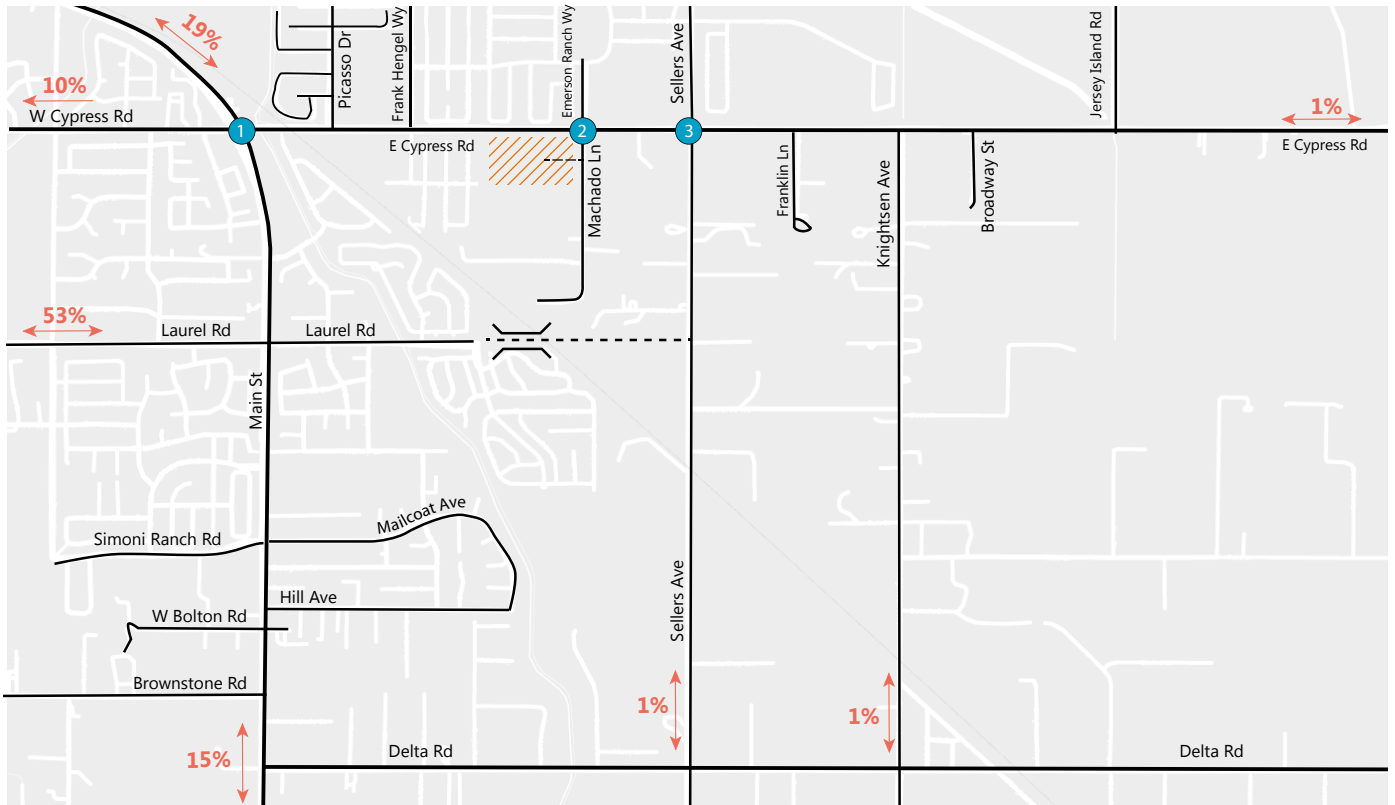
The signalized intersection of Main Street/E. Cypress Road (Study Intersection #1) operates at unacceptable LOS F during both peak hours under Background Conditions without and with the proposed project. During the p.m. peak hour, the addition of project traffic increases delay by over five seconds, and thus a potential significant impact, due to lack of capacity at the westbound approach on E. Cypress Road

and the northbound right-turn movement on Main Street, is observed. Increasing phase splits for the eastbound and westbound approaches and the addition of a westbound through-right turn lane does not improve LOS to acceptable levels, however, reduces delay to below those observed under Background (without project) Conditions. Additional right-of-way is required to expand the westbound approach to improve operations to LOS D or better.

The signalized intersection of Machado Lane/E. Cypress Road (Study Intersection #2) operates at unacceptable LOS F during both peak hours under Background Conditions without and with the proposed project. During the p.m. peak hour, the addition of project traffic increases delay by over five seconds, and thus a potential significant impact, due to lack of capacity at the eastbound and westbound through movements, is observed. Increasing phase splits for the eastbound and westbound through movement does not improve LOS to acceptable levels, however, reduces delay less than those observed under Background (without project) Conditions. The addition of one through lane in the eastbound and westbound directions is required to improve operations to LOS D or better, however, requires additional right-of-way.

Figure 11: Background Plus Project Peak Hour Traffic Volumes

Intersection #1 Main St / E Cypress Rd	Intersection #2 Machdo Ln / E Cypress Rd	Intersection #3 Sellers Ave / E Cypress Rd	Intersection #4 Project Dwy / Machado Ln
<p> AM Peak Hour: 6 (17) (left), 218 (337) (through), 466 (919) (right) PM Peak Hour: 945 (577) (left), 935 (587) (through), 764 (604) (right) Main St: 26 (29) (left), 514 (1101) (through), 80 (65) (right) E Cypress Rd: 111 (134) (left), 259 (278) (through), 411 (743) (right) </p>	<p> AM Peak Hour: 112 (72) (left), 0 (0) (through), 90 (24) (right) PM Peak Hour: 111 (35) (left), 1868 (1293) (through), 1 (9) (right) Machado Ln: 67 (115) (left), 943 (2251) (through), 25 (82) (right) E Cypress Rd: 75 (48) (left), 0 (2) (through), 4 (7) (right) </p>	<p> AM Peak Hour: 226 (190) (left), 14 (18) (through), 14 (14) (right) PM Peak Hour: 14 (13) (left), 1553 (972) (through), 367 (259) (right) Sellers Ave: 95 (244) (left), 753 (1818) (through), 173 (188) (right) E Cypress Rd: 196 (173) (left), 16 (23) (through), 85 (174) (right) </p>	<p> AM Peak Hour: 14 (45) (left), 12 (46) (right) PM Peak Hour: 39 (26) (left), 0 (0) (right) Project Dwy: 39 (26) (left), 0 (0) (right) Machado Ln: 0 (0) (left), 40 (22) (right) </p>



LEGEND

- XX AM Peak Hour Traffic Volume
- (XX) PM Peak Hour Traffic Volume
- XX% Trip Distribution
- X Study Intersection

Project Entrance



Project Site



7.0 ADDITIONAL ANALYSIS

The following sections provide additional analyses of other transportation issues associated with the project site, including:

- Site access, circulation, and multimodal impacts\
- Sight Distance Analysis
- Parking Analysis
- Queueing Analysis

The analyses in these sections are based on professional judgment in accordance with the standards and methods employed by traffic engineers. Although operational issues are not considered CEQA impacts, they do describe traffic conditions that are relevant to describing the project environment.

7.1 SITE ACCESS, CIRCULATION, AND MULTIMODAL IMPACTS

Site Access and On-Site Circulation

The proposed project is located in the southwest quadrant of the Machado Lane and E. Cypress Road intersection, and would generate left and right turning traffic onto Machado Lane to and from the project site. The project proposes a local roadway, accessible from Machado Lane, which provides access to the single family homes. The roadway will lead into the development and separate into minor roadways, as shown in **Figure 2**. The roadway will maintain a width of 36 feet and accommodates two-way travel. Additionally, the project proposes to provide sidewalks on both sides of the proposed roadway, with curb ramps at all proposed intersections. The intersection of the proposed roadway and Machado Lane is will be one-way stop controlled with vehicles entering and exiting the site anticipated to be travelling at 25 to 30 miles per hour (mph). Emergency vehicle access is provided via an access point off of E. Cypress Road, on the north side of the project site.

The site circulation works well for vehicular traffic with multiple routes providing access to the single-family homes. The internal roadway, which will provide access to the single-family residences, accommodates two-way travel. The proposed roadway also accommodates on-street parking on both sides, and emergency and garbage truck circulation.

Pedestrian Facilities Impacts

Pedestrian access would be provided via proposed sidewalks along the project frontage on the south side of E. Cypress Road and the west side of Machado Lane, and within the project site. The sidewalks facilitate pedestrian traffic to the schools located north of the project site. All internal streets would have sidewalks and adequate curb ramps at corners to provide accessible paths of travel to each home. The sidewalks are proposed to be 5-feet in width along E. Cypress Road, Machado Lane and the proposed access roadway. TJKM recommends one foot be added to the sidewalk widths to provide adequate pedestrian facilities.

A significant impact occurs if the proposed project conflicts with applicable or adopted policies, plans or programs related to pedestrians facilities or otherwise decreases the performance or safety of pedestrian

facilities. The proposed project will not result in any significant impacts to the nearby and future proposed pedestrian facilities.

Bicycle Facilities Impacts

Bicycle access to the project site would be provided by the existing Class II bike lane facilities along the north side of E. Cypress Road. The project does not propose to provide new bicycle facilities. The Contra Costa County Transportation Authority Countywide Bicycle and Pedestrian Plan proposes Class II bike lanes on Machado Lane, south of E. Cypress Road, which is along the project frontage.

An impact to bicyclists occurs if the proposed project disrupt existing bicycle facilities; or conflict or create inconsistencies with adopted bicycle system plans, guidelines, and policies. A significant impact occurs if the proposed project conflicts with applicable or adopted policies, plans or programs related to bicycle facilities or otherwise decrease the performance or safety of bicycle facilities. The proposed project will not result in any significant impacts to the nearby and future proposed bicycle facilities.

Transit Facilities Impacts

A proposed project is considered to have a significant impact on transit if it conflicts with existing or planned transit facilities, or is expected to generate additional transit trips and does not provide adequate facilities for pedestrians and bicyclists to access transit routes and stops.

The project is located about 1.5 miles from the closest bus stops east of the E. Cypress Road/Main Street intersection. The bus stops are accessible via sidewalks and Class II bike lanes provided on E. Cypress Road. The proposed project will likely not add a significant amount of volume to existing bus service capacity. Therefore, the proposed project is not expected to result in any significant impacts to the nearby transit network.

7.2 SIGHT DISTANCE ANALYSIS

Machado Lane is currently unpaved and has a posted speed limit of 5 mph near the project site. The proposed project will pave Machado Road south of E. Cypress Road, extending slightly south of the project access. For the purposes of this study, Machado Lane is assumed to have a posted speed limit of 25 mph with the addition of the project. As per the proposed site plan (**Figure 2**), oncoming traffic travelling northbound and southbound on Machado Lane has a clear line of sight to vehicles exiting the project site for at least 150 feet. No obstructions to sight distance are expected, however, TJKM recommends that on-street parking is prohibited for at least 150 feet on Machado Lane, north and south of the project entrance, and on the proposed roadway, west of the project entrance.

7.3 PARKING ANALYSIS

Under the City of Oakley zoning regulations, the proposed project is classified as a single family residential use. For single family dwelling units, the City of Oakley Municipal Parking Code (Chapter 9.1.1402) requires two covered off-street parking spaces per unit. In order to satisfy City of Oakley Code requirements, TJKM recommends the project provide two covered parking spaces at each dwelling unit

Machado Lane TIS - Traffic Impact Analysis

lot (152 total parking spaces). Assuming each residential unit provides a two-car garage, the proposed project meets the parking supply requirements for the City of Oakley.

7.4 QUEUEING ANALYSIS

TJKM conducted a vehicle queuing and storage analysis for all exclusive left-turn or right-turn pockets at the study intersections where project traffic is added under Existing and Existing plus Project scenarios. The 95th percentile (maximum) queues were analyzed using the HCM 6th Edition Queue methodology contained in Vistro software. Detailed calculations are included in the LOS appendices corresponding to each analysis scenario.

Table 8 summarizes the 95th percentile queue lengths at the study intersections under Existing and Existing plus Project scenarios. Under Existing plus Project scenarios, the proposed project increases queue length by a maximum of three vehicles (one vehicle length=25 feet) at the intersection of Main Street/E. Cypress Road (Intersection #1). The addition of project traffic causes queue lengths to increase by approximately three vehicles at the northbound right-turn and westbound left-turn approaches at the intersection of Main Street and E. Cypress Road.

The intersection of Main Street and E. Cypress Road is significantly overloaded by projected development in the E. Cypress corridor. Alternate access to the south is needed so traffic can reach an upgraded Laurel Road and Main Street intersection without having to use Main Street. This is included in the general plan. Under Existing plus Project Conditions, the northbound right-turning traffic exceeds queueing capacity by a maximum of 570 feet, or 23 car lengths during the a.m. peak. The westbound left-turning traffic exceeds queueing capacity by a maximum of 50 feet, or two vehicles, during the a.m. peak. TJKM recommends signal timing improvements, and westbound left-turn and northbound right-turn pockets are extended, in order to mitigate queue lengths at Main Street/E. Cypress Road (Intersection #1).

It is noted that the queuing issues described above may be resolved by Oakley's planned improvements highlighted in the CIP.

Table 8: Queueing for Study Intersections, in Feet

#	Study Intersections	Lane Group	Storage Length	Existing		Existing plus Project		Change	
				AM	PM	AM	PM	AM	PM
1	Main Street / E. Cypress Road	NBL	230	160	125	160	135	0	10
		NBR	210	725	225	780	285	55	60
		EBL	145	45	25	45	30	0	5
		WBL	325	300	115	375	135	75	20
		SBL	500	220	145	225	165	5	20
		SBTR	435	135	105	135	115	0	10
2	Machado Lane / E. Cypress Road	EBL	150	25	20	25	25	0	5
		WBL	100	0	0	0	5	0	5
		SBL	100	40	5	40	5	0	0
3	Sellers Avenue / E. Cypress Road	EBL	185	15	5	15	5	0	0
		WBL	250	65	35	65	35	0	0

Notes: Storage length and 95th percentile queue is expressed in feet per lane, **Bold** indicates overflow.

Appendix A

Existing Conditions LOS Reports

Appendix B

Existing plus Project Conditions LOS Reports

Appendix C

Existing plus Project Conditions Mitigated LOS Reports

Appendix D

Background Conditions LOS Reports

Appendix E

Background plus Project Conditions LOS Reports