# CITY OF ANTIOCH COMMUNITY DEVELOPMENT DEPARTMENT



# **Almond Knolls Project**

## INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

April 2017



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## TABLE OF CONTENTS

A.	BACK	ACKGROUND				
B.	SOURCES					
C.	ENVI	ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED4				
D.	DETE	RMINATION	5			
E.	BACK	GROUND AND INTRODUCTION	6			
F.	PROJ	ECT DESCRIPTION	6			
G.	ENVI	RONMENTAL CHECKLIST	17			
	T	AESTHETICS	21			
	I. II	AGRICULTURE AND FOREST RESOURCES	21			
	III. III	AIR OUALITY	29			
	IV.	BIOLOGICAL RESOURCES.				
	V.	CULTURAL RESOURCES.	48			
	VI.	GEOLOGY AND SOILS.	51			
	VII.	GREENHOUSE GAS EMISSIONS	55			
	VIII.	HAZARDS AND HAZARDOUS MATERIALS.	59			
	IX.	HYDROLOGY AND WATER QUALITY	62			
	Х.	LAND USE AND PLANNING.	69			
	XI.	MINERAL RESOURCES.	71			
	XII.	NOISE	72			
	XIII.	POPULATION AND HOUSING	81			
	XIV.	PUBLIC SERVICES.	83			
	XV.	RECREATION.	85			
	XVI.	TRANSPORTATION AND CIRCULATION.	86			
	XVII.	TRIBAL CULTURAL RESOURCES	89			
	XVIII.	. UTILITIES AND SERVICE SYSTEMS	92			
	XIX.	MANDATORY FINDINGS OF SIGNIFICANCE.	95			

## Appendix

Air Quality and GHG Modeling Results

## **INITIAL STUDY**

## *April 2017*

## A. BACKGROUND

1.	Project Title:	Almond Knolls Project (GP-16-03, Z-16-02, UP-16-19, V-17-02, AR-16-14)
2.	Lead Agency Name and Address:	City of Antioch Community Development Department P.O. Box 5007 Antioch, CA 94531
3.	Contact Person and Phone Number:	Alexis Morris Planning Manager (925) 779-7035
4.	Project Location:	Southeast of the intersection of Worrell Road and Lone Tree Way Antioch, CA 94509
5.	Project Sponsor's Name and Address	s: Kyle Masters The Grupe Company 3255 West March Lane, 4 <sup>th</sup> Floor Stockton, CA 95219 (209) 473-6067
6.	Existing General Plan Designation:	Medium Low Density Residential Neighborhood Commercial
8.	Proposed General Plan Designation:	High Density Residential
9.	Existing Zoning Designation:	Single-Family Residential District (R-6) Medium Density Residential District (R-20) Neighborhood/Community Commercial District (C-2)
10.	Proposed Zoning Designation:	Medium Density Residential District (R-20)
11.	Project Description Summary:	

The Almond Knolls Project (proposed project) would include the construction of a multifamily, clustered residential development on an approximately 2.9-acre vacant lot in the City of Antioch, California. The development would include five two- to three-story apartment buildings comprising a total of 58 units, as well as open space areas, a looped driveway, an outdoor recreation area, and various landscaping features.

## **B. SOURCES**

All of the technical reports and modeling results used for the project analysis are available upon request at the City of Antioch Community Development Department, Planning Division, located at Third & "H" Streets in Antioch, California, Monday through Friday between 8:00 and 11:30 AM. The following documents are referenced information sources used for purposes of this Initial Study/Mitigated Negative Declaration:

- 1. Advanced GeoEnvironmental, Inc. Phase I Environmental Site Assessment, Odom Property, Worrell Road, Antioch, California. July 15, 2014.
- 2. Alameda County Superior Court. California Building Industry Association v. Bay Area Air Quality Management District. A135335 and A136212. Filed August 12, 2016.
- 3. Antioch Unified School District. *Developer Fee Justification Document for Residential, Commercial, and Industrial Development Projects.* July 2014.
- 4. Bay Area Air Quality Management District. *Air Quality Plans*. Available at: http://www.baaqmd.gov/Divisions/Planning-and-Research/Plans.aspx. Accessed March 2017.
- 5. Bay Area Air Quality Management District. *Air Quality Standards and Attainment Status*. Available at: http://www.baaqmd.gov/research-and-data/air-quality-standards-and-attainment-status. Accessed March 2017.
- 6. Bay Area Air Quality Management District. *California Environmental Quality Act Air Quality Guidelines*. May 2010.
- 7. Bollard Acoustical Consultants, Inc. Peer Review of the j.c. brennan and associates Environmental Noise Assessment for the Almond Knolls Residential Development in Antioch, California. February 2, 2017.
- 8. California Department of Conservation. *Contra Costa County Important Farmland Map* 2014. Published April 2016.
- 9. California Department of Forestry and Fire Protection. Contra Costa County, Very High Fire Hazard Severity Zones in LRA. January 7, 2009.
- 10. California Department of Resources Recycling and Recovery (CalRecycle). *Solid Waste Information System*. Available at: www.calrecycle.ca.gov/SWFacilities/. Accessed March 2017.
- 11. California Department of Toxic Substances Control. *Hazardous Waste and Substances Site List.* Available at: http://www.dtsc.ca.gov/SiteCleanup/Cortese\_List.cfm. Accessed February 2, 2017.
- 12. California Department of Transportation. *California Scenic Highway Mapping System, Contra Costa County*. Available at: http://www.dot.ca.gov/hq/LandArch/16\_livability/scenic\_highways. Accessed February 2, 2017.
- 13. City of Antioch. 2015 Urban Water Management Plan. May 2016.
- 14. City of Antioch. City of Antioch Housing Element 2015-2023. Adopted April 14, 2015
- 15. City of Antioch. Citywide Engineering and Traffic Survey. February 6, 2015.
- 16. City of Antioch. General Plan Environmental Impact Report. 2003

- 17. City of Antioch. General Plan. Updated November 24, 2003.
- 18. Contra Costa Transportation Commission. Update of the Contra Costa Congestion Management Program. Adopted December 16, 2015.
- 19. Delta Diablo. Proposed Tuscany Meadows Subdivision Letter Addressed to Nick Pappani, Vice President Raney Planning and Management. October 3, 2013.
- 20. Geosphere Consultants, Inc. *Planning Level Geology and Geotechnical Engineering Study.* December 16, 2016.
- 21. Hort Science. Arborist Report, Almond Knolls, Antioch, CA. December 16, 2016.
- 22. Institute of Transportation Engineers. *Trip Generation Handbook, 9<sup>th</sup> Edition*. September 2012.
- 23. j.c. brennan and associates, Inc. Almond Knolls Environmental Noise Assessment. December 8, 2017.
- 24. Moasic Associates LLC. Biological Resources Report for the Almond Knolls Project, APN 071072015, Worrell Road, Antioch, CA. January 2017.
- 25. Northwest Information Center. *Records Search Results for the Proposed Almond Knolls Project.* January 30, 2017.
- 26. Personal Communication with Alexis Morris, Senior Planner, City of Antioch Community Development Department. August 16, 2016.
- 27. Sacramento Metropolitan Air Quality Management District. *Guide to Air Quality Assessment in Sacramento County*. Available at: http://www.airquality.org/businesses/ceqa-land-use-planning/ceqa-guidance-tools. Accessed March 2017.
- 28. State of California Energy Commission. Adoption Hearing. June 10, 2015.
- 29. Wood Rodgers, Inc. Preliminary Stormwater Management Plan. December 22, 2016.

## C. ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

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

- □ Aesthetics
- **#** Biological Resources
- □ Greenhouse Gas Emissions
- □ Land Use and Planning
- Population and Housing
- □ Transportation and Circulation
- □ Mandatory Findings of Significance

- □ Agriculture and Forest Resources
- **\*** Cultural Resources
- □ Hazards and Hazardous Materials
- □ Mineral Resources
- Public Services
- Tribal Cultural Resources

- **\*** Air Quality
- **\*** Geology and Soils
- **\*** Hydrology and Water Quality
- ✗ Noise
- □ Recreation
- □ Utilities and Service Systems

## **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

Date

Alexis Morris, Planning Manager Printed Name City of Antioch For

## E. BACKGROUND AND INTRODUCTION

This Initial Study identifies and analyzes the potential environmental impacts of the Almond Knolls Project (proposed project). The information and analysis presented in this document is organized in accordance with the order of the California Environmental Quality Act (CEQA) checklist in Appendix G of the CEQA Guidelines. Where the analysis provided in this document identifies potentially significant environmental effects of the project, mitigation measures are prescribed.

The mitigation measures prescribed for environmental effects described in this Initial Study/Mitigated Negative Declaration (IS/MND) would be implemented in conjunction with the project, as required by CEQA. The mitigation measures would be incorporated into the project through project conditions of approval. The City would adopt findings and a Mitigation Monitoring/Reporting Program for the project in conjunction with approval of the project.

In 2003, the City of Antioch completed a comprehensive update of the City's General Plan and adopted an Environmental Impact Report (EIR) for the updated General Plan. The General Plan EIR is a program EIR, prepared pursuant to Section 15168 of the CEQA Guidelines (Title 14, California Code of Regulations, Sections 15000 *et seq.*). The General Plan EIR analyzed full implementation of the General Plan and identified measures to mitigate the significant adverse impacts associated with the General Plan.

Per Section 15152 of the CEQA Guidelines, a project which is consistent with the General Plan and zoning of the City may tier from the analysis contained in the General Plan EIR, incorporating by reference the general discussions from the broader EIR. The proposed project would include a General Plan Amendment and a rezone. As a result, the environmental analysis contained in this IS/MND cannot be tiered from the General Plan EIR in accordance with CEQA Guidelines Section 15152, but rather, the analysis herein is based upon project-specific technical studies.

## F. PROJECT DESCRIPTION

The following provides a description of the project site's current location and setting, as well as the proposed project components and the discretionary actions required for the project.

## **Project Location and Setting**

The proposed project site consists of an approximately 2.9-acre property located southeast of the intersection of Worrell Road and Lone Tree Way in the City of Antioch, Contra Costa County, California. The site is situated approximately 0.3 miles south of State Route (SR) 4 (see Figure 1). The site is identified by Contra Costa County Assessor's Parcel Number (APN) 071-072-015, and is zoned R-6, R-20, and C-2. The site is designated by the City's General Plan as Medium Low Density Residential and Neighborhood Commercial.



Figure 1 Regional Project Location

The proposed project site is currently vacant and consists primarily of ruderal grasses interspersed with scattered trees and shrubs. The topography of the site is moderately sloped, with an elevation ranging from approximately 132 feet in the southeast portion of the site to low of approximately 96 feet along the western boundary of the site. The site was historically used for agricultural purposes; however, such uses have long since ceased. The site does not contain any significant bodies of water or waterways. The site is absent of permanent structures or other notable development. With the exception of a Valero gas station and a church (New Life Free Will Baptist Church) located north of the site across Worrell Road, and an office adjacent to the site's western boundary, the site is primarily surrounded by existing single-family residential development (see Figure 2). The single-family residences to the west of the project site are located within an area zoned for High Density Residential (R-20) and Neighborhood Commercial (C-2); thus, the residences constitute legal nonconforming developments.

## **Project Components**

The proposed project would include the construction of a gated residential community comprised of five two- to three-story apartment buildings with 58 units organized around a looped private driveway (see Figure 3). In addition, the project would include multiple open-space areas and various landscape features. The northern portion of the site would be separated from Worrell Road by a six-foot-tall, decorative black steel fence with two pedestrian gates and two vehicle gates (see Figure 4). The proposed project would require a General Plan Amendment, rezone, use permit, Tentative Parcel Map, and design review.

## Apartment Buildings

The proposed apartment buildings would be composed of a mix of 31 one-bedroom units and 27 two-bedroom units averaging 625 and 985 square feet, respectively. Buildings #1, #2, #3, and #4 would be organized within the interior of the proposed driveway (see Figure 3). Buildings #1 and #2 would be two stories tall, while Buildings #3 and #4 would be three stories tall. Building #5 would be located on the southern portion of the site and would be two to three stories tall. Each building would be organized around a separate courtyard (Courtyards 1, 2, 3, 4, and 5, respectively).

## Circulation and Parking

Access to the proposed project site would be provided by two gated access points along the portion of the site fronted by Worrell Road. A new driveway would extend southward from the two access points to form a loop around Buildings #1, #2, #3, and #4. The driveway would be 25 feet wide at the narrowest point and would be lined with 90-degree parking spaces. The project would provide 58 covered vehicle parking spaces and 30 uncovered spaces for residents. In addition, 12 uncovered guest parking spaces would be provided.



Figure 2 Project Vicinity Map



PARING     REQUIRED     PROVIDED       1 & 2 BEDROOM     50     50       COVERED     29     30       GUEST     12     12       99     100	PARKNING     EQUIRED     PROVIDED       18.2 BEDROOM     50     50     50       COVERED     29     30       GUIST     12     12       99     100	1	DAD	KINC	STINANA	
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COVERED     56     56       GUEST     12     12       12     12     12       97     100       OPEN SPACE SUMMARY       COMMON OPEN SPACE     SEE [5.7]       SEE [5.7]     SEE [5.7]       COMMON OPEN SPACE     SEE [5.7]       COMPTARD 1     1.024       COURTYARD 2     1.024       COURTYARD 3     200 5.F./UNIT     1.056       COURTYARD 5     3.075     3.075       COMINARE OPEN SPACE PROVIDED BY BALCONIES OF DICKS       VITA INNUMISE OF 0.5.F./UNIT       NOTES:       - PRIVATE OPEN SPACE AFEN UNT EVENTIS SUMMARY.       UNIT TYPE       VITA INNUMISE OF 0.5.7 PRI UNT SEE UNT SEE UNT SUMMARY.       LINISCAINING JUNIT FUOR AREA S.F./       DECK [S.F.]       1 BE/0     1     2     625     65       2 BE/0     2     2     965     100       IDECK [S.F.]       IST AFE AFE PROVIDED BY BALCONIES OF DECK [S.F.]       1 BE/0     1     2<	COVERED     56     56       UNCOVERED     29     30       GUEST     12     12       12     12     12       99     100       OPEN SPACE     SEE 6.7.1     SEE (5.7.1)       COMMON OPEN SPACE     SEE 6.7.1     SEE (5.7.1)       COMMON OPEN SPACE     SEE 6.7.1     SEE (5.7.1)       COURTYARD 1     1.504     7.475       COURTYARD 2     7.475     7.455       COURTYARD 5     7.475     7.455       TOTAL     13.204.5.7.     205.7.7.1VNT       NOTES:     - PRIVARD 5     7.475       TOTAL     13.204.5.7.     205.7.7.1VNT       LANDSCARNS, COMMON AND RIVALE OPEN SPACE AREA     205.7.7.1VNT       NOTES:     - PRIVARE OPEN SPACE E PROVIDED BY BALCONIES OPEN SPACE AREA       LANDSCARNS, COMMON AND RIVALE OPEN SPACE AREA     205.7.7.2       NOTES:     - 2     435       LANDSCARNS, COMMON AND RIVALE OPEN SPACE AREA     205.7.7       LANSCARNS, COMMON AND RIVALE OPEN SPACE AREA     205.7.7       LANDSCARNS, COMMON AND RIVALE OPEN SPACE AREA     205.7.7		PARKING 1 & 2 BEDROOM	4	EQUIRED	PROVIDED
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OPEN SPACE SUMMARY       COMMON OPEN SPACE     SEE (S.F.)     SEE (S.F.)       COURTWARD 1     SEE (S.F.)     SEE (S.F.)       COURTWARD 2     1.501       COURTWARD 3     200 S.F./UNIT     1.504       COURTWARD 3     200 S.F./UNIT     1.204       COURTWARD 3     200 S.F./UNIT     1.206       COURTWARD 4     2.675     TOTAL       DESCREATION AREA     2.675       TOTAL     13.204 S.F.       PENATE OFEN SPACE & PROVIDED BY BALCONTOR OF DECIS       VITI A MINNUM SIZ OF 60 S.F. PER UNIT SUE	OPEN SPACE SUMMARY       COMMON OPEN SPACE     SEE (F.7.)     SEE (F.7.)       COURTYARD 1     1.504       COURTYARD 2     1.517       COURTYARD 3     20 5.F./UNIT     1.956       COURTYARD 3     20 5.F./UNIT     1.956       COURTYARD 4     2.805     2.805       COURTYARD 5     2.805     3.806       COURTYARD 5     2.805     3.806       COURTYARD 6     2.805     3.806       COURTYARD 7     1.806     3.806       COURTYARD 5     2.805     3.806       COURTYARD 6     2.805     3.806       PENTAGE OFEN SPACE & PROVIDED BY BALCONDED FOR DED TO LANDSCARING, COMMON AND PRIVATE OPEN SPACE AREA       VINT TYPE     REDROOMS     UNIT COUNT       DINE 0     1     2     425       1     2     425     44       2     2     2     445       2     2     2     445       1     2     425     44       2     2     2     445       2     2					
COMMON OPEN SPACE     SUE (S.F.)     SEE (S.F.)       COURTYARD 1     1.204       COURTYARD 3     200 S.F./UNIT       COURTYARD 3     200 S.F./UNIT       COURTYARD 3     200 S.F./UNIT       COURTYARD 5     456       RECREATION AREA     7.075       TOTAL     13.204 S.F.       NOTES:     - PRIVATE OPEN SPACE & PROVIDED BY BALCONIES OR DECKS       VITH A MINANDISC OF 0.5 PRE UNIT SEUDIT SUMMARY.     - APROVIDED BY BALCONIES OR DECKS       UNIT TYPE     REDROGMS     UNIT COUNT FLOOR AREA (S.F.)       UNIT TYPE     REDROGMS     UNIT COUNT FLOOR AREA (S.F.)       1 BE/D     1     2     425       2 BE/D     2     2     945     74       1 BE/D     1     2     425     44       2 BE/D     2     2     945     74       1 BE/D     1     2     425     44       2 BE/D     2     2     945     74       1 BE/D     1     3     435     44       2 BE/D     2     2     945	COMMON OPEN SPACE     SUE (S.F.)     SUE (S.F.)       COURTIARD 1     1.204       COURTIARD 3     200 S.F./UNIT       COURTIARD 4     1.206       COURTIARD 5     456       ECCEADION AREA     7.475       TOTAL     2320 S.F./UNIT       NOTES:     - PRIVATE OPEN SPACE & REOVIDED BY BALCONING BORDARY.       - PRIVATE OPEN SPACE & REOVIDED BY BALCONING BURKY.     - AND SCAPHIC, COMINON AND REVATE OPEN SPACE AREA       UNIT TYPE     BEDROOMS     UNIT COUNT     FLOOR AREA S.F.       UNIT TYPE     BEDROOMS     UNIT COUNT     FLOOR AREA S.F.       UNIT TYPE     BEDROOMS     UNIT COUNT     FLOOR AREA S.F.       1 BR.D     1     2     425       2 BR.D     2     2     745       1 BR.D     1     2     425       2 BR.D     2     2     745       1 BR.D     1     3     425		OPEN	SPAC	CE SUM	
COURT AND 1     1,204       COURT AND 2     1,517       COURT AND 3     200 S.F./UNIT       COURT AND 5     1,056       COURT AND 5     1,206       TOTAL     1,3204 S.F.       UNT STACE 5 PROVIDED BY BALCONIES OR DECKS     1,105       VITH A MINANDIS COF 60.5 PROVIDED TO     1,1005       LINDSCAPING, COMMON AND PRIVALE OPEN SPACE AREA.     1,1005       LINDSCAPING, COMMON AND PRIVALE OPEN SPACE AREA.     1,1005       UNIT TYPE     NEDROOMS     UNIT COUNT FLOOR AREA S.F.J.     DECK (SF.J.)       1 BR:D     1     2     425       2 BR:D     2     2     945     74       1 BR:D     1     3     435     44       2 BR:D     2     2     945     74       1 BR:D     1     3     435     44       2 BR:D </td <td>COURTIAND 1     1,204       COURTIAND 2     1,517       COURTIAND 3     200 S.F./UNIT       COURTIAND 4     1,206       COURTIAND 5     200 S.F./UNIT       RECREATION AREA     1206 S.F./UNIT       TOTAL     220 S.F./UNIT       NOTES:     - 200 S.F./UNIT       - PRIVATE OPEN SPACE &amp; REOVIDED BY BALCOMMEY.       - ANDSCAPING, COMMON AND REVATE OPEN SPACE AREA       UNIT TYPE     REDROCAS       LINDSCAPING, COMMON AND REVATE OPEN SPACE AREA       UNIT TYPE     REDROCAS       I BR.D     1       2     425       2 BR.D     2       2 BR.D     2       2 BR.D     2       1 BR.D     1       2 BR.D     2       2 BR.D     3 <!--</td--><td></td><td>COMMON OPE</td><td>N SPACE</td><td>SIZE (S.F.)</td><td>SIZE (S.F.)</td></td>	COURTIAND 1     1,204       COURTIAND 2     1,517       COURTIAND 3     200 S.F./UNIT       COURTIAND 4     1,206       COURTIAND 5     200 S.F./UNIT       RECREATION AREA     1206 S.F./UNIT       TOTAL     220 S.F./UNIT       NOTES:     - 200 S.F./UNIT       - PRIVATE OPEN SPACE & REOVIDED BY BALCOMMEY.       - ANDSCAPING, COMMON AND REVATE OPEN SPACE AREA       UNIT TYPE     REDROCAS       LINDSCAPING, COMMON AND REVATE OPEN SPACE AREA       UNIT TYPE     REDROCAS       I BR.D     1       2     425       2 BR.D     2       2 BR.D     2       2 BR.D     2       1 BR.D     1       2 BR.D     2       2 BR.D     3 </td <td></td> <td>COMMON OPE</td> <td>N SPACE</td> <td>SIZE (S.F.)</td> <td>SIZE (S.F.)</td>		COMMON OPE	N SPACE	SIZE (S.F.)	SIZE (S.F.)
COURTARD 3     200 S.F./UNIT     1,056       COURTARD 4     1,266     456       COURTARD 5     7,675     7       TOTAL     13,204,3,7.     228 S.F./UNIT       NOTES:     - PRIVATE OPEN SPACE & PROVIDED BY BALCONIES OR DECKS     228 S.F./UNIT       NOTES:     - PRIVATE OPEN SPACE & PROVIDED BY BALCONIES OR DECKS     228 S.F./UNIT       LINDSCAPING, COMMON AND PRIVATE OPEN SPACE AREA.     - APROVIDED TO AREA BJE/OPEN SPACE AREA.       UNIT TYPE     REDROOMS     UNIT COUNT FLOOR AREA S.F./     DECK (S.F.)       UNIT TYPE     REDROOMS     UNIT COUNT FLOOR AREA S.F./     DECK (S.F.)       1 BE/D     1     2     425     64       2 BE/D     2     2     945     74       B     1     2     435     46       2 BE/D     2     2     945     74       B     1     3     435     46       2 BE/D     2     2     985     100       1     3     435     46       2 BE/D     2     3     985     100	COURTIAND 3     200 5.F./UNIT     1.026       COURTIAND 4     1.226       COURTIAND 5     7.475       TOTAL     13.204 5.F.       PRECREATION AREA     200 5.F./UNIT       NOTES     200 5.F./UNIT       -PREVAME 0 COURTS PACE & PROVIDED BY BALCONDED TO     220 5.F./UNIT       NOTES     -PREVAME 0 FOR 50 5.F. FRE UNIT SUMMARY, V.       -PREVAME 0 ST OF the LOCATER'S BOOPED TO TARE'S ED PECKS       - UNIT TYPE     BEDROCAS       IBR.0     1     2     625       1 BR.0     1     2     625     63       1 BR.0     1     2     625     64       2 BR.0     2     2     952     64       2 BR.0     2     2     952     64       2 BR.0     2     2     952     64       2 BR.0     2     2     955     100       1 BR.0     1     3     625     65       1 BR.0     1     3     625     64       2 BR.0     2     3     945     740		COURTYARD 2			1,517
COURTARD 5     435       RECREATION AREA     7,675       TOTAL     132045,F.       2285,F./UNIT     2285,F./UNIT       NOTES:     - PRIVATE OFEN SPACE & REOVIDED BY BALCONTS OR DECOS       - PRIVATE OFEN SPACE & REOVIDED BY BALCONTS OR DECOS     1011,000,000,000,000,000,000,000,000,00	COURTARD S     486       RECREATION AREA     7.675       TOTAL     13.2045.F.       228 5.F./UTL     228 5.F./UTL       - PERVATE OFN SPACE E PROVIDED BY PALCONDED OF DECLS     228.F./UTL       - PERVATE OFN SPACE E PROVIDED BY PALCONDED OF DECLS     WTLA MINAUM SIZE OF 40 5.F. PRE UNIT SUMMARY.       - PERVATE OFN SPACE E PROVIDED BY PALCONDED TO LANDSCAPING. COMMON AND PRIVATE OPEN SPACE AREA.       UNIT TYPE     REDROCMS     UNIT COUNT     FLOOR AREA (5.F.)     DECK (5.F.)       1 BR.0     1     2     625     65       1 BR.0     1     2     625     64       2 BR.0     2     2     952     64       2 BR.0     2     2     953     100       1 BR.0     1     4     625     65       1 BR.0     1     3     635     64       2 BR.0     2     2     945     74       1 BR.0     1     3     635     64       2 BR.0     2     3     945     74       1 BR.0     1     3     635 </td <td></td> <td>COURTYARD 4</td> <td></td> <td>200 S.F./UNIT</td> <td>1,056</td>		COURTYARD 4		200 S.F./UNIT	1,056
TOTAL     13.204.5.F.       2285.5./UNIT     2285.5./UNIT       NOTES:    PERVATE OFN SPACE & PROVIDED BY BALCONDED BY BALCONDED CR DECKS       -PERVATE OFN SPACE & PROVIDED BY BALCONDED TO LANDSCAPING, COMMON AND PRIVATE OPEN SPACE AREA       BUILDING/UNIT SUMMARY:       -PERVATE OFN SPACE     STORE THE UNIT SUMMARY:       UNITYPE     BEDROCAS     UNIT COUNT     FLOOR AREA S.F.     DECK [S.F.]       1 BE.0     1     2     625     66       2 BR.D     2     2     64     54       1 BE.0     1     2     635     66       2 BR.D     2     2     945     74       1 BE.0     1     2     635     66       2 BR.D     2     2     945     74       1 BE.0     1     3     635     66       1 BE.0     1     3     635     66       2 BR.C     2     3     955     100       1 BE.0     1     3     635     66       1 BE.0     1     3     635	ТОГАL 13.204.5. 228 5.F, 12 28 5.F, 12 - PERVATE OFIN SPACE E PROVIDED BY PALCONIES OF DECS. - PERVATE OFIN SPACE E PROVIDED BY PALCONIES OF DECS. - VITHA MINNUM SIZE OF 60 5.F, PRE UNIT SUMMARY. - PROXIMATE/SS OF THE LOT AREA SPENDED TO LANDSCAPING, COMMON AND PRIVATE OPEN SPACE AREA. - UNIT TYPE REDROCAS UNIT COUNT FLOOR AREA (5.F, 1) DECK (5.F, 1) 1 BC.0 1 2 625 65 1 BF.D 1 2 635 66 2 BF.D 2 2 953 66 2 BF.D 2 2 955 100 1 BF.D 1 4 625 65 1 BF.D 1 3 625 66 2 BF.D 2 2 985 100 1 BF.D 1 3 625 66 2 BF.D 2 3 945 74 2 BF.D 2 3 945 74 2 BF.D 2 3 945 74 2 BF.D 1 3 625 66 2 BF.D 2 3 945 74 2 BF.D 2 3 945 74 2 BF.D 1 3 625 66 2 BF.D 2 3 945 74 2 BF.D 2 3 945 74 2 BF.D 1 3 625 66 2 BF.D 2 3 952 66 2 BF.D 2 3 952 66 2 BF.D 1 4 625 66 2 BF.D 2 3 952 66 2 BF.D 1 4 625 66 2 BF.D 2 3 952 66 2 BF.D 2 3 952 66 2 BF.C 2 3 955 100 10 1 BF.D 1 4 625 66 2 BF.C 2 3 955 66 2 BF.C 2 3 955 66 1 BF.D 1 4 625 66 2 BF.C 2 3 955 66 100 12 1 BF.D 1 4 625 66 2 BF.C 2 3 955 66 100 12 1 BF.D 1 4 625 66 2 BF.C 2 1 1 6 58 NITS HAVE 250 CUBIC FEET OF STORAGE SPACE, NTIOCH ZONING CODE.		COURTYARD 5 RECREATION AF	8EA		456 7,675
NOTES: PEN ARE OFIN SPACE & PROVIDED BY BALCONDS CR DECKS PEN ARE OFIN SPACE & PROVIDED BY BALCONDS CR DECKS WTHA ANNAUM SIZE OF 60 S.F. PER UNIT SLEWARY. PRROXMARELY SS OF THE LOTA FARE A SPEVIDED TO LANDSCAPING, COMMON AND PRIVATE OPEN SPACE AREA BUILDING/UNIT SUMMARY. 	NOTE:		TOTAL			13,204 S.F. 228 S.F./UNIT
LANDSCARING, COMMON AND PRIVATE OPEN SPACE AREA. BUILDING/UNIT SUMMARY UNIT TYPE REDROOMS UNIT COUNT FLOOR AREA (S.F.) DECK (S.F.) 1 BE/0 1 2 425 45 2 BE/0 2 2 952 46 2 BE/0 2 2 952 46 2 BE/0 2 2 952 46 2 BE/0 2 2 945 74 1 BE/0 1 4 425 45 1 BE/0 1 4 425 45 2 BE/0 2 2 945 74 1 BE/0 1 4 425 45 1 BE/0 1 4 425 45 2 BE/0 2 2 945 74 1 BE/0 1 4 425 45 2 BE/0 2 2 945 74 1 BE/0 1 3 425 45 2 BE/0 2 3 945 74 1 BE/0 1 3 425 45 2 BE/0 2 3 945 74 1 BE/0 1 3 425 45 2 BE/0 2 3 945 74 1 BE/0 1 3 425 45 2 BE/0 2 3 945 74 1 BE/0 1 3 425 45 2 BE/0 2 3 945 74 1 BE/0 1 3 425 45 2 BE/0 2 3 945 74 1 BE/0 1 3 425 45 2 BE/0 2 3 945 74 1 BE/0 1 3 425 45 2 BE/0 2 3 945 74 1 BE/0 1 3 425 45 2 BE/0 2 3 945 74 1 BE/0 1 3 425 45 2 BE/0 2 3 945 74 2 BE/0 2 3 945 74 1 BE/0 1 3 425 45 2 BE/0 2 3 945 74 2 BE/0 2 3 945 74 1 BE/0 1 3 425 45 2 BE/0 2 3 945 74 1 BE/0 1 3 425 45 2 BE/0 2 3 945 74 1 BE/0 1 3 425 45 2 BE/0 2 3 945 74 2 BE/0 2 4 7 952 66 3 BE/0 2 BE/0 2 8 3 BE/0 2	LANDSCAPING, COMMON AND PRIVATE OPEN SPACE AREA.		NOTES: - PRIVATE OPEN S WITH A MINIMUM - APPROXIMATELY	PACE IS PRO M SIZE OF 60 S Y 50% OF THE	VIDED BY BALCONI S.F. PER UNIT; SEE	ES OR DECKS NITSUMMARY. TED TO
BUILDING/UNIT SUMMARY       UNIT TYPE     BEDROGMS     UNIT COUNT FLOOR AREA (S.F.)     DECK (S.F.)       1 BE.0     1     2     425     64       2 BE.0     2     2     945     74       B     1     2     425     64       2 BE.0     2     2     945     74       B     1     2     435     64       1 BE.0     1     2     435     64       2 BE.0     2     2     985     100       1     1     3     435     64       2 BE.0     1     3     43	BUILDING/UNIT SUMMARY       LINE TYPE     REDROGAS     UNIT COUNT     FLOOR AREA (S.F.)     DECK (S.F.)       1     1     2     625     64       2     1     2     625     64       2     1     2     625     64       2     1     2     625     64       2     1     2     625     64       2     1     2     625     64       2     1     2     625     64       2     1     2     645     64       2     1     2     645     64       2     1     3     625     64       2     1     3     645     64       2     2     3     985     100       1     3     655     64       2     2     3     985     100       1     3     655     64       2     2     3     955	L	LANDSCAPING,	COMMONA	ND PRIVATE OPEN	SPACE AREA.
UNIT TYPE BEDROOMS UNIT COUNT FLOOR AREA (S.F.) DECK (S.F.) 1 BR.0 1 2 625 65 1 BR.0 1 2 635 66 2 BR.0 2 2 9 952 66 2 BR.0 2 2 9 952 66 1 BR.0 1 4 625 65 1 BR.0 1 4 625 65 2 BR.0 2 2 9 945 74 1 BR.0 1 4 625 65 2 BR.0 2 2 9 945 74 1 BR.0 1 3 625 65 2 BR.0 2 2 9 945 74 1 BR.0 1 3 625 65 1 BR.0 1 3 625 66 2 BR.0 2 7 952 66 1 BR.0 1 3 635 66 2 BR.0 2 7 952 66 1 BR.0 1 3 635 66 2 BR.0 2 7 952 66 1 BR.0 1 3 635 66 2 BR.0 2 7 952 66 1 BR.0 1 3 635 66 2 BR.0 2 7 952 66 1 BR.0 1 3 635 66 2 BR.0 2 7 952 66 1 BR.0 1 3 635 66 2 BR.0 2 7 952 66 1 BR.0 1 3 635 66 2 BR.0 2 7 952 66 1 BR.0 1 3 635 66 2 BR.0 2 7 952 66 1 BR.0 1 3 635 66 2 BR.0 2 7 952 66 1 BR.0 1 3 635 66 2 BR.0 2 7 952 66 1 BR.0 1 3 635 66 2 BR.0 2 7 952 66 1 BR.0 1 3 635 66 2 BR.0 2 7 952 66 1 BR.0 1 3 635 66 2 BR.0 2 7 952 66 1 BR.0 1 3 635 66 2 BR.0 2 7 952 66 1 BR.0 1 1 3 635 66 2 BR.0 2 7 952 66 1 BR.0 1 1 3 635 66 2 BR.0 2 7 952 66 1 BR.0 1 1 3 635 66 2 BR.0 2 7 952 66 1 BR.0 1 1 3 635 66 2 BR.0 2 7 952 66 1 BR.0 1 1 3 635 66 2 BR.0 2 7 952 66 1 BR.0 1 1 1 6 1 BR.0 1 1 6 1 BR.0 1 1 1 6 1 BR.0 1 1 6 1 BR.0 1 1 6 1 BR.0 1 1 1 6 1 BR.0 1	UNIT TYPE     BEDROAMS     UNIT COUNT     FLOOR AREA §.F.]     DECK (S.F.)       1 BR.0     1     2     625     65       1 BR.0     1     2     635     66       2 BR.0     2     2     952     66       2 BR.0     2     2     952     66       2 BR.0     2     2     952     66       1 BR.0     1     4     625     65       1 BR.0     1     4     625     65       2 BR.0     2     2     945     74       IBR.0     1     3     635     66       2 BR.0     2     2     945     74     10       IBR.0     1     3     635     66       2 BR.0     2     3     945     74     100       IPE     1     3     635     65       2 BR.0     2     3     952     66     100        1     3	BUILD	ING/UN	NIT SU	MMARY	<u></u>
1 BE/b 1 2 455 46 2 BE/b 2 2 945 74 B 1 BE/b 2 2 945 74 1 BE/b 1 2 455 46 1 BE/b 1 2 455 46 2 BE/b 2 2 98/5 74 1 BE/b 1 2 455 46 2 BE/b 2 2 98/5 100 10 10 10 10 10 10 10 10 10	1 186.0 1 2 435 46 2 186.0 2 2 2 945 74 	UNIT TYPE	BEDROOMS I	UNIT COUNT	FLOOR AREA (S.F.) 625	DECK (S.F.)
2 BR.D 2 2 945 74 8 1BR.a 1 4 625 65 1 BR.b 1 2 635 66 2 BR.b 2 2 945 74 2 BR.c 2 2 945 100 10 1BR.a 1 3 625 65 1 BR.b 1 3 635 66 2 BR.c 2 3 965 100 12 1 BR.c 1 3 635 66 2 BR.c 2 3 965 100 12 1 BR.c 1 3 635 66 2 BR.c 2 3 965 100 12 1 BR.c 1 3 635 66 2 BR.c 2 3 965 100 12 1 BR.c 1 3 635 66 2 BR.c 2 3 965 100 12 1 BR.c 1 3 635 66 2 BR.c 2 3 965 100 12 1 BR.c 1 4 625 66 2 BR.c 2 7 952 66 1 BR.c 1 4 625 66 2 BR.c 2 7 952 66 1 BR.c 1 58 1 BR.c 1 58 1 BR.C 1 65 1 BR.C 1 65 1 BR.C 1 7 65 1 BR.C 1 7 65 1 BR.C 1 7 65 1 BR.C 1 7 65 1 BR.C 1 8 65 1 BR.C 1 1 8 65 1 BR.C 1	2 BK.D 2 2 945 74 8 1 BR.O 1 4 625 65 1 BR.D 1 2 635 66 2 BR.D 2 2 945 74 2 BR.C 2 2 945 100 10 10 10 10 10 10 10 10 10	1 BR.b 2 BR.o	1	2	635 952	66 66
1 BR.a     1     4     625     65       1 BR.b     1     2     635     66       2 BR.b     1     2     635     66       2 BR.c     2     965     100       10     100     100     100       1 BR.a     1     3     635     66       1 BR.b     1     3     635     66       1 BR.b     1     3     635     66       1 BR.c     1     3     635     66       2 BR.c     2     3     965     100       12     1     3     635     66       2 BR.c     2     3     965     100       1     2     3     952     66       2 BR.c     2     3     965     100       1     1     3     635     66       2 BR.c     2     7     952     66       1 BR.c     1     3     635     66       <	1 BR.0     1     4     625     65       1 BR.0     1     2     635     66       2 BR.D     1     2     635     66       2 BR.C     2     965     100       10     1     3     625     65       1 BR.0     1     3     625     65       1 BR.0     1     3     635     64       2 BR.D     2     3     945     74       2 BR.D     2     3     945     74       2 BR.D     2     3     945     100       12     1     3     635     64       2 BR.C     2     3     952     66       2 BR.C     2     3     952     66       2 BR.C     1     4     625     65       1 BR.D     1     3     635     66       1 BR.C     1     4     625     66       1 BR.C     1     1     625     66 <	2 BR,b	2	2	945	74
1 BR.0 1 2 2 945 74 2 BR.b 2 2 2 965 100 1 BR.0 1 3 625 65 1 BR.b 1 3 635 66 2 BR.c 2 3 965 100 1 BR.0 1 3 635 66 2 BR.c 2 3 965 100 12 1 BR.0 1 3 625 65 1 BR.b 1 3 635 66 2 BR.c 2 3 965 100 12 1 BR.b 1 3 635 66 2 BR.c 2 3 965 100 12 1 BR.b 1 3 635 66 2 BR.c 2 3 965 100 12 1 BR.b 1 3 635 66 2 BR.c 2 3 965 100 12 1 BR.b 1 3 635 66 2 BR.c 2 3 965 100 12 1 BR.b 1 3 635 66 2 BR.c 2 3 965 100 12 1 BR.b 1 3 635 66 2 BR.c 2 3 965 100 12 1 BR.b 1 3 635 66 1 BR.c 1 4 625 65 1 BR.c 1 6 58 VITS HAVE 250 CUBIC FEET OF STORAGE SPACE, NTIPOCH ZONING CODE.	1 IR.0 1 2 2 945 74 2 98.c 2 2 945 100 10 1 88.b 1 3 425 45 2 98.c 2 3 945 74 2 98.c 2 3 945 100 12 1 88.c 1 3 425 45 2 98.c 2 3 952 46 2 98.c 2 3 952 46 2 98.c 2 3 952 46 2 98.c 2 3 952 46 1 98.c 1 4 425 45 1 98.c 1 4 425 45 1 98.c 1 4 425 45 1 98.c 2 46 1 98.c 46 1	1 BR.o	1	4	625	65
IBR.a     I     3     625     65       I BR.b     1     3     635     66       I BR.b     1     3     635     66       I BR.b     2     3     945     74       2 BR.c     2     3     965     100       1     3     635     66     2       2 BR.c     2     3     952     66       2 BR.c     2     3     952     66       2 BR.c     2     3     952     66       1 BR.b     1     3     635     66       1 BR.b     1     3     635     66       1 BR.c     1     3     635     66       2 BR.c     2     7     952     66       1 BR.c     1     3     635     66       2 BR.c     2     7     952     66       1 BR.c     1     1     625     65       1 BR.c     2     7     952	10     10       1186.0     1     3     625     65       1     1     3     625     65       1     1     3     625     65       1     1     3     625     64       1     1     3     645     74       2     186.0     2     3     945     74       2     186.0     1     3     625     66       2     186.0     1     3     635     66       2     186.0     1     4     625     65       1     1     4     625     66       2     1     1     625     66       1     1     1     625     66       2     1     1     625     66       2     1     1     625     66       2     1     1     625     66       2     1     1     625     66	2 BR.b 2 BR.c	2	2	635 945 98.5	00 74 100
1BL0     1     3     425     45       1BL0     1     3     435     45       1BL0     2     3     945     74       2BL0     2     3     945     100       12     1     3     635     65       1BL0     1     3     635     66       2BL0     2     3     955     100       1     3     635     66     108       2BL0     1     3     635     66       1BR.0     1     3     635     66       1BR.0     1     3     635     66       2BL0     1     3     635     66       2BL0     2     7     952     66       2BL0     2     7     952     66	1 BE.0     1     3     425     45       1 BE.0     1     3     435     46       2 BE.0     2     3     945     74       2 BE.0     2     3     945     74       2 BE.0     2     3     945     74       2 BE.0     1     3     625     65       1 BE.0     1     3     625     66       2 BE.0     2     3     952     66       2 BE.0     2     3     952     66       2 BE.0     1     4     625     65       1 BE.0     1     4     625     65       1 BE.0     1     4     625     66       1 BE.0     1     4     625     66       2 BE.0     1     1     625     64       2 BE.0     16     58     58       NITS HAVE 250 CUBIC FIET OF STORAGE SPACE,     NTIOCH ZONING CODE.     58		-	10		
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### Open Space and Landscaping

The project would provide residents with open space areas located within five proposed courtyards. In addition, a 7,675-square-foot recreation area would be located on the western portion of the site. The recreation area would include a picnic area, a fire pit, a bocce ball court, and a patio overlook. Access to the recreation area would be provided by a series of interconnected sidewalks linking the area to the apartment buildings. Overall, the project would include a total of 13,204 square feet of common open space.

Per the City's Zoning Ordinance, all on-site setbacks would be adequately landscaped with drought tolerant trees, shrubbery, and groundcover to provide screening from adjacent neighbors, as well as create an aesthetically pleasing streetscape along Worrell Road. The proposed open space areas would be landscaped with various trees, shrubs, perennial flowers, and ornamental grasses. See Figure 5 below for a detailed landscaping plan for the proposed project. The proposed project would include a six-foot tall wood perimeter fence along the project boundary and a six-foot tall, decorative black steel fence, with two pedestrian gates and two vehicle gates along the northern boundary.

## Proposed Grading and Retaining Walls

As shown in Figure 6 and Figure 7, the project site would be mass graded prior to construction of the proposed buildings and two five-foot retaining walls would be constructed along the western boundary of the proposed project site. The two retaining walls would separate the bio-retention area from the existing development to the west. Additional retaining walls, ranging in height from two to five feet, would be located adjacent to the west side of Buildings #1 and #3, between Building #5 and the proposed driveway, and along the eastern boundary of the site.

#### Stormwater System

On-site runoff would be captured by new storm drain inlets located along the proposed driveway and routed through a new stormwater drainage system (see Figure 6). The stormwater drainage system would route runoff from newly-created impervious surfaces, such as roofs and pavement, to two bio-retention basins on the western portion of the site. The bio-retention basins would be engineered with 18 inches of filter media/planting soil mix underlain with six inches of class two permeable rock. Runoff from the proposed drainage system would filter through the soil and rock layers before infiltrating the underlying native soils. One of the two basins would include an overflow inlet to allow stormwater to flow to the City's existing storm drainage system during large storm events that exceed the capacity of the basin. Both bio-retention basins would be planted with native vegetation to maintain the integrity of the soils and enhance the aesthetics of the basins.

## Water Supply and Wastewater System.

The project would include connections to the City's two existing water mains located in Worrell Road by way of new six-inch minimum pipes. The pipes would extend south from the roadway, following the proposed looped driveway. Wastewater generated at the project site would be captured by a series of new six-inch pipes that would connect to the City's wastewater system through two existing sanitary sewer manholes located in Worrell Road adjacent to the water mains. The locations of proposed water and wastewater piping are shown in Figure 6.





Figure 7 Preliminary Grading Sections





## General Plan Amendment and Rezone

In order to allow development of the proposed project site with five multi-story apartment buildings, the proposed project would require a General Plan Amendment to change the land use designation for the project site from Medium Low Density Residential and Neighborhood Commercial to High Density Residential, as the proposed project exceeds the development densities allowed under the existing land use designations. Given that the site currently has three separate zoning designations, Single-Family Low Density Residential District (R-6), High Density Residential (R-20), and Neighborhood Commercial (C-2), the proposed project would require a rezone to change the zoning of the entire site to R-20.

## Tentative Parcel Map

The project applicant is requesting a Tentative Parcel Map approval for condominium purposes (see Figure 8). The proposed project is intended to consist of rental units; however, dependent on market indicators, the applicant would like to reserve the future flexibility for the project to be owner-occupied.

## Variance

According to Section 9-5.1602 of the Antioch Municipal Code, current development standards do not allow for a fence, wall or hedge that exceeds three-feet in the required front yard setback. Therefore, the proposed project requests a variance to allow a six-foot tall view fence and vehicle gates along Worrell Road (see Figure 9).

## Use Permit and Design Review

According to Section 9-5.3803 of the Antioch Municipal Code, multi-family development within R-20 zoning districts requires a use permit. In addition, per Section 9-5.207 of the Municipal Code, all new development within the City is subject to design review approval. The purpose of the Design Review process is to promote the orderly development of the City, encourage high quality site design and planning, protect the stability of land values and investments, and ensure consistency with the Citywide Design Guidelines.

## **Discretionary Actions**

Implementation of the proposed project would require the following discretionary actions by the City of Antioch:

- General Plan Amendment to change the land use designation for the project site from Medium Low Density Residential and Neighborhood Commercial to High Density Residential;
- Rezone of the site from R-6, R-20, and C-2 to R-20 only;
- Tentative Parcel Map to allow potential future sale of proposed residential units;
- Variance to allow a six-foot tall view fence and vehicle gate along Worrell Road; and
- Use Permit and Design Review for the development of a multi-family residential project in a R-20 zoning district.











## 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. Included in each discussion are project-specific mitigation measures recommended, as appropriate, as part of the proposed project.

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. Wo	<b>AESTHETICS.</b> <i>buld 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?			*	
b.	Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway?			×	
c.	Substantially degrade the existing visual character or quality of the site and its surroundings?			×	
d.	Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?			×	

## **Discussion**

a,b. Examples of typical scenic vistas would 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 vista would occur if development of the project would substantially change or remove a scenic vista. The City of Antioch is located in the East Bay region of the San Francisco Bay Area, immediately north of the Diablo Range, which includes Mt. Diablo. The General Plan EIR determined views of Mt. Diablo, the ridgelines south of SR 4, and the San Joaquin River as scenic vistas within the City of Antioch. Both Mt. Diablo and the surrounding ridgelines are clearly visible from Worrell Road along the project frontage. However, the proposed apartment buildings would be set back approximately 15 feet from the roadway and clustered towards the middle of the site. Thus, the project would not obstruct views of Mt. Diablo and/or the surrounding ridgelines offered to pedestrians, bicyclists, and/or motorists traveling along Worrell Road.

According to the California Scenic Highway Mapping System, the proposed project site is located approximately 20 miles north of the nearest State Scenic Highway, Interstate 680 (I-680), and approximately 2.6 miles west of SR 160, an Eligible State Scenic Highway.<sup>1</sup> Neither I-680 nor SR 160 are visible from the project site.

Based on the above discussion, the proposed project would not have a substantial adverse effect on a scenic vista and 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. Distinguishing between public and private views is important when evaluating changes to visual character or quality, because private views are views seen from privately-owned land and are typically associated with individual viewers, including views from private

<sup>&</sup>lt;sup>1</sup> California Department of Transportation. *California Scenic Highway Mapping System*. Available at: http://www.dot.ca.gov/hq/LandArch/16\_livability/scenic\_highways/index.htm. Accessed February 2, 2017.

residences. Public views are experienced by the collective public, and include views of significant landscape features and along scenic roads. According to CEQA (Pub. Resources Code, § 21000 et seq.) case law, only public views, not private views, are protected under CEQA. For example, in *Association for Protection etc. Values v. City of Ukiah* (1991) 2 Cal.App.4th 720 [3 Cal. Rptr.2d 488], the court determined that "we must differentiate between adverse impacts upon particular persons and adverse impacts upon the environment of persons in general. As recognized by the court in *Topanga Beach Renters Assn. v. Department of General Services* (1976) 58 Cal.App.3d 188 [129 Cal.Rptr. 739]: '[A]ll government activity has some direct or indirect adverse effect on some persons. The issue is not whether [the project] will adversely affect the environment of persons in general.'" Therefore, the focus in this section is on potential impacts to public views. Sensitive public viewers in the surrounding area would primarily consist of motorists, pedestrians, and bicyclists travelling on Worrell Road.

The project site consists of a vacant lot covered with ruderal grasses. Various low-lying trees and shrubs are scattered throughout the sloping topography of the site (see Figure 10 and Figure 11 below). Construction of the proposed project would change the site's existing visual character from an undeveloped lot to a clustered multi-family residential development. As noted previously, Buildings #1 and #2 adjacent to Worrell Road would be limited to two stories, while Buildings #3 and #4 would be three stories. Building #5 would be two to three stories tall, and at a minimum, more than 24 feet away from the nearest property line. Buildings #1 and #2 would be set back a minimum of 15 feet from the roadway. Per the City's Zoning Ordinance, all setbacks would be adequately landscaped with drought tolerant trees, shrubbery, and groundcover. As shown in Figure 7 above and Figure 12 below, landscaping and trees would provide screening from neighboring development and create a visually pleasing streetscape along Worrell Road.

Given that surrounding development currently includes a variety of residential and commercial uses, and that the buildings adjacent to Worrell Road would be separated from the roadway by landscaped setbacks, the project would not substantially degrade the aesthetic quality of the site for sensitive viewers. In addition, the project would be subject to Design Review by the City of Antioch per Section 9-5.2607 of the Municipal Code. The purpose of the Design Review process is to promote the orderly development of the City, encourage high quality site design and planning, protect the stability of land values and investments, and ensure consistency with the Citywide Design Guidelines. Because the proposed project would be consistent with surrounding uses and would be subject to the City of Antioch's Design Review process, impacts related to degrading the existing visual character of the site and its surroundings would be *less-than-significant*.

d. The project site is currently undeveloped, and, thus, does not contain any existing sources of light or glare. Implementation of the proposed project would develop the site with residential buildings, and, thus, would introduce new sources of light and glare where none currently exists. Potential sources of light and glare associated with the proposed project would include interior light spilling through windows, exterior lighting on homes, street lighting on the internal street system, and light reflected off windows.

Figure 10 Existing View of Site from Worrell Road at Northeast Corner of Site Looking Southwest



Figure 11 Existing View of Site from Worrell Road at Northwest Corner of Site Looking Southeast



Figure 12 Rendering of Proposed Project



While the site does not contain sources of light or glare, the site is surrounded by existing development that currently generates light and glare in the area. Furthermore, Buildings #2 and #4 would be separated from the surrounding residences to the east by the looped driveway, which would include only minimal security lighting, and the proposed bioretention area on the western portion of the site would provide a substantial buffer between Buildings #1 and #3 and the existing residences to the west. Landscaping would be provided throughout the site, which would provide additional screening from surrounding development.

Thus, all components of the proposed project would be subject to Design Review by the City of Antioch to ensure light and glare do not obstruct day or nighttime views in the area. On-site lighting would be directed within the project site and would not substantially illuminate adjacent properties (see Figure 13). Given the consistency of the proposed project with surrounding residential development, and the added assurance of the Design Review process, implementation of the project would result in a *less-than-significant* impact with respect to creating a new source of substantial light or glare which would adversely affect day or nighttime views in the area.



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

## **Discussion**

- a,e. The proposed project site consists of ruderal vegetation and is surrounded primarily by existing residential and commercial development. While the project site was historically used for agricultural purposes, the site has not been used recently for agricultural production and is currently designated as "Urban and Built-Up Land" on the Contra Costa County Important Farmland map.<sup>2</sup> Furthermore, the site is not zoned or designated in the General Plan for agriculture uses, and such uses would be incompatible with surrounding land uses in the area. Given that the designation of the site as Urban and Built-Up Land, development of the proposed project would not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to a non-agricultural use, or otherwise result in the loss of Farmland to non-agricultural use. Therefore, the proposed project would have a *less than significant* impact.
- b. The proposed project site is not under a Williamson Act contract and is not designated or zoned for agricultural uses. Therefore, buildout of the proposed project would not conflict with existing zoning for agricultural use or a Williamson Act contract, and *no impact* would occur.
- c,d. The project area is not considered forest land (as defined in Public Resources Code section 12220[g]), timberland (as defined by Public Resources Code section 4526), and is

<sup>&</sup>lt;sup>2</sup> California Department of Conservation. *Contra Costa County Important Farmland Map 2014*. Published April 2016.

not zoned Timberland Production (as defined by Government Code section 51104[g]). In addition, the General Plan land use designations for the site are Neighborhood Commercial and Medium Low Density Residential, neither of which are compatible with timberland production. 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. Wo	<b>AIR QUALITY.</b> <i>uld the project:</i>	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less-Than- Significant Impact	No Impact
a.	Conflict with or obstruct implementation of the applicable air quality plan?		×		
b.	Violate any air quality standard or contribute substantially to an existing or projected air quality violation?		×		
c.	Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?		*		
d.	Expose sensitive receptors to substantial pollutant concentrations?			×	
e.	Create objectionable odors affecting a substantial number of people?			×	

a-c. The City of Antioch 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 the State and federal ozone, State and federal fine particulate matter 2.5 microns in diameter (PM<sub>2.5</sub>), and State respirable particulate matter 10 microns in diameter (PM<sub>10</sub>) 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<sub>2.5</sub> federal AAQS. Nonetheless, the Bay Area must continue to be designated as nonattainment for the federal PM<sub>2.5</sub> 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 2010 Clean Air Plan (CAP), adopted on September 15, 2010. The 2010 CAP was developed as a multipollutant 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 PM<sub>10</sub> standard is not required, the BAAQMD has prioritized measures to reduce

PM in developing the control strategy for the 2010 CAP. 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<sub>x</sub>), as well as for PM<sub>10</sub>, and PM<sub>2.5</sub>, expressed in pounds per day (lbs/day) and tons per year (tons/yr), are listed in Table 1. Thus, by exceeding the BAAQMD's mass emission thresholds for operational emissions of ROG, NO<sub>x</sub>, or PM<sub>10</sub>, a project would be considered to conflict with or obstruct implementation of the BAAQMD's air quality planning efforts.

Table 1								
	BAAQMD Three	sholds of Significance						
	Construction	Opera	itional					
	Average Daily	Average Daily	Maximum Annual					
Pollutant	Emissions (lbs/day)	Emissions (lbs/day)	<b>Emissions</b> (tons/year)					
ROG	54	54	10					
NO <sub>x</sub>	54	54	10					
PM <sub>10</sub> (exhaust)	82	82	15					
PM <sub>2.5</sub> (exhaust)	54	54	10					
Source: BAAQMD, C	EQA Guidelines, May 2010.							

It should be noted that a series of recent court cases have called into question the BAAQMD resolutions adopting and revising their 2010 significance thresholds, asserting that the adoption of such would be considered a project under CEQA, necessitating environmental review. None of the courts have indicated whether the thresholds were valid on their merits or that the thresholds lack evidentiary support. Nonetheless, BAAQMD has withdrawn their revised quantitative significance thresholds for the time being. However, because the BAAQMD's thresholds of significance are supported by substantial evidence and remain the best available option, the City, as lead agency, has chosen to use the BAAQMD's thresholds of significance for evaluation of the proposed project.

The proposed project's construction and operational emissions were quantified using the California Emissions Estimator Model (CalEEMod) software version 2016.3.1 - 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, trip generation rates based on the Institute of Transportation Engineers (ITE) Trip Generation Manual, 9<sup>th</sup> Edition, vehicle mix, trip length, average speed, etc. Where project-specific information is available, such

information should be applied in the model. Accordingly, the proposed project's modeling assumed the following:

- The land use "low rise apartment" was applied to the model based on the known characteristics of the proposed residential structures;
- Construction would begin in May of 2018;
- Construction would occur over an approximately 1.5-year period;
- Demolition would not be required;
- Site preparation and grading activities would disturb a total of 2.9 acres of land;
- A total of 40 cubic yards of material would be exported during site preparation;
- A total of 8,000 cubic yards of material would be exported during grading;
- The proposed project would not include hearths;
- Project density would be approximately 20 dwelling units per acre;
- The project would be located 0.07 miles from the nearest bus stop;
- The project would include an on-site pedestrian network and connections to the surrounding areas; and
- The proposed project would comply with the 2016 California Building Energy Efficiency Standards Code.

All CalEEMod results are included in the appendix.

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.

## **Construction Emissions**

According to the CalEEMod results, 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 well below the applicable thresholds of significance for ROG,  $PM_{10}$ , and  $PM_{2.5}$ . However, the project would exceed the threshold of significance for NO<sub>X</sub> emissions.

Table 2       Maximum Construction Emissions (lbs/day)								
Proposed ProjectThreshold ofPollutantEmissionsSignificanceExceeds ThresholdExceeds Threshold								
ROG	6.19	54	NO					
NO <sub>X</sub>	57.44	54	YES					
PM <sub>10</sub> (exhaust)	2.12	82	NO					
PM <sub>10</sub> (fugitive)	8.25	None	N/A					
PM <sub>2.5</sub> (exhaust)	2.00	54	NO					
$PM_{2.5}$ (fugitive)	3.86	None	N/A					
Source: CalEEMod, Janu	ary 2017 (see appendix).							

Although thresholds of significance for mass emissions of fugitive dust  $PM_{10}$  and  $PM_{2.5}$  have not been identified by the City of Antioch or BAAQMD, the proposed project's

estimated fugitive dust emissions have been included for informational purposes. All projects within the jurisdiction of the BAAQMD are required to implement all of the BAAQMD's Basic Construction Mitigation Measures, which include the following:

- 1. All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
- 2. 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.
- 3. All vehicle speeds on unpaved roads shall be limited to 15 mph.
- 4. 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.
- 5. 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 California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.
- 6. 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.
- 7. 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 Basic Construction Mitigation Measures listed above, to the extent that the measures are feasible for the proposed project's construction activities, would help to further minimize construction-related emissions. Because the proposed project would result in emissions above the applicable threshold of significance for construction  $NO_x$ , the proposed project would be considered to result in a potentially significant air quality impact during construction.

## **Operational Emissions**

According to the CalEEMod results, the proposed project would result in maximum operational criteria air pollutant emissions as shown in Table 3. As shown in the table, the proposed project's operational emissions would be below the applicable thresholds of significance.

Because the proposed project's operational emissions would be below the applicable thresholds of significance, the proposed project would result in a less-than-significant air quality impact during operations.

Table 3										
	Unmitigated Maximum Operational Emissions									
Pollutant	ollutant Proposed Project Emissions Thresho			f Significance	Exceeds					
	lbs/day	tons/yr	lbs/day	tons/yr	Threshold?					
ROG	2.27	0.39	54	10	NO					
NO <sub>X</sub>	3.05	0.50	54	10	NO					
PM <sub>10</sub> (exhaust)	0.06	0.01	82	15	NO					
PM <sub>10</sub> (fugitive)	1.39	0.22	None	None	N/A					
PM <sub>2.5</sub> (exhaust)	0.06	0.01	54	10	NO					
PM <sub>2.5</sub> (fugitive)	0.37	0.06	None	None	N/A					
Source: CalEEMod	January 2017 (se	e appendix).								

## 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 emissions above the applicable threshold of significance for construction related emissions of NO<sub>x</sub>, the project could 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 2010 CAP. 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 the proposed project would result in short-term construction emissions of NO<sub>x</sub>, an ozone precursor, above the applicable threshold of significance, the project could conflict with or obstruct implementation of regional air quality plans. Therefore, the proposed project could contribute to the region's nonattainment status of ozone, thus, contributing to the violation of an air quality standard, and a *potentially significant* impact associated with construction-related emissions of NO<sub>x</sub> would result.

## Mitigation Measure(s)

Implementation of the following mitigation measure would reduce the constructionrelated emissions of NO<sub>X</sub> from 57.44 lbs/day to 51.26 lbs/day, which would be below the BAAQMD's threshold of significance of 54 lbs/day. Thus, implementation of the following mitigation measure would reduce the above impact to a *less-than-significant* level.

- III-1. Prior to approval of any grading plans, the project applicant shall show on the plans via notation that the contractor shall ensure that all heavyduty diesel-powered equipment (e.g., rubber-tired dozers, scrapers, cranes, etc.) to be used in the construction of the project (including owned, leased, and subcontractor vehicles) shall, at a minimum, meet United States Environmental Protection Agency emissions standards for Tier 2 engines or equivalent. The plans shall be submitted to the Community Development Department for review and approval.
- d. 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 existing sensitive receptors would be the single-family residences located immediately to the east, south, and west of the site. In addition, the proposed project would include the construction of housing, and, thus, would be considered a sensitive receptor.

The major pollutant concentrations of concern are localized carbon monoxide (CO) emissions and toxic air contaminants (TAC) emissions, 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. CO emissions are particularly related to traffic levels.

In order to provide a conservative indication of whether a project would result in localized CO emissions that would exceed the applicable threshold of significance, the 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.).

As discussed in the Transportation and Circulation section of this IS/MND, the proposed project would not conflict with the Contra Costa Transportation Authority (CCTA) Congestion Management Program (CMP). Additionally, traffic counts completed for the City of Antioch as part of a Citywide Engineering and Traffic Survey showed that all of the City roadways experienced traffic volumes far below 44,000 vehicles per hour.<sup>3</sup> Thus, the proposed project would not increase traffic volumes at an affected intersection to more than 44,000 vehicles per hour. Furthermore, areas where vertical and/or horizontal mixing is limited due to tunnels, underpasses, or similar features do not exist in the project area. As such, 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.

## TAC Emissions

Another category of environmental concern is TACs. 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. 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.

As part of the ongoing *California Building Industry Association v. Bay Area Air Quality Management District* case, the California Supreme Court granted limited review to the question: Under what circumstances, if any, does CEQA require an analysis of how existing environmental conditions will impact future residents or users (receptors) of a

<sup>&</sup>lt;sup>3</sup> City of Antioch. *Citywide Engineering and Traffic Survey* [pg. 7]. February 6, 2015.
proposed project? In the opinion published on December 17, 2015, the Supreme Court looked closely at the language and legislative intent in CEQA, and found that CEQA does not provide "enough of a basis to suggest that the term 'environmental effects' [...] is meant, as a general matter, to encompass these broader considerations associated with the health and safety of a project's future residents or users." Based on the Supreme Court opinion, it would be considered appropriate to evaluate a project's potentially significant *exacerbating* effects on existing environmental hazards – effects that arise because the project brings "development and people into the area affected." The Supreme Court stated that even in those specific instances where evaluation of a project's potentially significant exacerbating effects on existing environmental hazards is appropriate, the evaluation of how future residents or users could be affected by the exacerbated conditions is still compelled by the project's impact on the environment, and not the environment's impact on the project.<sup>4</sup>

Considering the recent court ruling, while the proposed project would be considered a sensitive receptor, consideration of impacts from existing sources on future residents is outside of the scope of CEQA. Thus, this analysis focuses on the potential for the proposed project to result in TAC emissions that could affect existing nearby sensitive receptors.

The proposed project would not involve any land uses or operations that would be considered major sources of TACs, including DPM. As such, the proposed project would not generate any substantial pollutant concentrations during operations. However, shortterm, construction-related activities could result in the generation of TACs, specifically DPM, from on-road haul trucks and off-road equipment exhaust emissions. Nevertheless, construction is temporary and occurs over a relatively short duration in comparison to the operational lifetime of the proposed project. 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. In addition, construction equipment would operate intermittently throughout the day and only on portions of the site at a time, and construction activity would be limited to the hours of 7:00 AM to 6:00 PM, Monday through Friday, and 9:00 AM to 5:00 PM on weekends and holidays per Section 5-17.04 of the City's Municipal Code.

Because construction equipment on-site would not operate for 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

<sup>&</sup>lt;sup>4</sup> Alameda County Superior Court. *California Building Industry Association v. Bay Area Air Quality Management District. A135335 and A136212*. Filed August 12, 2016.

time. Therefore, construction of the proposed project would not be expected to expose nearby sensitive receptors to substantial pollutant concentrations.

#### **Conclusion**

Based on the above discussion, the proposed project would not expose any sensitive receptors to substantial concentrations of localized CO or TACs from 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.

e. 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 methodologies to determine the presence of a significant odor impact do not exist. 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. Residential land uses, such as the proposed multi-family apartments, are not typically associated with objectionable odors.

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, as discussed above, construction activities would be temporary, and operation of construction equipment would be restricted to the hours of 7:00 AM to 6:00 PM, Monday through Friday, and 9:00 AM to 5:00 PM on weekends and holidays per the City's 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 air pollutant emissions as well as any associated odors. Accordingly, substantial objectionable odors would not be expected to occur during construction activities.

It should be noted that 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 90day 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 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 reduced to less than significant.

For the aforementioned reasons, construction and operation of the proposed project would not create objectionable odors affecting a substantial number of people, and a *less-than-significant* impact related to objectionable odors would result.

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

#### **Discussion**

a. The following is based on a Biological Resources Report (BRR) prepared for the proposed project by Mosaic Associates LLC.<sup>5</sup> The BRR was subsequently peer reviewed by Live Oak Associates, Inc.<sup>6</sup>

The approximately 2.9-acre project site consists primarily of non-native annual grasses and ruderal vegetation. Remnant trees from an old almond orchard, as well as a few horticultural species, are present within the site; however, the site does not contain indigenous trees. Except for areas beneath the trees and the area immediately adjacent to

<sup>&</sup>lt;sup>5</sup> Moasic Associates LLC. *Biological Resources Report for the Almond Knolls Project, APN 071072015, Worrell Road, Antioch, CA. January 2017.* 

<sup>&</sup>lt;sup>6</sup> Live Oak Associates, Inc. Biological Resources Assessment Peer Review for the Almond Knolls project, Antioch, Contra Costa County, California (PN 2114-01). February 6, 2017.

Worrell Road, the property has been routinely disked to abate fire hazard. On-site weeds adjacent to the sidewalk along Worrell Road have been controlled by routine herbicide applications.

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 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 United States, 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. In addition, plant species on California Native Plant Society (CNPS) Lists 1 and 2 are considered special-status plant species and are protected under CEQA.

A search of published records of special-status plant and wildlife species was conducted as part of the BRR for the Antioch South USGS 7.5" quadrangle in which the project site occurs, and for the eight surrounding quadrangles (Antioch North, Honker Bay, Jersey Island, Brentwood, Clayton, Diablo, Tassajara and Byron Hot Springs), using the California Natural Diversity Data Base (CNDDB) Rarefind 5 application. The intent of the database review was to identify documented occurrences of special-status species in the vicinity of the project area, to determine their locations relative to the project site, and for use in the field assessment of habitats suitable for special-status species within the site. Additional sources of information used for the analysis included a search of the electronic version of the CNPS Online Inventory of Rare and Endangered Plants of California for records of special-status plants known in the vicinity of the project site. Known record locations were considered to determine if special-status species could occur on the project site or within an area of effect of the proposed project.

After completing the database review, a reconnaissance-level survey of the proposed project site was conducted by Mosaic Associates LLC on January 6, 2017. The site was surveyed on foot during daylight hours. The results of the CNDDB search, the site survey, and other queries conducted as part of the BRR are discussed in detail below.

#### Special-Status Plants

According to the BRR, 28 special-status plant species are known to occur or have occurred within 3.1 miles of the project site. While historic records of five of the special-status plants, including big tarplant (*Blepharizonia plumosa*), Contra Costa goldfields (*Lasthenia conjugens*), Hoover's cryptantha (*Cryptantha hooveri*), round-leaved filaree (*California macrophylla*), and Mt. Diablo buckwheat (*Eriogonum truncatum*) overlap

with the project site, all of the five special-status species are considered to be either extirpated or possibly extirpated. In addition, suitable habitat for special-status plants is absent on the project site due to the thoroughly disturbed condition of the site resulting from decades of agricultural disturbance, and, more recently, annual disking to abate fire hazards. None of the 28 special-status plant species were identified during the January 2017 site survey, and the species were determined in the BRR not to have any potential of occurring on the project site. Accordingly, the proposed project would have a less-than-significant impact on special-status plant species.

#### Special-Status Wildlife

According to the BRR, 39 special-status wildlife species are known to occur or have occurred within 3.1 miles of the project site. However, none of the special-status wildlife species were observed during the January 2017 site survey. Of the 39 species, 35 were dismissed from having the potential to occur on the project site due to the absence of suitable habitat on the project site. However, records of four wildlife species overlap with the project area, including California tiger salamander (*Ambystoma californiense*, CTS), western red bat (*Lasiurus blossevillii*), crotch bumble bee (*Bombus crotchii*), and silvery legless lizard (*Anniella pulchra pulchra*). In addition, Swainson's Hawk (*Buteo swainsoni*), as well as nesting migratory birds protected under the MBTA, have the potential to occur on the site. Such species are discussed in greater detail below.

# California Tiger Salamander

The California tiger salamander is a federally- and State-listed Threatened species. The species typically breeds in vernal pools or seasonal ponds, but may also breed in manmade ponds, including stock ponds, reservoirs, and small lakes. Beginning in late spring and early summer, juvenile California tiger salamanders migrate from the ponds into underground burrows, often created by ground squirrels and other rodents, or into manmade structures, where the juveniles remain until the end of the dry season. While one 1983 record, for which precise location information is lacking, encompasses the project site and vicinity, the CNDDB reports that the site is assumed to have been extirpated. Other recorded occurrences of the species are approximately three miles or greater from the project site. The project site does not contain suitable breeding or upland habitat for the species, as the site is isolated from aquatic and upland habitat by extensive urban development. As such, project-related impacts to California tiger salamander are not expected to occur.

#### Western Red Bat

The western red bat is a California Species of Special Concern and is listed as a High Priority Species by the Western Bat Working Group High Priority Species. The species is generally solitary, and roosts primarily in the foliage of trees or shrubs. Roost sites commonly occur in edge habitats adjacent to streams or open fields. Western red bats prefer roosting in broad-leafed trees, showing preference for valley oaks and other oak species. The CNDDB reports a single 1998 record, lacking precise information, that overlaps with the project area. While the trees present on the project site do not appear to match with the preferred habitat noted above, such trees have some potential to be used by western red bat for roosting, and the site may provide foraging habitat for the species. Consequently, the removal of on-site trees could result in injury or mortality of western red bats if the species is roosting in the trees at the time of tree removal, and a potentially significant impact could occur.

# Crotch Bumble Bee and Western Bumble Bee

The crotch bumble bee is listed in the CNDDB due to State and global threat rankings, but is not considered a special-status species. The western bumble bee is considered by the USFWS as Sensitive. The crotch bumble bee inhabits open grasslands and scrub habitats, and nests underground. Western bumble bee are generalist foragers. Both species were common and widespread historically, but have declined or are absent from portions of their respective ranges. The CNDDB reports one 1926 record for crotch bumble bee in the area surrounding the project site, while Western bumble bee records have been reported approximately 1.8 miles from the project site. Flowering plants on the site may provide potential foraging habitat for both species. However, due to the small size of the site and the urbanized landscape in which the project site is situated, the BRR determined that any loss of habitat as a result of the proposed project would be considered less than significant with respect to the species.

# Silvery Legless Lizard

Silvery legless lizard is a California Species of Special Concern. The species occurs primarily in areas with sandy or loose loamy soils. The species is often found under, or in the close vicinity of, logs, rocks, old boards, and the compacted debris of woodrat nests. Rocky soils or areas disturbed by agriculture, sand mining, or other human uses are not suitable for silvery legless lizards. Given the history of agricultural cultivation and disking on the project site, the site does not provide suitable habitat for the species. Thus, project-related impacts to silvery legless lizards are not expected to occur.

# Swainson's Hawk

Swainson's hawk is a State Threatened species and is a federal Bird of Conservation Concern. The species nests in western North America from March to July and migrates to South America for the winter. The species generally nests in riparian areas or in large isolated trees adjacent to, or within easy flying distance to, agricultural areas providing suitable foraging habitat. The CNDDB reports three records of Swainson's hawk nests approximately 1.7 to 3.5 miles from the project site. Swainson's hawk is unlikely to nest or forage within the project site due to the marginal quality of foraging habitat present and the small stature of the on-site trees available for nesting. However, the possibility of the species using the site for nesting cannot be entirely ruled out. In the event that an active nest of the species is present within 1,000 feet of the project site, construction activities could result in the noise-related abandonment of an active nest, which would constitute a potentially significant impact.

# Nesting Migratory Birds

The trees and shrubs present on the project site provide suitable nesting habitat for migratory birds whose nests are afforded protection under the MBTA. Site construction activities, including tree removal during the active nesting season (February 1 to August 31) have the potential to cause the failure or abandonment of active nests of migratory birds. Impacts to nesting birds, their eggs, and/or young caused by implementation of the project would be regarded as a potentially significant impact.

#### Conclusion

Because of the potential for western red bats, Swainson's hawk, and special-status and/or federally-protected nesting migratory birds to occur on-site, or in the immediate vicinity of the site, development of the proposed project could have an adverse effect, either directly or through habitat modifications, on a species identified as a special-status species in local or regional plans, policies, or regulations, or by the CDFW or the USFWS. Therefore, a *potentially significant* impact could result.

#### Mitigation Measure(s)

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

#### Western Red Bat

- IV-1(a). A qualified biologist shall conduct a pre-construction clearance survey to visually inspect for roosting bats immediately prior to trimming or tree removal activities. If the pre-construction survey is conducted during the overwintering season (October 15<sup>th</sup> to February 29<sup>th</sup>), another method such as visual observation from a man-lift may be necessary to ensure that inactive bats are accounted for. The pre-construction survey shall be submitted to the City of Antioch Community Development Department within three days of survey completion. If western red bats are not detected during the preconstruction survey, further mitigation is not required. If any active western red bats are discovered in or near proposed construction zones, suitable construction-free buffers around such areas shall be determined by the surveying biologist. The buffers shall be identified on the ground with flagging or fencing, and shall be maintained until the biologist has determined that the individuals have fledged/dispersed.
- IV-1(b). If avoidance of trees, including hollow or dead trees, is not feasible, any roosting bats identified in the preconstruction surveys shall be passively relocated by a qualified biologist or professional pest control specialist during the non-breeding season (September 1<sup>st</sup> to April 14<sup>th</sup>). Relocation shall not occur during the breeding season, or if the young are not yet volant (flying). Passive relocation would entail installing one-way doors

at the roost entrance and leaving such devices in place for at least 48 hours to ensure bats have vacated the tree, or utilizing other humane exclusion methods. Once the bats have left, the tree may be removed.

Swainson's Hawk

IV-2. Prior to any project-related ground disturbance that occurs during the nesting season (March 15<sup>th</sup> to September 15<sup>th</sup>), a qualified biologist shall conduct a preconstruction survey no more than one 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, occupancy of the nests shall be determined by observation from public roads or by observations of Swainson's hawk activity near the project site. A written summary of the survey results shall be submitted to the City of Antioch Community Development Department. If occupied nests are not detected during the survey, further mitigation is not required.

If nests are occupied, project-related activities within 1,000 feet of occupied nests or nests under construction shall 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 qualified biologist shall coordinate with the CDFW and the USFWS to determine the appropriate buffer size. If young fledge prior to September 15<sup>th</sup>, project-related activities may 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 proponent may propose an alternative to this avoidance measure. Any alternative must also be approved by the USFWS and CDFW. While the nest is occupied, project-related activities outside the buffer may take place. Alternatively, the project applicant could comply with one of the following:

- 1) Comply with the applicable terms and conditions of the ECCC HCP/NCCP, as determined in written "Conditions of Coverage" by the East Contra Costa County Habitat Conservancy (Conservancy), provided that the City has first entered into an agreement with the Conservancy for coverage of impacts to ECCCHCP/NCCP Covered Species; or
- 2) Comply with a habitat conservation plan and/or natural community conservation plan developed and adopted by the City, including payment of applicable fees, provided that CDFW and FWS have approved the conservation plan.

#### Nesting Migratory Birds

IV-3. Pre-construction surveys for nesting birds shall be conducted by a qualified biologist not more than two weeks prior to site disturbance during the breeding season (February 1<sup>st</sup> to August 31<sup>st</sup>). If site disturbance commences outside the breeding season, pre-construction surveys for nesting birds are not required. If active nests of migratory birds are not detected within approximately 250 feet of the project site, further mitigation is not required.

If nesting raptors or other migratory birds are detected on or adjacent to the site during the survey, a suitable construction-free buffer shall be established around all active nests. The dimensions of the buffer (typically 75 feet for passerine birds, up to 250 feet for raptors) shall be determined at that time and may vary depending on location and species. The buffer areas shall be enclosed with temporary fencing, and construction equipment and workers shall not enter the enclosed setback areas. Buffers shall remain in place for the duration of the breeding season or until a qualified biologist has confirmed that all chicks have fledged and are independent of their parents. Alternatively, the project applicant could comply with one of the following:

- 1) Comply with the applicable terms and conditions of the ECCC HCP/NCCP, as determined in written "Conditions of Coverage" by the East Contra Costa County Habitat Conservancy (Conservancy), provided that the City has first entered into an agreement with the Conservancy for coverage of impacts to ECCCHCP/NCCP Covered Species; or
- 2) Comply with a habitat conservation plan and/or natural community conservation plan developed and adopted by the City, including payment of applicable fees, provided that CDFW and FWS have approved the conservation plan.
- b,c. The project site consists of annual non-native grasses and ruderal vegetation. According to the BRR, jurisdictional waters, streambeds, and sensitive plant communities do not exist on or near the site. Therefore, the project site does not contain riparian habitat or other sensitive natural communities, including wetlands. As a result, the proposed project would not have a substantial adverse effect on riparian habitat, sensitive natural communities, or federally protected wetlands. Thus, *no impact* would occur.
- d. The project site is surrounded by existing development and is not linked to any open space areas through which wildlife movement would occur. As noted above, the project does not contain streams or other waterways that could be used by migratory fish or as a wildlife corridor for other wildlife species. 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. Thus, *no impact* would occur.

- e. The City of Antioch defines protected trees as meeting one of four criteria:
  - Any tree required to be preserved as a condition of approval;
  - Established indigenous trees;
  - Street trees, and
  - Mature and landmark trees.

An Arborist Report was prepared for the proposed project by Hort Science, Inc.<sup>7</sup> As part of the Arborist Report, all on-site trees with a trunk diameter of six inches or greater were evaluated to determine species, trunk diameter, health and structural condition, and suitability for preservation. Overall, 40 trees were evaluated, representing five species. All the trees evaluated were ornamental or orchard species; indigenous species were not present. Of the 40 trees, 35 were in in fair condition, four trees were in poor condition, and one tree was in good condition. One of the trees (Tree #3) was an off-site tree with canopy overhanging the project site. The locations of the 40 evaluated trees are shown in Figure 14 below.

In order to implement the proposed project, 36 of the trees evaluated in the Arborist Report would require removal. Two of the trees that would be removed were larger than 10 inches in diameter, and, thus, are considered Established trees by the City (Trees #5 and #10). Per Section 9-5.1202 of the City's Municipal Code, approval to remove such trees would be included in the City's development application process.

Four of the trees would be preserved, including the off-site tree (Tree #3) and three onsite trees (Trees #17, #18, and #24). Tree #18 was estimated to have a diameter greater than 26 inches, and was classified as a Mature tree. Mature trees must have their dripline shown on all grading plans, and grading is not allowed within the dripline without City approval. Street trees and/or landmark trees were not present on-site.

Because approval to remove trees is included in the City's development application process, a tree removal permit would not be required for Trees # 5 and #10. However, impacts to the four trees to be preserved could occur during construction, and, thus, the project could conflict with Title 9, Chapter 5, Article 12 of the Antioch Municipal Code. As a result, the proposed project could conflict with local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance, and a *potentially significant* impact could occur.

# Mitigation Measure(s)

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

<sup>&</sup>lt;sup>7</sup> Hort Science. *Arborist Report, Almond Knolls, Antioch, CA.* December 16, 2016.



#### Almond Knolls Project Initial Study/Mitigated Negative Declaration

# **Tree Assessment Map** Almond Knolls Antioch, CA Prepared for: The Grupe Company Stockton, CA December 2016 No Scale Notes: Base map provided by: Wood Rodgers Pleasanton, CA Numbered tree locations are approximate. TS = Too small (less than 6" in diameter) not included in this assessment • X = No tree in this location A? HORT SCIENCE 325 Ray Street Pleasanton, California 94566 Phone 925.484.0211 Fax 925.484.0596

- *IV-4.* Prior to approval of a grading permit, the applicant shall comply with all requirements set forth in Title 9, Chapter 5, Article 12 of the Antioch Municipal Code related to preservation of protected trees, including avoidance of grading within the drip line of such tress and the applicable penalties if grading within the drip line cannot be avoided. Compliance with the requirements shall be ensured by the Community Development Department.
- *IV-5.* Throughout implementation of the proposed project, the applicant shall adhere to the Tree Preservation Guidelines stipulated in the Arborist Report prepared for the proposed project. The Guidelines include design recommendations, pre-construction treatments and recommendations, recommendations for tree protection during construction, and recommendations for maintenance of impacted trees. Compliance with the Guidelines shall be reviewed by the Community Development Department prior to building permit approval.
- f. In July 2007, the East Contra Costa County (ECCC) Habitat Conservation Plan/Natural Community Conservation Plan (HCP/NCCP) was adopted by Contra Costa County, other member cities, the USFWS, and the CDFW. The City of Antioch, however, declined to participate in the HCP/NCCP. Therefore, the project site is not located in an area with an approved HCP/NCCP, or local, regional, or State habitat conservation plan. As a result, *no impact* would occur regarding a conflict with the provisions of such a plan.

<b>V.</b> Wo	<b>CULTURAL RESOURCES.</b> <i>buld the project:</i>	Potentially Significant Impact	Less-Than- Significant with Mitigation Incorporated	Less- Than- Significant Impact	No Impact
a.	Cause a substantial adverse change in the	_	_	••	_
	significance of a historical resource as defined in			×	
b.	Cause a substantial adverse change in the				
0.	significance of a unique archaeological resource		*		
	pursuant to Section 15064.5?				
c.	Directly or indirectly destroy a unique	_		_	_
	paleontological resource on site or unique geologic		×		
1	Teatures?				
d.	Disturb any numan remains, including those interred outside of formal cemeteries		*		

#### Discussion

- a. Historical resources are features that are associated with the lives of historically important persons and/or historically significant events, or that embody the distinctive characteristics of a type, period, region or method of construction. 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. The proposed project site does not contain any existing permanent structures or any other resources that could be considered historic. Therefore, the project would not cause a substantial adverse change in the significance of a historical resource, and a *less-than-significant* impact would occur.
- b-d. A records search of the California Historic Resources Information System (CHRIS) was performed by the North Central Information Center (NWIC) for cultural resource site records and survey reports within the proposed project area.<sup>8</sup> According to the records search, the project site has been subject to one previous cultural resource study, which determined that the site is absent of archaeological resources. The results of the records search did not provide any indication of the possibility of historic-period activity within the proposed project site. In addition, based on the environmental setting of the site, the potential for unrecorded Native American resources to exist within the project site is relatively low.

However, unknown archaeological resources, including human remains, have the potential to be uncovered during ground-disturbing construction and excavation activities at the proposed project site. Therefore, the proposed project could cause a substantial adverse change in the significance of a unique archaeological resource pursuant to CEQA Guidelines Section Section 15064.5, directly or indirectly destroy a unique paleontological resource or geological feature on site, and/or disturb human remains, including those interred outside of formal cemeteries during construction. Therefore, impacts could be considered *potentially significant*.

<sup>&</sup>lt;sup>8</sup> Northwest Information Center. *Records Search Results for the Proposed Almond Knolls Project*. January 30, 2017.

# Mitigation Measure(s)

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

- V-1. In the event of the accidental discovery or recognition of any human remains, further excavation or disturbance of the find or any nearby area reasonably suspected to overlie adjacent human remains shall not occur until compliance with the provisions of CEQA Guidelines Section 15064.5(e)(1) and (2) has occurred. The Guidelines specify that in the event of the discovery of human remains other than in a dedicated cemetery, no further excavation at the site or any nearby area suspected to contain human remains shall occur until the County Coroner has been notified to determine if an investigation into the cause of death is required. If the coroner determines that the remains are Native American, then, within 24 hours, the Coroner must notify the Native American Heritage Commission, which in turn will notify the most likely descendants who may recommend treatment of the remains and any grave goods. If the Native American Heritage Commission is unable to identify a most likely descendant or most likely descendant fails to make a recommendation within 24 hours after notification by the Native American Heritage Commission, or the landowner or his authorized agent rejects the recommendation by the most likely descendant and mediation by the Native American Heritage Commission fails to provide a measure acceptable to the landowner, then the landowner or his authorized representative shall rebury the human remains and grave goods with appropriate dignity at a location on the property not subject to further disturbances. Should human remains be encountered, a copy of the resulting County Coroner report noting any written consultation with the Native American Heritage Commission shall be submitted as proof of compliance to the City's Community Development Department.
- V-2. If any prehistoric or historic artifacts, or other indications of cultural deposits, such as historic privy pits or trash deposits, are found once ground disturbing activities are underway, all work within the vicinity of the find(s) shall cease and the find(s) shall be immediately evaluated by a qualified archaeologist. If the find is determined to be a historical or unique archaeological resource, contingency funding and a time allotment to allow for implementation of avoidance measures or appropriate mitigation shall be made available (CEQA Guidelines Section 15064.5). Work may continue on other parts of the project site while historical or unique archaeological resource mitigation takes place (Public Resources Code Sections 21083 and 21087).
- *V-3.* The applicant shall retain the services of a professional paleontologist to educate the construction crew that will be conducting grading and

excavation at the project site. The education shall consist of an introduction to the geology of the project site and the kinds of fossils that may be encountered, as well as what to do in case of a discovery. Should any vertebrate fossils (e.g., teeth, bones), an unusually large or dense accumulation of intact invertebrates, or well-preserved plant material (e.g., leaves) be unearthed by the construction crew, then grounddisturbing activity shall be diverted to another part of the project site and the paleontologist shall be called on-site to assess the find and, if significant, recover the find in a timely matter. Finds determined significant by the paleontologist shall then be conserved and deposited with a recognized repository, such as the University of California Museum of Paleontology. The alternative mitigation would be to leave the significant finds in place, determine the extent of significant deposit, and avoid further disturbance of the significant deposit. Proof of the construction crew awareness training shall be submitted to the City's Community Development Department in the form of a copy of training materials and the completed training attendance roster.

VI. Wo	GEOLOGY AND SOILS. uld the project:	Potentially Significant Impact	Less-Than- Significant with Mitigation Incorporated	Less-Than- Significant Impact	No Impact
a.	Expose people or structures to potential substantial				
	adverse effects, including the risk of loss, injury, or				
	death involving:				
	delineated on the most recent Alguist-Priolo				
	Earthquake Fault Zoning Map issued by the			×	
	State Geologist for the area based on other				
	substantial evidence of a known fault?				
	ii. Strong seismic ground shaking?			×	
	iii. Seismic-related ground failure, including		×		
	liquefaction?		••		
1.	IV. Landslides?		*		
D.	topsoil?		*		
c.	Be located on a geologic unit or soil that is unstable,				
	or that would become unstable as a result of the				
	project, and potentially result in on- or off-site		*		
	landslide, lateral spreading, subsidence, liquefaction				
1	or collapse?				
a.	Be located on expansive soil, as defined in Table 18-		*		
ρ	Have soils incapable of adequately supporting the				
С.	use of septic tanks or alternative wastewater disposal	_	_	_	
	systems where sewers are not available for the				×
	disposal of wastewater?				

# **Discussion**

The following discussion is based on a Planning Level Geology and Geotechnical Engineering Study (Geotechnical Report) prepared for the proposed project by Geosphere Consultants, Inc.<sup>9</sup>

ai,aii. According to the Geotechnical Report, active faults in general proximity to the project site are the Calaveras and Hayward faults, located about 15.9 miles southwest and 24.7 miles west of the site, respectively. However, the site is not mapped within an Alquist-Priolo Earthquake Fault Zone.

In 2007, the Working Group on California Earthquake Probabilities, in conjunction with the United States Geological Survey (USGS), published a report evaluating the probabilities of significant earthquakes occurring in the Bay Area over the next three decades. The report estimated that a 93 percent probability exists that at least one magnitude 6.7 or greater earthquake will occur within the San Francisco Bay region over the next 30 years. Due to the site's proximity to the nearest active fault, the potential

<sup>&</sup>lt;sup>9</sup> Geosphere Consultants, Inc. *Planning Level Geology and Geotechnical Engineering Study*. December 16, 2016.

exists for the proposed apartment buildings to be subject to seismic ground shaking. However, the proposed buildings would be properly engineered in accordance with the California Building Code, which include engineering standards appropriate for the seismic area in which the project is located. Conformance with the design standards is enforced through building plan review and approval by the City of Antioch Building Division prior to the issuance of building permits. Proper engineering of the proposed project would ensure that seismic-related effects would not cause adverse impacts. Therefore, a *less-than-significant* impact would occur related to seismic surface rupture and strong seismic ground shaking.

aiii,aiv,

c,d. The proposed project's potential effects related to liquefaction, subsidence, landslides, lateral spreading, and expansive soils are discussed in detail below.

# Liquefaction

Severe ground shaking during an earthquake can cause loose to medium dense granular soils to densify. If the granular soils are below the ground water table, their densification can cause increases in pore water pressure, which can lead to soil softening, liquefaction, and ground deformation. Soils most prone to liquefaction are saturated, loose to medium dense, silty sands and sandy silts with limited drainage, and, in some cases, sands and gravels that are interbedded with, or that contain, seams or layers of impermeable soil.

According to the General Plan EIR, the proposed project site is located in an area of low liquefaction potential within the City.<sup>10</sup> While unlikely, the proposed project site could be considered at risk for liquefaction should the project fail to incorporate appropriate geotechnical design features to alleviate liquefaction risks.

# Landslides

Seismically-induced landslides are triggered by earthquake ground shaking. The risk of landslide hazard is greatest in areas with steep, unstable slopes. According to the Geotechnical Report, the project site is not located within a Seismically Induced Landslide Hazard Zone as mapped by the California Geological Survey. While the site is moderately sloped, naturally occurring landslides are not anticipated to pose a risk to the proposed project. Thus, landslides are not likely to occur on- or off-site as a result of the proposed project.

# Unstable Soils

Lateral spreading is associated with terrain near free faces such as excavations, channels, or open bodies of water. As discussed above, liquefaction is a type of seismic-related ground failure in which the strength and stiffness of a soil is reduced by earthquake shaking or other rapid loading. Subsidence occurs when loose, sandy soils settle during earthquake shaking. In order to reduce risks associated with unstable soils vulnerable to

<sup>&</sup>lt;sup>10</sup> City of Antioch. *General Plan Update Environmental Impact Report* [pg. 4.5-14]. July 2003.

potential failure or collapse under seismic loading, such as liquefiable and/or compressible soils, site-specific engineering measures would be required. The City of Antioch Municipal Code Section 9-4.513 and the City of Antioch General Plan Policy 11.3.2-i require the preparation of site-specific geology and soils reports for all new developments, and require that the findings and recommendations of these studies be incorporated into project development. Compliance with such is verified by the City of Antioch Building Division as part of the building permit process. Compliance with the aforementioned requirements would ensure that the proposed project would be adequately designed to minimize any effects of unstable soils, including lateral spreading, subsidence, liquefaction, and collapse.

#### Expansive Soils

Expansive soils can cause foundations to rise each wet season and fall each dry season. Movements may vary under different parts of a building or street, resulting in cracking of foundations and street surfaces, distortion of various structural portions of a building, and warping of doors and windows such that they do not function properly.

According to the Geotechnical Report, the soils on the proposed project site, including native soils, as well as non-engineered fill, have a moderate expansion potential. Index tests show a Plasticity Index of 9 and 15 and a Liquid Limit of 28 and 32. Without implementation of specific mitigation to reduce the expansive potential of the soils, structures supported on fill, as well as flatwork and site pavements, would be susceptible to expansive soil pressure.

# Conclusion

Based on the above discussion, the proposed project would not result in on- or off-site landslides. However, the project would be located on soils that are at risk for liquefaction and may be considered unstable and expansive. Without implementation of appropriate design measures, 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.

- VI-1. All grading and foundation plans for the development shall be designed by a Civil and Structural Engineer and reviewed and approved by the City of Antioch Building Division prior to issuance of grading and building permits to ensure that all geotechnical recommendations specified in the Planning Level Geology and Geotechnical Engineering Study prepared for the proposed project are properly incorporated and utilized in the project design.
- b. The proposed project site consists primarily of ruderal vegetation; however, topsoil would be exposed during the grading of the site. The proposed buildings and impervious

surfaces (driveway, parking areas, etc.) and landscaping features would cover the exposed soil and stabilize on-site soils. However, after grading and prior to overlaying the ground surface with impervious surfaces and structures, the potential exists for wind and water to erode portions of the exposed topsoil. Therefore, impacts related to substantial soil erosion or the loss of topsoil during construction of the proposed project would be *potentially significant*.

#### Mitigation Measure(s)

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

- VI-2. Prior to final map approval, the project applicant shall submit, for the review and approval by the City Engineer, an erosion control plan that utilizes standard construction practices to limit the erosion effects during construction of the proposed project. Measures shall include, but are not limited to, the following:
  - *Hydro-seeding;*
  - Placement of erosion control measures within drainage ways and ahead of drop inlets;
  - The temporary lining (during construction activities) of drop inlets with "filter fabric" (a specific type of geotextile fabric);
  - The placement of straw wattles along slope contours;
  - Directing subcontractors to a single designation "wash-out" location (as opposed to allowing them to wash-out in any location they desire);
  - The use of siltation fences; and
  - The use of sediment basins and dust palliatives.
- e. The proposed project would connect to the existing City sanitary sewer lines located in Worrell Road. The construction or operation of septic tanks or other alternative wastewater disposal systems is not included as part of the proposed project. Therefore, *no impact* regarding the capability of soil to adequately support the use of septic tanks or alternative wastewater disposal systems would occur.

VI Wo	I. GREENHOUSE GAS EMISSIONS. buld the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less-Than- Significant Impact	No Impact
a.	Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?			*	
b.	Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gasses?			×	

a,b. Emissions of greenhouse gases (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 (CO<sub>2</sub>) and, to a lesser extent, other GHG pollutants, such as methane (CH<sub>4</sub>) and nitrous oxide (N<sub>2</sub>O) associated with area sources, mobile sources or vehicles, utilities (electricity and natural gas), 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 CO<sub>2</sub> equivalents (MTCO<sub>2</sub>e/yr).

A number of regulations currently exists related to GHG emissions, predominantly Assembly Bill (AB 32), Executive Order S-3-05, and Senate Bill (32). AB 32 sets forth a statewide GHG emissions reduction target of 1990 levels by 2020. Executive Order S-3-05 sets forth a transitional reduction target of 2000 levels by 2010, the same target as AB 32 of 1990 levels by 2020, and further builds upon the AB 32 target by requiring a reduction to 80 percent below 1990 levels by 2050. SB 32 also builds upon AB 32 and sets forth a transitional reduction target of 40 percent below 1990 levels by 2030. In order to implement the statewide GHG emissions reduction targets, local jurisdictions are encouraged to prepare and adopt area-specific GHG reduction plans and/or thresholds of significance for GHG emissions.

As a means of achieving the statewide GHG emissions reduction goals required by AB 32, in June 2009, the City of Antioch approved Resolution 2009/57 adopting GHG reduction targets to reduce overall City-wide carbon emissions by 25 percent of 1990 levels by 2020 and 80 percent by 2050. The reduction targets adopted by the City mirror

the statewide GHG emissions reductions targets established by AB 32. On May 24, 2011, the City Council approved the Community and Municipal Climate Action Plans. The plans highlight possible programs and actions that the City could use to reach the reduction goals adopted with Resolution 2009/57. While the City's Climate Action Plans include city-wide goals and strategies for the reduction of GHG emissions, a quantitative threshold of significance for GHG emissions for individual development projects has not been established by the City and is not set forth in the Climate Action Plans.

The BAAQMD's approach to developing a threshold of significance for GHG emissions is to identify the emissions level for which a project would not be expected to substantially conflict with existing California legislation adopted to reduce statewide GHG emissions needed to move towards climate stabilization. If a project would generate GHG emissions above the threshold level, the project would be considered to generate significant GHG emissions and conflict with applicable GHG regulations. Because the City's emissions reduction targets established by Resolution 2009/57 are consistent with the statewide emission reduction goals, on which the BAAQMD thresholds of significance are based, the City of Antioch, as lead agency, has chosen to use the BAAQMD thresholds of significance for the analysis within this IS/MND.

The proposed project's GHG emissions were quantified using CalEEMod using the same assumptions as presented in the Air Quality section of this IS/MND, and compared to the BAAQMD thresholds of significance. The proposed project's required compliance with the current California Building Energy Efficiency Standards Code was assumed in the modeling. In addition, the CO<sub>2</sub> intensity factor within the model was adjusted to reflect the Pacific Gas & Electric Company's anticipated progress towards statewide renewable portfolio standard goals. All CalEEMod results are included in the appendix.

# Construction GHG Emissions

Construction GHG emissions are a one-time release and are, therefore, not typically expected to generate a significant contribution to global climate change. Neither the City nor BAAQMD has adopted a threshold of significance specifically for construction-related GHG emissions. However, the proposed project's construction GHG emissions have been estimated and compared to the BAAQMD's operational threshold of 1,100 MTCO<sub>2</sub>e/yr for informational purposes. The proposed project's total construction-related GHG emissions are presented in Table 4 below. The construction modeling assumptions are described in the Air Quality section above and in the appendix.

Table 4						
Unmitigated Project Construction GHG Emissions						
Year Annual GHG Emissions (MTCO <sub>2</sub> e/yr)						
2018	282.66					
2019	207.51					
TOTAL GHG EMISSIONS 490.17						
Source: CalEEMod, January 2016.						

As shown in Table 4 above, the project's estimated maximum yearly construction

emissions of 282.66 MTCO<sub>2</sub>e would be well below BAAQMD's adopted operational threshold of 1,100 MTCO<sub>2</sub>e/yr. Nevertheless, to provide a conservative estimate of emissions, the proposed project's construction GHG emissions have been amortized over the anticipated operational lifetime of the project.

The BAAQMD does not recommend any specific operational lifetimes for use in amortizing construction-related GHG emissions; however, the Sacramento Metropolitan Air Quality Management District (SMAQMD) recommends an operational building lifetime of 40 years for new residential development, which is based off of information from California Executive Order D-16-00 and the US Green Building Council's 2013 report on *The Costs and Financial Benefits of Green Buildings*.<sup>11</sup> In the absence of specific BAAQMD recommendations, the SMAQMD-recommended 40 year lifetime is used for this analysis. Construction of the proposed project would occur over two years and would result in total GHG emissions of 490.17 MTCO<sub>2</sub>*e*. Thus, the total construction emissions amortized over 40 years would be 12.25 MTCO<sub>2</sub>*e*/yr. Accordingly, the proposed project would not be expected to have a significant impact related to GHG emissions during construction.

# **Operational GHG Emissions**

The proposed project is located within the jurisdictional boundaries of the BAAQMD. The BAAQMD threshold of significance for project-level operational GHG emissions is  $1,100 \text{ MTCO}_{2e}/\text{yr}$  or  $4.6 \text{ MTCO}_{2e}/\text{yr}$  per service populations (population + employees). According to the CalEEMod results, the proposed project would result in operational GHG emissions as shown in Table 5 below.

Table 5           Unmitigated Project Operational GHG Emissions					
Emission SourceAnnual GHG Emissions (MTCO2e/yr)					
Area	0.72				
Energy	81.85				
Mobile	266.49				
Solid Waste	13.42				
Water	10.53				
TOTAL ANNUAL GHG EMISSIONS 373.00					
Source: CalEEMod, January 2016.					

As shown in the table above, the proposed project would result in unmitigated operational GHG emissions of 373.00 MTCO<sub>2</sub>e/yr, which is well below the 1,100 MTCO<sub>2</sub>e/yr threshold of significance. Therefore, the proposed project would not be expected to have a significant impact related to GHG emissions during operation.

<sup>&</sup>lt;sup>11</sup> Sacramento Metropolitan Air District. *Guide to Air Quality Assessment in Sacramento County*. Available at: http://www.airquality.org/businesses/ceqa-land-use-planning/ceqa-guidance-tools. Accessed March 2017.

# **Conclusion**

Based on the above, the proposed project would not be considered to generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment, or conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs; and impacts would be considered *less than significant*.

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

#### **Discussion**

a. Residential land uses are not typically associated with the routine transport, use, disposal, or generation of substantial amounts of hazardous materials. Future residents may use 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 utilized on the site, routine use of such products would not represent a substantial risk to public health or the environment. Therefore, the 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. Construction activities associated with the proposed project would involve the use of heavy equipment, which would contain fuels and oils, and various other products such as concrete, paints, and adhesives. Small quantities of potentially toxic substances (e.g., petroleum and other chemicals used to operate and maintain construction equipment) would be used at the project site and transported to and from the site during construction. However, the project contractor would be required to comply with all California Health and Safety Codes and local County ordinances regulating the handling, storage, and transportation of hazardous and toxic materials.

A Phase I Environmental Site Assessment (ESA) was prepared for the proposed project by Advanced GeoEnvioronmental, Inc.<sup>12</sup> Based on a review of the history of the project site, the project site has been undeveloped since at least 1937. Adjacent properties have been undeveloped, agricultural, or residential throughout the history of the property. During a site visit conducted by Advanced GeoEnvironmental, Inc. on July 11, 2014, features such as stressed vegetation, septic systems, wells, above-ground storage tanks (ASTs), underground storage tanks (USTs), and features relating to other areas of environmental concern were not identified on the site. The project site does not contain existing structures, and, thus, asbestos containing materials (ACMs) or lead-based paints do not occur on-site. Overall, the Phase I ESA did not reveal evidence of recognized environmental contaminants or other hazardous materials on the site.

Because construction activities would be required to adhere to all relevant guidelines and ordinances regulating the handling, storage, and transportation of toxic materials, and because existing hazardous materials are not anticipated to occur on the project site, the proposed project would not 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. Thus, a *less-than-significant* impact would occur.

- c. The proposed project site is located within one-quarter mile of two schools: Belshaw Elementary School and Park Middle School. However, as discussed above, hazardous materials would not be emitted during construction or operation of the proposed project. Therefore, the project would have a *less-than-significant* impact related to hazardous emissions or the handling of hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.
- d. The project site is not located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5.<sup>13</sup> Therefore, the project

<sup>&</sup>lt;sup>12</sup> Advanced GeoEnvironmental, Inc. *Phase I Environmental Site Assessment, Odom Property, Worrell Road, Antioch, California.* July 15, 2014.

<sup>&</sup>lt;sup>13</sup> California Department of Toxic Substances Control. *Hazardous Waste and Substances Site List*. Available at: http://www.dtsc.ca.gov/SiteCleanup/Cortese\_List.cfm. Accessed March 2017.

would not create a significant hazard to the public or the environment, and *no impact* associated with such would occur.

- e,f. The nearest airstrip to the site is the Funny Farm Airport, located approximately nine miles east of the site. As such, the project site is not located within two miles of any public airports or private airstrips, and does not fall within an airport land use plan area. Therefore, *no impact* related to a safety hazard for people residing or working in the project area would occur related to such.
- g. In 1996, the City of Antioch approved an Emergency Plan that addresses response to disasters, including, but not limited to, earthquakes, floods, fires, hazardous spills or leaks, major industrial accidents, major transportation accidents, major storms, airplane crashes, environmental response, civil unrest, and national security emergencies. The plan outlines the general authority, organization, and response actions for City of Antioch staff when disasters happen. Implementation of the proposed project would not result in any modifications to the existing roadway system and, thus, would not physically interfere with the Emergency Plan, particularly with identified emergency routes. Furthermore, the proposed project would not include land uses or operations that could impair implementation of the plan. Therefore, would not interfere with an emergency evacuation or response plan, and a *less-than-significant* impact would occur.
- h. According to the City of Antioch General Plan EIR, the areas of the City most susceptible to wildland fire hazards exist within the southern, unincorporated portions of the General Plan Study area.<sup>14</sup> The proposed project site is surrounded by existing development on all sides, and is located within a developed urban area within the City. According to the California Department of Forestry and Fire Protection (CAL FIRE) Fire and Resource Assessment Program, the proposed project site is not located within a Very High Fire Hazard Severity Zone.<sup>15</sup> Therefore, the proposed project would not expose people or structures to the risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands. and less-than-significant impact would а occur.

<sup>&</sup>lt;sup>14</sup> City of Antioch. *General Plan Update EIR* [page 4.6-9]. July 2003

<sup>&</sup>lt;sup>15</sup> California Department of Forestry and Fire Protection. *Contra Costa County, Very High Fire Hazard Severity Zones in LRA*. January 7, 2009.

Less-Than-

Significant

Impact

No

Impact

Less-Than-

Significant

with

Mitigation

Incorporated

×

# IX. HYDROLOGY AND WATER QUALITY. Potentially Significant Impact Would the project: a. Violate any water quality standards or waste discharge requirements? □

- b. Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (i.e., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?
- c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation onor off-site?
- d. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite?
- e. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?
- f. Otherwise substantially degrade water quality?
- g. Place housing within a 100-year floodplain, as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?
- h. Place within a 100-year floodplain structures which would impede or redirect flood flows?
- i. Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam.
- j. Inundation by seiche, tsunami, or mudflow?

# **Discussion**

a,f. The following discussion of construction and operational water quality impacts is primarily based on a Preliminary Stormwater Control Plan (SWCP) that was prepared for

	*	
	×	
	*	
	×	
×		
	*	
	×	
	*	
	×	

the proposed project by Wood Rodgers, Inc.<sup>16</sup> per Section 6-9.05 of the City of Antioch Municipal Code.

# 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 surface with impervious surfaces and structures, the potential exists for wind and water erosion to discharge sediment and/or urban pollutants into stormwater runoff, which could adversely affect water quality downstream.

The State Water Resources Control Board (SWRCB) regulates stormwater discharges associated with construction activities where clearing, grading, or excavation results in a 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 General Construction Permit prior to receipt of any construction permits. The State's General Construction Permit requires a Storm Water Pollution Prevention Plan (SWPPP) to be prepared for the site. A SWPPP describes Best Management Practices (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 General Construction Permit.

# **Operation**

The proposed residential uses would not involve operations typically associated with the generation or discharge of polluted water. Thus, typical operations on the project site would not violate any water quality standards or waste discharge requirements, nor degrade water quality. However, addition of the impervious surfaces on the site would result in the generation of urban runoff, 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 Antioch has adopted the County C.3 Stormwater Standards, which require new development and redevelopment projects that create or alter 10,000 or more square feet of impervious area to contain and treat all stormwater runoff from the project site. Given that the proposed project would create approximately 63,136 square feet of impervious area, the proposed project would be subject to the requirements of the SWRCB and the Regional Water Quality Control Board (RWQCB), including the C.3 Standards, which are included in the City's NPDES General Permit. 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.

<sup>&</sup>lt;sup>16</sup> Wood Rodgers, Inc. *Preliminary Stormwater Management Plan*. December 22, 2016.

The SWCP prepared for the proposed project conforms with the most recent Contra Costa Clean Water Program Stormwater C.3 Guidebook and verifies that the proposed project would comply with all City stormwater requirements. In compliance with the C.3 Guidebook, the proposed project would include a bio-retention area consisting of one bio-retention/flow control basin (TCM 1) and one landscaped bio-retention basin (TCM 2) on the western portion of the site (see Figure 15). Both basins would be sized to exceed the minimum volume requirement necessary to adequately handle all runoff from the proposed impervious surfaces and landscaping. The bio-retention basins would be accessible by the proposed private driveway to allow for ease of maintenance.

The site would consist of two Drainage Management Areas (DMAs): DMA 1 and DMA 2. DMA 1 would consist of the proposed roofs (21,288 square feet), 38,383 square feet of various paved and concrete surfaces, and 62,766 square feet of landscaped area, resulting in a total of 122,473 square feet. Runoff within DMA 1 would gravity flow to TCM 1 by way of new on-site storm drain piping. The second area, DMA 2, would include a small portion of the proposed driveway (3,465 square feet) and 468 square feet of adjacent landscaped areas, resulting in a total of 3,933 square feet. Runoff from DMA 2 would drain directly into TCM 2 without the use of storm drain pipes.

The bio-retention basins would remove pollutants primarily by filtering runoff slowly through an active layer of soil. The process of stormwater moving through the soil layers would remove pollutants from the stormwater prior to subsurface infiltration or discharge to City infrastructure. TCM 1 would include an overflow inlet. In the event of a large storm that produces stormwater runoff in-excess of the bio-retention basin's capacity, excess runoff would flow through a new storm drain pipe located at the western boundary of the site to an existing catch basin located southeast corner of the lone Tree Way and Worrell Road intersection. An existing outgoing 15-inch pipe in the catch basin flows into a 24-inch storm drain main located in Lone Tree Way

Based on the above, the proposed project would comply with the requirements of the SWRCB and the RWQCB, and would meet or exceed C.3 Standards. Therefore, during operation, the project would comply with all relevant water quality standards and waste discharge requirements, and would not degrade water quality.

# **Conclusion**

Based on the SWCP prepared for the proposed project, the project would comply with all applicable regulations during operation, does not involve uses associated with the generation or discharge of polluted water, and would be designed to adequately treat stormwater runoff from the site prior to discharge. However, disturbance of the on-site soils during construction activities could result in a *potentially significant* with regard to violation of water quality standards and degradation of water quality should adequate BMPs not be incorporated during construction in accordance with SWRCB regulations.



#### Almond Knolls Project Initial Study/Mitigated Negative Declaration

#### Mitigation Measure(s)

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

- IX-1.Prior to issuance of grading permits, the contractor shall prepare a Storm<br/>Water Pollution Prevention Plan (SWPPP). The developer shall file the<br/>Notice of Intent (NOI) and associated fee to the SWRCB. The SWPPP<br/>shall serve as the framework for identification, assignment, and<br/>implementation of BMPs. The contractor shall implement BMPs to reduce<br/>pollutants in stormwater discharges to the maximum extent practicable.<br/>The SWPPP shall be submitted to the Director of Public Works/City<br/>Engineer for review and approval and shall remain on the project site<br/>during all phases of construction. Following implementation of the<br/>SWPPP, the contractor shall subsequently demonstrate the SWPPP's<br/>effectiveness and provide for necessary and appropriate revisions,<br/>modifications, and improvements to reduce pollutants in stormwater<br/>discharges to the maximum extent practicable.
- b. The City of Antioch currently does not rely on groundwater for water supplies.<sup>17</sup> Therefore, any water demand associated with the proposed project would not result in a depletion of groundwater in the project area. While the project would include the creation of impervious surfaces, runoff from such surfaces would be routed to a bio-retention area on the western portion of the project site, where a substantial portion of the runoff would be allowed to infiltrate into the underlying native soils, allowing for groundwater recharge to occur. Therefore, the proposed project would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge, and a *less-than-significant* impact would occur.
- c-e. The proposed project site is currently vacant and consists of ruderal grasses and scattered trees and shrubs. Creeks, wetlands, and/or riparian habitats are not present within the site area. The site is located on a hillside with maximum slopes of 50 percent, and naturally drains to the northwest. Along the project frontage of Worrell Road, the elevation of the site decreases by approximately 25 feet from east to west. Rainfall on Worrell Road sheet flows westward, where runoff is currently collected by the catch basin discussed above.

Development of the proposed project would result in an increase in impervious surfaces on the project site, which would alter the existing drainage pattern of the site. However, as discussed above, the project is required to comply with C.3 Standards and is proposed to include appropriate site design measures, source controls, and hydraulically-sized stormwater treatment measures to ensure that the rate or amount of runoff associated with the site would be equal to or less than existing levels.

As discussed above, runoff from the impervious areas of the site would be collected and conveyed to the proposed bio-retention basins. Per the SWCP, the bio-retention facilities would be designed to exceed the minimum volume needed to treat and control runoff

<sup>&</sup>lt;sup>17</sup> City of Antioch. 2015 Urban Water Management Plan [pg. 6-12]. May 2016.

from all proposed impervious surfaces. Therefore, despite the proposed project's increase in impermeable surfaces, the proposed project would not result in an increase in stormwater runoff leaving the site as compared to runoff that currently occurs. Furthermore, runoff entering the bio-retention basins would be able to infiltrate the soil in a similar manner to what currently occurs on the project site. The only expected runoff leaving the site would occur in the case of heavy storms, where excess runoff not captured by the bio-retention area would be discharged to the City's existing stormwater system. Consequently, runoff from the site would only occur in select circumstances, and the proposed project would not result in a net increase in the amount of runoff from the site. Due to the absence of a net increase in runoff, the capacity of existing stormwater drainage infrastructure would not be exceeded, and alterations to such infrastructure would not be needed.

In order to ensure that the proposed project's stormwater treatment facilities remain adequate, long-term maintenance would be required. Routine maintenance of the facilities is necessary to ensure that infiltration of water is unobstructed, erosion is prevented, and soils are held together by biologically active plant roots. Proper operation and maintenance of the stormwater management facilities would be the sole responsibility of the property owner. The project applicant would be required to prepare and submit, for the City's review, an acceptable Stormwater Control Operation and Maintenance Plan prior to completion of construction. With implementation of such a plan, the bio-retention facilities would continue to properly manage runoff long after completion of construction activities.

In conclusion, the proposed project would not substantially alter the existing drainage pattern of the site or area in a manner which would result in erosion, siltation, or flooding on- or off-site, 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. Consequently, the proposed project would result in a *less-than-significant* impact.

g-i. According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map number 06013C0331F, the project site is located within Zone X. FEMA defines Zone X as an area not within a 100-year or 500-year floodplain. The Contra Loma Dam is the closest dam to the project site, located approximately one mile south of the site. The citywide inundation map for the failure of Contra Loma Dam and Dike No. 2 (Figure 4.7-3 of the General Plan EIR) indicates that the project site is located outside of the areas that would be impacted by dam failure. It should be noted that, according to the General Plan EIR, dam failure would be an unlikely event.<sup>18</sup> As a result, the project would not place housing or structures within the 100-year floodplain, nor expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam. Therefore, a *less-than-significant* flooding impact would result.

<sup>&</sup>lt;sup>18</sup> City of Antioch. *General Plan Update EIR* [pg. 4.7-4]. July 2003.

j. 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 area is located over 50 miles from the Pacific Ocean and tsunamis typically affect coastlines and areas up to one-quarter mile inland. Due to the project's distance from the coast, the project site would not be exposed to flooding risks associated with tsunamis. Seiches do not pose a risk to the proposed project, as the project site is not located adjacent to a large closed body of water. Mudflows typically occur on steep, unstable slopes. While the proposed project site is located on a slope, the entirety of the site would be properly graded and stabilized prior to placement of structures. Development of the site would include the placement of buildings and the introduction of impervious surfaces and landscaping features which would cover any exposed soil, thereby precluding the potential for mudflows. Thus, mudflows would not pose an issue. Based on the above, a *less-than-significant* impact would occur related to inundation by seiche, tsunami, or mudflow.

<b>X.</b> Wo	<b>LAND USE AND PLANNING.</b> <i>buld the project:</i>	Potentially Significant Impact	Less-Than- Significant with Mitigation Incorporated	Less-Than- Significant Impact	No Impact
a.	Physically divide an established community?			×	
b.	Conflict with any applicable land use plans, policies, or regulations of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating on environmental effect?			*	
c.	Conflict with any applicable habitat conservation plan or natural communities conservation plan?				*

#### **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. The proposed project site does not contain existing housing or other development, and the proposed project would be consistent with the surrounding uses. The proposed project would not alter the existing general development trends in the area or isolate an existing land use. As such, the proposed project would not physically divide an established community and a *less-than-significant* impact would occur.
- According to the Antioch General Plan, the proposed project site is designated as b. Medium Low Density Residential and Neighborhood Commercial. The site is currently zoned R-6, R-20, and C-2. In order to develop the site as a multi-family apartment project, the project would require a General Plan Amendment to change the land use designation of the site to High Density Residential, as well as a rezone of the site from R-6, R-20, and C-2 to R-20 only. According to Section 9-5.3803 of the Antioch Municipal Code, multi-family development within R-20 zoning districts requires a use permit. In addition, the City's current development standards do not allow for a fence, wall or hedge that exceeds three-feet in the required front yard setback (Section 9-5.1602 of the Antioch Municipal Code). Therefore, the proposed project requests a variance to allow a six-foot tall view fence and vehicle gates along Worrell Road. Furthermore, per Section 9-5.207 of the Municipal Code, all new development within the City is subject to design review approval. As discussed throughout this IS/MND, the proposed project site is surrounded by a variety of existing residential and commercial development. Therefore, should the City of Antioch City Council approve the requested General Plan Amendment and zoning amendment, use permit, and design review, the project would not conflict with any applicable land use plans, policies, or regulations of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect. As a result, the proposed project would not conflict with applicable

land use plans, policies, regulations, or surrounding uses and a *less-than-significant* impact would occur.

c. In July 2007, the East Contra Costa County (ECCC) Habitat Conservation Plan/Natural Community Conservation Plan (HCP/NCCP) was adopted by Contra Costa County, other member cities, the USFWS, and the CDFW. The City of Antioch, however, declined to participate in the HCP/NCCP. Therefore, the project site is not located in an area with an approved HCP/NCCP, or local, regional, or State habitat conservation plan. As a result, *no impact* would occur.

XI Wc	<b>MINERAL RESOURCES.</b> <i>buld 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?				*
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?				×

#### **Discussion**

a,b. According to the City of Antioch's General Plan EIR, areas identified in the General Plan for new development do not contain known mineral resources that would be of value to the region or residents of the State.<sup>19</sup> Therefore, *no impact* to mineral resources would occur as a result of development of the project.

<sup>&</sup>lt;sup>19</sup> City of Antioch. *General Plan Update EIR* [pg. 5-9]. July 2003.
XII Wo	<b>NOISE.</b> <i>uld the project result in:</i>	Potentially Significant Impact	Less-Than- Significant with Mitigation Incorporated	Less-Than- Significant Impact	No Impact
a.	Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?		*		
b.	Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?			*	
c.	A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?		*		
d.	A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?		*		
e.	For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?			×	
f.	For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?			*	

#### **Discussion**

- a,c. The following discussion is based on an Environmental Noise Assessment (ENA) prepared for the proposed project by j.c. brennan and associates, Inc.<sup>20</sup> The ENA was subsequently peer reviewed by Bollard Acoustical Consultants, Inc.<sup>21</sup> The following terms are referenced in the ENA.
  - 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 decibels (dB) in this report will be A-weighted unless noted otherwise.
  - Day-Night Average Level (Ldn): The average sound level over a 24 hour period, with a penalty of 10 dB applied to noise occurring during nighttime hours (10:00 PM to 7:00 AM).
  - Community Noise Equivalent Level (CNEL): The average sound level over a 24 hour period, with a penalty of 5 dB applied to noise occurring during daytime hours (7:00 AM to 10:00 PM) and a penalty of 10 dB applied to noise occurring during nighttime hours (10:00 PM to 7:00 AM).

<sup>&</sup>lt;sup>20</sup> j.c. brennan and associates, Inc. Almond Knolls Environmental Noise Assessment. December 8, 2017.

<sup>&</sup>lt;sup>21</sup> Bollard Acoustical Consultants, Inc. *Peer Review of the j.c. brennan and associates Environmental Noise Assessment for the Almond Knolls Residential Development in Antioch, California.* February 2, 2017.

- Equivalent Sound Level (L<sub>eq</sub>): The average sound level over a given time-period.
- Maximum Sound Level (L<sub>max</sub>): The maximum sound level over a given timeperiod.
- Median Sound Level (L<sub>50</sub>): The sound level exceeded 50 percent of the time over a given time-period.

The following discussion relates to the existing noise environment, significance thresholds, and the future noise environment associated with the proposed project.

# Existing Noise Environment

Sensitive noise receptors in the project vicinity, as well as the existing noise environment of the project area, are discussed below.

# 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. Noise sensitive land uses are typically given special attention in order to achieve protection from excessive noise. In the vicinity of the project site, the nearest sensitive land uses consist of residential development on all sides of the project site, as well as the New Life Free Will Baptist church located north of the site across Worrell Road.

# Existing On-site Ambient Noise Levels

In order to quantify existing ambient noise levels in the vicinity of the project site, shortterm noise level measurements and continuous 24-hour noise level measurements were conducted as part of the ENA on the project site (see Figure 16). The noise level measurements were conducted between December 19<sup>th</sup> and 20<sup>th</sup>, 2016. Larson Davis Laboratories (LDL) Model 820 and 824 precision integrating sound level meters were used for the ambient noise level measurement survey. The meters were calibrated before and after use with an LDL Model CAL200 acoustical calibrator to ensure the accuracy of the measurements. Table 6 and Table 7 below show a summary of the noise measurement results.

Table 6   Summary of Ambient Noise Level Measurements from   the Continuous 24-hour Noise Measurement Site										
			A	Average Measured Hourly Noise Levels (dB)						
			Daytime	e (7 AM to	10 PM)	Nightim	e (10 PM t	o 7 AM)		
Site	Date	$\mathbf{L}_{dn}$	L <sub>eq</sub>	$L_{50}$	L <sub>max</sub>	$\mathbf{L}_{eq}$	L <sub>50</sub>	L <sub>max</sub>		
А	12/19-12/20/2016	59	53	50	69	53	50	66		
Source	Source: j.c. brennan and associates, Inc., 2016.									



	Table 7Summary of Ambient Noise Level Measurements from the Short-term Noise Measurement Site									
		Averag	e Measured Ho	urly Noise Lev	els (dB)					
Site	Date	$\mathbf{L}_{eq}$	L <sub>50</sub>	L <sub>max</sub>	Time					
1	12/19/16	53	51	65	10:30 AM					
Source:	Source: j.c. brennan and associates, Inc., 2016.									

# Existing Roadway Noise Levels

To predict existing noise levels due to traffic, the Federal Highway Administration Highway Traffic Noise Prediction Model (FHWA RD-77-108) was used. Traffic volumes for existing conditions, as well as vehicle speeds on local area roadways, were obtained from the Citywide Engineering and Traffic Survey conducted by TJKM traffic consultants in 2015. Traffic noise levels were calculated at the proposed locations of the nearest noise sensitive receptors on the project site. Table 8 shows the existing traffic noise levels in terms of  $L_{dn}/CNEL$ .

	Table 8												
Predicted Existing Traffic Noise Levels													
			Distance from	Distance	to Conto	urs (feet)							
			Centerline	70	65	60							
Roadway	Location	CNEL	(feet)	CNEL	CNEL	CNEL							
Worrell	Nearest Residential Building	56 dB	55	6	14	30							
Road	Common Outdoor Area	48 dB	180	6	14	30							
Lone	Nearest Residential Building	54 dB	330	27	59	137							
Tree Way	Common Outdoor Area	57 dB	210	27	59	127							
Note: Distan	Note: Distances to traffic noise contours are measured in feet from the centerlines of the roadways.												
Source: j.c. b	prennan and associates, Inc., 2016.												

#### Significance Thresholds

According to the ENA, based on the applicable State and local regulations regarding noise, including the State Building Code, the City's General Plan, General Plan EIR, and Noise Ordinance, the proposed project would be considered to result in a potentially significant impact related to noise if any of the following would occur:

- An increase in long-term ambient noise by 5 dB CNEL/Ldn or more where existing noise levels do not exceed the City's 60 dB exterior noise level standard;
- An increase in long-term ambient noise by 3 dB CNEL or more where existing noise levels exceed the City's 60 dB CNEL exterior noise level standard;
- Interior noise levels in excess of 45 dB CNEL/L<sub>dn</sub> in any habitable room;
- Arterial and street traffic that would cause an increase in background noise levels that would exceed 60 CNEL; and/or

• Stationary noise sources adjacent to outdoor living areas (e.g. backyards for single-family homes and patios for multi-family units) and parks that would cause an increase in background ambient noise levels that would exceed 60 CNEL.

# Future Noise Environment and Impacts Discussion

The primary sources of noise associated with the proposed project would be the proposed Bocce Ball court and picnic area and traffic related to the trips generated by the project. The future noise sources are described and analyzed in comparison to the significance thresholds discussed above in further detail below.

# **On-Site Recreation Activities**

The proposed project would include a Bocce Ball court and a picnic area near the southwest portion of the site, adjacent to existing residential development west of the site. Noise level measurements of outdoor areas such as tot-lots, tennis courts, and small parks indicate that the primary noise sources associated with such play areas result in noise levels of approximately 55 dB  $L_{eq}$  and 62 dB  $L_{max}$  at a distance of 50 feet from the center of the activity areas.

Based upon a distance of approximately 50 feet from the proposed center of the Bocce Ball court and picnic area to the nearest residences, the project would result in noise levels of approximately 56 dB  $L_{eq}$  and 63 dB  $L_{max}$  at the nearest residences. Assuming that the outdoor areas would not be occupied between 10:00 PM and 7:00 AM, the calculated CNEL/L<sub>dn</sub> at the backyard of the nearby residences would be 54 dB. Therefore, the proposed outdoor activity area noise levels would comply with the City's exterior noise level standard of 60 dB CNEL/L<sub>dn</sub>, provided that the hours of use are restricted to the hours of 7:00 AM to 10:00 PM.

Modern construction typically provides a 25-dB exterior-to-interior noise level reduction with windows closed. Therefore, sensitive receptors exposed to exterior noise of 70 dB CNEL, or less, will typically comply with the City's 45 dB CNEL interior noise level standard. Exterior noise levels at the exterior of the of the nearest sensitive receptors would be less than 70 dB CNEL/L<sub>dn</sub>, and, thus, typical interior noise levels are expected to be less than 45 dB CNEL/L<sub>dn</sub>. Therefore, interior noise levels would comply with the interior noise level standard of 45 dB CNEL.

While the Bocce Ball court and picnic area would increase noise levels at the backyard of the existing residences adjacent to the western boundary of the site, restricting use of the activity area to daytime hours would reduce noise levels at the sensitive receptors to 54 dB CNEL/L<sub>dn</sub>, well below the City's exterior noise level standard of 60 dB CNEL/L<sub>dn</sub>. Furthermore, the interior noise level at nearby sensitive receptors would be below the 45 dB CNEL interior noise level standard specified by Title 24 of the State Building Code.

# Traffic

Table 8 shows the predicted existing traffic noise levels on the project site due to traffic along the local roadways. Access to the proposed 58 apartment units would be provided by two access points along Worrell Road. Based upon typical trip generation estimates, each unit would generate ten trips or less, for a total of 580 trips maximum. Worrell Road has a total average daily trip (ADT) of 2,270 vehicles per day. An increase of 580 trips would result in an increase in traffic noise levels of less than 1 dB at the project site. Such a relatively minor increase would not result in an increase in long-term ambient noise by 5 dB CNEL/L<sub>dn</sub> or more where existing noise levels do not exceed the City's 60 dB CNEL exterior noise level standard and would not result in an increase in long-term ambient noise by 3 dB CNEL/L<sub>dn</sub> or more where existing noise levels exceed the City's 60 dB CNEL exterior noise level standard. Therefore, the project would result in a less-than-significant impact regarding traffic noise at the existing sensitive receptors.

According to the peer review conducted by Bollard Acoustical Consultants, Inc., noise levels at the common outdoor areas of the proposed residential buildings would not exceed the City's 60 dB CNEL exterior noise level standard, even in the event that future traffic increases by 100 percent (doubles), as such areas would be shielded from the nearest roadway (Worrell Road) by the residential buildings themselves. Therefore, the project would result in a less-than-significant impact regarding traffic noise at the common outdoor areas of the proposed project.

Given that noise levels at the exteriors of the proposed buildings would not exceed 60 dB, and that the proposed buildings would be expected to provide a 25-dB exterior-to-interior noise level reduction, typical interior noise levels at the buildings are expected to be less than 45 dB CNEL/L<sub>dn</sub>. Therefore, interior noise levels at the proposed residences would comply with the Title 24 interior noise level standard of 45 dB CNEL, and a less-than-significant impact would occur.

# Conclusion

Based on the above, traffic noise associated with the proposed project would not result in the exposure of persons to or generation of noise levels in excess of standards established in the General Plan, or applicable standards of other agencies, and would not cause a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project. However, because the Bocce Ball court and picnic area could result in noise levels in excess of the City's exterior noise level standard of 60 dB CNEL/L<sub>dn</sub> if the area is used during nighttime hours, 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.

- XII-1. Prior to the approval of improvement plans, and subject to the review and approval of the Community Development Department, the improvement plans shall include the location of signage restricting use for the proposed Bocce Ball court and picnic area to the daytime hours of 7:00 AM to 10:00 PM.
- b. 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 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. Per the ENA, the threshold for damage to architectural structures is 0.2 inches per second, peak particle velocity (in/sec PPV) or greater, and continuous vibrations of 0.1 in/sec PPV or greater would likely cause annoyance to sensitive receptors.

The primary vibration-generating activities associated with the project would occur during grading of the site and utility placement. Table 9 below presents typical vibration levels that could be expected from construction equipment at various distances. The most significant source of ground-borne vibrations during project construction would be the use of vibratory compactors/rollers.

Table 9									
Vibration Levels for Various Construction Equipment									
	Peak Particle Peak Particle Peak Partic								
	Velocity at 25 feet	Velocity at 50 feet	Velocity at 100 feet						
Type of Equipment	(inches/second)	(inches/second)	(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	0.074	0.026						
Source: j.c. brennan and associa	ates, Inc., 2016.								

The nearest buildings are located approximately 50 feet or further from any areas of the project site that could require grading or paving. As shown in Table 9, vibratory compactors/rollers would generate typical vibration levels of 0.074 in/sec at a distance of 50 feet. Because the vibration level would be below the 0.2 in/sec PPV threshold for structural damage and 0.1 in/sec PPV for human annoyance, groundborne vibrations would not be perceptible to residents of the buildings and would not damage existing structures. Additionally, construction activities would be temporary in nature and would be limited to normal daytime working hours in accordance with Section 5-17.04 of the City Zoning Ordinance. Therefore, a *less-than-significant* impact would occur related to exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels.

d. During the construction of the proposed project, including roads, water, sewer lines, and related infrastructure, noise from construction activities would add to the noise environment in the project vicinity. Noise would also be generated during the construction phase by truck traffic associated with transport of heavy materials and equipment to and from the project site. As indicated in Table 10 below, activities related to construction would generate maximum noise levels ranging from 76 to 90 dB at a distance of 50 feet. Accordingly, construction noise could exceed the City's 60 dB exterior noise level threshold at the nearest existing receptor.

However, construction noise is conditionally exempt from 7:00 AM to 6:00 PM, Monday through Friday, and from 9:00 AM to 5:00 PM on weekends and holiday per Section 5-17.04 of the City Zoning Ordinance. In addition, noise associated with construction activities would be temporary in nature, and would be anticipated to occur during normal daytime working hours.

Table 10								
Typical Construction Equipment Noise								
Type of EquipmentMaximum Noise Level at 50 feet (dB								
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: j.c. brennan and associates, Inc., 2016.								

Nonetheless, given the proximity of the nearby residential buildings to the proposed construction activities, noise levels at nearby noise-sensitive receptors would temporarily or periodically increase above existing levels without the project, and a *potentially significant* impact could occur.

# Mitigation Measure(s)

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

XII-2. During construction activities and subject to the City of Antioch Code Enforcement Division, the use of heavy construction equipment shall adhere to Section 5-17.04 of the City's Municipal Code, which includes the following regulations:

It shall be unlawful for any person to operate heavy construction equipment during the hours specified below:

- 1) On weekdays prior to 7:00 AM and after 6:00 PM.
- 2) On weekdays within 300 feet of occupied dwelling space, prior to 8:00 AM and after 5:00 PM.
- 3) On weekends and holidays, prior to 9:00 AM and after 5:00 PM, irrespective of the distance from the occupied dwelling.
- XII-3. Prior to the approval of improvement plans, subject to the review and approval of the City Engineer, the following notes shall be included on the improvement plans:
  - Equip all equipment driven by internal combustion engines with intake and exhaust mufflers that are in good condition and appropriate to the equipment. Unnecessary idling of internal combustion engines should be strictly prohibited;
  - Stationary noise-generating equipment, such as air compressors or portable power generators, shall be located as far as is feasible from sensitive receptors;
  - Utilize "quiet" air compressors and other stationary noise sources where technology exists;
  - All impact tools shall be shrouded or shielded;
  - Intake and exhaust ports on all power construction equipment shall be shrouded or shielded; and
  - The construction contractor shall designate a "noise disturbance coordinator" who shall be responsible for responding to any local complaints about construction noise. The disturbance coordinator would determine the cause of the noise complaint (e.g., starting too early, bad muffler, etc.) and institute reasonable measures as warranted to correct the problem. A telephone number for the disturbance coordinator shall be conspicuously posted at the construction site.
- e,f. The project site is located over nine miles west of the nearest airport, Funny Farm Airport. Given the substantial distance between the airport and the project site, noise levels resulting from aircraft at the nearest airport would be negligible at the proposed project site. Therefore, a *less-than-significant* impact would occur.

<b>XIII. POPULATION AND HOUSING.</b> <i>Would the project:</i>		Potentially Significant Impact	Less-Than- Significant with Mitigation Incorporated	Less-Than- Significant Impact	No Impact
a.	Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (e.g., through projects in an undeveloped area or extension of major infrastructure)?			*	
b.	Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?			×	
c.	Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?				*

# **Discussion**

a. The General Plan permits a unit density of up to six dwelling units per gross developable acre for the approximately 2.62-acre Medium Low Density Residential-designated portion of the site, while the approximately 0.28-acre Neighborhood Commercial-designated portion of the site does not allow for residential development. As discussed previously, the proposed project would include a General Plan Amendment to change the land use designation of the project site from Medium Low Density Residential and Neighborhood Commercial to High Density Residential, and would develop the site with 58 multi-family residential units. Development of the site with 58 units would constitute an increase in density beyond the development density currently allowed under the existing Medium Low Density Residential and Neighborhood Commercial 42 units. Based on the 2014 estimated 3.22 average number of persons per household for the City,<sup>22</sup> the project would increase the level of population growth previously anticipated for the site in the General Plan by approximately 135 people

As discussed in Section XVIII, Utilities and Service Systems, the proposed project includes necessary infrastructure improvements to connect to existing utility systems, and the utility systems that would serve the proposed project have adequate capacity to accommodate the additional demands from the project. The infrastructure improvements would be sized for the project only. In addition, public service providers (e.g., police and fire protection services) would be capable of accommodating the additional demands for service created by the project. Thus, the proposed project would not place an undue burden on public utilities, public recreation facilities, or any other shared public resource, as discussed throughout this IS/MND.

Consequently, the proposed project would have a *less-than-significant* impact regarding induction of substantial population growth, as the demands resulting from the growth could be adequately accommodated by existing utility systems and service providers.

<sup>&</sup>lt;sup>22</sup> City of Antioch. *City of Antioch Housing Element 2015-2023* [pg. 2-9]. Adopted April 14, 2015.

b,c. The proposed project site is currently vacant, and does not include existing housing or other habitable structures. As such, the proposed project would not displace a substantial number of existing housing or people and would not necessitate the construction of replacement housing elsewhere. Therefore, *no impact* would occur.

# XIV. PUBLIC SERVICES.

Wou imp phys or p cons enve serv obje	ald the project result in substantial adverse physical acts associated with the provision of new or sically altered governmental facilities, need for new physically altered governmental facilities, the struction of which could cause significant ironmental impacts, in order to maintain acceptable pice ratios, response times or other performance ectives for any of the public services:	Potentially Significant Impact	Less-Than- Significant with Mitigation Incorporated	Less- Than- Significant Impact	No Impact
a.	Fire protection?			*	
b.	Police protection?			*	
c.	Schools?			*	
d.	Parks?			*	
e.	Other Public Facilities?			*	

# Discussion

a. Fire protection services to the project area are provided by the Contra Costa County Fire Protection District (CCCFPD). The CCCFPD is an "all-hazards" organization providing fire suppression, paramedic emergency medical services (EMS), technical rescue, water rescue, and fire prevention/investigation services to more than 600,000 residents across a 304 square mile coverage area. The CCCFPD operates 25 fire stations and responds to approximately 45,000 incidents annually. Four of the fire stations are located within the City of Antioch. Station 82 and 81 are both located within approximately 1.25 miles of the project site. The CCCFPD currently provides fire protection services to the project site and the surrounding development, and would continue to provide service following construction of the proposed project.

The proposed project would be required to pay applicable fire protection fees per the City's Master Fee Schedule. In addition, the proposed residential buildings would be constructed in accordance with the fire protection requirements of the 2013 California Fire Code. The CCCFPD and the City's Building Inspection Services Division would review the project building plans to ensure compliance with all code requirements. Therefore, the proposed project would have a *less-than-significant* impact related to the need for new or physically altered fire protection facilities, the construction of which could cause significant environmental impacts.

b. The Antioch Police Department (APD) currently provides police protection services to the proposed project site and the surrounding area. According to the Antioch Police Chief's City Council presentation given on July 26, 2016, the APD has 102 authorized sworn positions and 95 positions are currently filled.<sup>23</sup> The Antioch Police Station is located approximately 1.75 miles northwest of the project site at 300 L Street. The proposed project would increase the demand for police protection services at the site. However, the project applicant would be required to pay Development Impact Fees for

<sup>&</sup>lt;sup>23</sup> Personal Communication with Alexis Morris, Senior Planner, City of Antioch Community Development Department. August 16, 2016.

police facilities per Section 9-3.50 of the City Municipal Code, and the project site would be required to annex into a community facilities district (CFD) for financing police services. Therefore, the project would have a *less-than-significant* impact related to the need for new or physically altered police protection facilities, the construction of which could cause significant environmental impacts.

- c. School services in the City are provided by the Antioch Unified School District (AUSD). As of 2014, the AUSD serves thirteen K-5 schools, one K-8 school, four 6-8 schools, two comprehensive high schools (9-12), two continuation high schools, Dozier-Libbey Medical High School, and two alternative schools (Bridges and Prospects High).<sup>24</sup> In addition, the AUSD serves two charter schools (Antioch Charter Academy and Antioch Charter Academy II). While the project would include construction of 58 residential units totaling 45,970 square feet, and, thus, would increase demand for schools, the site has been anticipated for development by the City, including residential. Furthermore, the AUSD collects Development Fees for new residential projects on a per square foot basis. The Development Fees serve to offset school facility costs associated with serving new students. Because the project applicant would be required to pay Developer Fees to the AUSD, the proposed project would result in a *less-than-significant* impact regarding an increase in demand for schools.
- d,e. The Antioch General Plan includes a performance standard of providing five acres of improved public and/or private neighborhood parks and public community parkland per 1,000 residents.<sup>25</sup> The proposed project would include the construction of 58 multi-family residential units, and, thus, would increase the total acreage of parks required to meet the City's performance standard. However, it should be noted that development of the project site, including residential development, has been previously anticipated by the City. In addition, consistent with Section 9-5.706 of the City's Municipal Code, the project exceeds the 200 square foot per unit common open space, and 60 square foot private open space per unit minimum requirement with an on-site recreational area, consisting of a picnic area, fire pit, bocce ball court, patio overlook, and private decks/balconies.

Per Section 9-4.1007 of the City's Municipal Code, the project applicant would be required to pay fees in lieu of land dedication at a rate of \$950 per multi-family dwelling unit. Final determination of the requirements for fees in lieu of dedication of land would be made by the Parks and Recreation Commission pursuant to Section 9-4.1011 of the Code. The in-lieu fees would fund improvements to and expansion of park facilities within the City. Therefore, the proposed project would have a *less-than-significant* impact related to the need for new or physically altered parks or other public facilities, the construction of which could cause significant environmental impacts.

<sup>&</sup>lt;sup>24</sup> Antioch Unified School District. Developer Fee Justification Document for Residential, Commercial, and Industrial Development Projects. July 2014.

<sup>&</sup>lt;sup>25</sup> City of Antioch. *General Plan* [pg. 3-12]. Updated November 24, 2003.

<b>XV</b> We	V.RECREATION. build the project:	Potentially Significant Impact	Less-Than- Significant with Mitigation Incorporated	Less-Than- Significant Impact	No Impact
a.	Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?			*	
b.	Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?			×	

#### **Discussion**

a,b. The proposed project would include the development of 58 residential units, and thus, would likely result in an increase in the use of existing neighborhood, regional, parks and/or other recreational facilities. While the project site is located approximately two miles north of Contra Loma Regional Park, nearby City parks such as Mountaire Park and Chichibu Park would be substantially more accessible to residents. As noted previously, the City has previously anticipated development of the site, including development with residential uses.

As discussed in Section XIV, Public Services, above, the project applicant would be required to pay Development Impact Fees for parks and recreation. In addition, the project would include the provision of 13,204 square feet (228 square feet per unit) of common open space, including a recreational area, for residents of the proposed development. The recreation area would include a picnic area, a fire pit, a bocce ball court, and a patio overlook, and would be linked to the proposed apartment buildings by a series of interconnected sidewalks. Residents of the proposed project would likely prioritize use of the on-site recreational facilities over other existing recreational facilities in the surrounding area. Construction of the recreational area is addressed throughout this IS/MND, and mitigation measures have been provided to ensure that such construction would not have adverse physical effects on the environment.

Therefore, the increase in population associated with the proposed project would not be expected to result in substantial physical deterioration of any existing neighborhood or regional parks or other recreational facilities, and would not result in adverse physical effects related to the construction or expansion of new facilities. Thus, a *less-than-significant* impact would occur.

# **XVI. TRANSPORTATION AND CIRCULATION.** *Would the project:*

- a. Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?
- b. Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?
- c. Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?
- d. Substantially increase hazards due to a design features (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?
- e. Result in inadequate emergency access?
- f. Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?

#### **Discussion**

a,b. The Institute of Traffic Engineer's (ITE) *Trip Generation Handbook* was used to estimate weekday AM, PM, and daily trip generation forecasts for the proposed project.<sup>26</sup> As shown in Table 11 below, implementation of the proposed project would be expected to result in a total of 382 ADT, with 27 trips occurring during the AM peak hour and 34 trips occurring during the PM peak hour.

Table 11Weekday Project Trip Generation Rates and Estimates											
		Daily		AM Peak Hour				PM Pea	k Hour		
Units	Rate	Trips	Rate	In	Out	Total	Rate	In	Out	Total	
58	6.59	382	0.46	6	21	27	0.58	22	12	34	
Source:	Source: Institute of Transportation Engineers, 2012.										

<sup>&</sup>lt;sup>26</sup> Institute of Transportation Engineers. *Trip Generation Handbook*, 9<sup>th</sup> Edition. September 2012.

Potentially Significant Impact	Less-Than- Significant with Mitigation Incorporated	Less-Than- Significant Impact	No Impact
		×	
		*	
			×
		×	
		*	
		*	

According to the CCTA CMP, projects anticipated to generate fewer than 100 peak hour trips are not subject to review by the CCTA.<sup>27</sup> In addition, per General Plan Policy 7.3.2h, projects anticipated to generate 50 peak hour trips or less are not required to prepare a traffic impact study. Because the project would generate fewer than 50 peak hour trips, preparation of a traffic impact study for the proposed project is not required and the project is not subject to review by the CCTA.

Due to the low number of project-generated trips, the project would not be expected to adversely impact levels of service at nearby signalized intersections or roadways. Therefore, the proposed project would not conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, and would not conflict with the applicable CMP. Consequently, a *less-than-significant* impact would occur.

- c. The proposed project is not located near an airport and does not include any improvements to airports or a change in air traffic patterns. The nearest airstrip to the site is the Funny Farm airport, located approximately nine miles east of the site. Therefore, because the proposed project would not result in a change in air traffic patterns, including either an increase in air traffic levels or a change in location that results in substantial safety risks, *no impact* would occur.
- d,e. Given that the proposed project site is surrounded by existing residential development, the proposed project would be considered consistent with existing land uses in the vicinity of the site. Furthermore, the proposed project does not include changes to existing roadways or the introduction of any design features that would be considered hazardous. The proposed project would provide two access points along Worrell Road, which would provide sufficient emergency access to the site. As such, the project would not substantially increase hazards due to design features or incompatible uses, and emergency access to the site would be adequate. Therefore, the project would result in a *less-than-significant* impact.
- f. The following section discusses the availability of transit, bicycle, and pedestrian facilities in and around the project area.

# Transit Facilities

Eastern Contra Costa Transit Authority (Tri Delta Transit) provides transit service to the City of Antioch as well as other nearby cities, including Oakley and Brentwood. In addition, Tri-Delta Transit provides connections to and from the Bay Point / Pittsburg Bay Area Rapid Transit (BART) station. Thirteen routes operate on weekdays, with four routes operating on weekends. Lines 380 and 386 of the bus system include service along the segment of Lone Tree Way directly east of the project site. The nearest Tri Delta Transit bus stop is located on northbound Lone Tree Way, approximately 400 feet northwest of the nearest access point at the proposed project. Given the close proximity

<sup>&</sup>lt;sup>27</sup> Contra Costa Transportation Commission. *Congestion Management Program* [pg. 65]. Adopted December 16, 2015.

of the bus stop to the project site, residents of the proposed apartments would have convenient access to transit services. Therefore, the project would not be considered to conflict with any transit plans or goals of the City, interfere with any existing bus routes, or remove or relocate any existing bus stops.

# **Bicycle and Pedestrian Facilities**

Neither Lone Tree Way nor Worrell Road in the vicinity of the project site currently provide designated bike lanes. However, bicyclists would be permitted in the vehicular travel way within the project's internal looped roadway. The project would retain the existing sidewalks along the portion of Worrell Road fronting the project site, and would include three pedestrian gates along the north side of the site to allow for convenient pedestrian access to the sidewalks. Within the project site, dedicated walkways would be provided between the proposed buildings and recreational areas to allow ease of access for residents. The proposed project would be consistent with the goals, objectives, and policies provided by the 2009 Contra Costa Countywide Bicycle and Pedestrian Plan.<sup>28</sup>

#### **Conclusion**

Given the presence of existing transit, and pedestrian facilities, and incorporation of pedestrian gates to allow connectivity between the project site and Worrell Road, the project would result in a *less-than-significant* impact with respect to conflicts with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or with respect to degradation of such facilities.

<sup>&</sup>lt;sup>28</sup> Contra Costa Transportation Authority. 2009 Contra Costa Countywide Bicycle and Pedestrian Plan. Adopted October 2009.

# XVII. TRIBAL CULTURAL RESOURCES.

Wor the Pub feat defi sac Cal	and the project cause a substantial adverse change in significance of a tribal cultural resource, defined in plic Resources Code section 21074 as either a site, ture, place, cultural landscape that is geographically fined in terms of the size and scope of the landscape, red place, or object with cultural value to a ifornia 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		•		
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.		×		

# **Discussion**

a,b. As discussed in Section V, Cultural Resources, of this IS/MND, the proposed project site does not contain any existing permanent structures or any other known resources 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), and does not contain known resources that could be considered historic pursuant to the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. The records search of the CHRIS for cultural resource site records and survey reports within the proposed project area did not provide any indication of the possibility of historic-period activity within the proposed project site.<sup>29</sup>

In compliance with Assembly Bill (AB) 52 (Public Resources Code Section 21080.3.1), a project notification letter was distributed to the Amah Mutsun Tribal Band of Mission San Juan Bautista, the Indian Canyon Mutsun Band of Costanoan, the Muwekma Ohlone Indian Tribe of the San Francisco Bay Area, the Ohlone Indian Tribe, the Wilton Rancheria, and the Ione Band of Miwok Indians. The letters were distributed on January 31<sup>st</sup>, 2017. In addition, because the proposed project includes a request for a General Plan Amendment, in compliance with Senate Bill (SB) 18, the City of Antioch also sent SB 18 notification letters to the list of tribes provided by the NAHC on January 20<sup>th</sup>, 2017. The mandatory 30-day response period for consultation under AB 52 closed on February 29<sup>th</sup>, 2017 and requests for consultation were not received. However, a response letter was received from Wilton Rancheria requesting project information under SB 18.

<sup>&</sup>lt;sup>29</sup> Northwest Information Center. *Records Search Results for the Proposed Almond Knolls Project*. January 30, 2017.

As also discussed in Section V, Cultural Resources, of this IS/MND, the potential for unrecorded Native American resources to exist within the project site is relatively low based on existing environmental conditions, and Native American resources have not been identified within the vicinity of the project site. Nevertheless, the possibility exists that construction of the proposed project could result in a substantial adverse change in the significance of a tribal cultural resource if previously unknown cultural resources are uncovered during grading or other ground-disturbing activities. Thus, a *potentially significant* impact to tribal cultural resources could occur.

# Mitigation Measure(s)

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

- XVII-1. In the event of the accidental discovery or recognition of any human remains, further excavation or disturbance of the find or any nearby area reasonably suspected to overlie adjacent human remains shall not occur until compliance with the provisions of CEQA Guidelines Section 15064.5(e)(1) and (2) has occurred. The Guidelines specify that in the event of the discovery of human remains other than in a dedicated cemetery, no further excavation at the site or any nearby area suspected to contain human remains shall occur until the County Coroner has been notified to determine if an investigation into the cause of death is required. If the coroner determines that the remains are Native American, then, within 24 hours, the Coroner must notify the Native American Heritage Commission, which in turn will notify the most likely descendants who may recommend treatment of the remains and any grave goods. If the Native American Heritage Commission is unable to identify a most likely descendant or most likely descendant fails to make a recommendation within 24 hours after notification by the Native American Heritage Commission, or the landowner or his authorized agent rejects the recommendation by the most likely descendant and mediation by the Native American Heritage Commission fails to provide a measure acceptable to the landowner, then the landowner or his authorized representative shall rebury the human remains and grave goods with appropriate dignity at a location on the property not subject to further disturbances. Should human remains be encountered, a copy of the resulting County Coroner report noting any written consultation with the Native American Heritage Commission shall be submitted as proof of compliance to the City's Community Development Department.
- XVII-2. If any prehistoric or historic artifacts, or other indications of cultural deposits, such as historic privy pits or trash deposits, are found once ground disturbing activities are underway, all work within the vicinity of the find(s) shall cease and the find(s) shall be immediately evaluated by a qualified archaeologist. If the find is determined to be a historical or unique archaeological resource, contingency funding and a time allotment

to allow for implementation of avoidance measures or appropriate mitigation shall be made available (CEQA Guidelines Section 15064.5). Work may continue on other parts of the project site while historical or unique archaeological resource mitigation takes place (Public Resources Code Sections 21083 and 21087).

XVII-3. The applicant shall retain the services of a professional paleontologist to educate the construction crew that will be conducting grading and excavation at the project site. The education shall consist of an introduction to the geology of the project site and the kinds of fossils that may be encountered, as well as what to do in case of a discovery. Should any vertebrate fossils (e.g., teeth, bones), an unusually large or dense accumulation of intact invertebrates, or well-preserved plant material (e.g., leaves) be unearthed by the construction crew, then grounddisturbing activity shall be diverted to another part of the project site and the paleontologist shall be called on-site to assess the find and, if significant, recover the find in a timely matter. Finds determined significant by the paleontologist shall then be conserved and deposited with a recognized repository, such as the University of California Museum of Paleontology. The alternative mitigation would be to leave the significant finds in place, determine the extent of significant deposit, and avoid further disturbance of the significant deposit. Proof of the construction crew awareness training shall be submitted to the Citv's Community Development Department in the form of a copy of training materials and the completed training attendance roster.

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

# **Discussion**

a,b,e. The City maintains and owns the local sewage collection system and is responsible for the collection and conveyance of wastewater to the Delta Diablo Wastewater Treatment Plant (WWTP). The Delta Diablo Sanitation District (DDSD) owns and operates the regional interceptors and wastewater treatment plant. The project site is located within the Delta Diablo service area. The City of Antioch is responsible for the wastewater collection system from the project site to the designated DDSD regional wastewater conveyance facility. An EIR for the expansion of the wastewater treatment plant capacity to an average dry weather flow of 22.7 mgd was completed in April 1988. However, the current WWTP NPDES Permit limits average dry weather flow to 19.5 million gallons per day (mgd).<sup>30</sup> Average dry weather flow influent to the treatment plant was 12.7 mgd.

<sup>&</sup>lt;sup>30</sup> San Francisco Bay Regional Water Quality Control Board. Order No. R2-2014-0030, NPDES No. CA00.8547. Adopted August 13, 2014.

In 2000 and 2005, the average dry weather flow influent to the treatment plant was 13.5 mgd and 14.2 mgd, respectively.<sup>31</sup>

The General Plan EIR bases anticipated wastewater demand on a generation rate of 220 gallons per day per residence. The proposed project would include the construction of 58 residential apartment units, and, thus, would be anticipated to generate approximately 23,760 gallons per day of wastewater. The wastewater generated by the project would be collected by an internal sewer system consisting of six-inch minimum sewer lines, which would connect to the existing six-inch sewer line in Worrell Road at two existing sewer mains.

An increase of 23,760 gallons per day would not have a substantial impact on the available capacity of the WWTP. Furthermore, the project applicant would be required to pay sewer connection fees, which work to fund needed sewer system improvements. In addition, increased wastewater demand expected to occur associated with buildout of the site has been previously anticipated by the City, as the City's General Plan designates a portion of the site for residential land uses. Because the project applicant would pay sewer connection fees, and adequate long-term wastewater treatment capacity is available to serve full build-out of the project, a *less-than-significant* impact would occur related to requiring or resulting in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

- The project site is currently undeveloped vacant land with ruderal vegetation. Completion c. of the proposed project would increase site runoff due to the introduction of impervious surfaces to the site. As discussed in further detail in Section IX, Hydrology and Water Quality, of this IS/MND, the SWCP for the proposed project conforms with the most recent Contra Costa Clean Water Program Stormwater C.3 Guidebook and verifies that the proposed project would comply with all City stormwater requirements. In compliance with the C.3 Guidebook, the proposed project would include two bio-retention facilities on the western portion of the site, both of which would be sized to exceed the minimum volume requirement necessary to adequately manage all runoff from the proposed impervious surfaces. Because the proposed bio-retention facilities would be designed with adequate capacity to capture and treat runoff from proposed impervious surfaces, the proposed project would not generate runoff in excess of the City's existing stormwater system's capacity. Therefore, the proposed project would have a less-than-significant impact with respect to requiring or resulting in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.
- d. Principal sources of raw water supply to the City of Antioch are the Sacrament/San Joaquin Rivers Delta and the Contra Costa Canal, which are stored in the Antioch Municipal Reservoir. According to 2015 projections included in the City of Antioch 2010 Urban Water Management Plan, the City has a total water supply of 31,095 acre-feet per

<sup>&</sup>lt;sup>31</sup> Delta Diablo. *Proposed Tuscany Meadows Subdivision Letter Addressed to Nick Pappani, Vice President Raney Planning and Management*. October 3, 2013.

year (AFY) and a total water demand of 22,678 AFY.<sup>32</sup> A surplus of 8,417 AFY was calculated for the 2015 year. In 2009, per capita water use in the City was 164 gallons per day. The average household size in the City was 3.22 persons/household in 2014.<sup>33</sup> Given that the proposed project would include 58 residential units, the project would be anticipated to house approximately 187 residents (3.22 persons/household X 58 proposed units). As such, the project would result in a projected water demand of 30,668 gallons per day (164 gallons per day X 187 residents), or 34.35 AFY, which is significantly less than the City's estimated water surplus of 8,417 AFY. Therefore, sufficient water supplies would be available to serve the proposed project from existing entitlements and resources, and new or expanded entitlements would not be needed. Thus, a *less-than-significant* impact would occur.

f,g. Republic Services provides solid waste collection, disposal, recycling, and yard waste services to the City, including the project site. Solid waste and recyclables from the City are taken to the Contra Costa Transfer and Recovery Station in Martinez. Solid waste is transferred from the Transfer and Recovery Station to the Keller Canyon Landfill in Pittsburg. The Keller Canyon Landfill site is 1,399 acres, 244 of which comprise the actual current disposal acreage. The landfill is permitted to accept 3,500 tons of waste per day and has a total estimated permitted capacity of approximately 75 million cubic yards, with only approximately 12 million cubic yards (16 percent of total capacity) used to date.<sup>34</sup> Due to the substantial amount of available capacity remaining at Keller Canyon Landfill, sufficient capacity would be available to accommodate the project's solid waste disposal needs. Therefore, a *less-than-significant* impact related to solid waste would occur as a result of the proposed project.

<sup>&</sup>lt;sup>32</sup> City of Antioch. 2015 Urban Water Management Plan. May 2016.

<sup>&</sup>lt;sup>33</sup> City of Antioch. *Housing Element 2015-2023*. Adopted April 2015.

<sup>&</sup>lt;sup>34</sup> California Department of Resources Recycling and Recovery (CalRecycle). Solid Waste Information System. Available at: www.calrecycle.ca.gov/SWFacilities/. Accessed February, 2017

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

# **Discussion**

- As described throughout this IS/MND, implementation of the proposed project would a. have the potential to degrade the quality of the environment by potentially reducing the habitat for western red bat, Swainson's hawk, nesting migratory birds, and trees protected by the City's Municipal Code. In addition, while unlikely, the project could result in impacts related to eliminating important examples of major periods of California history or prehistory associated with undiscovered archeological and/or paleontological resources during project construction. However, the proposed project would implement and comply with applicable City of Antioch General Plan and Municipal Code policies, as discussed throughout this IS/MND. However, this IS/MND includes mitigation measures that would reduce any potential impacts to less-than-significant levels. With implementation of the mitigation measures required by this IS/MND, as well as compliance with General Plan policies and all applicable sections of the Municipal Code, development of the proposed project would reduce any potential impacts associated with the following: 1) degrade the quality of the environment; 2) substantially reduce or impact the habitat of fish or wildlife species; 3) cause fish or wildlife populations to drop below self-sustaining levels; 4) threaten to eliminate a plant or animal community; 5) reduce the number or restrict the range of a rare or endangered plant or animal; or 6) eliminate important examples of the major periods of California history or prehistory. Therefore, a less-thansignificant impact would occur.
- b. The proposed project in conjunction with other development within the City of Antioch could incrementally contribute to cumulative impacts in the area. In particular, the project

could result in emissions above the applicable threshold of significance for construction related emissions of  $NO_X$ , potentially resulting in a cumulatively considerable contribution to the region's existing air quality conditions. However, a mitigation measure for the aforementioned potential impact identified for the proposed project in this IS/MND has been included that would reduce the potential impact to a less-than-significant level. 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 with implementation of project-specific mitigation measures and compliance with applicable General Plan policies. In addition, the site has anticipated by the City for development, including residential. Thus, buildout of the site with urban uses was considered in the cumulative analysis of City buildout of the General Plan. When viewed in conjunction with other closely related past, present, or reasonably foreseeable future projects, development of the proposed project's cumulative impact would be *less than significant*.

c. As described in this IS/MND, implementation of the proposed project could result in temporary impacts related to air quality and excess noise levels. In addition, the project could expose humans to hazards relating to seismic ground shaking and unstable geologic units. However, the proposed project would be required to implement the project-specific mitigation measures within this IS/MND, as well as applicable policies of the City of Antioch General Plan, to reduce any potential direct or indirect impacts to human beings. With implementation of the identified mitigation measures, all project-specific impacts would be reduced to less-than-significant levels. Therefore, the proposed project's impact would be *less than significant*.

# APPENDIX

# AIR QUALITY AND GHG MODELING RESULTS

#### Almond Knolls (unmitigated) - Bay Area AQMD Air District, Summer

# Almond Knolls (unmitigated)

Bay Area AQMD Air District, Summer

# **1.0 Project Characteristics**

# 1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments Low Rise	58.00	Dwelling Unit	2.90	58,000.00	166

#### **1.2 Other Project Characteristics**

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	64
Climate Zone	4			Operational Year	2019
Utility Company	Pacific Gas & Electric Com	pany			
CO2 Intensity (Ib/MWhr)	409.81	CH4 Intensity (Ib/MWhr)	0.029	N2O Intensity (Ib/MWhr)	0.006

# 1.3 User Entered Comments & Non-Default Data

Project Characteristics - Intensity Factors for CO2 adjusted based on PG&E RPS reductions

Land Use - \*Applicant provided

Construction Phase - \*Applicant provided

Grading - \*Applicant provided

Energy Use -

Mobile Land Use Mitigation - \*Applicant provided

Area Mitigation -

Energy Mitigation -

# Page 2 of 27

# Almond Knolls (unmitigated) - Bay Area AQMD Air District, Summer

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	10.00	300.00
tblConstructionPhase	NumDays	220.00	300.00
tblConstructionPhase	NumDays	6.00	10.00
tblConstructionPhase	NumDays	10.00	2.00
tblConstructionPhase	NumDays	3.00	2.00
tblConstructionPhase	PhaseEndDate	9/10/2020	8/1/2019
tblConstructionPhase	PhaseEndDate	7/16/2019	7/18/2019
tblConstructionPhase	PhaseEndDate	7/18/2019	5/24/2018
tblConstructionPhase	PhaseStartDate	7/19/2019	6/8/2018
tblConstructionPhase	PhaseStartDate	5/23/2018	5/25/2018
tblConstructionPhase	PhaseStartDate	7/17/2019	5/23/2018
tblGrading	AcresOfGrading	5.00	2.90
tblGrading	AcresOfGrading	3.00	2.90
tblGrading	MaterialExported	0.00	8,000.00
tblGrading	MaterialExported	0.00	40.00
tblLandUse	LotAcreage	3.63	2.90
tblOffRoadEquipment	UsageHours	8.00	6.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	409.81
tblProjectCharacteristics	OperationalYear	2018	2019
tblTripsAndVMT	VendorTripNumber	0.00	6.00
tblTripsAndVMT	WorkerTripNumber	35.00	15.00
tblTripsAndVMT	WorkerTripNumber	35.00	42.00

# 2.0 Emissions Summary

Page 3 of 27

# Almond Knolls (unmitigated) - Bay Area AQMD Air District, Summer

# 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/d	day							lb/d	lay		
2018	6.1748	56.5975	29.8073	0.1029	8.2492	2.1172	9.5478	3.8576	1.9974	5.0571	0.0000	10,849.79 02	10,849.79 02	1.0954	0.0000	10,877.17 47
2019	5.7644	21.6141	18.7697	0.0339	0.4514	1.2268	1.6782	0.1206	1.1812	1.3018	0.0000	3,193.435 5	3,193.435 5	0.5253	0.0000	3,206.569 2
Maximum	6.1748	56.5975	29.8073	0.1029	8.2492	2.1172	9.5478	3.8576	1.9974	5.0571	0.0000	10,849.79 02	10,849.79 02	1.0954	0.0000	10,877.17 47

#### Mitigated Construction

	ROG	NOx	СО	SO2	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		
2018	6.1748	56.5975	29.8073	0.1029	8.2492	2.1172	9.5478	3.8576	1.9974	5.0571	0.0000	10,849.79 02	10,849.79 02	1.0954	0.0000	10,877.17 47
2019	5.7644	21.6141	18.7697	0.0339	0.4514	1.2268	1.6782	0.1206	1.1812	1.3018	0.0000	3,193.435 5	3,193.435 5	0.5253	0.0000	3,206.569 2
Maximum	6.1748	56.5975	29.8073	0.1029	8.2492	2.1172	9.5478	3.8576	1.9974	5.0571	0.0000	10,849.79 02	10,849.79 02	1.0954	0.0000	10,877.17 47
	ROG	NOx	СО	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Page 4 of 27

# Almond Knolls (unmitigated) - Bay Area AQMD Air District, Summer

# 2.2 Overall Operational

# Unmitigated Operational

	ROG	NOx	со	SO2	Fugitive 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/c	day							lb/c	lay		
Area	25.4652	0.5830	36.3234	0.0610		4.5003	4.5003		4.5003	4.5003	485.5091	223.5572	709.0663	0.6729	0.0343	736.1141
Energy	0.0228	0.1951	0.0830	1.2400e- 003		0.0158	0.0158		0.0158	0.0158		248.9988	248.9988	4.7700e- 003	4.5600e- 003	250.4785
Mobile	0.8287	3.3244	8.4871	0.0261	2.0385	0.0315	2.0700	0.5456	0.0297	0.5753		2,634.042 5	2,634.042 5	0.1042		2,636.647 6
Total	26.3168	4.1025	44.8935	0.0883	2.0385	4.5476	6.5861	0.5456	4.5458	5.0914	485.5091	3,106.598 6	3,592.107 6	0.7818	0.0389	3,623.240 1

# 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/o	day		
Area	1.6121	0.0557	4.8088	2.5000e- 004		0.0264	0.0264		0.0264	0.0264	0.0000	8.6160	8.6160	8.4600e- 003	0.0000	8.8275
Energy	0.0180	0.1534	0.0653	9.8000e- 004	,	0.0124	0.0124		0.0124	0.0124		195.7940	195.7940	3.7500e- 003	3.5900e- 003	196.9575
Mobile	0.7435	2.7114	6.3822	0.0184	1.3900	0.0224	1.4124	0.3720	0.0211	0.3931		1,852.477 5	1,852.477 5	0.0802		1,854.482 0
Total	2.3736	2.9204	11.2562	0.0196	1.3900	0.0612	1.4511	0.3720	0.0599	0.4319	0.0000	2,056.887 5	2,056.887 5	0.0924	3.5900e- 003	2,060.266 9

#### Almond Knolls (unmitigated) - Bay Area AQMD Air District, Summer

	ROG	NOx	СО	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	90.98	28.81	74.93	77.82	31.81	98.66	77.97	31.81	98.68	91.52	100.00	33.79	42.74	88.18	90.77	43.14

# **3.0 Construction Detail**

#### **Construction Phase**

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	5/7/2018	5/8/2018	5	2	
2	Grading	Grading	5/9/2018	5/22/2018	5	10	
3	Building Construction	Building Construction	5/25/2018	7/18/2019	5	300	
4	Paving	Paving	5/23/2018	5/24/2018	5	2	
5	Architectural Coating	Architectural Coating	6/8/2018	8/1/2019	5	300	

Acres of Grading (Site Preparation Phase): 2.9

Acres of Grading (Grading Phase): 2.9

Acres of Paving: 0

Residential Indoor: 117,450; Residential Outdoor: 39,150; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

# Almond Knolls (unmitigated) - Bay Area AQMD Air District, Summer

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Scrapers	1	8.00	367	0.48
Site Preparation	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Paving	Cement and Mortar Mixers	1	8.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Paving	Cranes	1	8.00	231	0.29
Paving	Forklifts	2	7.00	89	0.20
Paving	Generator Sets	1	8.00	84	0.74
Paving	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Paving	Welders	3	8.00	46	0.45
Architectural Coating	Air Compressors	1	6.00	78	0.48
Building Construction	Cranes	1	8.00	231	0.29
Building Construction	Forklifts	2	7.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45

Trips and VMT

# Page 7 of 27

Almond Knolls	(unmitigated)	- Bay	Area	AQMD	Air	District,	Summer

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	3	8.00	0.00	5.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	1,000.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	14	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	14	42.00	6.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	8.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	8	42.00	6.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

# **3.1 Mitigation Measures Construction**

# 3.2 Site Preparation - 2018

Unmitigated Construction On-Site

	ROG	NOx	со	SO2	Fugitive 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/c	lay		
Fugitive Dust					1.5400	0.0000	1.5400	0.1664	0.0000	0.1664			0.0000			0.0000
Off-Road	1.8995	23.6201	12.7461	0.0245		0.9540	0.9540		0.8777	0.8777		2,468.413 1	2,468.413 1	0.7685		2,487.624 4
Total	1.8995	23.6201	12.7461	0.0245	1.5400	0.9540	2.4940	0.1664	0.8777	1.0441		2,468.413 1	2,468.413 1	0.7685		2,487.624 4

Page 8 of 27

# Almond Knolls (unmitigated) - Bay Area AQMD Air District, Summer

# 3.2 Site Preparation - 2018

# 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/e			lb/d	day							
Hauling	0.0237	0.8070	0.1517	2.0400e- 003	0.0437	3.2400e- 003	0.0469	0.0120	3.1000e- 003	0.0151		217.1242	217.1242	0.0112		217.4030
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0337	0.0218	0.2680	7.0000e- 004	0.0657	4.4000e- 004	0.0662	0.0174	4.1000e- 004	0.0178		69.8851	69.8851	2.0400e- 003		69.9361
Total	0.0574	0.8288	0.4197	2.7400e- 003	0.1094	3.6800e- 003	0.1131	0.0294	3.5100e- 003	0.0329		287.0093	287.0093	0.0132		287.3391

# 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/o	day							lb/d	lay		
Fugitive Dust		, , ,	1		1.5400	0.0000	1.5400	0.1664	0.0000	0.1664			0.0000			0.0000
Off-Road	1.8995	23.6201	12.7461	0.0245		0.9540	0.9540		0.8777	0.8777	0.0000	2,468.413 1	2,468.413 1	0.7685		2,487.624 4
Total	1.8995	23.6201	12.7461	0.0245	1.5400	0.9540	2.4940	0.1664	0.8777	1.0441	0.0000	2,468.413 1	2,468.413 1	0.7685		2,487.624 4

Page 9 of 27

# Almond Knolls (unmitigated) - Bay Area AQMD Air District, Summer

# 3.2 Site Preparation - 2018

# 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/e			lb/c	day							
Hauling	0.0237	0.8070	0.1517	2.0400e- 003	0.0437	3.2400e- 003	0.0469	0.0120	3.1000e- 003	0.0151		217.1242	217.1242	0.0112		217.4030
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0337	0.0218	0.2680	7.0000e- 004	0.0657	4.4000e- 004	0.0662	0.0174	4.1000e- 004	0.0178		69.8851	69.8851	2.0400e- 003		69.9361
Total	0.0574	0.8288	0.4197	2.7400e- 003	0.1094	3.6800e- 003	0.1131	0.0294	3.5100e- 003	0.0329		287.0093	287.0093	0.0132		287.3391

3.3 Grading - 2018

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/e	day							lb/c	day		
Fugitive Dust		1 1 1	1		6.4201	0.0000	6.4201	3.3571	0.0000	3.3571			0.0000			0.0000
Off-Road	2.1515	24.2895	10.3804	0.0206		1.1683	1.1683		1.0748	1.0748		2,077.466 6	2,077.466 6	0.6467		2,093.635 2
Total	2.1515	24.2895	10.3804	0.0206	6.4201	1.1683	7.5884	3.3571	1.0748	4.4320		2,077.466 6	2,077.466 6	0.6467		2,093.635 2

Page 10 of 27

# Almond Knolls (unmitigated) - Bay Area AQMD Air District, Summer

# 3.3 Grading - 2018

#### 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/e				lb/c	day						
Hauling	0.9472	32.2808	6.0679	0.0814	1.7469	0.1298	1.8767	0.4787	0.1242	0.6029		8,684.967 2	8,684.967 2	0.4461		8,696.119 3
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0421	0.0272	0.3350	8.8000e- 004	0.0822	5.5000e- 004	0.0827	0.0218	5.1000e- 004	0.0223		87.3564	87.3564	2.5500e- 003		87.4202
Total	0.9893	32.3080	6.4029	0.0823	1.8291	0.1303	1.9594	0.5005	0.1247	0.6252		8,772.323 6	8,772.323 6	0.4486		8,783.539 5

# 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/o	day							lb/d	lay		
Fugitive Dust		1 1 1			6.4201	0.0000	6.4201	3.3571	0.0000	3.3571			0.0000			0.0000
Off-Road	2.1515	24.2895	10.3804	0.0206		1.1683	1.1683		1.0748	1.0748	0.0000	2,077.466 6	2,077.466 6	0.6467		2,093.635 2
Total	2.1515	24.2895	10.3804	0.0206	6.4201	1.1683	7.5884	3.3571	1.0748	4.4320	0.0000	2,077.466 6	2,077.466 6	0.6467		2,093.635 2
Page 11 of 27

#### Almond Knolls (unmitigated) - Bay Area AQMD Air District, Summer

## 3.3 Grading - 2018

#### Mitigated Construction Off-Site

	ROG	NOx	СО	SO2	Fugitive 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/d	day							lb/c	day		
Hauling	0.9472	32.2808	6.0679	0.0814	1.7469	0.1298	1.8767	0.4787	0.1242	0.6029		8,684.967 2	8,684.967 2	0.4461		8,696.119 3
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0421	0.0272	0.3350	8.8000e- 004	0.0822	5.5000e- 004	0.0827	0.0218	5.1000e- 004	0.0223		87.3564	87.3564	2.5500e- 003		87.4202
Total	0.9893	32.3080	6.4029	0.0823	1.8291	0.1303	1.9594	0.5005	0.1247	0.6252		8,772.323 6	8,772.323 6	0.4486		8,783.539 5

## 3.4 Building Construction - 2018

	ROG	NOx	со	SO2	Fugitive 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/c	day							lb/d	lay		
Off-Road	2.9127	20.7077	15.7183	0.0250		1.2575	1.2575	ſ	1.2051	1.2051		2,329.775 9	2,329.775 9	0.5019		2,342.323 2
Total	2.9127	20.7077	15.7183	0.0250		1.2575	1.2575		1.2051	1.2051		2,329.775 9	2,329.775 9	0.5019		2,342.323 2

Page 12 of 27

#### Almond Knolls (unmitigated) - Bay Area AQMD Air District, Summer

## 3.4 Building Construction - 2018

#### 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/o	day							lb/c	day		
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0310	0.7922	0.2007	1.6800e- 003	0.0406	6.1300e- 003	0.0467	0.0117	5.8600e- 003	0.0176		177.2986	177.2986	9.7400e- 003		177.5422
Worker	0.1769	0.1143	1.4071	3.6900e- 003	0.3450	2.3300e- 003	0.3474	0.0915	2.1500e- 003	0.0937		366.8968	366.8968	0.0107		367.1647
Total	0.2079	0.9065	1.6078	5.3700e- 003	0.3856	8.4600e- 003	0.3941	0.1032	8.0100e- 003	0.1112		544.1955	544.1955	0.0205		544.7069

	ROG	NOx	со	SO2	Fugitive 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/c	lay							lb/c	lay		
Off-Road	2.9127	20.7077	15.7183	0.0250		1.2575	1.2575		1.2051	1.2051	0.0000	2,329.775 9	2,329.775 9	0.5019		2,342.323 2
Total	2.9127	20.7077	15.7183	0.0250		1.2575	1.2575		1.2051	1.2051	0.0000	2,329.775 9	2,329.775 9	0.5019		2,342.323 2

Page 13 of 27

#### Almond Knolls (unmitigated) - Bay Area AQMD Air District, Summer

## 3.4 Building Construction - 2018

#### Mitigated Construction Off-Site

	ROG	NOx	СО	SO2	Fugitive 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/e	day							lb/c	day		
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0310	0.7922	0.2007	1.6800e- 003	0.0406	6.1300e- 003	0.0467	0.0117	5.8600e- 003	0.0176		177.2986	177.2986	9.7400e- 003		177.5422
Worker	0.1769	0.1143	1.4071	3.6900e- 003	0.3450	2.3300e- 003	0.3474	0.0915	2.1500e- 003	0.0937		366.8968	366.8968	0.0107		367.1647
Total	0.2079	0.9065	1.6078	5.3700e- 003	0.3856	8.4600e- 003	0.3941	0.1032	8.0100e- 003	0.1112		544.1955	544.1955	0.0205		544.7069

3.4 Building Construction - 2019

	ROG	NOx	со	SO2	Fugitive 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/c	Jay							lb/c	lay		
Off-Road	2.5581	18.9103	15.2545	0.0250		1.0901	1.0901	ſ	1.0449	1.0449		2,312.145 4	2,312.145 4	0.4810		2,324.170 5
Total	2.5581	18.9103	15.2545	0.0250		1.0901	1.0901		1.0449	1.0449		2,312.145 4	2,312.145 4	0.4810		2,324.170 5

Page 14 of 27

#### Almond Knolls (unmitigated) - Bay Area AQMD Air District, Summer

## 3.4 Building Construction - 2019

#### 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/e	day							lb/c	day		
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0278	0.7494	0.1830	1.6600e- 003	0.0406	5.1800e- 003	0.0458	0.0117	4.9600e- 003	0.0167		176.1330	176.1330	9.3100e- 003		176.3659
Worker	0.1597	0.1000	1.2524	3.5700e- 003	0.3450	2.2800e- 003	0.3473	0.0915	2.1100e- 003	0.0936		355.9155	355.9155	9.4600e- 003		356.1520
Total	0.1875	0.8494	1.4354	5.2300e- 003	0.3856	7.4600e- 003	0.3931	0.1032	7.0700e- 003	0.1103		532.0485	532.0485	0.0188		532.5179

	ROG	NOx	СО	SO2	Fugitive 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/c	lay							lb/c	lay		
Off-Road	2.5581	18.9103	15.2545	0.0250		1.0901	1.0901		1.0449	1.0449	0.0000	2,312.145 4	2,312.145 4	0.4810		2,324.170 5
Total	2.5581	18.9103	15.2545	0.0250		1.0901	1.0901		1.0449	1.0449	0.0000	2,312.145 4	2,312.145 4	0.4810		2,324.170 5

Page 15 of 27

#### Almond Knolls (unmitigated) - Bay Area AQMD Air District, Summer

### 3.4 Building Construction - 2019

#### Mitigated Construction Off-Site

	ROG	NOx	СО	SO2	Fugitive 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/e	day							lb/c	day		
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0278	0.7494	0.1830	1.6600e- 003	0.0406	5.1800e- 003	0.0458	0.0117	4.9600e- 003	0.0167		176.1330	176.1330	9.3100e- 003		176.3659
Worker	0.1597	0.1000	1.2524	3.5700e- 003	0.3450	2.2800e- 003	0.3473	0.0915	2.1100e- 003	0.0936		355.9155	355.9155	9.4600e- 003		356.1520
Total	0.1875	0.8494	1.4354	5.2300e- 003	0.3856	7.4600e- 003	0.3931	0.1032	7.0700e- 003	0.1103		532.0485	532.0485	0.0188		532.5179

3.5 Paving - 2018

	ROG	NOx	CO	SO2	Fugitive 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/o	day							lb/c	lay		
Off-Road	4.3173	34.9595	27.6970	0.0429		2.1079	2.1079		1.9887	1.9887		4,104.018 9	4,104.018 9	1.0438		4,130.112 8
Paving	0.0000	1 1 1 1				0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	4.3173	34.9595	27.6970	0.0429		2.1079	2.1079		1.9887	1.9887		4,104.018 9	4,104.018 9	1.0438		4,130.112 8

Page 16 of 27

#### Almond Knolls (unmitigated) - Bay Area AQMD Air District, Summer

## 3.5 Paving - 2018

#### 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/e	day							lb/c	day		
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0310	0.7922	0.2007	1.6800e- 003	0.0696	6.1300e- 003	0.0757	0.0188	5.8600e- 003	0.0247		177.2986	177.2986	9.7400e- 003		177.5422
Worker	0.2401	0.1551	1.9096	5.0000e- 003	0.8752	3.1600e- 003	0.8784	0.2241	2.9100e- 003	0.2270		497.9314	497.9314	0.0145		498.2950
Total	0.2711	0.9473	2.1103	6.6800e- 003	0.9448	9.2900e- 003	0.9541	0.2429	8.7700e- 003	0.2517		675.2301	675.2301	0.0243		675.8371

	ROG	NOx	CO	SO2	Fugitive 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/e	day							lb/c	day		
Off-Road	4.3173	34.9595	27.6970	0.0429		2.1079	2.1079		1.9887	1.9887	0.0000	4,104.018 9	4,104.018 9	1.0438		4,130.112 8
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	4.3173	34.9595	27.6970	0.0429		2.1079	2.1079		1.9887	1.9887	0.0000	4,104.018 9	4,104.018 9	1.0438		4,130.112 8

Page 17 of 27

#### Almond Knolls (unmitigated) - Bay Area AQMD Air District, Summer

#### 3.5 Paving - 2018

#### Mitigated Construction Off-Site

	ROG	NOx	СО	SO2	Fugitive 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/d	day							lb/c	day		
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0310	0.7922	0.2007	1.6800e- 003	0.0696	6.1300e- 003	0.0757	0.0188	5.8600e- 003	0.0247		177.2986	177.2986	9.7400e- 003		177.5422
Worker	0.2401	0.1551	1.9096	5.0000e- 003	0.8752	3.1600e- 003	0.8784	0.2241	2.9100e- 003	0.2270		497.9314	497.9314	0.0145		498.2950
Total	0.2711	0.9473	2.1103	6.6800e- 003	0.9448	9.2900e- 003	0.9541	0.2429	8.7700e- 003	0.2517		675.2301	675.2301	0.0243		675.8371

3.6 Architectural Coating - 2018

	ROG	NOx	CO	SO2	Fugitive 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/d	day							lb/c	lay		
Archit. Coating	2.7219		1			0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2986	2.0058	1.8542	2.9700e- 003		0.1506	0.1506		0.1506	0.1506		281.4485	281.4485	0.0267		282.1171
Total	3.0205	2.0058	1.8542	2.9700e- 003		0.1506	0.1506		0.1506	0.1506		281.4485	281.4485	0.0267		282.1171

Page 18 of 27

#### Almond Knolls (unmitigated) - Bay Area AQMD Air District, Summer

# 3.6 Architectural Coating - 2018

### 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/o	day							lb/c	day		
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0337	0.0218	0.2680	7.0000e- 004	0.0657	4.4000e- 004	0.0662	0.0174	4.1000e- 004	0.0178		69.8851	69.8851	2.0400e- 003		69.9361
Total	0.0337	0.0218	0.2680	7.0000e- 004	0.0657	4.4000e- 004	0.0662	0.0174	4.1000e- 004	0.0178		69.8851	69.8851	2.0400e- 003		69.9361

	ROG	NOx	CO	SO2	Fugitive 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/e	day							lb/d	lay		
Archit. Coating	2.7219	, , ,		, , ,		0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2986	2.0058	1.8542	2.9700e- 003		0.1506	0.1506		0.1506	0.1506	0.0000	281.4485	281.4485	0.0267		282.1171
Total	3.0205	2.0058	1.8542	2.9700e- 003		0.1506	0.1506		0.1506	0.1506	0.0000	281.4485	281.4485	0.0267		282.1171

Page 19 of 27

#### Almond Knolls (unmitigated) - Bay Area AQMD Air District, Summer

## 3.6 Architectural Coating - 2018

#### 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/o	day							lb/c	lay		
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0337	0.0218	0.2680	7.0000e- 004	0.0657	4.4000e- 004	0.0662	0.0174	4.1000e- 004	0.0178		69.8851	69.8851	2.0400e- 003		69.9361
Total	0.0337	0.0218	0.2680	7.0000e- 004	0.0657	4.4000e- 004	0.0662	0.0174	4.1000e- 004	0.0178		69.8851	69.8851	2.0400e- 003		69.9361

3.6 Architectural Coating - 2019

	ROG	NOx	CO	SO2	Fugitive 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/o	day							lb/c	lay		
Archit. Coating	2.7219					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2664	1.8354	1.8413	2.9700e- 003		0.1288	0.1288		0.1288	0.1288		281.4481	281.4481	0.0238		282.0423
Total	2.9883	1.8354	1.8413	2.9700e- 003		0.1288	0.1288		0.1288	0.1288		281.4481	281.4481	0.0238		282.0423

Page 20 of 27

#### Almond Knolls (unmitigated) - Bay Area AQMD Air District, Summer

# 3.6 Architectural Coating - 2019

### 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/o	day							lb/c	day		
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0304	0.0191	0.2386	6.8000e- 004	0.0657	4.4000e- 004	0.0662	0.0174	4.0000e- 004	0.0178		67.7934	67.7934	1.8000e- 003		67.8385
Total	0.0304	0.0191	0.2386	6.8000e- 004	0.0657	4.4000e- 004	0.0662	0.0174	4.0000e- 004	0.0178		67.7934	67.7934	1.8000e- 003		67.8385

	ROG	NOx	CO	SO2	Fugitive 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/e	day							lb/d	lay		
Archit. Coating	2.7219	1 1 1				0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2664	1.8354	1.8413	2.9700e- 003		0.1288	0.1288		0.1288	0.1288	0.0000	281.4481	281.4481	0.0238		282.0423
Total	2.9883	1.8354	1.8413	2.9700e- 003		0.1288	0.1288		0.1288	0.1288	0.0000	281.4481	281.4481	0.0238		282.0423

Page 21 of 27

#### Almond Knolls (unmitigated) - Bay Area AQMD Air District, Summer

## 3.6 Architectural Coating - 2019

#### 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/d	day		
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0304	0.0191	0.2386	6.8000e- 004	0.0657	4.4000e- 004	0.0662	0.0174	4.0000e- 004	0.0178		67.7934	67.7934	1.8000e- 003		67.8385
Total	0.0304	0.0191	0.2386	6.8000e- 004	0.0657	4.4000e- 004	0.0662	0.0174	4.0000e- 004	0.0178		67.7934	67.7934	1.8000e- 003		67.8385

## 4.0 Operational Detail - Mobile

#### 4.1 Mitigation Measures Mobile

Increase Density

Increase Transit Accessibility

Improve Pedestrian Network

Page 22 of 27

#### Almond Knolls (unmitigated) - Bay Area AQMD Air District, Summer

	ROG	NOx	CO	SO2	Fugitive 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/e	day							lb/c	lay		
Mitigated	0.7435	2.7114	6.3822	0.0184	1.3900	0.0224	1.4124	0.3720	0.0211	0.3931		1,852.477 5	1,852.477 5	0.0802		1,854.482 0
Unmitigated	0.8287	3.3244	8.4871	0.0261	2.0385	0.0315	2.0700	0.5456	0.0297	0.5753		2,634.042 5	2,634.042 5	0.1042		2,636.647 6

### 4.2 Trip Summary Information

	Aver	age Daily Trip Ra	ite	Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	382.22	415.28	352.06	883,735	602,590
Total	382.22	415.28	352.06	883,735	602,590

## 4.3 Trip Type Information

		Miles			Trip %			Trip Purpos	e %
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	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
Apartments Low Rise	0.570523	0.041853	0.194077	0.115893	0.018544	0.005373	0.016909	0.024079	0.002502	0.002562	0.005975	0.000872	0.000837

# 5.0 Energy Detail

Historical Energy Use: N

CalEEMod Version: CalEEMod.2016.3.1

Page 23 of 27

#### Almond Knolls (unmitigated) - Bay Area AQMD Air District, Summer

#### 5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive 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/d	day		
NaturalGas Mitigated	0.0180	0.1534	0.0653	9.8000e- 004		0.0124	0.0124		0.0124	0.0124		195.7940	195.7940	3.7500e- 003	3.5900e- 003	196.9575
NaturalGas Unmitigated	0.0228	0.1951	0.0830	1.2400e- 003		0.0158	0.0158		0.0158	0.0158		248.9988	248.9988	4.7700e- 003	4.5600e- 003	250.4785

### 5.2 Energy by Land Use - NaturalGas

#### <u>Unmitigated</u>

	NaturalGa s 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/d	day							lb/d	day		
Apartments Low Rise	2116.49	0.0228	0.1951	0.0830	1.2400e- 003		0.0158	0.0158		0.0158	0.0158		248.9988	248.9988	4.7700e- 003	4.5600e- 003	250.4785
Total		0.0228	0.1951	0.0830	1.2400e- 003		0.0158	0.0158		0.0158	0.0158		248.9988	248.9988	4.7700e- 003	4.5600e- 003	250.4785

Page 24 of 27

#### Almond Knolls (unmitigated) - Bay Area AQMD Air District, Summer

### 5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGa s 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/e	day							lb/o	day		
Apartments Low Rise	1.66425	0.0180	0.1534	0.0653	9.8000e- 004		0.0124	0.0124		0.0124	0.0124		195.7940	195.7940	3.7500e- 003	3.5900e- 003	196.9575
Total		0.0180	0.1534	0.0653	9.8000e- 004		0.0124	0.0124		0.0124	0.0124		195.7940	195.7940	3.7500e- 003	3.5900e- 003	196.9575

# 6.0 Area Detail

## 6.1 Mitigation Measures Area

No Hearths Installed

Page 25 of 27

#### Almond Knolls (unmitigated) - Bay Area AQMD Air District, Summer

	ROG	NOx	CO	SO2	Fugitive 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/d	day		
Mitigated	1.6121	0.0557	4.8088	2.5000e- 004		0.0264	0.0264		0.0264	0.0264	0.0000	8.6160	8.6160	8.4600e- 003	0.0000	8.8275
Unmitigated	25.4652	0.5830	36.3234	0.0610		4.5003	4.5003		4.5003	4.5003	485.5091	223.5572	709.0663	0.6729	0.0343	736.1141

# 6.2 Area by SubCategory

#### <u>Unmitigated</u>

	ROG	NOx	CO	SO2	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/o	day				
Architectural Coating	0.2237					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.2412					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	23.8531	0.5273	31.5146	0.0607		4.4740	4.4740		4.4740	4.4740	485.5091	214.9412	700.4503	0.6644	0.0343	727.2866
Landscaping	0.1472	0.0557	4.8088	2.5000e- 004		0.0264	0.0264		0.0264	0.0264		8.6160	8.6160	8.4600e- 003		8.8275
Total	25.4652	0.5830	36.3234	0.0610		4.5003	4.5003		4.5003	4.5003	485.5091	223.5572	709.0663	0.6729	0.0343	736.1141

Page 26 of 27

#### Almond Knolls (unmitigated) - Bay Area AQMD Air District, Summer

### 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/e	day							lb/d	day		
Architectural Coating	0.2237			, , ,		0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.2412					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.1472	0.0557	4.8088	2.5000e- 004		0.0264	0.0264		0.0264	0.0264		8.6160	8.6160	8.4600e- 003		8.8275
Total	1.6121	0.0557	4.8088	2.5000e- 004		0.0264	0.0264		0.0264	0.0264	0.0000	8.6160	8.6160	8.4600e- 003	0.0000	8.8275

## 7.0 Water Detail

#### 7.1 Mitigation Measures Water

## 8.0 Waste Detail

### 8.1 Mitigation Measures Waste

### 9.0 Operational Offroad

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

Page 27 of 27

#### Almond Knolls (unmitigated) - Bay Area AQMD Air District, Summer

# Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
<u>Boilers</u>						
Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type	
User Defined Equipment						
Equipment Type	Number					
11.0 Vegetation						

#### Almond Knolls (unmitigated) - Bay Area AQMD Air District, Winter

### Almond Knolls (unmitigated)

Bay Area AQMD Air District, Winter

### **1.0 Project Characteristics**

### 1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments Low Rise	58.00	Dwelling Unit	2.90	58,000.00	166

#### **1.2 Other Project Characteristics**

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	64
Climate Zone	4			Operational Year	2019
Utility Company	Pacific Gas & Electric Com	pany			
CO2 Intensity (Ib/MWhr)	409.81	CH4 Intensity (Ib/MWhr)	0.029	N2O Intensity (Ib/MWhr)	0.006

### 1.3 User Entered Comments & Non-Default Data

Project Characteristics - Intensity Factors for CO2 adjusted based on PG&E RPS reductions

Land Use - \*Applicant provided

Construction Phase - \*Applicant provided

Grading - \*Applicant provided

Energy Use -

Mobile Land Use Mitigation - \*Applicant provided

Area Mitigation -

Energy Mitigation -

#### Page 2 of 27

#### Almond Knolls (unmitigated) - Bay Area AQMD Air District, Winter

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	10.00	300.00
tblConstructionPhase	NumDays	220.00	300.00
tblConstructionPhase	NumDays	6.00	10.00
tblConstructionPhase	NumDays	10.00	2.00
tblConstructionPhase	NumDays	3.00	2.00
tblConstructionPhase	PhaseEndDate	9/10/2020	8/1/2019
tblConstructionPhase	PhaseEndDate	7/16/2019	7/18/2019
tblConstructionPhase	PhaseEndDate	7/18/2019	5/24/2018
tblConstructionPhase	PhaseStartDate	7/19/2019	6/8/2018
tblConstructionPhase	PhaseStartDate	5/23/2018	5/25/2018
tblConstructionPhase	PhaseStartDate	7/17/2019	5/23/2018
tblGrading	AcresOfGrading	5.00	2.90
tblGrading	AcresOfGrading	3.00	2.90
tblGrading	MaterialExported	0.00	8,000.00
tblGrading	MaterialExported	0.00	40.00
tblLandUse	LotAcreage	3.63	2.90
tblOffRoadEquipment	UsageHours	8.00	6.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	409.81
tblProjectCharacteristics	OperationalYear	2018	2019
tblTripsAndVMT	VendorTripNumber	0.00	6.00
tblTripsAndVMT	WorkerTripNumber	35.00	15.00
tblTripsAndVMT	WorkerTripNumber	35.00	42.00

# 2.0 Emissions Summary

#### Page 3 of 27

#### Almond Knolls (unmitigated) - Bay Area AQMD Air District, Winter

#### 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/d	day							lb/c	lay		
2018	6.1886	57.4396	29.7406	0.1015	8.2492	2.1173	9.5505	3.8576	1.9975	5.0597	0.0000	10,702.52 32	10,702.52 32	1.1203	0.0000	10,730.52 97
2019	5.7766	21.6524	18.7124	0.0335	0.4514	1.2269	1.6782	0.1206	1.1812	1.3019	0.0000	3,155.660 7	3,155.660 7	0.5255	0.0000	3,168.797 2
Maximum	6.1886	57.4396	29.7406	0.1015	8.2492	2.1173	9.5505	3.8576	1.9975	5.0597	0.0000	10,702.52 32	10,702.52 32	1.1203	0.0000	10,730.52 97

#### Mitigated Construction

	ROG	NOx	СО	SO2	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		
2018	6.1886	57.4396	29.7406	0.1015	8.2492	2.1173	9.5505	3.8576	1.9975	5.0597	0.0000	10,702.52 32	10,702.52 32	1.1203	0.0000	10,730.52 97
2019	5.7766	21.6524	18.7124	0.0335	0.4514	1.2269	1.6782	0.1206	1.1812	1.3019	0.0000	3,155.660 7	3,155.660 7	0.5255	0.0000	3,168.797 2
Maximum	6.1886	57.4396	29.7406	0.1015	8.2492	2.1173	9.5505	3.8576	1.9975	5.0597	0.0000	10,702.52 32	10,702.52 32	1.1203	0.0000	10,730.52 97
	ROG	NOx	со	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Page 4 of 27

#### Almond Knolls (unmitigated) - Bay Area AQMD Air District, Winter

# 2.2 Overall Operational

### Unmitigated Operational

	ROG	NOx	со	SO2	Fugitive 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/d	day							lb/d	lay		
Area	25.4652	0.5830	36.3234	0.0610		4.5003	4.5003		4.5003	4.5003	485.5091	223.5572	709.0663	0.6729	0.0343	736.1141
Energy	0.0228	0.1951	0.0830	1.2400e- 003		0.0158	0.0158		0.0158	0.0158		248.9988	248.9988	4.7700e- 003	4.5600e- 003	250.4785
Mobile	0.7275	3.5180	8.6414	0.0244	2.0385	0.0318	2.0703	0.5456	0.0300	0.5756		2,463.739 8	2,463.739 8	0.1064		2,466.399 0
Total	26.2155	4.2961	45.0478	0.0866	2.0385	4.5479	6.5864	0.5456	4.5461	5.0916	485.5091	2,936.295 8	3,421.804 9	0.7840	0.0389	3,452.991 6

#### 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/e	day							lb/c	lay		
Area	1.6121	0.0557	4.8088	2.5000e- 004		0.0264	0.0264		0.0264	0.0264	0.0000	8.6160	8.6160	8.4600e- 003	0.0000	8.8275
Energy	0.0180	0.1534	0.0653	9.8000e- 004		0.0124	0.0124		0.0124	0.0124		195.7940	195.7940	3.7500e- 003	3.5900e- 003	196.9575
Mobile	0.6434	2.8415	6.7604	0.0172	1.3900	0.0227	1.4127	0.3720	0.0214	0.3934		1,731.700 0	1,731.700 0	0.0836		1,733.790 5
Total	2.2735	3.0505	11.6344	0.0184	1.3900	0.0614	1.4514	0.3720	0.0601	0.4321	0.0000	1,936.110 0	1,936.110 0	0.0958	3.5900e- 003	1,939.575 4

#### Almond Knolls (unmitigated) - Bay Area AQMD Air District, Winter

	ROG	NOx	СО	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	91.33	28.99	74.17	78.76	31.81	98.65	77.96	31.81	98.68	91.51	100.00	34.06	43.42	87.78	90.77	43.83

## **3.0 Construction Detail**

#### **Construction Phase**

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	5/7/2018	5/8/2018	5	2	
2	Grading	Grading	5/9/2018	5/22/2018	5	10	
3	Building Construction	Building Construction	5/25/2018	7/18/2019	5	300	
4	Paving	Paving	5/23/2018	5/24/2018	5	2	
5	Architectural Coating	Architectural Coating	6/8/2018	8/1/2019	5	300	

Acres of Grading (Site Preparation Phase): 2.9

Acres of Grading (Grading Phase): 2.9

Acres of Paving: 0

Residential Indoor: 117,450; Residential Outdoor: 39,150; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

#### Almond Knolls (unmitigated) - Bay Area AQMD Air District, Winter

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Scrapers	1	8.00	367	0.48
Site Preparation	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Paving	Cement and Mortar Mixers	1	8.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Paving	Cranes	1	8.00	231	0.29
Paving	Forklifts	2	7.00	89	0.20
Paving	Generator Sets	1	8.00	84	0.74
Paving	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Paving	Welders	3	8.00	46	0.45
Architectural Coating	Air Compressors	1	6.00	78	0.48
Building Construction	Cranes	1	8.00	231	0.29
Building Construction	Forklifts	2	7.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45

Trips and VMT

#### Page 7 of 27

Almond Knolls (unmitigated) - Bay	Area AQMD Air District, Winter
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Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	3	8.00	0.00	5.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	1,000.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	14	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	14	42.00	6.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	8.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	8	42.00	6.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

# **3.1 Mitigation Measures Construction**

# 3.2 Site Preparation - 2018

	ROG	NOx	со	SO2	Fugitive 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/o	day							lb/c	lay		
Fugitive Dust					1.5400	0.0000	1.5400	0.1664	0.0000	0.1664		, , ,	0.0000			0.0000
Off-Road	1.8995	23.6201	12.7461	0.0245		0.9540	0.9540		0.8777	0.8777		2,468.413 1	2,468.413 1	0.7685		2,487.624 4
Total	1.8995	23.6201	12.7461	0.0245	1.5400	0.9540	2.4940	0.1664	0.8777	1.0441		2,468.413 1	2,468.413 1	0.7685		2,487.624 4

Page 8 of 27

#### Almond Knolls (unmitigated) - Bay Area AQMD Air District, Winter

# 3.2 Site Preparation - 2018

### 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/e	day							lb/c	lay		
Hauling	0.0244	0.8279	0.1650	2.0000e- 003	0.0437	3.3100e- 003	0.0470	0.0120	3.1700e- 003	0.0151		213.6145	213.6145	0.0118		213.9089
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0357	0.0269	0.2547	6.5000e- 004	0.0657	4.4000e- 004	0.0662	0.0174	4.1000e- 004	0.0178		64.3829	64.3829	1.9300e- 003		64.4312
Total	0.0601	0.8548	0.4197	2.6500e- 003	0.1094	3.7500e- 003	0.1131	0.0294	3.5800e- 003	0.0330		277.9974	277.9974	0.0137		278.3401

	ROG	NOx	CO	SO2	Fugitive 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/o	day							lb/d	lay		
Fugitive Dust		, , ,	1		1.5400	0.0000	1.5400	0.1664	0.0000	0.1664			0.0000			0.0000
Off-Road	1.8995	23.6201	12.7461	0.0245		0.9540	0.9540		0.8777	0.8777	0.0000	2,468.413 1	2,468.413 1	0.7685		2,487.624 4
Total	1.8995	23.6201	12.7461	0.0245	1.5400	0.9540	2.4940	0.1664	0.8777	1.0441	0.0000	2,468.413 1	2,468.413 1	0.7685		2,487.624 4

Page 9 of 27

#### Almond Knolls (unmitigated) - Bay Area AQMD Air District, Winter

# 3.2 Site Preparation - 2018

#### 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/e	day							lb/c	day		
Hauling	0.0244	0.8279	0.1650	2.0000e- 003	0.0437	3.3100e- 003	0.0470	0.0120	3.1700e- 003	0.0151		213.6145	213.6145	0.0118		213.9089
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0357	0.0269	0.2547	6.5000e- 004	0.0657	4.4000e- 004	0.0662	0.0174	4.1000e- 004	0.0178		64.3829	64.3829	1.9300e- 003		64.4312
Total	0.0601	0.8548	0.4197	2.6500e- 003	0.1094	3.7500e- 003	0.1131	0.0294	3.5800e- 003	0.0330		277.9974	277.9974	0.0137		278.3401

3.3 Grading - 2018

	ROG	NOx	CO	SO2	Fugitive 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/o	day							lb/c	lay		
Fugitive Dust		, , ,			6.4201	0.0000	6.4201	3.3571	0.0000	3.3571			0.0000			0.0000
Off-Road	2.1515	24.2895	10.3804	0.0206		1.1683	1.1683		1.0748	1.0748		2,077.466 6	2,077.466 6	0.6467		2,093.635 2
Total	2.1515	24.2895	10.3804	0.0206	6.4201	1.1683	7.5884	3.3571	1.0748	4.4320		2,077.466 6	2,077.466 6	0.6467		2,093.635 2

Page 10 of 27

#### Almond Knolls (unmitigated) - Bay Area AQMD Air District, Winter

# 3.3 Grading - 2018

#### 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/e	day							lb/d	day		
Hauling	0.9755	33.1165	6.5985	0.0801	1.7469	0.1325	1.8794	0.4787	0.1267	0.6054		8,544.578 0	8,544.578 0	0.4711		8,556.355 5
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0446	0.0336	0.3184	8.1000e- 004	0.0822	5.5000e- 004	0.0827	0.0218	5.1000e- 004	0.0223		80.4787	80.4787	2.4100e- 003		80.5390
Total	1.0201	33.1502	6.9169	0.0809	1.8291	0.1330	1.9621	0.5005	0.1272	0.6277		8,625.056 6	8,625.056 6	0.4735		8,636.894 5

	ROG	NOx	CO	SO2	Fugitive 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/o	day							lb/c	lay		
Fugitive Dust		1 1 1			6.4201	0.0000	6.4201	3.3571	0.0000	3.3571			0.0000			0.0000
Off-Road	2.1515	24.2895	10.3804	0.0206		1.1683	1.1683		1.0748	1.0748	0.0000	2,077.466 6	2,077.466 6	0.6467		2,093.635 2
Total	2.1515	24.2895	10.3804	0.0206	6.4201	1.1683	7.5884	3.3571	1.0748	4.4320	0.0000	2,077.466 6	2,077.466 6	0.6467		2,093.635 2

Page 11 of 27

#### Almond Knolls (unmitigated) - Bay Area AQMD Air District, Winter

## 3.3 Grading - 2018

#### 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/d	day							lb/c	day		
Hauling	0.9755	33.1165	6.5985	0.0801	1.7469	0.1325	1.8794	0.4787	0.1267	0.6054		8,544.578 0	8,544.578 0	0.4711		8,556.355 5
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	,	0.0000
Worker	0.0446	0.0336	0.3184	8.1000e- 004	0.0822	5.5000e- 004	0.0827	0.0218	5.1000e- 004	0.0223		80.4787	80.4787	2.4100e- 003		80.5390
Total	1.0201	33.1502	6.9169	0.0809	1.8291	0.1330	1.9621	0.5005	0.1272	0.6277		8,625.056 6	8,625.056 6	0.4735		8,636.894 5

## 3.4 Building Construction - 2018

	ROG	NOx	со	SO2	Fugitive 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/c	day							lb/d	lay		
Off-Road	2.9127	20.7077	15.7183	0.0250		1.2575	1.2575		1.2051	1.2051		2,329.775 9	2,329.775 9	0.5019		2,342.323 2
Total	2.9127	20.7077	15.7183	0.0250		1.2575	1.2575		1.2051	1.2051		2,329.775 9	2,329.775 9	0.5019		2,342.323 2

Page 12 of 27

#### Almond Knolls (unmitigated) - Bay Area AQMD Air District, Winter

# 3.4 Building Construction - 2018

#### 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/o	day							lb/c	day		
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0325	0.8040	0.2287	1.6400e- 003	0.0406	6.2300e- 003	0.0468	0.0117	5.9600e- 003	0.0177		172.9451	172.9451	0.0106		173.2091
Worker	0.1872	0.1412	1.3373	3.4000e- 003	0.3450	2.3300e- 003	0.3474	0.0915	2.1500e- 003	0.0937		338.0104	338.0104	0.0101		338.2637
Total	0.2196	0.9452	1.5660	5.0400e- 003	0.3856	8.5600e- 003	0.3942	0.1032	8.1100e- 003	0.1113		510.9555	510.9555	0.0207		511.4729

	ROG	NOx	со	SO2	Fugitive 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/c	lay							lb/c	lay		
Off-Road	2.9127	20.7077	15.7183	0.0250		1.2575	1.2575		1.2051	1.2051	0.0000	2,329.775 9	2,329.775 9	0.5019		2,342.323 2
Total	2.9127	20.7077	15.7183	0.0250		1.2575	1.2575		1.2051	1.2051	0.0000	2,329.775 9	2,329.775 9	0.5019		2,342.323 2

Page 13 of 27

#### Almond Knolls (unmitigated) - Bay Area AQMD Air District, Winter

## 3.4 Building Construction - 2018

#### 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/e	day							lb/c	day		
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0325	0.8040	0.2287	1.6400e- 003	0.0406	6.2300e- 003	0.0468	0.0117	5.9600e- 003	0.0177		172.9451	172.9451	0.0106		173.2091
Worker	0.1872	0.1412	1.3373	3.4000e- 003	0.3450	2.3300e- 003	0.3474	0.0915	2.1500e- 003	0.0937		338.0104	338.0104	0.0101		338.2637
Total	0.2196	0.9452	1.5660	5.0400e- 003	0.3856	8.5600e- 003	0.3942	0.1032	8.1100e- 003	0.1113		510.9555	510.9555	0.0207		511.4729

3.4 Building Construction - 2019

	ROG	NOx	со	SO2	Fugitive 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/d	day							lb/c	lay		
Off-Road	2.5581	18.9103	15.2545	0.0250		1.0901	1.0901		1.0449	1.0449		2,312.145 4	2,312.145 4	0.4810		2,324.170 5
Total	2.5581	18.9103	15.2545	0.0250		1.0901	1.0901		1.0449	1.0449		2,312.145 4	2,312.145 4	0.4810		2,324.170 5

Page 14 of 27

#### Almond Knolls (unmitigated) - Bay Area AQMD Air District, Winter

## 3.4 Building Construction - 2019

#### Unmitigated Construction Off-Site

	ROG	NOx	СО	SO2	Fugitive 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/e	day							lb/c	day		
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0292	0.7595	0.2089	1.6200e- 003	0.0406	5.2700e- 003	0.0459	0.0117	5.0400e- 003	0.0167		171.7512	171.7512	0.0101		172.0034
Worker	0.1689	0.1237	1.1825	3.2900e- 003	0.3450	2.2800e- 003	0.3473	0.0915	2.1100e- 003	0.0936		327.8654	327.8654	8.9000e- 003		328.0880
Total	0.1980	0.8832	1.3914	4.9100e- 003	0.3856	7.5500e- 003	0.3932	0.1032	7.1500e- 003	0.1104		499.6166	499.6166	0.0190		500.0914

	ROG	NOx	СО	SO2	Fugitive 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/c	lay							lb/c	lay		
Off-Road	2.5581	18.9103	15.2545	0.0250		1.0901	1.0901		1.0449	1.0449	0.0000	2,312.145 4	2,312.145 4	0.4810		2,324.170 5
Total	2.5581	18.9103	15.2545	0.0250		1.0901	1.0901		1.0449	1.0449	0.0000	2,312.145 4	2,312.145 4	0.4810		2,324.170 5

Page 15 of 27

#### Almond Knolls (unmitigated) - Bay Area AQMD Air District, Winter

## 3.4 Building Construction - 2019

#### Mitigated Construction Off-Site

	ROG	NOx	СО	SO2	Fugitive 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/e	day							lb/d	day		
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0292	0.7595	0.2089	1.6200e- 003	0.0406	5.2700e- 003	0.0459	0.0117	5.0400e- 003	0.0167		171.7512	171.7512	0.0101		172.0034
Worker	0.1689	0.1237	1.1825	3.2900e- 003	0.3450	2.2800e- 003	0.3473	0.0915	2.1100e- 003	0.0936		327.8654	327.8654	8.9000e- 003		328.0880
Total	0.1980	0.8832	1.3914	4.9100e- 003	0.3856	7.5500e- 003	0.3932	0.1032	7.1500e- 003	0.1104		499.6166	499.6166	0.0190		500.0914

3.5 Paving - 2018

	ROG	NOx	CO	SO2	Fugitive 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/e	day							lb/c	lay		
Off-Road	4.3173	34.9595	27.6970	0.0429		2.1079	2.1079		1.9887	1.9887		4,104.018 9	4,104.018 9	1.0438		4,130.112 8
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	4.3173	34.9595	27.6970	0.0429		2.1079	2.1079		1.9887	1.9887		4,104.018 9	4,104.018 9	1.0438		4,130.112 8

Page 16 of 27

#### Almond Knolls (unmitigated) - Bay Area AQMD Air District, Winter

## 3.5 Paving - 2018

#### Unmitigated Construction Off-Site

	ROG	NOx	СО	SO2	Fugitive 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/e	day							lb/c	day		
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0325	0.8040	0.2287	1.6400e- 003	0.0696	6.2300e- 003	0.0758	0.0188	5.9600e- 003	0.0248		172.9451	172.9451	0.0106		173.2091
Worker	0.2541	0.1916	1.8149	4.6100e- 003	0.8752	3.1600e- 003	0.8784	0.2241	2.9100e- 003	0.2270		458.7284	458.7284	0.0138		459.0722
Total	0.2865	0.9956	2.0436	6.2500e- 003	0.9448	9.3900e- 003	0.9541	0.2429	8.8700e- 003	0.2518		631.6735	631.6735	0.0243		632.2813

	ROG	NOx	CO	SO2	Fugitive 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/e	day							lb/c	day		
Off-Road	4.3173	34.9595	27.6970	0.0429		2.1079	2.1079		1.9887	1.9887	0.0000	4,104.018 9	4,104.018 9	1.0438		4,130.112 8
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	4.3173	34.9595	27.6970	0.0429		2.1079	2.1079		1.9887	1.9887	0.0000	4,104.018 9	4,104.018 9	1.0438		4,130.112 8

Page 17 of 27

#### Almond Knolls (unmitigated) - Bay Area AQMD Air District, Winter

### 3.5 Paving - 2018

#### Mitigated Construction Off-Site

	ROG	NOx	СО	SO2	Fugitive 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/d	day							lb/c	day		
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0325	0.8040	0.2287	1.6400e- 003	0.0696	6.2300e- 003	0.0758	0.0188	5.9600e- 003	0.0248		172.9451	172.9451	0.0106		173.2091
Worker	0.2541	0.1916	1.8149	4.6100e- 003	0.8752	3.1600e- 003	0.8784	0.2241	2.9100e- 003	0.2270		458.7284	458.7284	0.0138		459.0722
Total	0.2865	0.9956	2.0436	6.2500e- 003	0.9448	9.3900e- 003	0.9541	0.2429	8.8700e- 003	0.2518		631.6735	631.6735	0.0243		632.2813

3.6 Architectural Coating - 2018

	ROG	NOx	СО	SO2	Fugitive 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/o	day							lb/c	lay		
Archit. Coating	2.7219					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2986	2.0058	1.8542	2.9700e- 003		0.1506	0.1506		0.1506	0.1506		281.4485	281.4485	0.0267		282.1171
Total	3.0205	2.0058	1.8542	2.9700e- 003		0.1506	0.1506		0.1506	0.1506		281.4485	281.4485	0.0267		282.1171

Page 18 of 27

#### Almond Knolls (unmitigated) - Bay Area AQMD Air District, Winter

# 3.6 Architectural Coating - 2018

### 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/o	day							lb/c	lay		
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0357	0.0269	0.2547	6.5000e- 004	0.0657	4.4000e- 004	0.0662	0.0174	4.1000e- 004	0.0178		64.3829	64.3829	1.9300e- 003		64.4312
Total	0.0357	0.0269	0.2547	6.5000e- 004	0.0657	4.4000e- 004	0.0662	0.0174	4.1000e- 004	0.0178		64.3829	64.3829	1.9300e- 003		64.4312

	ROG	NOx	CO	SO2	Fugitive 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/d	day							lb/c	lay		
Archit. Coating	2.7219	1				0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2986	2.0058	1.8542	2.9700e- 003		0.1506	0.1506		0.1506	0.1506	0.0000	281.4485	281.4485	0.0267		282.1171
Total	3.0205	2.0058	1.8542	2.9700e- 003		0.1506	0.1506		0.1506	0.1506	0.0000	281.4485	281.4485	0.0267		282.1171

Page 19 of 27

#### Almond Knolls (unmitigated) - Bay Area AQMD Air District, Winter

# 3.6 Architectural Coating - 2018

#### Mitigated Construction Off-Site

	ROG	NOx	СО	SO2	Fugitive 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/d	day							lb/c	lay		
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0357	0.0269	0.2547	6.5000e- 004	0.0657	4.4000e- 004	0.0662	0.0174	4.1000e- 004	0.0178		64.3829	64.3829	1.9300e- 003		64.4312
Total	0.0357	0.0269	0.2547	6.5000e- 004	0.0657	4.4000e- 004	0.0662	0.0174	4.1000e- 004	0.0178		64.3829	64.3829	1.9300e- 003		64.4312

3.6 Architectural Coating - 2019

	ROG	NOx	CO	SO2	Fugitive 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/o	day							lb/c	lay		
Archit. Coating	2.7219					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2664	1.8354	1.8413	2.9700e- 003		0.1288	0.1288		0.1288	0.1288		281.4481	281.4481	0.0238		282.0423
Total	2.9883	1.8354	1.8413	2.9700e- 003		0.1288	0.1288		0.1288	0.1288		281.4481	281.4481	0.0238		282.0423
Page 20 of 27

#### Almond Knolls (unmitigated) - Bay Area AQMD Air District, Winter

# 3.6 Architectural Coating - 2019

#### Unmitigated Construction Off-Site

	ROG	NOx	со	SO2	Fugitive 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/e	day							lb/c	day		
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0322	0.0236	0.2252	6.3000e- 004	0.0657	4.4000e- 004	0.0662	0.0174	4.0000e- 004	0.0178		62.4506	62.4506	1.7000e- 003		62.4930
Total	0.0322	0.0236	0.2252	6.3000e- 004	0.0657	4.4000e- 004	0.0662	0.0174	4.0000e- 004	0.0178		62.4506	62.4506	1.7000e- 003		62.4930

	ROG	NOx	CO	SO2	Fugitive 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/e	day							lb/d	lay		
Archit. Coating	2.7219	1 1 1				0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2664	1.8354	1.8413	2.9700e- 003		0.1288	0.1288		0.1288	0.1288	0.0000	281.4481	281.4481	0.0238		282.0423
Total	2.9883	1.8354	1.8413	2.9700e- 003		0.1288	0.1288		0.1288	0.1288	0.0000	281.4481	281.4481	0.0238		282.0423

Page 21 of 27

#### Almond Knolls (unmitigated) - Bay Area AQMD Air District, Winter

# 3.6 Architectural Coating - 2019

#### Mitigated Construction Off-Site

	ROG	NOx	со	SO2	Fugitive 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/e	day							lb/c	day		
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0322	0.0236	0.2252	6.3000e- 004	0.0657	4.4000e- 004	0.0662	0.0174	4.0000e- 004	0.0178		62.4506	62.4506	1.7000e- 003		62.4930
Total	0.0322	0.0236	0.2252	6.3000e- 004	0.0657	4.4000e- 004	0.0662	0.0174	4.0000e- 004	0.0178		62.4506	62.4506	1.7000e- 003		62.4930

## 4.0 Operational Detail - Mobile

#### 4.1 Mitigation Measures Mobile

Increase Density

Increase Transit Accessibility

Improve Pedestrian Network

Page 22 of 27

#### Almond Knolls (unmitigated) - Bay Area AQMD Air District, Winter

	ROG	NOx	CO	SO2	Fugitive 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/e	day							lb/c	lay		
Mitigated	0.6434	2.8415	6.7604	0.0172	1.3900	0.0227	1.4127	0.3720	0.0214	0.3934		1,731.700 0	1,731.700 0	0.0836		1,733.790 5
Unmitigated	0.7275	3.5180	8.6414	0.0244	2.0385	0.0318	2.0703	0.5456	0.0300	0.5756		2,463.739 8	2,463.739 8	0.1064		2,466.399 0

#### 4.2 Trip Summary Information

	Aver	age Daily Trip Ra	ite	Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	382.22	415.28	352.06	883,735	602,590
Total	382.22	415.28	352.06	883,735	602,590

## 4.3 Trip Type Information

		Miles			Trip %			Trip Purpos	e %
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	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
Apartments Low Rise	0.570523	0.041853	0.194077	0.115893	0.018544	0.005373	0.016909	0.024079	0.002502	0.002562	0.005975	0.000872	0.000837

# 5.0 Energy Detail

Historical Energy Use: N

CalEEMod Version: CalEEMod.2016.3.1

Page 23 of 27

#### Almond Knolls (unmitigated) - Bay Area AQMD Air District, Winter

#### 5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive 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/d	day		
NaturalGas Mitigated	0.0180	0.1534	0.0653	9.8000e- 004		0.0124	0.0124		0.0124	0.0124		195.7940	195.7940	3.7500e- 003	3.5900e- 003	196.9575
NaturalGas Unmitigated	0.0228	0.1951	0.0830	1.2400e- 003		0.0158	0.0158		0.0158	0.0158		248.9988	248.9988	4.7700e- 003	4.5600e- 003	250.4785

#### 5.2 Energy by Land Use - NaturalGas

#### <u>Unmitigated</u>

	NaturalGa s 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/d	day		
Apartments Low Rise	2116.49	0.0228	0.1951	0.0830	1.2400e- 003		0.0158	0.0158		0.0158	0.0158		248.9988	248.9988	4.7700e- 003	4.5600e- 003	250.4785
Total		0.0228	0.1951	0.0830	1.2400e- 003		0.0158	0.0158		0.0158	0.0158		248.9988	248.9988	4.7700e- 003	4.5600e- 003	250.4785

Page 24 of 27

#### Almond Knolls (unmitigated) - Bay Area AQMD Air District, Winter

## 5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGa s 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/e	day		
Apartments Low Rise	1.66425	0.0180	0.1534	0.0653	9.8000e- 004		0.0124	0.0124		0.0124	0.0124		195.7940	195.7940	3.7500e- 003	3.5900e- 003	196.9575
Total		0.0180	0.1534	0.0653	9.8000e- 004		0.0124	0.0124		0.0124	0.0124		195.7940	195.7940	3.7500e- 003	3.5900e- 003	196.9575

# 6.0 Area Detail

## 6.1 Mitigation Measures Area

No Hearths Installed

Page 25 of 27

#### Almond Knolls (unmitigated) - Bay Area AQMD Air District, Winter

	ROG	NOx	CO	SO2	Fugitive 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/e	day							lb/d	day		
Mitigated	1.6121	0.0557	4.8088	2.5000e- 004		0.0264	0.0264		0.0264	0.0264	0.0000	8.6160	8.6160	8.4600e- 003	0.0000	8.8275
Unmitigated	25.4652	0.5830	36.3234	0.0610		4.5003	4.5003		4.5003	4.5003	485.5091	223.5572	709.0663	0.6729	0.0343	736.1141

# 6.2 Area by SubCategory

#### <u>Unmitigated</u>

	ROG	NOx	CO	SO2	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/d	day							lb/o	day		
Architectural Coating	0.2237			, , ,		0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.2412			1 1 1		0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	23.8531	0.5273	31.5146	0.0607		4.4740	4.4740		4.4740	4.4740	485.5091	214.9412	700.4503	0.6644	0.0343	727.2866
Landscaping	0.1472	0.0557	4.8088	2.5000e- 004		0.0264	0.0264		0.0264	0.0264		8.6160	8.6160	8.4600e- 003		8.8275
Total	25.4652	0.5830	36.3234	0.0610		4.5003	4.5003		4.5003	4.5003	485.5091	223.5572	709.0663	0.6729	0.0343	736.1141

Page 26 of 27

#### Almond Knolls (unmitigated) - Bay Area AQMD Air District, Winter

### 6.2 Area by SubCategory

#### Mitigated

	ROG	NOx	СО	SO2	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/e	day							lb/d	day		
Architectural Coating	0.2237			1		0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.2412					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.1472	0.0557	4.8088	2.5000e- 004		0.0264	0.0264		0.0264	0.0264		8.6160	8.6160	8.4600e- 003		8.8275
Total	1.6121	0.0557	4.8088	2.5000e- 004		0.0264	0.0264		0.0264	0.0264	0.0000	8.6160	8.6160	8.4600e- 003	0.0000	8.8275

## 7.0 Water Detail

#### 7.1 Mitigation Measures Water

## 8.0 Waste Detail

#### 8.1 Mitigation Measures Waste

#### 9.0 Operational Offroad

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

Page 27 of 27

#### Almond Knolls (unmitigated) - Bay Area AQMD Air District, Winter

#### Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
<u>Boilers</u>						
Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type	
User Defined Equipment						
Equipment Type	Number					
11.0 Vegetation						

#### Almond Knolls (unmitigated) - Bay Area AQMD Air District, Annual

### Almond Knolls (unmitigated)

Bay Area AQMD Air District, Annual

#### **1.0 Project Characteristics**

#### 1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments Low Rise	58.00	Dwelling Unit	2.90	58,000.00	166

#### **1.2 Other Project Characteristics**

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	64
Climate Zone	4			Operational Year	2019
Utility Company	Pacific Gas & Electric Com	pany			
CO2 Intensity (Ib/MWhr)	409.81	CH4 Intensity (Ib/MWhr)	0.029	N2O Intensity ( (Ib/MWhr)	0.006

### 1.3 User Entered Comments & Non-Default Data

Project Characteristics - Intensity Factors for CO2 adjusted based on PG&E RPS reductions

Land Use - \*Applicant provided

Construction Phase - \*Applicant provided

Grading - \*Applicant provided

Energy Use -

Mobile Land Use Mitigation - \*Applicant provided

Area Mitigation -

Energy Mitigation -

#### Page 2 of 32

#### Almond Knolls (unmitigated) - Bay Area AQMD Air District, Annual

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	10.00	300.00
tblConstructionPhase	NumDays	220.00	300.00
tblConstructionPhase	NumDays	6.00	10.00
tblConstructionPhase	NumDays	10.00	2.00
tblConstructionPhase	NumDays	3.00	2.00
tblConstructionPhase	PhaseEndDate	9/10/2020	8/1/2019
tblConstructionPhase	PhaseEndDate	7/16/2019	7/18/2019
tblConstructionPhase	PhaseEndDate	7/18/2019	5/24/2018
tblConstructionPhase	PhaseStartDate	7/19/2019	6/8/2018
tblConstructionPhase	PhaseStartDate	5/23/2018	5/25/2018
tblConstructionPhase	PhaseStartDate	7/17/2019	5/23/2018
tblGrading	AcresOfGrading	5.00	2.90
tblGrading	AcresOfGrading	3.00	2.90
tblGrading	MaterialExported	0.00	8,000.00
tblGrading	MaterialExported	0.00	40.00
tblLandUse	LotAcreage	3.63	2.90
tblOffRoadEquipment	UsageHours	8.00	6.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	409.81
tblProjectCharacteristics	OperationalYear	2018	2019
tblTripsAndVMT	VendorTripNumber	0.00	6.00
tblTripsAndVMT	WorkerTripNumber	35.00	15.00
tblTripsAndVMT	WorkerTripNumber	35.00	42.00

# 2.0 Emissions Summary

Page 3 of 32

Almond Knolls (unmitigated) - Bay Area AQMD Air District, Annual

## 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					ton	s/yr							MT	/yr		
2018	0.4910	2.1949	1.6347	3.2200e- 003	0.0773	0.1201	0.1973	0.0287	0.1152	0.1439	0.0000	281.5175	281.5175	0.0458	0.0000	282.6621
2019	0.4266	1.5565	1.3445	2.4200e- 003	0.0314	0.0884	0.1197	8.4100e- 003	0.0851	0.0935	0.0000	206.6509	206.6509	0.0342	0.0000	207.5051
Maximum	0.4910	2.1949	1.6347	3.2200e- 003	0.0773	0.1201	0.1973	0.0287	0.1152	0.1439	0.0000	281.5175	281.5175	0.0458	0.0000	282.6621

#### Mitigated Construction

	ROG	NOx	СО	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	2 Total CO2	CH4	N2O	CO2e
Year					tor	ns/yr							Μ	T/yr		
2018	0.4910	2.1949	1.6347	3.2200e- 003	0.0773	0.1201	0.1973	0.0287	0.1152	0.1439	0.0000	281.5172	281.5172	0.0458	0.0000	282.6618
2019	0.4266	1.5565	1.3445	2.4200e- 003	0.0314	0.0884	0.1197	8.4100e- 003	0.0851	0.0935	0.0000	206.6507	206.6507	0.0342	0.0000	207.5049
Maximum	0.4910	2.1949	1.6347	3.2200e- 003	0.0773	0.1201	0.1973	0.0287	0.1152	0.1439	0.0000	281.5172	281.5172	0.0458	0.0000	282.6618
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

#### Almond Knolls (unmitigated) - Bay Area AQMD Air District, Annual

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	5-7-2018	8-6-2018	1.1091	1.1091
2	8-7-2018	11-6-2018	0.9804	0.9804
3	11-7-2018	2-6-2019	0.9493	0.9493
4	2-7-2019	5-6-2019	0.8712	0.8712
5	5-7-2019	8-6-2019	0.7382	0.7382
		Highest	1.1091	1.1091

# 2.2 Overall Operational

#### Unmitigated Operational

	ROG	NOx	СО	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	is/yr							МТ	′/yr		
Area	0.4144	8.0900e- 003	0.6171	3.9000e- 004		0.0287	0.0287	1	0.0287	0.0287	2.6442	1.7896	4.4338	4.9400e- 003	1.7000e- 004	4.6090
Energy	4.1700e- 003	0.0356	0.0152	2.3000e- 004		2.8800e- 003	2.8800e- 003		2.8800e- 003	2.8800e- 003	0.0000	91.4654	91.4654	4.3500e- 003	1.4900e- 003	92.0184
Mobile	0.1222	0.5777	1.3776	4.1300e- 003	0.3290	5.3000e- 003	0.3343	0.0884	5.0000e- 003	0.0933	0.0000	378.2367	378.2367	0.0157	0.0000	378.6303
Waste	M H H H H H H	, , , , ,	,		,	0.0000	0.0000	1 1 1 1	0.0000	0.0000	5.4158	0.0000	5.4158	0.3201	0.0000	13.4174
Water	M== == == == == == == == == 11 21 81 81	, , , , ,			,	0.0000	0.0000	1       	0.0000	0.0000	1.1989	5.3510	6.5498	0.1235	2.9900e- 003	10.5275
Total	0.5408	0.6213	2.0098	4.7500e- 003	0.3290	0.0369	0.3659	0.0884	0.0366	0.1249	9.2589	476.8426	486.1015	0.4686	4.6500e- 003	499.2026

#### Page 5 of 32

Almond Knolls (unmitigated) - Bay Area AQMD Air District, Annual

## 2.2 Overall Operational

### Mitigated Operational

	ROG	NOx		CO	SO2	Fugit PM <sup>2</sup>	ive 10	Exhaust PM10	PM10 Total	Fugi PM	tive 2.5	Exhaust PM2.5	PM2.5 Total	Bio	- CO2	NBio- CO2	Total Co	02 0	CH4	N2O	CO	2e
Category							tons/	/yr										MT/yr				
Area	0.2806	5.0100 003	)e- 0.4	4328	2.0000e- 005			2.3700e- 003	2.3700e- 003			2.3700e- 003	2.3700e- 003	0.	0000	0.7035	0.703	5 6.9 (	000e- 004	0.0000	0.72	07
Energy	3.2800e- 003	0.028	0 0.(	0119	1.8000e- 004			2.2600e- 003	2.2600e- 003	   		2.2600e- 003	2.2600e- 003	0.	0000	81.3549	81.354	9 4.0 (	800e- 003	1.3100e- 003	81.84	477
Mobile	0.1082	0.468	5 1.0	0642	2.9100e- 003	0.22	44	3.7700e- 003	0.2281	0.06	602	3.5600e- 003	0.0638	0.	0000	266.1815	266.18 <sup>-</sup>	5 0.	0123	0.0000	266.4	884
Waste	#,							0.0000	0.0000	 		0.0000	0.0000	5.	4158	0.0000	5.415	3 0.3	3201	0.0000	13.4	174
Water	#,							0.0000	0.0000			0.0000	0.0000	1.	1989	5.3510	6.549	3 0.	1235	2.9900e- 003	10.52	275
Total	0.3921	0.501	5 1.	5089	3.1100e- 003	0.22	44	8.4000e- 003	0.2328	0.06	5 <b>0</b> 2	8.1900e- 003	0.0684	6.	6147	353.5908	360.20	5 0. <sup>,</sup>	4606	4.3000e- 003	373.0	017
	ROG		NOx	C	0 S	02	Fugiti PM1	ive Exh IO PN	aust Pl /10 T	VI10 otal	Fugiti PM2.	ve Exh .5 Pl	aust Pl M2.5 T	M2.5 otal	Bio- (	CO2 NBio	-CO2 To	tal CO2	СН	4 N	20	CO2e
Percent Reduction	27.49		19.29	24.	.93 34	4.53	31.8	31 77	.24 3	6.39	31.8	2 77	7.62 4	5.23	28.5	56 25	.85	25.90	1.7	0 7	.53	25.28

## **3.0 Construction Detail**

**Construction Phase** 

#### Almond Knolls (unmitigated) - Bay Area AQMD Air District, Annual

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	5/7/2018	5/8/2018	5	2	
2	Grading	Grading	5/9/2018	5/22/2018	5	10	
3	Building Construction	Building Construction	5/25/2018	7/18/2019	5	300	
4	Paving	Paving	5/23/2018	5/24/2018	5	2	
5	Architectural Coating	Architectural Coating	6/8/2018	8/1/2019	5	300	

Acres of Grading (Site Preparation Phase): 2.9

Acres of Grading (Grading Phase): 2.9

#### Acres of Paving: 0

Residential Indoor: 117,450; Residential Outdoor: 39,150; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

#### OffRoad Equipment

#### Almond Knolls (unmitigated) - Bay Area AQMD Air District, Annual

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Scrapers	1	8.00	367	0.48
Site Preparation	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Paving	Cement and Mortar Mixers	1	8.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Paving	Cranes	1	8.00	231	0.29
Paving	Forklifts	2	7.00	89	0.20
Paving	Generator Sets	1	8.00	84	0.74
Paving	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Paving	Welders	3	8.00	46	0.45
Architectural Coating	Air Compressors	1	6.00	78	0.48
Building Construction	Cranes	1	8.00	231	0.29
Building Construction	Forklifts	2	7.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45

Trips and VMT

#### Page 8 of 32

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	3	8.00	0.00	5.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	1,000.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	14	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	14	42.00	6.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	8.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	8	42.00	6.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

# **3.1 Mitigation Measures Construction**

# 3.2 Site Preparation - 2018

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							МТ	/yr		
Fugitive Dust					1.5400e- 003	0.0000	1.5400e- 003	1.7000e- 004	0.0000	1.7000e- 004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.9000e- 003	0.0236	0.0128	2.0000e- 005		9.5000e- 004	9.5000e- 004		8.8000e- 004	8.8000e- 004	0.0000	2.2393	2.2393	7.0000e- 004	0.0000	2.2567
Total	1.9000e- 003	0.0236	0.0128	2.0000e- 005	1.5400e- 003	9.5000e- 004	2.4900e- 003	1.7000e- 004	8.8000e- 004	1.0500e- 003	0.0000	2.2393	2.2393	7.0000e- 004	0.0000	2.2567

#### Page 9 of 32

#### Almond Knolls (unmitigated) - Bay Area AQMD Air District, Annual

# 3.2 Site Preparation - 2018

#### Unmitigated Construction Off-Site

	ROG	NOx	со	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							MT	/yr		
Hauling	2.0000e- 005	8.2000e- 004	1.6000e- 004	0.0000	4.0000e- 005	0.0000	5.0000e- 005	1.0000e- 005	0.0000	1.0000e- 005	0.0000	0.1956	0.1956	1.0000e- 005	0.0000	0.1959
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	3.0000e- 005	2.0000e- 005	2.5000e- 004	0.0000	6.0000e- 005	0.0000	6.0000e- 005	2.0000e- 005	0.0000	2.0000e- 005	0.0000	0.0590	0.0590	0.0000	0.0000	0.0590
Total	5.0000e- 005	8.4000e- 004	4.1000e- 004	0.0000	1.0000e- 004	0.0000	1.1000e- 004	3.0000e- 005	0.0000	3.0000e- 005	0.0000	0.2546	0.2546	1.0000e- 005	0.0000	0.2549

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							МТ	ī/yr		
Fugitive Dust					1.5400e- 003	0.0000	1.5400e- 003	1.7000e- 004	0.0000	1.7000e- 004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.9000e- 003	0.0236	0.0128	2.0000e- 005		9.5000e- 004	9.5000e- 004		8.8000e- 004	8.8000e- 004	0.0000	2.2393	2.2393	7.0000e- 004	0.0000	2.2567
Total	1.9000e- 003	0.0236	0.0128	2.0000e- 005	1.5400e- 003	9.5000e- 004	2.4900e- 003	1.7000e- 004	8.8000e- 004	1.0500e- 003	0.0000	2.2393	2.2393	7.0000e- 004	0.0000	2.2567

Page 10 of 32

#### Almond Knolls (unmitigated) - Bay Area AQMD Air District, Annual

## 3.2 Site Preparation - 2018

#### Mitigated Construction Off-Site

	ROG	NOx	со	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							МТ	'/yr		
Hauling	2.0000e- 005	8.2000e- 004	1.6000e- 004	0.0000	4.0000e- 005	0.0000	5.0000e- 005	1.0000e- 005	0.0000	1.0000e- 005	0.0000	0.1956	0.1956	1.0000e- 005	0.0000	0.1959
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	3.0000e- 005	2.0000e- 005	2.5000e- 004	0.0000	6.0000e- 005	0.0000	6.0000e- 005	2.0000e- 005	0.0000	2.0000e- 005	0.0000	0.0590	0.0590	0.0000	0.0000	0.0590
Total	5.0000e- 005	8.4000e- 004	4.1000e- 004	0.0000	1.0000e- 004	0.0000	1.1000e- 004	3.0000e- 005	0.0000	3.0000e- 005	0.0000	0.2546	0.2546	1.0000e- 005	0.0000	0.2549

3.3 Grading - 2018

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							МТ	/yr		
Fugitive Dust			, , ,		0.0321	0.0000	0.0321	0.0168	0.0000	0.0168	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0108	0.1215	0.0519	1.0000e- 004		5.8400e- 003	5.8400e- 003		5.3700e- 003	5.3700e- 003	0.0000	9.4232	9.4232	2.9300e- 003	0.0000	9.4966
Total	0.0108	0.1215	0.0519	1.0000e- 004	0.0321	5.8400e- 003	0.0379	0.0168	5.3700e- 003	0.0222	0.0000	9.4232	9.4232	2.9300e- 003	0.0000	9.4966

Page 11 of 32

#### Almond Knolls (unmitigated) - Bay Area AQMD Air District, Annual

## 3.3 Grading - 2018

#### Unmitigated Construction Off-Site

	ROG	NOx	со	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							МТ	/yr		
Hauling	4.7900e- 003	0.1649	0.0314	4.0000e- 004	8.4400e- 003	6.5000e- 004	9.1000e- 003	2.3200e- 003	6.3000e- 004	2.9500e- 003	0.0000	39.1269	39.1269	2.0700e- 003	0.0000	39.1787
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	2.0000e- 004	1.5000e- 004	1.5400e- 003	0.0000	4.0000e- 004	0.0000	4.0000e- 004	1.1000e- 004	0.0000	1.1000e- 004	0.0000	0.3684	0.3684	1.0000e- 005	0.0000	0.3687
Total	4.9900e- 003	0.1650	0.0330	4.0000e- 004	8.8400e- 003	6.5000e- 004	9.5000e- 003	2.4300e- 003	6.3000e- 004	3.0600e- 003	0.0000	39.4953	39.4953	2.0800e- 003	0.0000	39.5474

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							МТ	/yr		
Fugitive Dust		, , ,			0.0321	0.0000	0.0321	0.0168	0.0000	0.0168	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0108	0.1215	0.0519	1.0000e- 004		5.8400e- 003	5.8400e- 003		5.3700e- 003	5.3700e- 003	0.0000	9.4232	9.4232	2.9300e- 003	0.0000	9.4966
Total	0.0108	0.1215	0.0519	1.0000e- 004	0.0321	5.8400e- 003	0.0379	0.0168	5.3700e- 003	0.0222	0.0000	9.4232	9.4232	2.9300e- 003	0.0000	9.4966

Page 12 of 32

#### Almond Knolls (unmitigated) - Bay Area AQMD Air District, Annual

## 3.3 Grading - 2018

#### 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					ton	s/yr							МТ	/yr		
Hauling	4.7900e- 003	0.1649	0.0314	4.0000e- 004	8.4400e- 003	6.5000e- 004	9.1000e- 003	2.3200e- 003	6.3000e- 004	2.9500e- 003	0.0000	39.1269	39.1269	2.0700e- 003	0.0000	39.1787
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	2.0000e- 004	1.5000e- 004	1.5400e- 003	0.0000	4.0000e- 004	0.0000	4.0000e- 004	1.1000e- 004	0.0000	1.1000e- 004	0.0000	0.3684	0.3684	1.0000e- 005	0.0000	0.3687
Total	4.9900e- 003	0.1650	0.0330	4.0000e- 004	8.8400e- 003	6.5000e- 004	9.5000e- 003	2.4300e- 003	6.3000e- 004	3.0600e- 003	0.0000	39.4953	39.4953	2.0800e- 003	0.0000	39.5474

## 3.4 Building Construction - 2018

	ROG	NOx	со	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							MT	/yr		
Off-Road	0.2287	1.6256	1.2339	1.9600e- 003		0.0987	0.0987	ſ	0.0946	0.0946	0.0000	165.9127	165.9127	0.0357	0.0000	166.8062
Total	0.2287	1.6256	1.2339	1.9600e- 003		0.0987	0.0987		0.0946	0.0946	0.0000	165.9127	165.9127	0.0357	0.0000	166.8062

Page 13 of 32

#### Almond Knolls (unmitigated) - Bay Area AQMD Air District, Annual

## 3.4 Building Construction - 2018

#### Unmitigated Construction Off-Site

	ROG	NOx	СО	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							MT	/yr		
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.4800e- 003	0.0631	0.0168	1.3000e- 004	3.0900e- 003	4.8000e- 004	3.5700e- 003	8.9000e- 004	4.6000e- 004	1.3600e- 003	0.0000	12.4959	12.4959	7.2000e- 004	0.0000	12.5139
Worker	0.0133	0.0101	0.1019	2.7000e- 004	0.0261	1.8000e- 004	0.0262	6.9300e- 003	1.7000e- 004	7.1000e- 003	0.0000	24.2949	24.2949	7.2000e- 004	0.0000	24.3128
Total	0.0157	0.0732	0.1186	4.0000e- 004	0.0291	6.6000e- 004	0.0298	7.8200e- 003	6.3000e- 004	8.4600e- 003	0.0000	36.7907	36.7907	1.4400e- 003	0.0000	36.8267

	ROG	NOx	СО	SO2	Fugitive 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	s/yr							MT	/yr		
Off-Road	0.2287	1.6256	1.2339	1.9600e- 003		0.0987	0.0987	1 1	0.0946	0.0946	0.0000	165.9125	165.9125	0.0357	0.0000	166.8060
Total	0.2287	1.6256	1.2339	1.9600e- 003		0.0987	0.0987		0.0946	0.0946	0.0000	165.9125	165.9125	0.0357	0.0000	166.8060

Page 14 of 32

#### Almond Knolls (unmitigated) - Bay Area AQMD Air District, Annual

## 3.4 Building Construction - 2018

#### 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					ton	s/yr							MT	/yr		
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.4800e- 003	0.0631	0.0168	1.3000e- 004	3.0900e- 003	4.8000e- 004	3.5700e- 003	8.9000e- 004	4.6000e- 004	1.3600e- 003	0.0000	12.4959	12.4959	7.2000e- 004	0.0000	12.5139
Worker	0.0133	0.0101	0.1019	2.7000e- 004	0.0261	1.8000e- 004	0.0262	6.9300e- 003	1.7000e- 004	7.1000e- 003	0.0000	24.2949	24.2949	7.2000e- 004	0.0000	24.3128
Total	0.0157	0.0732	0.1186	4.0000e- 004	0.0291	6.6000e- 004	0.0298	7.8200e- 003	6.3000e- 004	8.4600e- 003	0.0000	36.7907	36.7907	1.4400e- 003	0.0000	36.8267

3.4 Building Construction - 2019

	ROG	NOx	СО	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							MT	/yr		
Off-Road	0.1829	1.3521	1.0907	1.7900e- 003		0.0780	0.0780	ſ	0.0747	0.0747	0.0000	149.9743	149.9743	0.0312	0.0000	150.7543
Total	0.1829	1.3521	1.0907	1.7900e- 003		0.0780	0.0780		0.0747	0.0747	0.0000	149.9743	149.9743	0.0312	0.0000	150.7543

Page 15 of 32

#### Almond Knolls (unmitigated) - Bay Area AQMD Air District, Annual

## 3.4 Building Construction - 2019

#### 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					ton	s/yr							MT	/yr		
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.0300e- 003	0.0543	0.0139	1.2000e- 004	2.8100e- 003	3.7000e- 004	3.1900e- 003	8.1000e- 004	3.6000e- 004	1.1700e- 003	0.0000	11.3052	11.3052	6.3000e- 004	0.0000	11.3209
Worker	0.0109	8.0700e- 003	0.0822	2.4000e- 004	0.0237	1.6000e- 004	0.0239	6.3100e- 003	1.5000e- 004	6.4600e- 003	0.0000	21.4646	21.4646	5.8000e- 004	0.0000	21.4789
Total	0.0129	0.0624	0.0962	3.6000e- 004	0.0265	5.3000e- 004	0.0271	7.1200e- 003	5.1000e- 004	7.6300e- 003	0.0000	32.7698	32.7698	1.2100e- 003	0.0000	32.7998

	ROG	NOx	CO	SO2	Fugitive 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	s/yr							MT	/yr		
Off-Road	0.1829	1.3521	1.0907	1.7900e- 003		0.0780	0.0780		0.0747	0.0747	0.0000	149.9742	149.9742	0.0312	0.0000	150.7541
Total	0.1829	1.3521	1.0907	1.7900e- 003		0.0780	0.0780		0.0747	0.0747	0.0000	149.9742	149.9742	0.0312	0.0000	150.7541

Page 16 of 32

#### Almond Knolls (unmitigated) - Bay Area AQMD Air District, Annual

## 3.4 Building Construction - 2019

#### Mitigated Construction Off-Site

	ROG	NOx	СО	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							MT	/yr		
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.0300e- 003	0.0543	0.0139	1.2000e- 004	2.8100e- 003	3.7000e- 004	3.1900e- 003	8.1000e- 004	3.6000e- 004	1.1700e- 003	0.0000	11.3052	11.3052	6.3000e- 004	0.0000	11.3209
Worker	0.0109	8.0700e- 003	0.0822	2.4000e- 004	0.0237	1.6000e- 004	0.0239	6.3100e- 003	1.5000e- 004	6.4600e- 003	0.0000	21.4646	21.4646	5.8000e- 004	0.0000	21.4789
Total	0.0129	0.0624	0.0962	3.6000e- 004	0.0265	5.3000e- 004	0.0271	7.1200e- 003	5.1000e- 004	7.6300e- 003	0.0000	32.7698	32.7698	1.2100e- 003	0.0000	32.7998

3.5 Paving - 2018

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							МТ	/yr		
Off-Road	4.3200e- 003	0.0350	0.0277	4.0000e- 005		2.1100e- 003	2.1100e- 003		1.9900e- 003	1.9900e- 003	0.0000	3.7231	3.7231	9.5000e- 004	0.0000	3.7468
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	4.3200e- 003	0.0350	0.0277	4.0000e- 005		2.1100e- 003	2.1100e- 003		1.9900e- 003	1.9900e- 003	0.0000	3.7231	3.7231	9.5000e- 004	0.0000	3.7468

Page 17 of 32

#### Almond Knolls (unmitigated) - Bay Area AQMD Air District, Annual

## 3.5 Paving - 2018

#### Unmitigated Construction Off-Site

	ROG	NOx	со	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							МТ	'/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	3.0000e- 005	8.0000e- 004	2.1000e- 004	0.0000	7.0000e- 005	1.0000e- 005	7.0000e- 005	2.0000e- 005	1.0000e- 005	2.0000e- 005	0.0000	0.1592	0.1592	1.0000e- 005	0.0000	0.1594
Worker	2.3000e- 004	1.7000e- 004	1.7600e- 003	0.0000	8.4000e- 004	0.0000	8.4000e- 004	2.2000e- 004	0.0000	2.2000e- 004	0.0000	0.4200	0.4200	1.0000e- 005	0.0000	0.4203
Total	2.6000e- 004	9.7000e- 004	1.9700e- 003	0.0000	9.1000e- 004	1.0000e- 005	9.1000e- 004	2.4000e- 004	1.0000e- 005	2.4000e- 004	0.0000	0.5792	0.5792	2.0000e- 005	0.0000	0.5797

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							МТ	/yr		
Off-Road	4.3200e- 003	0.0350	0.0277	4.0000e- 005		2.1100e- 003	2.1100e- 003		1.9900e- 003	1.9900e- 003	0.0000	3.7231	3.7231	9.5000e- 004	0.0000	3.7468
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	4.3200e- 003	0.0350	0.0277	4.0000e- 005		2.1100e- 003	2.1100e- 003		1.9900e- 003	1.9900e- 003	0.0000	3.7231	3.7231	9.5000e- 004	0.0000	3.7468

Page 18 of 32

#### Almond Knolls (unmitigated) - Bay Area AQMD Air District, Annual

## 3.5 Paving - 2018

#### Mitigated Construction Off-Site

	ROG	NOx	СО	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/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	3.0000e- 005	8.0000e- 004	2.1000e- 004	0.0000	7.0000e- 005	1.0000e- 005	7.0000e- 005	2.0000e- 005	1.0000e- 005	2.0000e- 005	0.0000	0.1592	0.1592	1.0000e- 005	0.0000	0.1594
Worker	2.3000e- 004	1.7000e- 004	1.7600e- 003	0.0000	8.4000e- 004	0.0000	8.4000e- 004	2.2000e- 004	0.0000	2.2000e- 004	0.0000	0.4200	0.4200	1.0000e- 005	0.0000	0.4203
Total	2.6000e- 004	9.7000e- 004	1.9700e- 003	0.0000	9.1000e- 004	1.0000e- 005	9.1000e- 004	2.4000e- 004	1.0000e- 005	2.4000e- 004	0.0000	0.5792	0.5792	2.0000e- 005	0.0000	0.5797

3.6 Architectural Coating - 2018

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							MT	/yr		
Archit. Coating	0.2001	1 1 1				0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0220	0.1474	0.1363	2.2000e- 004		0.0111	0.0111		0.0111	0.0111	0.0000	18.7665	18.7665	1.7800e- 003	0.0000	18.8110
Total	0.2220	0.1474	0.1363	2.2000e- 004		0.0111	0.0111		0.0111	0.0111	0.0000	18.7665	18.7665	1.7800e- 003	0.0000	18.8110

Page 19 of 32

#### Almond Knolls (unmitigated) - Bay Area AQMD Air District, Annual

# 3.6 Architectural Coating - 2018

#### Unmitigated Construction Off-Site

	ROG	NOx	СО	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/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	2.3600e- 003	1.8000e- 003	0.0182	5.0000e- 005	4.6500e- 003	3.0000e- 005	4.6800e- 003	1.2400e- 003	3.0000e- 005	1.2700e- 003	0.0000	4.3328	4.3328	1.3000e- 004	0.0000	4.3360
Total	2.3600e- 003	1.8000e- 003	0.0182	5.0000e- 005	4.6500e- 003	3.0000e- 005	4.6800e- 003	1.2400e- 003	3.0000e- 005	1.2700e- 003	0.0000	4.3328	4.3328	1.3000e- 004	0.0000	4.3360

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							МТ	/yr		
Archit. Coating	0.2001	1	, , ,	, , ,		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0220	0.1474	0.1363	2.2000e- 004		0.0111	0.0111		0.0111	0.0111	0.0000	18.7664	18.7664	1.7800e- 003	0.0000	18.8110
Total	0.2220	0.1474	0.1363	2.2000e- 004		0.0111	0.0111		0.0111	0.0111	0.0000	18.7664	18.7664	1.7800e- 003	0.0000	18.8110

Page 20 of 32

#### Almond Knolls (unmitigated) - Bay Area AQMD Air District, Annual

## 3.6 Architectural Coating - 2018

#### Mitigated Construction Off-Site

	ROG	NOx	СО	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							МТ	'/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	2.3600e- 003	1.8000e- 003	0.0182	5.0000e- 005	4.6500e- 003	3.0000e- 005	4.6800e- 003	1.2400e- 003	3.0000e- 005	1.2700e- 003	0.0000	4.3328	4.3328	1.3000e- 004	0.0000	4.3360
Total	2.3600e- 003	1.8000e- 003	0.0182	5.0000e- 005	4.6500e- 003	3.0000e- 005	4.6800e- 003	1.2400e- 003	3.0000e- 005	1.2700e- 003	0.0000	4.3328	4.3328	1.3000e- 004	0.0000	4.3360

3.6 Architectural Coating - 2019

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							MT	/yr		
Archit. Coating	0.2082	1 1 1				0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0204	0.1404	0.1409	2.3000e- 004		9.8500e- 003	9.8500e- 003		9.8500e- 003	9.8500e- 003	0.0000	19.5324	19.5324	1.6500e- 003	0.0000	19.5736
Total	0.2286	0.1404	0.1409	2.3000e- 004		9.8500e- 003	9.8500e- 003		9.8500e- 003	9.8500e- 003	0.0000	19.5324	19.5324	1.6500e- 003	0.0000	19.5736

Page 21 of 32

#### Almond Knolls (unmitigated) - Bay Area AQMD Air District, Annual

# 3.6 Architectural Coating - 2019

#### Unmitigated Construction Off-Site

	ROG	NOx	СО	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/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	2.2200e- 003	1.6400e- 003	0.0168	5.0000e- 005	4.8400e- 003	3.0000e- 005	4.8700e- 003	1.2900e- 003	3.0000e- 005	1.3200e- 003	0.0000	4.3744	4.3744	1.2000e- 004	0.0000	4.3773
Total	2.2200e- 003	1.6400e- 003	0.0168	5.0000e- 005	4.8400e- 003	3.0000e- 005	4.8700e- 003	1.2900e- 003	3.0000e- 005	1.3200e- 003	0.0000	4.3744	4.3744	1.2000e- 004	0.0000	4.3773

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							МТ	/yr		
Archit. Coating	0.2082	1 1 1	, , ,			0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0204	0.1404	0.1409	2.3000e- 004		9.8500e- 003	9.8500e- 003		9.8500e- 003	9.8500e- 003	0.0000	19.5324	19.5324	1.6500e- 003	0.0000	19.5736
Total	0.2286	0.1404	0.1409	2.3000e- 004		9.8500e- 003	9.8500e- 003		9.8500e- 003	9.8500e- 003	0.0000	19.5324	19.5324	1.6500e- 003	0.0000	19.5736

Page 22 of 32

#### Almond Knolls (unmitigated) - Bay Area AQMD Air District, Annual

## 3.6 Architectural Coating - 2019

#### 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					ton	s/yr							МТ	/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	2.2200e- 003	1.6400e- 003	0.0168	5.0000e- 005	4.8400e- 003	3.0000e- 005	4.8700e- 003	1.2900e- 003	3.0000e- 005	1.3200e- 003	0.0000	4.3744	4.3744	1.2000e- 004	0.0000	4.3773
Total	2.2200e- 003	1.6400e- 003	0.0168	5.0000e- 005	4.8400e- 003	3.0000e- 005	4.8700e- 003	1.2900e- 003	3.0000e- 005	1.3200e- 003	0.0000	4.3744	4.3744	1.2000e- 004	0.0000	4.3773

## 4.0 Operational Detail - Mobile

#### 4.1 Mitigation Measures Mobile

Increase Density

Increase Transit Accessibility

Improve Pedestrian Network

Page 23 of 32

#### Almond Knolls (unmitigated) - Bay Area AQMD Air District, Annual

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							МТ	/yr		
Mitigated	0.1082	0.4685	1.0642	2.9100e- 003	0.2244	3.7700e- 003	0.2281	0.0602	3.5600e- 003	0.0638	0.0000	266.1815	266.1815	0.0123	0.0000	266.4884
Unmitigated	0.1222	0.5777	1.3776	4.1300e- 003	0.3290	5.3000e- 003	0.3343	0.0884	5.0000e- 003	0.0933	0.0000	378.2367	378.2367	0.0157	0.0000	378.6303

#### 4.2 Trip Summary Information

	Aver	age Daily Trip Ra	ite	Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	382.22	415.28	352.06	883,735	602,590
Total	382.22	415.28	352.06	883,735	602,590

## 4.3 Trip Type Information

		Miles			Trip %			Trip Purpos	e %
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	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
Apartments Low Rise	0.570523	0.041853	0.194077	0.115893	0.018544	0.005373	0.016909	0.024079	0.002502	0.002562	0.005975	0.000872	0.000837

# 5.0 Energy Detail

Historical Energy Use: N

Page 24 of 32

#### Almond Knolls (unmitigated) - Bay Area AQMD Air District, Annual

# 5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	СО	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							МТ	/yr		
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	48.9390	48.9390	3.4600e- 003	7.2000e- 004	49.2391
Electricity Unmitigated	n 1 1 1 1					0.0000	0.0000		0.0000	0.0000	0.0000	50.2408	50.2408	3.5600e- 003	7.4000e- 004	50.5489
NaturalGas Mitigated	3.2800e- 003	0.0280	0.0119	1.8000e- 004		2.2600e- 003	2.2600e- 003		2.2600e- 003	2.2600e- 003	0.0000	32.4159	32.4159	6.2000e- 004	5.9000e- 004	32.6085
NaturalGas Unmitigated	4.1700e- 003	0.0356	0.0152	2.3000e- 004		2.8800e- 003	2.8800e- 003	       	2.8800e- 003	2.8800e- 003	0.0000	41.2246	41.2246	7.9000e- 004	7.6000e- 004	41.4695

Page 25 of 32

#### Almond Knolls (unmitigated) - Bay Area AQMD Air District, Annual

# 5.2 Energy by Land Use - NaturalGas

#### <u>Unmitigated</u>

	NaturalGa s 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					ton	s/yr							MT	/yr		
Apartments Low Rise	772519	4.1700e- 003	0.0356	0.0152	2.3000e- 004		2.8800e- 003	2.8800e- 003		2.8800e- 003	2.8800e- 003	0.0000	41.2246	41.2246	7.9000e- 004	7.6000e- 004	41.4695
Total		4.1700e- 003	0.0356	0.0152	2.3000e- 004		2.8800e- 003	2.8800e- 003		2.8800e- 003	2.8800e- 003	0.0000	41.2246	41.2246	7.9000e- 004	7.6000e- 004	41.4695

#### Mitigated

	NaturalGa s 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						
Apartments Low Rise	607451	3.2800e- 003	0.0280	0.0119	1.8000e- 004		2.2600e- 003	2.2600e- 003		2.2600e- 003	2.2600e- 003	0.0000	32.4159	32.4159	6.2000e- 004	5.9000e- 004	32.6085		
Total		3.2800e- 003	0.0280	0.0119	1.8000e- 004		2.2600e- 003	2.2600e- 003		2.2600e- 003	2.2600e- 003	0.0000	32.4159	32.4159	6.2000e- 004	5.9000e- 004	32.6085		

CalEEMod Version: CalEEMod.2016.3.1

Page 26 of 32

#### Almond Knolls (unmitigated) - Bay Area AQMD Air District, Annual

# 5.3 Energy by Land Use - Electricity

# <u>Unmitigated</u>

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr		МТ	/yr	
Apartments Low Rise	270277	50.2408	3.5600e- 003	7.4000e- 004	50.5489
Total		50.2408	3.5600e- 003	7.4000e- 004	50.5489

#### Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr		MT	/yr	
Apartments Low Rise	263274	48.9390	3.4600e- 003	7.2000e- 004	49.2391
Total		48.9390	3.4600e- 003	7.2000e- 004	49.2391

# 6.0 Area Detail

6.1 Mitigation Measures Area

CalEEMod Version: CalEEMod.2016.3.1

Page 27 of 32

#### Almond Knolls (unmitigated) - Bay Area AQMD Air District, Annual

No Hearths Installed

	ROG	NOx	CO	SO2	Fugitive 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												МТ	/yr		
Mitigated	0.2806	5.0100e- 003	0.4328	2.0000e- 005		2.3700e- 003	2.3700e- 003		2.3700e- 003	2.3700e- 003	0.0000	0.7035	0.7035	6.9000e- 004	0.0000	0.7207
Unmitigated	0.4144	8.0900e- 003	0.6171	3.9000e- 004		0.0287	0.0287		0.0287	0.0287	2.6442	1.7896	4.4338	4.9400e- 003	1.7000e- 004	4.6090

#### 6.2 Area by SubCategory

**Unmitigated** 

	ROG	NOx	СО	SO2	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					MT/yr											
Architectural Coating	0.0408					0.0000	0.0000	1 1 1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.2265					0.0000	0.0000	 - - - -	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.1338	3.0800e- 003	0.1843	3.7000e- 004		0.0264	0.0264	 , , , ,	0.0264	0.0264	2.6442	1.0861	3.7303	4.2500e- 003	1.7000e- 004	3.8882
Landscaping	0.0133	5.0100e- 003	0.4328	2.0000e- 005		2.3700e- 003	2.3700e- 003		2.3700e- 003	2.3700e- 003	0.0000	0.7035	0.7035	6.9000e- 004	0.0000	0.7207
Total	0.4144	8.0900e- 003	0.6171	3.9000e- 004		0.0287	0.0287		0.0287	0.0287	2.6442	1.7896	4.4338	4.9400e- 003	1.7000e- 004	4.6090

Page 28 of 32

Almond Knolls (unmitigated) - Bay Area AQMD Air District, Annual

### 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					MT/yr											
Architectural Coating	0.0408			, , ,		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.2265					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0133	5.0100e- 003	0.4328	2.0000e- 005		2.3700e- 003	2.3700e- 003		2.3700e- 003	2.3700e- 003	0.0000	0.7035	0.7035	6.9000e- 004	0.0000	0.7207
Total	0.2806	5.0100e- 003	0.4328	2.0000e- 005		2.3700e- 003	2.3700e- 003		2.3700e- 003	2.3700e- 003	0.0000	0.7035	0.7035	6.9000e- 004	0.0000	0.7207

## 7.0 Water Detail

7.1 Mitigation Measures Water
Page 29 of 32

Almond Knolls (unmitigated) - Bay Area AQMD Air District, Annual

	Total CO2	CH4	N2O	CO2e			
Category	MT/yr						
Mitigated	6.5498	0.1235	2.9900e- 003	10.5275			
Unmitigated	6.5498	0.1235	2.9900e- 003	10.5275			

# 7.2 Water by Land Use

<u>Unmitigated</u>

	Indoor/Out door Use	Total CO2	CH4	N2O	CO2e			
Land Use	Mgal	MT/yr						
Apartments Low Rise	3.77893 / 2.38237	6.5498	0.1235	2.9900e- 003	10.5275			
Total		6.5498	0.1235	2.9900e- 003	10.5275			

Page 30 of 32

Almond Knolls (unmitigated) - Bay Area AQMD Air District, Annual

#### 7.2 Water by Land Use

#### Mitigated

	Indoor/Out door Use	Total CO2	CH4	N2O	CO2e			
Land Use	Mgal	MT/yr						
Apartments Low Rise	3.77893 / 2.38237	6.5498	0.1235	2.9900e- 003	10.5275			
Total		6.5498	0.1235	2.9900e- 003	10.5275			

# 8.0 Waste Detail

#### 8.1 Mitigation Measures Waste

#### Category/Year

	Total CO2	CH4	N2O	CO2e						
	MT/yr									
Mitigated	5.4158	0.3201	0.0000	13.4174						
Unmitigated	5.4158	0.3201	0.0000	13.4174						

Page 31 of 32

Almond Knolls (unmitigated) - Bay Area AQMD Air District, Annual

#### 8.2 Waste by Land Use

#### <u>Unmitigated</u>

	Waste Disposed	Total CO2	CH4	N2O	CO2e			
Land Use	tons	MT/yr						
Apartments Low Rise	26.68	5.4158	0.3201	0.0000	13.4174			
Total		5.4158	0.3201	0.0000	13.4174			

#### **Mitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e			
Land Use	tons	MT/yr						
Apartments Low Rise	26.68	5.4158	0.3201	0.0000	13.4174			
Total		5.4158	0.3201	0.0000	13.4174			

# 9.0 Operational Offroad

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

#### Almond Knolls (unmitigated) - Bay Area AQMD Air District, Annual

# **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	
User Defined Equipment						
Equipment Type	Number					
		-				
11.0 Vegetation						

Page 1 of 11

# Almond Knolls (unmitigated)

#### Bay Area AQMD Air District, Mitigation Report

# **Construction Mitigation Summary**

Phase	ROG	NOx	СО	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
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** 

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
Cement and Mortar Mixers	Diesel	No Change	0	1	No Change	0.00
Cranes	Diesel	No Change	0	2	No Change	0.00
Forklifts	Diesel	No Change	0	4	No Change	0.00
Generator Sets	Diesel	No Change	0	2	No Change	0.00
Graders	Diesel	No Change	0	2	No Change	0.00
Pavers	Diesel	No Change	0	1	No Change	0.00
Paving Equipment	Diesel	No Change	0	1	No Change	0.00
Rollers	Diesel	No Change	0	2	No Change	0.00
Rubber Tired Dozers	Diesel	No Change	0	1	No Change	0.00
Scrapers	Diesel	No Change	0	1	No Change	0.00
Tractors/Loaders/Backhoes	Diesel	No Change	0	6	No Change	0.00
Welders	Diesel	No Change	0	6	No Change	0.00

# Page 2 of 11

#### Date: 3/7/2017 10:31 AM

Page 3 of 11

Date: 3	/7/2017	10.31	ΑМ
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Equipment Type	ROG	NOx	со	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
		Ur	nmitigated tons/yr				Unmitigated mt/yr						
Air Compressors	4.23300E-002	2.87830E-001	2.77150E-001	4.50000E-004	2.09200E-002	2.09200E-002	0.00000E+000	3.82988E+001	3.82988E+001	3.43000E-003	0.00000E+000	3.83847E+001	
Cement and Mortar Mixers	6.00000E-005	3.70000E-004	3.10000E-004	0.00000E+000	1.00000E-005	1.00000E-005	0.00000E+000	4.58300E-002	4.58300E-002	0.00000E+000	0.00000E+000	4.59500E-002	
Cranes	8.14100E-002	9.71750E-001	3.64440E-001	8.70000E-004	4.16800E-002	3.83400E-002	0.00000E+000	7.89243E+001	7.89243E+001	2.47600E-002	0.00000E+000	7.95432E+001	
Forklifts	4.48000E-002	3.97770E-001	3.17940E-001	4.00000E-004	3.13300E-002	2.88200E-002	0.00000E+000	3.65865E+001	3.65865E+001	1.14800E-002	0.00000E+000	3.68734E+001	
Generator Sets	7.19300E-002	5.97130E-001	5.64100E-001	9.90000E-004	3.69800E-002	3.69800E-002	0.00000E+000	8.53463E+001	8.53463E+001	5.80000E-003	0.00000E+000	8.54914E+001	
Graders	3.12000E-003	4.27700E-002	1.14900E-002	4.00000E-005	1.39000E-003	1.28000E-003	0.00000E+000	3.64653E+000	3.64653E+000	1.14000E-003	0.00000E+000	3.67491E+000	
Pavers	3.30000E-004	3.61000E-003	2.93000E-003	0.00000E+000	1.80000E-004	1.60000E-004	0.00000E+000	4.29220E-001	4.29220E-001	1.30000E-004	0.00000E+000	4.32560E-001	
Paving Equipment	2.40000E-004	2.66000E-003	2.54000E-003	0.00000E+000	1.30000E-004	1.20000E-004	0.00000E+000	3.71950E-001	3.71950E-001	1.20000E-004	0.00000E+000	3.74850E-001	
Rollers	5.20000E-004	4.99000E-003	3.87000E-003	1.00000E-005	3.40000E-004	3.20000E-004	0.00000E+000	4.78820E-001	4.78820E-001	1.50000E-004	0.00000E+000	4.82550E-001	
Rubber Tired Dozers	5.83000E-003	6.28000E-002	2.18800E-002	4.00000E-005	3.05000E-003	2.81000E-003	0.00000E+000	3.90168E+000	3.90168E+000	1.21000E-003	0.00000E+000	3.93205E+000	
Scrapers	1.15000E-003	1.41900E-002	8.79000E-003	2.00000E-005	5.60000E-004	5.10000E-004	0.00000E+000	1.38327E+000	1.38327E+000	4.30000E-004	0.00000E+000	1.39404E+000	
Tractors/Loaders/ Backhoes	3.11800E-002	3.10080E-001	2.87640E-001	3.80000E-004	2.14600E-002	1.97400E-002	0.00000E+000	3.48944E+001	3.48944E+001	1.09400E-002	0.00000E+000	3.51678E+001	
Welders	1.87980E-001	7.49550E-001	8.31010E-001	1.16000E-003	4.84600E-002	4.84600E-002	0.00000E+000	8.52639E+001	8.52639E+001	1.53600E-002	0.00000E+000	8.56479E+001	

Page 4 of 11

Date. 3/1/2017 10.31	Date:	3/1/2017	10:31	AM
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		1										
Equipment Type	ROG	NOx	со	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
		М	itigated tons/yr						Mitigate	ed mt/yr		
Air Compressors	4.23300E-002	2.87830E-001	2.77150E-001	4.50000E-004	2.09200E-002	2.09200E-002	0.00000E+000	3.82988E+001	3.82988E+001	3.43000E-003	0.00000E+000	3.83846E+001
Cement and Mortar Mixers	6.00000E-005	3.70000E-004	3.10000E-004	0.00000E+000	1.00000E-005	1.00000E-005	0.00000E+000	4.58300E-002	4.58300E-002	0.00000E+000	0.00000E+000	4.59500E-002
Cranes	8.14100E-002	9.71750E-001	3.64440E-001	8.70000E-004	4.16800E-002	3.83400E-002	0.00000E+000	7.89242E+001	7.89242E+001	2.47600E-002	0.00000E+000	7.95431E+001
Forklifts	4.48000E-002	3.97770E-001	3.17940E-001	4.00000E-004	3.13300E-002	2.88200E-002	0.00000E+000	3.65864E+001	3.65864E+001	1.14800E-002	0.00000E+000	3.68733E+001
Generator Sets	7.19300E-002	5.97130E-001	5.64100E-001	9.90000E-004	3.69800E-002	3.69800E-002	0.00000E+000	8.53462E+001	8.53462E+001	5.80000E-003	0.00000E+000	8.54913E+001
Graders	3.12000E-003	4.27700E-002	1.14900E-002	4.00000E-005	1.39000E-003	1.28000E-003	0.00000E+000	3.64653E+000	3.64653E+000	1.14000E-003	0.00000E+000	3.67491E+000
Pavers	3.30000E-004	3.61000E-003	2.93000E-003	0.00000E+000	1.80000E-004	1.60000E-004	0.00000E+000	4.29220E-001	4.29220E-001	1.30000E-004	0.00000E+000	4.32560E-001
Paving Equipment	2.40000E-004	2.66000E-003	2.54000E-003	0.00000E+000	1.30000E-004	1.20000E-004	0.00000E+000	3.71950E-001	3.71950E-001	1.20000E-004	0.00000E+000	3.74840E-001
Rollers	5.20000E-004	4.99000E-003	3.87000E-003	1.00000E-005	3.40000E-004	3.20000E-004	0.00000E+000	4.78820E-001	4.78820E-001	1.50000E-004	0.00000E+000	4.82550E-001
Rubber Tired Dozers	5.83000E-003	6.28000E-002	2.18800E-002	4.00000E-005	3.05000E-003	2.81000E-003	0.00000E+000	3.90168E+000	3.90168E+000	1.21000E-003	0.00000E+000	3.93204E+000
Scrapers	1.15000E-003	1.41900E-002	8.79000E-003	2.00000E-005	5.60000E-004	5.10000E-004	0.00000E+000	1.38327E+000	1.38327E+000	4.30000E-004	0.00000E+000	1.39404E+000
Tractors/Loaders/Ba ckhoes	3.11800E-002	3.10080E-001	2.87640E-001	3.80000E-004	2.14600E-002	1.97400E-002	0.00000E+000	3.48943E+001	3.48943E+001	1.09400E-002	0.00000E+000	3.51678E+001
Welders	1.87980E-001	7.49550E-001	8.31010E-001	1.16000E-003	4.84600E-002	4.84600E-002	0.00000E+000	8.52638E+001	8.52638E+001	1.53600E-002	0.00000E+000	8.56478E+001

Page 5 of 11

#### Date: 3/7/2017 10:31 AM

Equipment Type	ROG	NOx	со	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	1.30552E-006	1.30552E-006	0.00000E+000	0.00000E+000	1.04208E-006	
Cement and Mortar Mixers	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	0.00000E+000	
Cranes	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.26704E-006	1.26704E-006	0.00000E+000	0.00000E+000	1.13146E-006	
Forklifts	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.36663E-006	1.36663E-006	0.00000E+000	0.00000E+000	1.08479E-006	
Generator Sets	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.28887E-006	1.28887E-006	0.00000E+000	0.00000E+000	1.16971E-006	
Graders	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	0.00000E+000	
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	0.00000E+000	
Paving Equipment	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	2.66773E-005	
Rollers	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	0.00000E+000	
Rubber Tired Dozers	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	2.54320E-006	
Scrapers	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	0.00000E+000	
Tractors/Loaders/Ba ckhoes	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.43290E-006	1.43290E-006	0.00000E+000	0.00000E+000	1.13740E-006	
Welders	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.17283E-006	1.17283E-006	0.00000E+000	0.00000E+000	1.16757E-006	

# **Fugitive Dust Mitigation**

Yes/No	Mitigation Measure	Mitigation Input	Mitigation Input	Mitigation Input
No	Soil Stabilizer for unpaved Roads	PM10 Reduction	PM2.5 Reduction	
No	Replace Ground Cover of Area Disturbed	PM10 Reduction	PM2.5 Reduction	
No	Water Exposed Area	PM10 Reduction	PM2.5 Reduction	Frequency (per day)

CalEEMod Version: CalEEMod.2016.3.1

CalEEMod	Version: CalEEMod.2016.3.1		Page 6 of 11				Date: 3/7/2017 10:31 AM		
No	Unpaved Road Mitigation	Moisture Content %		Vehicle Speed (mph)					
No	Clean Paved Road	% PM Reduction	0.00						

		Unmitigated Mitigated		Percent Reduction			
Phase	Source	PM10	PM2.5	PM10	PM2.5	PM10	PM2.5
Architectural Coating	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Architectural Coating	Roads	0.01	0.00	0.01	0.00	0.00	0.00
Building Construction	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Building Construction	Roads	0.06	0.01	0.06	0.01	0.00	0.00
Grading	Fugitive Dust	0.03	0.02	0.03	0.02	0.00	0.00
Grading	Roads	0.01	0.00	0.01	0.00	0.00	0.00
Paving	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Paving	Roads	0.00	0.00	0.00	0.00	0.00	0.00
Site Preparation	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Site Preparation	Roads	0.00	0.00	0.00	0.00	0.00	0.00

**Operational Percent Reduction Summary** 

# Page 7 of 11

Date: 3/7/2017 10:31 AM

Category	ROG	NOx	со	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
Electricity	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.59	2.59	2.81	2.70	2.59
Hearth	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
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	11.42	18.90	22.75	29.54	28.87	28.80	0.00	29.63	29.63	21.98	0.00	29.62
Natural Gas	21.34	21.38	21.39	21.74	21.53	21.53	0.00	21.37	21.37	21.52	22.37	21.37
Water Indoor	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 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:

Mitigation	Category	Measure	% Reduction	Input Value 1	Input Value 2	Input Value
Yes	Land Use	Increase Density	0.00	20.00	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		
Yes	Land Use	Increase Transit Accessibility	0.22	0.07		
No	Land Use	Integrate Below Market Rate Housing	0.00	0.00		
	Land Use	Land Use SubTotal	0.31			

/ersion: CalEEMod.2016.3.1	Page 8 of 11		Date: 3/7	7/2017 10:31 AM	
Neighborhood Enhancements	Improve Pedestrian Network	1.00	Project Site		
Neighborhood Enhancements	Provide Traffic Calming Measures	0.00			
Neighborhood Enhancements	Implement NEV Network	0.00			
Neighborhood Enhancements	Neighborhood Enhancements Subtotal	0.01			
Parking Policy Pricing	Limit Parking Supply	0.00	0.00		
Parking Policy Pricing	Unbundle Parking Costs	0.00	0.00		
Parking Policy Pricing	On-street Market Pricing	0.00	0.00		
Parking Policy Pricing	Parking Policy Pricing Subtotal	0.00			
Transit Improvements	Provide BRT System	0.00	0.00		
Transit Improvements	Expand Transit Network	0.00	0.00		
Transit Improvements	Increase Transit Frequency	0.00		0.00	
Transit Improvements	Transit Improvements Subtotal	0.00			
	Land Use and Site Enhancement Subtotal	0.32			
Commute	Implement Trip Reduction Program				
Commute	Transit Subsidy				
Commute	Implement Employee Parking "Cash Out"				
Commute	Workplace Parking Charge		0.00		
Commute	Encourage Telecommuting and Alternative Work Schedules	0.00			
Commute	Market Commute Trip Reduction Option	0.00			
Commute	Employee Vanpool/Shuttle	0.00		2.00	
Commute	Provide Ride Sharing Program				
Commute	Commute Subtotal	0.00			
	Version: CalEEMod.2016.3.1 Neighborhood Enhancements Neighborhood Enhancements Neighborhood Enhancements Neighborhood Enhancements Parking Policy Pricing Parking Policy Pricing Parking Policy Pricing Transit Improvements Transit Improvements Transit Improvements Transit Improvements Transit Improvements Commute Commute Commute Commute Commute Commute Commute Commute	fersion: CalEEMod.2016.3.1   Page 8 of 11     Neighborhood Enhancements   Improve Pedestrian Network     Neighborhood Enhancements   Implement NEV Network     Neighborhood Enhancements   Implement NEV Network     Neighborhood Enhancements   Implement NEV Network     Neighborhood Enhancements   Neighborhood Enhancements Subtotal     Parking Policy Pricing   Limit Parking Supply     Parking Policy Pricing   On-street Market Pricing     Parking Policy Pricing   Parking Policy Pricing Subtotal     Transit Improvements   Provide BRT System     Transit Improvements   Increase Transit Frequency     Transit Improvements   Increase Transit Frequency     Transit Improvements   Transit Improvements Subtotal     Land Use and Site Enhancement Subtotal   Land Use and Site Enhancement Subtotal     Commute   Implement Trip Reduction Program     Commute   Workplace Parking Charge     Commute   Encourage Telecommuting and Alternative     Work Schedules   Work Schedules     Commute   Employee Vanpool/Shuttle     Commute   Provide Ride Sharing Program     Commute   Provide Ride Sharing Program	fersion: CalEEMod.2016.3.1   Page 8 of 11     Neighborhood Enhancements   Improve Pedestrian Network   1.00     Neighborhood Enhancements   Implement NEV Network   0.00     Neighborhood Enhancements   Implement NEV Network   0.00     Neighborhood Enhancements   Neighborhood Enhancements   0.00     Neighborhood Enhancements   Neighborhood Enhancements   0.00     Parking Policy Pricing   Limit Parking Supply   0.00     Parking Policy Pricing   On-street Market Pricing   0.00     Parking Policy Pricing   Parking Policy Pricing Subtotal   0.00     Parking Policy Pricing   Parking Policy Pricing Subtotal   0.00     Transit Improvements   Provide BRT System   0.00     Transit Improvements   Increase Transit Network   0.00     Transit Improvements   Increase Transit Frequency   0.00     Transit Improvements   Transit Improvements Subtotal   0.32     Commute   Implement Trip Reduction Program   0.32     Commute   Implement Employee Parking Cash Out"   0.00     Commute   Encourage Telecommuting and Alternative   0.00     WorkSchadules   0.00 <td< td=""><td>fersion: CalEEMod.2016.3.1   Page 8 of 11   Date: 37.     Neighborhood Enhancements   Improve Pedestrian Network   1.00     Neighborhood Enhancements   Provide Traffic Calming Measures   0.00     Neighborhood Enhancements   Implement NEV Network   0.00     Neighborhood Enhancements   Implement NEV Network   0.00     Neighborhood Enhancements   Neighborhood Enhancements Subtotal   0.01     Parking Policy Pricing   Unitt Parking Supply   0.00   0.00     Parking Policy Pricing   On-street Market Pricing   0.00   0.00     Parking Policy Pricing   Provide BRT System   0.00   0.00     Transit Improvements   Expand Transit Network   0.00   0.00     Transit Improvements   Increase Transit Frequency   0.00   0.00     Transit Improvements   Transit Improvements Subtotal   0.32   0.00     Commute   Implement Trip Reduction Program   0.00   0.00     Commute   Implement Employee Parking Cash Out*   0.00   0.00     Commute   Market Commute Trip Reduction Option   0.00   0.00     Commute   Encourage Telecommuting and Alternative</td><td>fersion: CallEEMod.2016.3.1 Page 8 of 11 Date: 3/7/2017 10:31 AM   Neighborhood Enhancements Improve Pedestrian Network 1.00 Project Site   Neighborhood Enhancements Implement NEV Network 0.00 0.00   Neighborhood Enhancements Implement NEV Network 0.00 0.00   Neighborhood Enhancements Implement NEV Network 0.00 0.00   Neighborhood Enhancements Neighborhood Enhancements Subtotal 0.01 0.00   Parking Policy Pricing Umutle Parking Costs 0.00 0.00   Parking Policy Pricing On-street Market Pricing 0.00 0.00   Transit Improvements Expand Transit Network 0.00 0.00   Transit Improvements Increase Transit Frequency 0.00 0.00   Transit Improvements Transit Subtotal 0.32 0.00   Commute Implement Trip Reduction Program 0.00 0.00   Commute Implement Employee Parking 'Cash Out' 0.00 0.00   Commute Market Commute</td></td<>	fersion: CalEEMod.2016.3.1   Page 8 of 11   Date: 37.     Neighborhood Enhancements   Improve Pedestrian Network   1.00     Neighborhood Enhancements   Provide Traffic Calming Measures   0.00     Neighborhood Enhancements   Implement NEV Network   0.00     Neighborhood Enhancements   Implement NEV Network   0.00     Neighborhood Enhancements   Neighborhood Enhancements Subtotal   0.01     Parking Policy Pricing   Unitt Parking Supply   0.00   0.00     Parking Policy Pricing   On-street Market Pricing   0.00   0.00     Parking Policy Pricing   Provide BRT System   0.00   0.00     Transit Improvements   Expand Transit Network   0.00   0.00     Transit Improvements   Increase Transit Frequency   0.00   0.00     Transit Improvements   Transit Improvements Subtotal   0.32   0.00     Commute   Implement Trip Reduction Program   0.00   0.00     Commute   Implement Employee Parking Cash Out*   0.00   0.00     Commute   Market Commute Trip Reduction Option   0.00   0.00     Commute   Encourage Telecommuting and Alternative	fersion: CallEEMod.2016.3.1 Page 8 of 11 Date: 3/7/2017 10:31 AM   Neighborhood Enhancements Improve Pedestrian Network 1.00 Project Site   Neighborhood Enhancements Implement NEV Network 0.00 0.00   Neighborhood Enhancements Implement NEV Network 0.00 0.00   Neighborhood Enhancements Implement NEV Network 0.00 0.00   Neighborhood Enhancements Neighborhood Enhancements Subtotal 0.01 0.00   Parking Policy Pricing Umutle Parking Costs 0.00 0.00   Parking Policy Pricing On-street Market Pricing 0.00 0.00   Transit Improvements Expand Transit Network 0.00 0.00   Transit Improvements Increase Transit Frequency 0.00 0.00   Transit Improvements Transit Subtotal 0.32 0.00   Commute Implement Trip Reduction Program 0.00 0.00   Commute Implement Employee Parking 'Cash Out' 0.00 0.00   Commute Market Commute

С	alEEMod \	/ersion: CalEEMod.2016.3.1	Page 9 of 11	Da	te: 3/7/2017 10:31 AM
ſ	No	School Trip	Implement School Bus Program	0.00	1
			Total VMT Reduction	0.32	

# Area Mitigation

Measure Implemented	Mitigation Measure	Input Value
No	Only Natural Gas Hearth	
Yes	No Hearth	T I I I
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

Measure Implemented	Mitigation Measure	Input Value 1	Input Value 2
Yes	Exceed Title 24	28.00	
No	Install High Efficiency Lighting		
No	On-site Renewable		

Page 10 of 11

Appliance Type	Land Use Subtype	% Improvement
ClothWasher		30.00
DishWasher		15.00
Fan		50.00
Refrigerator	r	15.00

# Water Mitigation Measures

Measure Implemented	Mitigation Measure	Input Value 1	Input Value 2
No	Apply Water Conservation on Strategy		
No	Use Reclaimed Water		
No	Use Grey Water		
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		
No	Use Water Efficient Irrigation Systems	6.10	
No	Water Efficient Landscape	r	

# **Solid Waste Mitigation**

Mitigation Measures	Input Value

CalEEMod Version: CalEEMod.2016.3.1	Page 11 of 11
Institute Recycling and Composting Services Percent Reduction in Waste Disposed	

Date: 3/7/2017 10:31 AM

#### Almond Knolls (unmitigated) - Bay Area AQMD Air District, Summary Report

## Almond Knolls (unmitigated)

Bay Area AQMD, Summary Report

## **1.0 Project Characteristics**

## 1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments Low Rise	58.00	Dwelling Unit	2.90	58,000.00	166

#### **1.2 Other Project Characteristics**

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	64
Climate Zone	4			Operational Year	2019
Utility Company	Pacific Gas & Electric Com	pany			
CO2 Intensity (Ib/MWhr)	409.81	CH4 Intensity (Ib/MWhr)	0.029	N2O Intensity (Ib/MWhr)	0.006

#### **1.3 User Entered Comments**

Only CalEEMod defaults were used.

Project Characteristics - Intensity Factors for CO2 adjusted based on PG&E RPS reductions

Land Use - \*Applicant provided

Construction Phase - \*Applicant provided

Grading - \*Applicant provided

Energy Use -

Mobile Land Use Mitigation - \*Applicant provided

Area Mitigation -

Energy Mitigation -

Almond Knolls (unmitigated) - Bay Area AQMD Air District, Summary Report

# 2.0 Peak Daily Emissions

#### Peak Daily Construction Emissions

#### Peak Daily Construction Emissions

		Unmitigated				Mitigated							
		ROG	NOX	СО	SO2	PM10	PM2.5	ROG	NOX	со	SO2	PM10	PM2.5
Year	Phase						lb/d	day					
2018	Site Preparation	1.9595 W	24.4749 W	13.1658 S	0.0273 S	2.6071 W	1.0770 W	1.9595 W	24.4749 W	13.1658 S	0.0273 S	2.6071 W	1.0770 W
2018	Grading	3.1715 W	57.4396 W	17.2974 W	0.1029 S	9.5505 W	5.0597 W	3.1715 W	57.4396 W	17.2974 W	0.1029 S	9.5505 W	5.0597 W
2018	Building Construction	3.1324 W	21.6529 W	17.3261 S	0.0304 S	1.6517 W	1.3164 W	3.1324 W	21.6529 W	17.3261 S	0.0304 S	1.6517 W	1.3164 W
2019	Building Construction	2.7561 W	19.7934 W	16.6898 S	0.0302 S	1.4833 W	1.1553 W	2.7561 W	19.7934 W	16.6898 S	0.0302 S	1.4833 W	1.1553 W
2018	Paving	4.6038 W	35.9551 W	29.8073 S	0.0495 S	3.0621 W	2.2404 W	4.6038 W	35.9551 W	29.8073 S	0.0495 S	3.0621 W	2.2404 W
2018	Architectural Coating	3.0562 W	2.0327 W	2.1222 S	3.6700e-003 S	0.2167 S	0.1684 S	3.0562 W	2.0327 W	2.1222 S	3.6700e-003 S	0.2167 S	0.1684 S
2019	Architectural Coating	3.0205 W	1.8589 W	2.0799 S	3.6500e-003 S	0.1949 S	0.1466 S	3.0205 W	1.8589 W	2.0799 S	3.6500e-003 S	0.1949 S	0.1466 S
	Peak Daily Total	4.6038 W	57.4396 W	29.8073 S	0.1029 S	9.5505 W	5.0597 W	4.6038 W	57.4396 W	29.8073 S	0.1029 S	9.5505 W	5.0597 W
	Air District Threshold												
	Exceed Significance?												

**Peak Daily Operational Emissions** 

Peak Daily Operational Emissions

#### Almond Knolls (unmitigated) - Bay Area AQMD Air District, Summary Report

	Unmitigated					Mitigated							
ROG NOX CO SO2 PM10 PM2.5					ROG	NOX	CO	SO2	PM10	PM2.5			
	Operational Activity						lb/e	day					
On-Site	Area	25.4652 S	0.5830 S	36.3234 S	0.0610 S	4.5003 S	4.5003 S	1.6121 S	0.0557 S	4.8088 S	2.5000e-004 S	0.0264 S	0.0264 S
On-Site	Energy	0.0228 S	0.1951 S	0.0830 S	1.2400e-003 S	0.0158 S	0.0158 S	0.0180 S	0.1534 S	0.0653 S	9.8000e-004 S	0.0124 S	0.0124 S
Off-Site	Mobile	0.8287 S	3.5180 W	8.6414 W	0.0261 S	2.0703 W	0.5756 W	0.7435 S	2.8415 W	6.7604 W	0.0184 S	1.4127 W	0.3934 W
	Peak Daily Total	26.3168 S	4.2961 W	45.0478 W	0.0883 S	6.5864 W	5.0916 W	2.3736 S	3.0505 W	11.6344 W	0.0196 S	1.4514 W	0.4321 W
	Air District Threshold												
	Exceed Significance?												

# 3.0 Annual GHG Emissions

### Annual GHG

Annual GHG

			Unmit	igated		Mitigated			
	CO2	CH4	N2O	CO2e	CO2	CH4	N2O	CO2e	
GHG Activity	Year	MT/yr							
Construction	2018	281.5175	0.0458	0.0000	282.6621	281.5172	0.0458	0.0000	282.6619
Construction	2019	206.6509	0.0342	0.0000	207.5050	206.6507	0.0342	0.0000	207.5048
Operational	2019	486.1015	0.4686	4.6448e-003	499.2010	360.2055	0.4606	4.2910e-003	372.9998
	Total								
	Significance Threshold								
	Exceed Significance?								

#### Almond Knolls (unmitigated) - Bay Area AQMD Air District, Summer

## Almond Knolls (unmitigated)

Bay Area AQMD Air District, Summer

#### **1.0 Project Characteristics**

## 1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments Low Rise	58.00	Dwelling Unit	2.90	58,000.00	166

#### **1.2 Other Project Characteristics**

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	64
Climate Zone	4			Operational Year	2019
Utility Company	Pacific Gas & Electric Com	pany			
CO2 Intensity (Ib/MWhr)	409.81	CH4 Intensity (Ib/MWhr)	0.029	N2O Intensity ( (Ib/MWhr)	0.006

## 1.3 User Entered Comments & Non-Default Data

Project Characteristics - Intensity Factors for CO2 adjusted based on PG&E RPS reductions Land Use - \*Applicant provided Construction Phase - \*Applicant provided Grading - \*Applicant provided Energy Use -Construction Off-road Equipment Mitigation - Mitigation requirement Mobile Land Use Mitigation - \*Applicant provided Area Mitigation -Energy Mitigation -

#### Page 2 of 28

#### Almond Knolls (unmitigated) - Bay Area AQMD Air District, Summer

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	0
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2

Almond Knolls (unmitigated) - Bay Are	ea AQMD Air District, Summer
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tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstructionPhase	NumDays	10.00	300.00
tblConstructionPhase	NumDays	220.00	300.00
tblConstructionPhase	NumDays	6.00	10.00
tblConstructionPhase	NumDays	10.00	2.00
tblConstructionPhase	NumDays	3.00	2.00
tblGrading	AcresOfGrading	5.00	2.90
tblGrading	AcresOfGrading	3.00	2.90
tblGrading	MaterialExported	0.00	8,000.00
tblGrading	MaterialExported	0.00	40.00
tblLandUse	LotAcreage	3.63	2.90
tblProjectCharacteristics	CO2IntensityFactor	641.35	409.81
tblProjectCharacteristics	OperationalYear	2018	2019

# 2.0 Emissions Summary

## Almond Knolls (unmitigated) - Bay Area AQMD Air District, Summer

#### 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/d	day		
2018	6.1748	56.5975	19.4483	0.1029	8.2492	1.4169	9.5478	3.8576	1.3641	5.0571	0.0000	10,849.79 02	10,849.79 02	1.0954	0.0000	10,877.17 47
2019	7.0667	34.2183	31.0677	0.0530	0.5746	1.9577	2.5323	0.1533	1.8547	2.0080	0.0000	5,066.791 3	5,066.791 3	1.0705	0.0000	5,093.553 4
Maximum	7.0667	56.5975	31.0677	0.1029	8.2492	1.9577	9.5478	3.8576	1.8547	5.0571	0.0000	10,849.79 02	10,849.79 02	1.0954	0.0000	10,877.17 47

#### Mitigated Construction

	ROG	NOx	СО	SO2	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		
2018	4.0245	50.4130	19.1163	0.1029	8.2492	0.9218	8.8645	3.8576	0.9213	4.4673	0.0000	10,849.79 02	10,849.79 02	1.0954	0.0000	10,877.17 47
2019	4.7924	38.9138	32.3354	0.0530	0.5746	1.4795	2.0541	0.1533	1.4790	1.6324	0.0000	5,066.791 3	5,066.791 3	1.0705	0.0000	5,093.553 4
Maximum	4.7924	50.4130	32.3354	0.1029	8.2492	1.4795	8.8645	3.8576	1.4790	4.4673	0.0000	10,849.79 02	10,849.79 02	1.0954	0.0000	10,877.17 47
	ROG	NOx	со	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	33.42	1.64	-1.85	0.00	0.00	28.84	9.61	0.00	25.43	13.67	0.00	0.00	0.00	0.00	0.00	0.00

Page 5 of 28

#### Almond Knolls (unmitigated) - Bay Area AQMD Air District, Summer

# 2.2 Overall Operational

## Unmitigated Operational

	ROG	NOx	со	SO2	Fugitive 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/c	day							lb/c	lay		
Area	25.4652	0.5830	36.3234	0.0610		4.5003	4.5003		4.5003	4.5003	485.5091	223.5572	709.0663	0.6729	0.0343	736.1141
Energy	0.0228	0.1951	0.0830	1.2400e- 003		0.0158	0.0158		0.0158	0.0158		248.9988	248.9988	4.7700e- 003	4.5600e- 003	250.4785
Mobile	0.8287	3.3244	8.4871	0.0261	2.0385	0.0315	2.0700	0.5456	0.0297	0.5753		2,634.042 5	2,634.042 5	0.1042		2,636.647 6
Total	26.3168	4.1025	44.8935	0.0883	2.0385	4.5476	6.5861	0.5456	4.5458	5.0914	485.5091	3,106.598 6	3,592.107 6	0.7818	0.0389	3,623.240 1

#### 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/o	day					
Area	1.6121	0.0557	4.8088	2.5000e- 004		0.0264	0.0264		0.0264	0.0264	0.0000	8.6160	8.6160	8.4600e- 003	0.0000	8.8275
Energy	0.0180	0.1534	0.0653	9.8000e- 004		0.0124	0.0124		0.0124	0.0124		195.7940	195.7940	3.7500e- 003	3.5900e- 003	196.9575
Mobile	0.7435	2.7114	6.3822	0.0184	1.3900	0.0224	1.4124	0.3720	0.0211	0.3931		1,852.477 5	1,852.477 5	0.0802		1,854.482 0
Total	2.3736	2.9204	11.2562	0.0196	1.3900	0.0612	1.4511	0.3720	0.0599	0.4319	0.0000	2,056.887 5	2,056.887 5	0.0924	3.5900e- 003	2,060.266 9

#### Almond Knolls (unmitigated) - Bay Area AQMD Air District, Summer

	ROG	NOx	со	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	90.98	28.81	74.93	77.82	31.81	98.66	77.97	31.81	98.68	91.52	100.00	33.79	42.74	88.18	90.77	43.14

# **3.0 Construction Detail**

#### **Construction Phase**

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	5/7/2018	5/8/2018	5	2	
2	Grading	Grading	5/9/2018	5/22/2018	5	10	
3	Building Construction	Building Construction	5/25/2018	7/18/2019	5	300	
4	Paving	Paving	5/23/2019	5/24/2019	5	2	
5	Architectural Coating	Architectural Coating	6/8/2018	8/1/2019	5	300	

Acres of Grading (Site Preparation Phase): 2.9

Acres of Grading (Grading Phase): 2.9

Acres of Paving: 0

Residential Indoor: 117,450; Residential Outdoor: 39,150; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

#### Almond Knolls (unmitigated) - Bay Area AQMD Air District, Summer

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Scrapers	1	8.00	367	0.48
Site Preparation	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Paving	Cement and Mortar Mixers	1	8.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Building Construction	Cranes	1	8.00	231	0.29
Building Construction	Forklifts	2	7.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Architectural Coating	Air Compressors	1	6.00	78	0.48

# Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	3	8.00	0.00	5.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	1,000.00	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
Building Construction	8	42.00	6.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	8.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

Page 8 of 28

#### Almond Knolls (unmitigated) - Bay Area AQMD Air District, Summer

#### **3.1 Mitigation Measures Construction**

Use Cleaner Engines for Construction Equipment

# 3.2 Site Preparation - 2018

#### 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/c	lay		
Fugitive Dust					1.5400	0.0000	1.5400	0.1664	0.0000	0.1664			0.0000			0.0000
Off-Road	1.8995	23.6201	12.7461	0.0245		0.9540	0.9540		0.8777	0.8777		2,468.413 1	2,468.413 1	0.7685		2,487.624 4
Total	1.8995	23.6201	12.7461	0.0245	1.5400	0.9540	2.4940	0.1664	0.8777	1.0441		2,468.413 1	2,468.413 1	0.7685		2,487.624 4

Page 9 of 28

#### Almond Knolls (unmitigated) - Bay Area AQMD Air District, Summer

# 3.2 Site Preparation - 2018

## 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/e	day							lb/c	day		
Hauling	0.0237	0.8070	0.1517	2.0400e- 003	0.0437	3.2400e- 003	0.0469	0.0120	3.1000e- 003	0.0151		217.1242	217.1242	0.0112		217.4030
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0337	0.0218	0.2680	7.0000e- 004	0.0657	4.4000e- 004	0.0662	0.0174	4.1000e- 004	0.0178		69.8851	69.8851	2.0400e- 003		69.9361
Total	0.0574	0.8288	0.4197	2.7400e- 003	0.1094	3.6800e- 003	0.1131	0.0294	3.5100e- 003	0.0329		287.0093	287.0093	0.0132		287.3391

#### 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/o	day							lb/c	lay		
Fugitive Dust		, , ,			1.5400	0.0000	1.5400	0.1664	0.0000	0.1664			0.0000			0.0000
Off-Road	0.6625	20.0179	13.6431	0.0245		0.4988	0.4988		0.4988	0.4988	0.0000	2,468.413 1	2,468.413 1	0.7685		2,487.624 4
Total	0.6625	20.0179	13.6431	0.0245	1.5400	0.4988	2.0387	0.1664	0.4988	0.6651	0.0000	2,468.413 1	2,468.413 1	0.7685		2,487.624 4

Page 10 of 28

#### Almond Knolls (unmitigated) - Bay Area AQMD Air District, Summer

# 3.2 Site Preparation - 2018

#### 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/e	day							lb/c	day		
Hauling	0.0237	0.8070	0.1517	2.0400e- 003	0.0437	3.2400e- 003	0.0469	0.0120	3.1000e- 003	0.0151		217.1242	217.1242	0.0112		217.4030
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0337	0.0218	0.2680	7.0000e- 004	0.0657	4.4000e- 004	0.0662	0.0174	4.1000e- 004	0.0178		69.8851	69.8851	2.0400e- 003		69.9361
Total	0.0574	0.8288	0.4197	2.7400e- 003	0.1094	3.6800e- 003	0.1131	0.0294	3.5100e- 003	0.0329		287.0093	287.0093	0.0132		287.3391

3.3 Grading - 2018

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/e	day							lb/c	day		
Fugitive Dust		, , ,	1		6.4201	0.0000	6.4201	3.3571	0.0000	3.3571			0.0000			0.0000
Off-Road	2.1515	24.2895	10.3804	0.0206		1.1683	1.1683		1.0748	1.0748		2,077.466 6	2,077.466 6	0.6467		2,093.635 2
Total	2.1515	24.2895	10.3804	0.0206	6.4201	1.1683	7.5884	3.3571	1.0748	4.4320		2,077.466 6	2,077.466 6	0.6467		2,093.635 2

Page 11 of 28

#### Almond Knolls (unmitigated) - Bay Area AQMD Air District, Summer

# 3.3 Grading - 2018

#### 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/e	day							lb/c	day		
Hauling	0.9472	32.2808	6.0679	0.0814	1.7469	0.1298	1.8767	0.4787	0.1242	0.6029		8,684.967 2	8,684.967 2	0.4461		8,696.119 3
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0421	0.0272	0.3350	8.8000e- 004	0.0822	5.5000e- 004	0.0827	0.0218	5.1000e- 004	0.0223		87.3564	87.3564	2.5500e- 003		87.4202
Total	0.9893	32.3080	6.4029	0.0823	1.8291	0.1303	1.9594	0.5005	0.1247	0.6252		8,772.323 6	8,772.323 6	0.4486		8,783.539 5

#### Mitigated Construction On-Site

	ROG	NOx	СО	SO2	Fugitive 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/o	day							lb/d	day		
Fugitive Dust		1			6.4201	0.0000	6.4201	3.3571	0.0000	3.3571			0.0000			0.0000
Off-Road	0.6262	18.1050	12.1450	0.0206		0.4850	0.4850		0.4850	0.4850	0.0000	2,077.466 6	2,077.466 6	0.6467		2,093.635 2
Total	0.6262	18.1050	12.1450	0.0206	6.4201	0.4850	6.9051	3.3571	0.4850	3.8422	0.0000	2,077.466 6	2,077.466 6	0.6467		2,093.635 2

Page 12 of 28

#### Almond Knolls (unmitigated) - Bay Area AQMD Air District, Summer

# 3.3 Grading - 2018

#### Mitigated Construction Off-Site

	ROG	NOx	СО	SO2	Fugitive 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/d	day							lb/c	day		
Hauling	0.9472	32.2808	6.0679	0.0814	1.7469	0.1298	1.8767	0.4787	0.1242	0.6029		8,684.967 2	8,684.967 2	0.4461		8,696.119 3
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	,	0.0000
Worker	0.0421	0.0272	0.3350	8.8000e- 004	0.0822	5.5000e- 004	0.0827	0.0218	5.1000e- 004	0.0223		87.3564	87.3564	2.5500e- 003		87.4202
Total	0.9893	32.3080	6.4029	0.0823	1.8291	0.1303	1.9594	0.5005	0.1247	0.6252		8,772.323 6	8,772.323 6	0.4486		8,783.539 5

# 3.4 Building Construction - 2018

Unmitigated Construction On-Site

	ROG	NOx	СО	SO2	Fugitive 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/d	day							lb/d	lay		
Off-Road	2.9127	20.7077	15.7183	0.0250		1.2575	1.2575		1.2051	1.2051		2,329.775 9	2,329.775 9	0.5019		2,342.323 2
Total	2.9127	20.7077	15.7183	0.0250		1.2575	1.2575		1.2051	1.2051		2,329.775 9	2,329.775 9	0.5019		2,342.323 2

Page 13 of 28

#### Almond Knolls (unmitigated) - Bay Area AQMD Air District, Summer

# 3.4 Building Construction - 2018

#### 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/e	day							lb/c	day		
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0310	0.7922	0.2007	1.6800e- 003	0.0406	6.1300e- 003	0.0467	0.0117	5.8600e- 003	0.0176		177.2986	177.2986	9.7400e- 003		177.5422
Worker	0.1769	0.1143	1.4071	3.6900e- 003	0.3450	2.3300e- 003	0.3474	0.0915	2.1500e- 003	0.0937		366.8968	366.8968	0.0107		367.1647
Total	0.2079	0.9065	1.6078	5.3700e- 003	0.3856	8.4600e- 003	0.3941	0.1032	8.0100e- 003	0.1112		544.1955	544.1955	0.0205		544.7069

#### Mitigated Construction On-Site

	ROG	NOx	со	SO2	Fugitive 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/c	Jay							lb/d	Jay		
Off-Road	0.9471	20.0464	15.4081	0.0250		0.8178	0.8178		0.8178	0.8178	0.0000	2,329.775 9	2,329.775 9	0.5019		2,342.323 2
Total	0.9471	20.0464	15.4081	0.0250		0.8178	0.8178		0.8178	0.8178	0.0000	2,329.775 9	2,329.775 9	0.5019		2,342.323 2

Page 14 of 28

#### Almond Knolls (unmitigated) - Bay Area AQMD Air District, Summer

## 3.4 Building Construction - 2018

#### Mitigated Construction Off-Site

	ROG	NOx	СО	SO2	Fugitive 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/e	day							lb/c	day		
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0310	0.7922	0.2007	1.6800e- 003	0.0406	6.1300e- 003	0.0467	0.0117	5.8600e- 003	0.0176		177.2986	177.2986	9.7400e- 003		177.5422
Worker	0.1769	0.1143	1.4071	3.6900e- 003	0.3450	2.3300e- 003	0.3474	0.0915	2.1500e- 003	0.0937		366.8968	366.8968	0.0107		367.1647
Total	0.2079	0.9065	1.6078	5.3700e- 003	0.3856	8.4600e- 003	0.3941	0.1032	8.0100e- 003	0.1112		544.1955	544.1955	0.0205		544.7069

3.4 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	со	SO2	Fugitive 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/d	day							lb/c	lay		
Off-Road	2.5581	18.9103	15.2545	0.0250		1.0901	1.0901		1.0449	1.0449		2,312.145 4	2,312.145 4	0.4810		2,324.170 5
Total	2.5581	18.9103	15.2545	0.0250		1.0901	1.0901		1.0449	1.0449		2,312.145 4	2,312.145 4	0.4810		2,324.170 5

Page 15 of 28

#### Almond Knolls (unmitigated) - Bay Area AQMD Air District, Summer

# 3.4 Building Construction - 2019

#### 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/o	day							lb/c	lay		
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0278	0.7494	0.1830	1.6600e- 003	0.0406	5.1800e- 003	0.0458	0.0117	4.9600e- 003	0.0167		176.1330	176.1330	9.3100e- 003		176.3659
Worker	0.1597	0.1000	1.2524	3.5700e- 003	0.3450	2.2800e- 003	0.3473	0.0915	2.1100e- 003	0.0936		355.9155	355.9155	9.4600e- 003		356.1520
Total	0.1875	0.8494	1.4354	5.2300e- 003	0.3856	7.4600e- 003	0.3931	0.1032	7.0700e- 003	0.1103		532.0485	532.0485	0.0188		532.5179

#### Mitigated Construction On-Site

	ROG	NOx	со	SO2	Fugitive 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/c	yay							lb/c	lay		
Off-Road	0.9471	20.0464	15.4081	0.0250		0.8178	0.8178	,	0.8178	0.8178	0.0000	2,312.145 4	2,312.145 4	0.4810		2,324.170 5
Total	0.9471	20.0464	15.4081	0.0250		0.8178	0.8178		0.8178	0.8178	0.0000	2,312.145 4	2,312.145 4	0.4810		2,324.170 5

Page 16 of 28

#### Almond Knolls (unmitigated) - Bay Area AQMD Air District, Summer

## 3.4 Building Construction - 2019

#### Mitigated Construction Off-Site

	ROG	NOx	СО	SO2	Fugitive 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/e	lb/day										
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0278	0.7494	0.1830	1.6600e- 003	0.0406	5.1800e- 003	0.0458	0.0117	4.9600e- 003	0.0167		176.1330	176.1330	9.3100e- 003		176.3659
Worker	0.1597	0.1000	1.2524	3.5700e- 003	0.3450	2.2800e- 003	0.3473	0.0915	2.1100e- 003	0.0936		355.9155	355.9155	9.4600e- 003		356.1520
Total	0.1875	0.8494	1.4354	5.2300e- 003	0.3856	7.4600e- 003	0.3931	0.1032	7.0700e- 003	0.1103		532.0485	532.0485	0.0188		532.5179

3.5 Paving - 2019

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/c	lay		
Off-Road	1.2453	12.5685	11.8507	0.0178		0.7301	0.7301		0.6728	0.6728		1,746.243 2	1,746.243 2	0.5418		1,759.787 0
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.2453	12.5685	11.8507	0.0178		0.7301	0.7301		0.6728	0.6728		1,746.243 2	1,746.243 2	0.5418		1,759.787 0

Page 17 of 28

#### Almond Knolls (unmitigated) - Bay Area AQMD Air District, Summer

# 3.5 Paving - 2019

#### Unmitigated Construction Off-Site

	ROG	NOx	СО	SO2	Fugitive 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/e	lb/day										
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0570	0.0357	0.4473	1.2800e- 003	0.1232	8.2000e- 004	0.1240	0.0327	7.5000e- 004	0.0334		127.1127	127.1127	3.3800e- 003		127.1972
Total	0.0570	0.0357	0.4473	1.2800e- 003	0.1232	8.2000e- 004	0.1240	0.0327	7.5000e- 004	0.0334		127.1127	127.1127	3.3800e- 003		127.1972

#### 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/d	lay		
Off-Road	0.7344	15.6108	12.9737	0.0178		0.5580	0.5580		0.5580	0.5580	0.0000	1,746.243 2	1,746.243 2	0.5418		1,759.787 0
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.7344	15.6108	12.9737	0.0178		0.5580	0.5580		0.5580	0.5580	0.0000	1,746.243 2	1,746.243 2	0.5418		1,759.787 0

Page 18 of 28

#### Almond Knolls (unmitigated) - Bay Area AQMD Air District, Summer

# 3.5 Paving - 2019

#### Mitigated Construction Off-Site

	ROG	NOx	СО	SO2	Fugitive 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/d	lb/day										
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0570	0.0357	0.4473	1.2800e- 003	0.1232	8.2000e- 004	0.1240	0.0327	7.5000e- 004	0.0334		127.1127	127.1127	3.3800e- 003		127.1972
Total	0.0570	0.0357	0.4473	1.2800e- 003	0.1232	8.2000e- 004	0.1240	0.0327	7.5000e- 004	0.0334		127.1127	127.1127	3.3800e- 003		127.1972

3.6 Architectural Coating - 2018

Unmitigated Construction On-Site

	ROG	NOx	СО	SO2	Fugitive 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/c	lay		
Archit. Coating	2.7219					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2986	2.0058	1.8542	2.9700e- 003		0.1506	0.1506		0.1506	0.1506		281.4485	281.4485	0.0267		282.1171
Total	3.0205	2.0058	1.8542	2.9700e- 003		0.1506	0.1506		0.1506	0.1506		281.4485	281.4485	0.0267		282.1171
Page 19 of 28

#### Almond Knolls (unmitigated) - Bay Area AQMD Air District, Summer

# 3.6 Architectural Coating - 2018

#### 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/o	day							lb/d	day		
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0337	0.0218	0.2680	7.0000e- 004	0.0657	4.4000e- 004	0.0662	0.0174	4.1000e- 004	0.0178		69.8851	69.8851	2.0400e- 003		69.9361
Total	0.0337	0.0218	0.2680	7.0000e- 004	0.0657	4.4000e- 004	0.0662	0.0174	4.1000e- 004	0.0178		69.8851	69.8851	2.0400e- 003		69.9361

	ROG	NOx	CO	SO2	Fugitive 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/e	day							lb/d	lay		
Archit. Coating	2.7219	, , ,		, , ,		0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1139	2.3524	1.8324	2.9700e- 003		0.0951	0.0951		0.0951	0.0951	0.0000	281.4485	281.4485	0.0267		282.1171
Total	2.8358	2.3524	1.8324	2.9700e- 003		0.0951	0.0951		0.0951	0.0951	0.0000	281.4485	281.4485	0.0267		282.1171

Page 20 of 28

#### Almond Knolls (unmitigated) - Bay Area AQMD Air District, Summer

# 3.6 Architectural Coating - 2018

#### 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/e	day							lb/d	day		
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0337	0.0218	0.2680	7.0000e- 004	0.0657	4.4000e- 004	0.0662	0.0174	4.1000e- 004	0.0178		69.8851	69.8851	2.0400e- 003		69.9361
Total	0.0337	0.0218	0.2680	7.0000e- 004	0.0657	4.4000e- 004	0.0662	0.0174	4.1000e- 004	0.0178		69.8851	69.8851	2.0400e- 003		69.9361

3.6 Architectural Coating - 2019

	ROG	NOx	СО	SO2	Fugitive 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/d	day							lb/c	lay		
Archit. Coating	2.7219					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2664	1.8354	1.8413	2.9700e- 003		0.1288	0.1288		0.1288	0.1288		281.4481	281.4481	0.0238		282.0423
Total	2.9883	1.8354	1.8413	2.9700e- 003		0.1288	0.1288		0.1288	0.1288		281.4481	281.4481	0.0238		282.0423

Page 21 of 28

#### Almond Knolls (unmitigated) - Bay Area AQMD Air District, Summer

# 3.6 Architectural Coating - 2019

#### 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/o	day							lb/c	day		
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0304	0.0191	0.2386	6.8000e- 004	0.0657	4.4000e- 004	0.0662	0.0174	4.0000e- 004	0.0178		67.7934	67.7934	1.8000e- 003		67.8385
Total	0.0304	0.0191	0.2386	6.8000e- 004	0.0657	4.4000e- 004	0.0662	0.0174	4.0000e- 004	0.0178		67.7934	67.7934	1.8000e- 003		67.8385

	ROG	NOx	CO	SO2	Fugitive 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/e	day							lb/d	lay		
Archit. Coating	2.7219	1 1 1	1	, , ,		0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1139	2.3524	1.8324	2.9700e- 003		0.0951	0.0951		0.0951	0.0951	0.0000	281.4481	281.4481	0.0238		282.0423
Total	2.8358	2.3524	1.8324	2.9700e- 003		0.0951	0.0951		0.0951	0.0951	0.0000	281.4481	281.4481	0.0238		282.0423

Page 22 of 28

#### Almond Knolls (unmitigated) - Bay Area AQMD Air District, Summer

# 3.6 Architectural Coating - 2019

#### 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/d	day		
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0304	0.0191	0.2386	6.8000e- 004	0.0657	4.4000e- 004	0.0662	0.0174	4.0000e- 004	0.0178		67.7934	67.7934	1.8000e- 003		67.8385
Total	0.0304	0.0191	0.2386	6.8000e- 004	0.0657	4.4000e- 004	0.0662	0.0174	4.0000e- 004	0.0178		67.7934	67.7934	1.8000e- 003		67.8385

# 4.0 Operational Detail - Mobile

#### 4.1 Mitigation Measures Mobile

Increase Density

Increase Transit Accessibility

Improve Pedestrian Network

Page 23 of 28

#### Almond Knolls (unmitigated) - Bay Area AQMD Air District, Summer

	ROG	NOx	CO	SO2	Fugitive 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/e	day							lb/c	day		
Mitigated	0.7435	2.7114	6.3822	0.0184	1.3900	0.0224	1.4124	0.3720	0.0211	0.3931		1,852.477 5	1,852.477 5	0.0802		1,854.482 0
Unmitigated	0.8287	3.3244	8.4871	0.0261	2.0385	0.0315	2.0700	0.5456	0.0297	0.5753		2,634.042 5	2,634.042 5	0.1042		2,636.647 6

#### 4.2 Trip Summary Information

	Aver	age Daily Trip Ra	ite	Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	382.22	415.28	352.06	883,735	602,590
Total	382.22	415.28	352.06	883,735	602,590

## 4.3 Trip Type Information

		Miles			Trip %			Trip Purpos	e %
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	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
Apartments Low Rise	0.570523	0.041853	0.194077	0.115893	0.018544	0.005373	0.016909	0.024079	0.002502	0.002562	0.005975	0.000872	0.000837

# 5.0 Energy Detail

Historical Energy Use: N

CalEEMod Version: CalEEMod.2016.3.1

Page 24 of 28

#### Almond Knolls (unmitigated) - Bay Area AQMD Air District, Summer

#### 5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive 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/e	day							lb/d	day		
NaturalGas Mitigated	0.0180	0.1534	0.0653	9.8000e- 004		0.0124	0.0124		0.0124	0.0124		195.7940	195.7940	3.7500e- 003	3.5900e- 003	196.9575
NaturalGas Unmitigated	0.0228	0.1951	0.0830	1.2400e- 003		0.0158	0.0158		0.0158	0.0158		248.9988	248.9988	4.7700e- 003	4.5600e- 003	250.4785

#### 5.2 Energy by Land Use - NaturalGas

#### <u>Unmitigated</u>

	NaturalGa s 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/d	day							lb/d	day		
Apartments Low Rise	2116.49	0.0228	0.1951	0.0830	1.2400e- 003		0.0158	0.0158		0.0158	0.0158		248.9988	248.9988	4.7700e- 003	4.5600e- 003	250.4785
Total		0.0228	0.1951	0.0830	1.2400e- 003		0.0158	0.0158		0.0158	0.0158		248.9988	248.9988	4.7700e- 003	4.5600e- 003	250.4785

Page 25 of 28

#### Almond Knolls (unmitigated) - Bay Area AQMD Air District, Summer

### 5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGa s 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/e	day							lb/e	day		
Apartments Low Rise	1.66425	0.0180	0.1534	0.0653	9.8000e- 004		0.0124	0.0124		0.0124	0.0124		195.7940	195.7940	3.7500e- 003	3.5900e- 003	196.9575
Total		0.0180	0.1534	0.0653	9.8000e- 004		0.0124	0.0124		0.0124	0.0124		195.7940	195.7940	3.7500e- 003	3.5900e- 003	196.9575

# 6.0 Area Detail

## 6.1 Mitigation Measures Area

No Hearths Installed

Page 26 of 28

#### Almond Knolls (unmitigated) - Bay Area AQMD Air District, Summer

	ROG	NOx	CO	SO2	Fugitive 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/d	day		
Mitigated	1.6121	0.0557	4.8088	2.5000e- 004		0.0264	0.0264		0.0264	0.0264	0.0000	8.6160	8.6160	8.4600e- 003	0.0000	8.8275
Unmitigated	25.4652	0.5830	36.3234	0.0610		4.5003	4.5003	<b></b> - - - -	4.5003	4.5003	485.5091	223.5572	709.0663	0.6729	0.0343	736.1141

# 6.2 Area by SubCategory

#### <u>Unmitigated</u>

	ROG	NOx	СО	SO2	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	0.2237		4 7 9 8			0.0000	0.0000	1 1 1 1	0.0000	0.0000			0.0000			0.0000
Consumer Products	1.2412		,			0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	23.8531	0.5273	31.5146	0.0607		4.4740	4.4740		4.4740	4.4740	485.5091	214.9412	700.4503	0.6644	0.0343	727.2866
Landscaping	0.1472	0.0557	4.8088	2.5000e- 004		0.0264	0.0264	,	0.0264	0.0264		8.6160	8.6160	8.4600e- 003		8.8275
Total	25.4652	0.5830	36.3234	0.0610		4.5003	4.5003		4.5003	4.5003	485.5091	223.5572	709.0663	0.6729	0.0343	736.1141

Page 27 of 28

#### Almond Knolls (unmitigated) - Bay Area AQMD Air District, Summer

### 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	0.2237			, , ,		0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.2412					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.1472	0.0557	4.8088	2.5000e- 004		0.0264	0.0264		0.0264	0.0264		8.6160	8.6160	8.4600e- 003		8.8275
Total	1.6121	0.0557	4.8088	2.5000e- 004		0.0264	0.0264		0.0264	0.0264	0.0000	8.6160	8.6160	8.4600e- 003	0.0000	8.8275

# 7.0 Water Detail

#### 7.1 Mitigation Measures Water

## 8.0 Waste Detail

#### 8.1 Mitigation Measures Waste

### 9.0 Operational Offroad

# **10.0 Stationary Equipment**

Page 28 of 28

#### Almond Knolls (unmitigated) - Bay Area AQMD Air District, Summer

#### 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	
User Defined Equipment						
Equipment Type	Number					
11.0 Vegetation						

### Almond Knolls (unmitigated) - Bay Area AQMD Air District, Winter

### Almond Knolls (unmitigated)

Bay Area AQMD Air District, Winter

#### **1.0 Project Characteristics**

### 1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments Low Rise	58.00	Dwelling Unit	2.90	58,000.00	166

#### **1.2 Other Project Characteristics**

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	64
Climate Zone	4			Operational Year	2019
Utility Company	Pacific Gas & Electric Com	pany			
CO2 Intensity (Ib/MWhr)	409.81	CH4 Intensity (Ib/MWhr)	0.029	N2O Intensity (Ib/MWhr)	0.006

### 1.3 User Entered Comments & Non-Default Data

Project Characteristics - Intensity Factors for CO2 adjusted based on PG&E RPS reductions Land Use - \*Applicant provided Construction Phase - \*Applicant provided Grading - \*Applicant provided Energy Use -Construction Off-road Equipment Mitigation - Mitigation requirement Mobile Land Use Mitigation - \*Applicant provided Area Mitigation -Energy Mitigation -

#### Page 2 of 28

#### Almond Knolls (unmitigated) - Bay Area AQMD Air District, Winter

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	0
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2

Almond Knolls (unmitigated) - Bay Area	AQMD Air	District,	Winter
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tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstructionPhase	NumDays	10.00	300.00
tblConstructionPhase	NumDays	220.00	300.00
tblConstructionPhase	NumDays	6.00	10.00
tblConstructionPhase	NumDays	10.00	2.00
tblConstructionPhase	NumDays	3.00	2.00
tblGrading	AcresOfGrading	5.00	2.90
tblGrading	AcresOfGrading	3.00	2.90
tblGrading	MaterialExported	0.00	8,000.00
tblGrading	MaterialExported	0.00	40.00
tblLandUse	LotAcreage	3.63	2.90
tblProjectCharacteristics	CO2IntensityFactor	641.35	409.81
tblProjectCharacteristics	OperationalYear	2018	2019

# 2.0 Emissions Summary

Page 4 of 28

#### Almond Knolls (unmitigated) - Bay Area AQMD Air District, Winter

#### 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/d	day							lb/d	day		
2018	6.1886	57.4396	19.3932	0.1015	8.2492	1.4170	9.5505	3.8576	1.3642	5.0597	0.0000	10,702.52 32	10,702.52 32	1.1203	0.0000	10,730.52 97
2019	7.0822	34.2650	30.9855	0.0525	0.5746	1.9578	2.5323	0.1533	1.8548	2.0081	0.0000	5,018.998 6	5,018.998 6	1.0704	0.0000	5,045.758 5
Maximum	7.0822	57.4396	30.9855	0.1015	8.2492	1.9578	9.5505	3.8576	1.8548	5.0597	0.0000	10,702.52 32	10,702.52 32	1.1203	0.0000	10,730.52 97

#### 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		
2018	4.0382	51.2552	19.0619	0.1015	8.2492	0.9219	8.8672	3.8576	0.9214	4.4699	0.0000	10,702.52 32	10,702.52 32	1.1203	0.0000	10,730.52 97
2019	4.8078	38.9605	32.2532	0.0525	0.5746	1.4796	2.0542	0.1533	1.4791	1.6324	0.0000	5,018.998 6	5,018.998 6	1.0704	0.0000	5,045.758 5
Maximum	4.8078	51.2552	32.2532	0.1015	8.2492	1.4796	8.8672	3.8576	1.4791	4.4699	0.0000	10,702.52 32	10,702.52 32	1.1203	0.0000	10,730.52 97
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	33.34	1.62	-1.86	0.00	0.00	28.84	9.61	0.00	25.43	13.66	0.00	0.00	0.00	0.00	0.00	0.00

Page 5 of 28

#### Almond Knolls (unmitigated) - Bay Area AQMD Air District, Winter

# 2.2 Overall Operational

### Unmitigated Operational

	ROG	NOx	со	SO2	Fugitive 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/d	day							lb/d	lay		
Area	25.4652	0.5830	36.3234	0.0610		4.5003	4.5003		4.5003	4.5003	485.5091	223.5572	709.0663	0.6729	0.0343	736.1141
Energy	0.0228	0.1951	0.0830	1.2400e- 003		0.0158	0.0158		0.0158	0.0158		248.9988	248.9988	4.7700e- 003	4.5600e- 003	250.4785
Mobile	0.7275	3.5180	8.6414	0.0244	2.0385	0.0318	2.0703	0.5456	0.0300	0.5756		2,463.739 8	2,463.739 8	0.1064		2,466.399 0
Total	26.2155	4.2961	45.0478	0.0866	2.0385	4.5479	6.5864	0.5456	4.5461	5.0916	485.5091	2,936.295 8	3,421.804 9	0.7840	0.0389	3,452.991 6

#### 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/d	day		
Area	1.6121	0.0557	4.8088	2.5000e- 004		0.0264	0.0264		0.0264	0.0264	0.0000	8.6160	8.6160	8.4600e- 003	0.0000	8.8275
Energy	0.0180	0.1534	0.0653	9.8000e- 004		0.0124	0.0124		0.0124	0.0124		195.7940	195.7940	3.7500e- 003	3.5900e- 003	196.9575
Mobile	0.6434	2.8415	6.7604	0.0172	1.3900	0.0227	1.4127	0.3720	0.0214	0.3934		1,731.700 0	1,731.700 0	0.0836		1,733.790 5
Total	2.2735	3.0505	11.6344	0.0184	1.3900	0.0614	1.4514	0.3720	0.0601	0.4321	0.0000	1,936.110 0	1,936.110 0	0.0958	3.5900e- 003	1,939.575 4

#### Almond Knolls (unmitigated) - Bay Area AQMD Air District, Winter

	ROG	NOx	СО	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	91.33	28.99	74.17	78.76	31.81	98.65	77.96	31.81	98.68	91.51	100.00	34.06	43.42	87.78	90.77	43.83

# **3.0 Construction Detail**

#### **Construction Phase**

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	5/7/2018	5/8/2018	5	2	
2	Grading	Grading	5/9/2018	5/22/2018	5	10	
3	Building Construction	Building Construction	5/25/2018	7/18/2019	5	300	
4	Paving	Paving	5/23/2019	5/24/2019	5	2	
5	Architectural Coating	Architectural Coating	6/8/2018	8/1/2019	5	300	

Acres of Grading (Site Preparation Phase): 2.9

Acres of Grading (Grading Phase): 2.9

Acres of Paving: 0

Residential Indoor: 117,450; Residential Outdoor: 39,150; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Almond Knolls (unmitigated) -	Bay Area	AQMD A	\ir District,	Winter
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Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Scrapers	1	8.00	367	0.48
Site Preparation	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Paving	Cement and Mortar Mixers	1	8.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Building Construction	Cranes	1	8.00	231	0.29
Building Construction	Forklifts	2	7.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Architectural Coating	Air Compressors	1	6.00	78	0.48

## Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	3	8.00	0.00	5.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	1,000.00	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
Building Construction	8	42.00	6.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	8.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

CalEEMod Version: CalEEMod.2016.3.1

Page 8 of 28

#### Almond Knolls (unmitigated) - Bay Area AQMD Air District, Winter

#### **3.1 Mitigation Measures Construction**

Use Cleaner Engines for Construction Equipment

## 3.2 Site Preparation - 2018

	ROG	NOx	СО	SO2	Fugitive 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/e	day							lb/c	day		
Fugitive Dust		1 1 1			1.5400	0.0000	1.5400	0.1664	0.0000	0.1664		1 1 1	0.0000			0.0000
Off-Road	1.8995	23.6201	12.7461	0.0245		0.9540	0.9540		0.8777	0.8777		2,468.413 1	2,468.413 1	0.7685		2,487.624 4
Total	1.8995	23.6201	12.7461	0.0245	1.5400	0.9540	2.4940	0.1664	0.8777	1.0441		2,468.413 1	2,468.413 1	0.7685		2,487.624 4

Page 9 of 28

#### Almond Knolls (unmitigated) - Bay Area AQMD Air District, Winter

# 3.2 Site Preparation - 2018

### 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/e	day							lb/c	lay		
Hauling	0.0244	0.8279	0.1650	2.0000e- 003	0.0437	3.3100e- 003	0.0470	0.0120	3.1700e- 003	0.0151		213.6145	213.6145	0.0118		213.9089
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0357	0.0269	0.2547	6.5000e- 004	0.0657	4.4000e- 004	0.0662	0.0174	4.1000e- 004	0.0178		64.3829	64.3829	1.9300e- 003		64.4312
Total	0.0601	0.8548	0.4197	2.6500e- 003	0.1094	3.7500e- 003	0.1131	0.0294	3.5800e- 003	0.0330		277.9974	277.9974	0.0137		278.3401

	ROG	NOx	CO	SO2	Fugitive 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/o	day							lb/c	lay		
Fugitive Dust		, , ,			1.5400	0.0000	1.5400	0.1664	0.0000	0.1664			0.0000			0.0000
Off-Road	0.6625	20.0179	13.6431	0.0245		0.4988	0.4988		0.4988	0.4988	0.0000	2,468.413 1	2,468.413 1	0.7685		2,487.624 4
Total	0.6625	20.0179	13.6431	0.0245	1.5400	0.4988	2.0387	0.1664	0.4988	0.6651	0.0000	2,468.413 1	2,468.413 1	0.7685		2,487.624 4

Page 10 of 28

#### Almond Knolls (unmitigated) - Bay Area AQMD Air District, Winter

# 3.2 Site Preparation - 2018

#### Mitigated Construction Off-Site

	ROG	NOx	со	SO2	Fugitive 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/c	day							lb/c	day		
Hauling	0.0244	0.8279	0.1650	2.0000e- 003	0.0437	3.3100e- 003	0.0470	0.0120	3.1700e- 003	0.0151		213.6145	213.6145	0.0118		213.9089
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0357	0.0269	0.2547	6.5000e- 004	0.0657	4.4000e- 004	0.0662	0.0174	4.1000e- 004	0.0178		64.3829	64.3829	1.9300e- 003		64.4312
Total	0.0601	0.8548	0.4197	2.6500e- 003	0.1094	3.7500e- 003	0.1131	0.0294	3.5800e- 003	0.0330		277.9974	277.9974	0.0137		278.3401

3.3 Grading - 2018

	ROG	NOx	CO	SO2	Fugitive 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/o	day							lb/c	lay		
Fugitive Dust		1 1 1	1		6.4201	0.0000	6.4201	3.3571	0.0000	3.3571			0.0000			0.0000
Off-Road	2.1515	24.2895	10.3804	0.0206		1.1683	1.1683		1.0748	1.0748		2,077.466 6	2,077.466 6	0.6467		2,093.635 2
Total	2.1515	24.2895	10.3804	0.0206	6.4201	1.1683	7.5884	3.3571	1.0748	4.4320		2,077.466 6	2,077.466 6	0.6467		2,093.635 2

Page 11 of 28

#### Almond Knolls (unmitigated) - Bay Area AQMD Air District, Winter

# 3.3 Grading - 2018

#### 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/o	day							lb/c	day		
Hauling	0.9755	33.1165	6.5985	0.0801	1.7469	0.1325	1.8794	0.4787	0.1267	0.6054		8,544.578 0	8,544.578 0	0.4711		8,556.355 5
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0446	0.0336	0.3184	8.1000e- 004	0.0822	5.5000e- 004	0.0827	0.0218	5.1000e- 004	0.0223		80.4787	80.4787	2.4100e- 003		80.5390
Total	1.0201	33.1502	6.9169	0.0809	1.8291	0.1330	1.9621	0.5005	0.1272	0.6277		8,625.056 6	8,625.056 6	0.4735		8,636.894 5

	ROG	NOx	СО	SO2	Fugitive 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/o	day							lb/d	day		
Fugitive Dust		1			6.4201	0.0000	6.4201	3.3571	0.0000	3.3571			0.0000			0.0000
Off-Road	0.6262	18.1050	12.1450	0.0206		0.4850	0.4850		0.4850	0.4850	0.0000	2,077.466 6	2,077.466 6	0.6467		2,093.635 2
Total	0.6262	18.1050	12.1450	0.0206	6.4201	0.4850	6.9051	3.3571	0.4850	3.8422	0.0000	2,077.466 6	2,077.466 6	0.6467		2,093.635 2

Page 12 of 28

#### Almond Knolls (unmitigated) - Bay Area AQMD Air District, Winter

## 3.3 Grading - 2018

#### 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/d	day							lb/c	day		
Hauling	0.9755	33.1165	6.5985	0.0801	1.7469	0.1325	1.8794	0.4787	0.1267	0.6054		8,544.578 0	8,544.578 0	0.4711		8,556.355 5
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	,	0.0000
Worker	0.0446	0.0336	0.3184	8.1000e- 004	0.0822	5.5000e- 004	0.0827	0.0218	5.1000e- 004	0.0223		80.4787	80.4787	2.4100e- 003		80.5390
Total	1.0201	33.1502	6.9169	0.0809	1.8291	0.1330	1.9621	0.5005	0.1272	0.6277		8,625.056 6	8,625.056 6	0.4735		8,636.894 5

## 3.4 Building Construction - 2018

	ROG	NOx	со	SO2	Fugitive 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/c	day							lb/c	lay		
Off-Road	2.9127	20.7077	15.7183	0.0250		1.2575	1.2575		1.2051	1.2051		2,329.775 9	2,329.775 9	0.5019		2,342.323 2
Total	2.9127	20.7077	15.7183	0.0250		1.2575	1.2575		1.2051	1.2051		2,329.775 9	2,329.775 9	0.5019		2,342.323 2

Page 13 of 28

#### Almond Knolls (unmitigated) - Bay Area AQMD Air District, Winter

# 3.4 Building Construction - 2018

#### 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/e	day							lb/c	day		
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0325	0.8040	0.2287	1.6400e- 003	0.0406	6.2300e- 003	0.0468	0.0117	5.9600e- 003	0.0177		172.9451	172.9451	0.0106		173.2091
Worker	0.1872	0.1412	1.3373	3.4000e- 003	0.3450	2.3300e- 003	0.3474	0.0915	2.1500e- 003	0.0937		338.0104	338.0104	0.0101		338.2637
Total	0.2196	0.9452	1.5660	5.0400e- 003	0.3856	8.5600e- 003	0.3942	0.1032	8.1100e- 003	0.1113		510.9555	510.9555	0.0207		511.4729

	ROG	NOx	со	SO2	Fugitive 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/d	lay							lb/d	lay		
Off-Road	0.9471	20.0464	15.4081	0.0250		0.8178	0.8178		0.8178	0.8178	0.0000	2,329.775 9	2,329.775 9	0.5019		2,342.323 2
Total	0.9471	20.0464	15.4081	0.0250		0.8178	0.8178		0.8178	0.8178	0.0000	2,329.775 9	2,329.775 9	0.5019		2,342.323 2

Page 14 of 28

#### Almond Knolls (unmitigated) - Bay Area AQMD Air District, Winter

## 3.4 Building Construction - 2018

#### Mitigated Construction Off-Site

	ROG	NOx	СО	SO2	Fugitive 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/e	day							lb/c	day		
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0325	0.8040	0.2287	1.6400e- 003	0.0406	6.2300e- 003	0.0468	0.0117	5.9600e- 003	0.0177		172.9451	172.9451	0.0106		173.2091
Worker	0.1872	0.1412	1.3373	3.4000e- 003	0.3450	2.3300e- 003	0.3474	0.0915	2.1500e- 003	0.0937		338.0104	338.0104	0.0101		338.2637
Total	0.2196	0.9452	1.5660	5.0400e- 003	0.3856	8.5600e- 003	0.3942	0.1032	8.1100e- 003	0.1113		510.9555	510.9555	0.0207		511.4729

3.4 Building Construction - 2019

	ROG	NOx	со	SO2	Fugitive 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/d	day							lb/c	lay		
Off-Road	2.5581	18.9103	15.2545	0.0250		1.0901	1.0901		1.0449	1.0449		2,312.145 4	2,312.145 4	0.4810		2,324.170 5
Total	2.5581	18.9103	15.2545	0.0250		1.0901	1.0901		1.0449	1.0449		2,312.145 4	2,312.145 4	0.4810		2,324.170 5

Page 15 of 28

#### Almond Knolls (unmitigated) - Bay Area AQMD Air District, Winter

# 3.4 Building Construction - 2019

#### 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/e	day							lb/c	day		
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0292	0.7595	0.2089	1.6200e- 003	0.0406	5.2700e- 003	0.0459	0.0117	5.0400e- 003	0.0167		171.7512	171.7512	0.0101		172.0034
Worker	0.1689	0.1237	1.1825	3.2900e- 003	0.3450	2.2800e- 003	0.3473	0.0915	2.1100e- 003	0.0936		327.8654	327.8654	8.9000e- 003		328.0880
Total	0.1980	0.8832	1.3914	4.9100e- 003	0.3856	7.5500e- 003	0.3932	0.1032	7.1500e- 003	0.1104		499.6166	499.6166	0.0190		500.0914

	ROG	NOx	со	SO2	Fugitive 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/c	lay							lb/c	lay		
Off-Road	0.9471	20.0464	15.4081	0.0250		0.8178	0.8178		0.8178	0.8178	0.0000	2,312.145 4	2,312.145 4	0.4810		2,324.170 5
Total	0.9471	20.0464	15.4081	0.0250		0.8178	0.8178		0.8178	0.8178	0.0000	2,312.145 4	2,312.145 4	0.4810		2,324.170 5

Page 16 of 28

#### Almond Knolls (unmitigated) - Bay Area AQMD Air District, Winter

## 3.4 Building Construction - 2019

#### 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/o	day							lb/c	day		
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0292	0.7595	0.2089	1.6200e- 003	0.0406	5.2700e- 003	0.0459	0.0117	5.0400e- 003	0.0167		171.7512	171.7512	0.0101		172.0034
Worker	0.1689	0.1237	1.1825	3.2900e- 003	0.3450	2.2800e- 003	0.3473	0.0915	2.1100e- 003	0.0936		327.8654	327.8654	8.9000e- 003		328.0880
Total	0.1980	0.8832	1.3914	4.9100e- 003	0.3856	7.5500e- 003	0.3932	0.1032	7.1500e- 003	0.1104		499.6166	499.6166	0.0190		500.0914

3.5 Paving - 2019

	ROG	NOx	CO	SO2	Fugitive 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/o	day							lb/c	lay		
Off-Road	1.2453	12.5685	11.8507	0.0178		0.7301	0.7301		0.6728	0.6728		1,746.243 2	1,746.243 2	0.5418		1,759.787 0
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.2453	12.5685	11.8507	0.0178		0.7301	0.7301		0.6728	0.6728		1,746.243 2	1,746.243 2	0.5418		1,759.787 0

Page 17 of 28

#### Almond Knolls (unmitigated) - Bay Area AQMD Air District, Winter

# 3.5 Paving - 2019

#### Unmitigated Construction Off-Site

	ROG	NOx	СО	SO2	Fugitive 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/e	day							lb/c	day		
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0603	0.0442	0.4223	1.1800e- 003	0.1232	8.2000e- 004	0.1240	0.0327	7.5000e- 004	0.0334		117.0948	117.0948	3.1800e- 003		117.1743
Total	0.0603	0.0442	0.4223	1.1800e- 003	0.1232	8.2000e- 004	0.1240	0.0327	7.5000e- 004	0.0334		117.0948	117.0948	3.1800e- 003		117.1743

	ROG	NOx	CO	SO2	Fugitive 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/e	day							lb/c	lay		
Off-Road	0.7344	15.6108	12.9737	0.0178		0.5580	0.5580		0.5580	0.5580	0.0000	1,746.243 2	1,746.243 2	0.5418		1,759.787 0
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.7344	15.6108	12.9737	0.0178		0.5580	0.5580		0.5580	0.5580	0.0000	1,746.243 2	1,746.243 2	0.5418		1,759.787 0

Page 18 of 28

#### Almond Knolls (unmitigated) - Bay Area AQMD Air District, Winter

#### 3.5 Paving - 2019

#### Mitigated Construction Off-Site

	ROG	NOx	СО	SO2	Fugitive 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/d	day							lb/c	day		
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0603	0.0442	0.4223	1.1800e- 003	0.1232	8.2000e- 004	0.1240	0.0327	7.5000e- 004	0.0334		117.0948	117.0948	3.1800e- 003		117.1743
Total	0.0603	0.0442	0.4223	1.1800e- 003	0.1232	8.2000e- 004	0.1240	0.0327	7.5000e- 004	0.0334		117.0948	117.0948	3.1800e- 003		117.1743

3.6 Architectural Coating - 2018

	ROG	NOx	СО	SO2	Fugitive 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/d	day							lb/c	lay		
Archit. Coating	2.7219					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2986	2.0058	1.8542	2.9700e- 003		0.1506	0.1506		0.1506	0.1506		281.4485	281.4485	0.0267		282.1171
Total	3.0205	2.0058	1.8542	2.9700e- 003		0.1506	0.1506		0.1506	0.1506		281.4485	281.4485	0.0267		282.1171

Page 19 of 28

#### Almond Knolls (unmitigated) - Bay Area AQMD Air District, Winter

# 3.6 Architectural Coating - 2018

#### 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/o	day							lb/c	lay		
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0357	0.0269	0.2547	6.5000e- 004	0.0657	4.4000e- 004	0.0662	0.0174	4.1000e- 004	0.0178		64.3829	64.3829	1.9300e- 003		64.4312
Total	0.0357	0.0269	0.2547	6.5000e- 004	0.0657	4.4000e- 004	0.0662	0.0174	4.1000e- 004	0.0178		64.3829	64.3829	1.9300e- 003		64.4312

	ROG	NOx	CO	SO2	Fugitive 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/d	day							lb/c	lay		
Archit. Coating	2.7219	, , ,				0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1139	2.3524	1.8324	2.9700e- 003		0.0951	0.0951		0.0951	0.0951	0.0000	281.4485	281.4485	0.0267		282.1171
Total	2.8358	2.3524	1.8324	2.9700e- 003		0.0951	0.0951		0.0951	0.0951	0.0000	281.4485	281.4485	0.0267		282.1171

Page 20 of 28

#### Almond Knolls (unmitigated) - Bay Area AQMD Air District, Winter

# 3.6 Architectural Coating - 2018

#### Mitigated Construction Off-Site

	ROG	NOx	СО	SO2	Fugitive 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/d	day							lb/c	lay		
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0357	0.0269	0.2547	6.5000e- 004	0.0657	4.4000e- 004	0.0662	0.0174	4.1000e- 004	0.0178		64.3829	64.3829	1.9300e- 003		64.4312
Total	0.0357	0.0269	0.2547	6.5000e- 004	0.0657	4.4000e- 004	0.0662	0.0174	4.1000e- 004	0.0178		64.3829	64.3829	1.9300e- 003		64.4312

3.6 Architectural Coating - 2019

	ROG	NOx	СО	SO2	Fugitive 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/d	day							lb/c	lay		
Archit. Coating	2.7219					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2664	1.8354	1.8413	2.9700e- 003		0.1288	0.1288		0.1288	0.1288		281.4481	281.4481	0.0238		282.0423
Total	2.9883	1.8354	1.8413	2.9700e- 003		0.1288	0.1288		0.1288	0.1288		281.4481	281.4481	0.0238		282.0423

Page 21 of 28

#### Almond Knolls (unmitigated) - Bay Area AQMD Air District, Winter

# 3.6 Architectural Coating - 2019

#### 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/o	day							lb/c	day		
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0322	0.0236	0.2252	6.3000e- 004	0.0657	4.4000e- 004	0.0662	0.0174	4.0000e- 004	0.0178		62.4506	62.4506	1.7000e- 003		62.4930
Total	0.0322	0.0236	0.2252	6.3000e- 004	0.0657	4.4000e- 004	0.0662	0.0174	4.0000e- 004	0.0178		62.4506	62.4506	1.7000e- 003		62.4930

	ROG	NOx	CO	SO2	Fugitive 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/e	day							lb/d	lay		
Archit. Coating	2.7219	1 1 1	1	, , ,		0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1139	2.3524	1.8324	2.9700e- 003		0.0951	0.0951		0.0951	0.0951	0.0000	281.4481	281.4481	0.0238		282.0423
Total	2.8358	2.3524	1.8324	2.9700e- 003		0.0951	0.0951		0.0951	0.0951	0.0000	281.4481	281.4481	0.0238		282.0423

Page 22 of 28

#### Almond Knolls (unmitigated) - Bay Area AQMD Air District, Winter

# 3.6 Architectural Coating - 2019

#### 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/c	day		
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0322	0.0236	0.2252	6.3000e- 004	0.0657	4.4000e- 004	0.0662	0.0174	4.0000e- 004	0.0178		62.4506	62.4506	1.7000e- 003		62.4930
Total	0.0322	0.0236	0.2252	6.3000e- 004	0.0657	4.4000e- 004	0.0662	0.0174	4.0000e- 004	0.0178		62.4506	62.4506	1.7000e- 003		62.4930

# 4.0 Operational Detail - Mobile

#### 4.1 Mitigation Measures Mobile

Increase Density

Increase Transit Accessibility

Improve Pedestrian Network

Page 23 of 28

#### Almond Knolls (unmitigated) - Bay Area AQMD Air District, Winter

	ROG	NOx	CO	SO2	Fugitive 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/o	day							lb/c	lay		
Mitigated	0.6434	2.8415	6.7604	0.0172	1.3900	0.0227	1.4127	0.3720	0.0214	0.3934		1,731.700 0	1,731.700 0	0.0836		1,733.790 5
Unmitigated	0.7275	3.5180	8.6414	0.0244	2.0385	0.0318	2.0703	0.5456	0.0300	0.5756		2,463.739 8	2,463.739 8	0.1064		2,466.399 0

#### 4.2 Trip Summary Information

	Aver	age Daily Trip Ra	ite	Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	382.22	415.28	352.06	883,735	602,590
Total	382.22	415.28	352.06	883,735	602,590

## 4.3 Trip Type Information

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

### 4.4 Fleet Mix

Apartments Low Pise 0 570523 0.041853 0.194077 0.115893 0.018544 0.005373 0.016909 0							1
Apartinents Low Rise 0.070323 0.041033 0.194077 0.113035 0.010344 0.003375 0.010309 0	0.024079	0.024079	0.002502	0.002562	0.005975	0.000872	0.000837

# 5.0 Energy Detail

Historical Energy Use: N

CalEEMod Version: CalEEMod.2016.3.1

Page 24 of 28

#### Almond Knolls (unmitigated) - Bay Area AQMD Air District, Winter

#### 5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive 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/d	day		
NaturalGas Mitigated	0.0180	0.1534	0.0653	9.8000e- 004		0.0124	0.0124		0.0124	0.0124		195.7940	195.7940	3.7500e- 003	3.5900e- 003	196.9575
NaturalGas Unmitigated	0.0228	0.1951	0.0830	1.2400e- 003		0.0158	0.0158		0.0158	0.0158		248.9988	248.9988	4.7700e- 003	4.5600e- 003	250.4785

#### 5.2 Energy by Land Use - NaturalGas

#### <u>Unmitigated</u>

	NaturalGa s 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/d	day		
Apartments Low Rise	2116.49	0.0228	0.1951	0.0830	1.2400e- 003		0.0158	0.0158		0.0158	0.0158		248.9988	248.9988	4.7700e- 003	4.5600e- 003	250.4785
Total		0.0228	0.1951	0.0830	1.2400e- 003		0.0158	0.0158		0.0158	0.0158		248.9988	248.9988	4.7700e- 003	4.5600e- 003	250.4785

Page 25 of 28

#### Almond Knolls (unmitigated) - Bay Area AQMD Air District, Winter

### 5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGa s 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/e	day							lb/d	day		
Apartments Low Rise	1.66425	0.0180	0.1534	0.0653	9.8000e- 004		0.0124	0.0124		0.0124	0.0124		195.7940	195.7940	3.7500e- 003	3.5900e- 003	196.9575
Total		0.0180	0.1534	0.0653	9.8000e- 004		0.0124	0.0124		0.0124	0.0124		195.7940	195.7940	3.7500e- 003	3.5900e- 003	196.9575

# 6.0 Area Detail

## 6.1 Mitigation Measures Area

No Hearths Installed

Page 26 of 28

#### Almond Knolls (unmitigated) - Bay Area AQMD Air District, Winter

	ROG	NOx	CO	SO2	Fugitive 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/e	day							lb/d	day		
Mitigated	1.6121	0.0557	4.8088	2.5000e- 004		0.0264	0.0264		0.0264	0.0264	0.0000	8.6160	8.6160	8.4600e- 003	0.0000	8.8275
Unmitigated	25.4652	0.5830	36.3234	0.0610		4.5003	4.5003	<b></b> - - - -	4.5003	4.5003	485.5091	223.5572	709.0663	0.6729	0.0343	736.1141

# 6.2 Area by SubCategory

#### <u>Unmitigated</u>

	ROG	NOx	CO	SO2	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 0.2237 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000											lb/o	day		
Architectural Coating	0.2237			, , ,		0.0000	0.0000		0.0000	0.0000			0.0000		1	0.0000
Consumer Products	1.2412			1 1 1		0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	23.8531	0.5273	31.5146	0.0607		4.4740	4.4740		4.4740	4.4740	485.5091	214.9412	700.4503	0.6644	0.0343	727.2866
Landscaping	0.1472	0.0557	4.8088	2.5000e- 004		0.0264	0.0264		0.0264	0.0264		8.6160	8.6160	8.4600e- 003		8.8275
Total	25.4652	0.5830	36.3234	0.0610		4.5003	4.5003		4.5003	4.5003	485.5091	223.5572	709.0663	0.6729	0.0343	736.1141
Page 27 of 28

## Almond Knolls (unmitigated) - Bay Area AQMD Air District, Winter

## 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/e	day							lb/d	day		
Architectural Coating	0.2237					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.2412					0.0000	0.0000	, <b></b>	0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.1472	0.0557	4.8088	2.5000e- 004		0.0264	0.0264	,	0.0264	0.0264		8.6160	8.6160	8.4600e- 003		8.8275
Total	1.6121	0.0557	4.8088	2.5000e- 004		0.0264	0.0264		0.0264	0.0264	0.0000	8.6160	8.6160	8.4600e- 003	0.0000	8.8275

## 7.0 Water Detail

## 7.1 Mitigation Measures Water

## 8.0 Waste Detail

## 8.1 Mitigation Measures Waste

## 9.0 Operational Offroad

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

Page 28 of 28

## Almond Knolls (unmitigated) - Bay Area AQMD Air District, Winter

## 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	
User Defined Equipment						
Equipment Type	Number					
11.0 Vegetation						

#### Almond Knolls (unmitigated) - Bay Area AQMD Air District, Annual

## Almond Knolls (unmitigated)

Bay Area AQMD Air District, Annual

#### **1.0 Project Characteristics**

## 1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments Low Rise	58.00	Dwelling Unit	2.90	58,000.00	166

#### **1.2 Other Project Characteristics**

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	64
Climate Zone	4			Operational Year	2019
Utility Company	Pacific Gas & Electric Com	pany			
CO2 Intensity (Ib/MWhr)	409.81	CH4 Intensity (Ib/MWhr)	0.029	N2O Intensity (Ib/MWhr)	0.006

## 1.3 User Entered Comments & Non-Default Data

Project Characteristics - Intensity Factors for CO2 adjusted based on PG&E RPS reductions Land Use - \*Applicant provided Construction Phase - \*Applicant provided Grading - \*Applicant provided Energy Use -Construction Off-road Equipment Mitigation - Mitigation requirement Mobile Land Use Mitigation - \*Applicant provided Area Mitigation -Energy Mitigation -

## Page 2 of 33

## Almond Knolls (unmitigated) - Bay Area AQMD Air District, Annual

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	0
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2

Almond Knolls (unmitigated) - Bay	Area AQMD Air District, Annual
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tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstructionPhase	NumDays	10.00	300.00
tblConstructionPhase	NumDays	220.00	300.00
tblConstructionPhase	NumDays	6.00	10.00
tblConstructionPhase	NumDays	10.00	2.00
tblConstructionPhase	NumDays	3.00	2.00
tblGrading	AcresOfGrading	5.00	2.90
tblGrading	AcresOfGrading	3.00	2.90
tblGrading	MaterialExported	0.00	8,000.00
tblGrading	MaterialExported	0.00	40.00
tblLandUse	LotAcreage	3.63	2.90
tblProjectCharacteristics	CO2IntensityFactor	641.35	409.81
tblProjectCharacteristics	OperationalYear	2018	2019

# 2.0 Emissions Summary

Page 4 of 33

Almond Knolls (unmitigated) - Bay Area AQMD Air District, Annual

## 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					ton	s/yr							MT	/yr		
2018	0.4865	2.1590	1.6050	3.1700e- 003	0.0764	0.1179	0.1943	0.0285	0.1132	0.1417	0.0000	277.2152	277.2152	0.0448	0.0000	278.3356
2019	0.4279	1.5691	1.3568	2.4400e- 003	0.0315	0.0891	0.1206	8.4400e- 003	0.0858	0.0942	0.0000	208.3423	208.3423	0.0347	0.0000	209.2088
Maximum	0.4865	2.1590	1.6050	3.1700e- 003	0.0764	0.1179	0.1943	0.0285	0.1132	0.1417	0.0000	277.2152	277.2152	0.0448	0.0000	278.3356

## Mitigated Construction

	ROG	NOx	СО	SO2	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					
2018	0.3097	2.0980	1.5888	3.1700e- 003	0.0764	0.0755	0.1518	0.0285	0.0754	0.1039	0.0000	277.2149	277.2149	0.0448	0.0000	278.3353	
2019	0.3006	1.6930	1.3682	2.4400e- 003	0.0315	0.0669	0.0984	8.4400e- 003	0.0668	0.0753	0.0000	208.3421	208.3421	0.0347	0.0000	209.2086	
Maximum	0.3097	2.0980	1.5888	3.1700e- 003	0.0764	0.0755	0.1518	0.0285	0.0754	0.1039	0.0000	277.2149	277.2149	0.0448	0.0000	278.3353	
	ROG	NOx	СО	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2 5	Exhaust PM2 5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e	
										. oral							
Percent Reduction	33.26	-1.69	0.16	0.00	0.00	31.25	20.54	0.00	28.52	24.05	0.00	0.00	0.00	0.00	0.00	0.00	

## Almond Knolls (unmitigated) - Bay Area AQMD Air District, Annual

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	5-7-2018	8-6-2018	1.0802	0.9722
2	8-7-2018	11-6-2018	0.9804	0.8995
3	11-7-2018	2-6-2019	0.9493	0.8994
4	2-7-2019	5-6-2019	0.8712	0.8677
5	5-7-2019	8-6-2019	0.7481	0.7489
		Highest	1.0802	0.9722

# 2.2 Overall Operational

## Unmitigated Operational

	ROG	NOx	СО	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category			MT/yr													
Area	0.4144	8.0900e- 003	0.6171	3.9000e- 004		0.0287	0.0287		0.0287	0.0287	2.6442	1.7896	4.4338	4.9400e- 003	1.7000e- 004	4.6090
Energy	4.1700e- 003	0.0356	0.0152	2.3000e- 004	,	2.8800e- 003	2.8800e- 003		2.8800e- 003	2.8800e- 003	0.0000	91.4654	91.4654	4.3500e- 003	1.4900e- 003	92.0184
Mobile	0.1222	0.5777	1.3776	4.1300e- 003	0.3290	5.3000e- 003	0.3343	0.0884	5.0000e- 003	0.0933	0.0000	378.2367	378.2367	0.0157	0.0000	378.6303
Waste	//	1 1 1 1 1	,, , , ,	1 1 1	,	0.0000	0.0000		0.0000	0.0000	5.4158	0.0000	5.4158	0.3201	0.0000	13.4174
Water	/	, , , , ,		, , ,		0.0000	0.0000		0.0000	0.0000	1.1989	5.3510	6.5498	0.1235	2.9900e- 003	10.5275
Total	0.5408	0.6213	2.0098	4.7500e- 003	0.3290	0.0369	0.3659	0.0884	0.0366	0.1249	9.2589	476.8426	486.1015	0.4686	4.6500e- 003	499.2026

#### Page 6 of 33

Almond Knolls (unmitigated) - Bay Area AQMD Air District, Annual

## 2.2 Overall Operational

## Mitigated Operational

	ROG	NC	X	СО	SO2	Fugit PM	tive 10	Exhaust PM10	PM10 Total	Fugi PM	tive E 2.5	Exhaust PM2.5	PM2.5 Total	Bio	)- CO2	NBio- CO	2 Tota	I CO2	CH4	ŀ	N2O	CO2e
Category							tons/	/yr										MT/	yr			
Area	0.2806	5.010 00	)0e- ( 3	0.4328	2.0000e- 005			2.3700e- 003	2.3700e- 003		2	2.3700e- 003	2.3700e- 003	0.	.0000	0.7035	0.7	035	6.9000 004	)e- 0	0000	0.7207
Energy	3.2800e- 003	0.02	.80 (	0.0119	1.8000e- 004			2.2600e- 003	2.2600e- 003		2	2.2600e- 003	2.2600e- 003	0.	.0000	81.3549	81.3	3549	4.0800 003	)e- 1.3	3100e- 003	81.8477
Mobile	0.1082	0.46	85	1.0642	2.9100e- 003	0.22	244	3.7700e- 003	0.2281	0.06	602 3	3.5600e- 003	0.0638	0.	.0000	266.1815	266.	1815	0.012	3 0	0000	266.4884
Waste	#,	 - - - -				]		0.0000	0.0000			0.0000	0.0000	5.	4158	0.0000	5.4	158	0.320	01 0	0000	13.4174
Water	#,					]		0.0000	0.0000			0.0000	0.0000	1.	.1989	5.3510	6.5	498	0.123	5 2.9	900e- 003	10.5275
Total	0.3921	0.50	15 <sup>·</sup>	1.5089	3.1100e- 003	0.22	244	8.4000e- 003	0.2328	0.0	602 8	8.1900e- 003	0.0684	6.	.6147	353.5908	360.	2055	0.460	6 4.3	3000e- 003	373.0017
	ROG		NOx	С	0 9	602	Fugiti PM1	ive Exh 10 Pl	aust P M10 T	M10 otal	Fugitiv PM2.	ve Exh 5 Pi	aust Pl M2.5 T	/12.5 otal	Bio- C	CO2 NBio	o-CO2	Total C	:02	CH4	N2	0 CO2
Percent Reduction	27.49		19.29	24	.93 3	4.53	31.8	81 77	7.24 3	6.39	31.82	2 77	7.62 4	5.23	28.5	56 25	5.85	25.90	0	1.70	7.5	3 25.2

## **3.0 Construction Detail**

**Construction Phase** 

#### Almond Knolls (unmitigated) - Bay Area AQMD Air District, Annual

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	5/7/2018	5/8/2018	5	2	
2	Grading	Grading	5/9/2018	5/22/2018	5	10	
3	Building Construction	Building Construction	5/25/2018	7/18/2019	5	300	
4	Paving	Paving	5/23/2019	5/24/2019	5	2	
5	Architectural Coating	Architectural Coating	6/8/2018	8/1/2019	5	300	

Acres of Grading (Site Preparation Phase): 2.9

Acres of Grading (Grading Phase): 2.9

#### Acres of Paving: 0

Residential Indoor: 117,450; Residential Outdoor: 39,150; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

#### OffRoad Equipment

Almond Knolls	(unmitigated	) - Bay	/ Area	AQMD	Air	District,	Annual

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Scrapers	1	8.00	367	0.48
Site Preparation	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Paving	Cement and Mortar Mixers	1	8.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Building Construction	Cranes	1	8.00	231	0.29
Building Construction	Forklifts	2	7.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Architectural Coating	Air Compressors	1	6.00	78	0.48

## Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	3	8.00	0.00	5.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	1,000.00	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
Building Construction	8	42.00	6.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	8.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

Page 9 of 33

#### Almond Knolls (unmitigated) - Bay Area AQMD Air District, Annual

## **3.1 Mitigation Measures Construction**

Use Cleaner Engines for Construction Equipment

## 3.2 Site Preparation - 2018

#### 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					ton	s/yr							МТ	/yr		
Fugitive Dust					1.5400e- 003	0.0000	1.5400e- 003	1.7000e- 004	0.0000	1.7000e- 004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.9000e- 003	0.0236	0.0128	2.0000e- 005		9.5000e- 004	9.5000e- 004		8.8000e- 004	8.8000e- 004	0.0000	2.2393	2.2393	7.0000e- 004	0.0000	2.2567
Total	1.9000e- 003	0.0236	0.0128	2.0000e- 005	1.5400e- 003	9.5000e- 004	2.4900e- 003	1.7000e- 004	8.8000e- 004	1.0500e- 003	0.0000	2.2393	2.2393	7.0000e- 004	0.0000	2.2567

Page 10 of 33

## Almond Knolls (unmitigated) - Bay Area AQMD Air District, Annual

## 3.2 Site Preparation - 2018

## Unmitigated Construction Off-Site

	ROG	NOx	со	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							MT	/yr		
Hauling	2.0000e- 005	8.2000e- 004	1.6000e- 004	0.0000	4.0000e- 005	0.0000	5.0000e- 005	1.0000e- 005	0.0000	1.0000e- 005	0.0000	0.1956	0.1956	1.0000e- 005	0.0000	0.1959
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	3.0000e- 005	2.0000e- 005	2.5000e- 004	0.0000	6.0000e- 005	0.0000	6.0000e- 005	2.0000e- 005	0.0000	2.0000e- 005	0.0000	0.0590	0.0590	0.0000	0.0000	0.0590
Total	5.0000e- 005	8.4000e- 004	4.1000e- 004	0.0000	1.0000e- 004	0.0000	1.1000e- 004	3.0000e- 005	0.0000	3.0000e- 005	0.0000	0.2546	0.2546	1.0000e- 005	0.0000	0.2549

## 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					ton	s/yr							МТ	ī/yr		
Fugitive Dust					1.5400e- 003	0.0000	1.5400e- 003	1.7000e- 004	0.0000	1.7000e- 004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.6000e- 004	0.0200	0.0136	2.0000e- 005		5.0000e- 004	5.0000e- 004		5.0000e- 004	5.0000e- 004	0.0000	2.2393	2.2393	7.0000e- 004	0.0000	2.2567
Total	6.6000e- 004	0.0200	0.0136	2.0000e- 005	1.5400e- 003	5.0000e- 004	2.0400e- 003	1.7000e- 004	5.0000e- 004	6.7000e- 004	0.0000	2.2393	2.2393	7.0000e- 004	0.0000	2.2567

Page 11 of 33

## Almond Knolls (unmitigated) - Bay Area AQMD Air District, Annual

## 3.2 Site Preparation - 2018

#### Mitigated Construction Off-Site

	ROG	NOx	со	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							MT	/yr		
Hauling	2.0000e- 005	8.2000e- 004	1.6000e- 004	0.0000	4.0000e- 005	0.0000	5.0000e- 005	1.0000e- 005	0.0000	1.0000e- 005	0.0000	0.1956	0.1956	1.0000e- 005	0.0000	0.1959
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	3.0000e- 005	2.0000e- 005	2.5000e- 004	0.0000	6.0000e- 005	0.0000	6.0000e- 005	2.0000e- 005	0.0000	2.0000e- 005	0.0000	0.0590	0.0590	0.0000	0.0000	0.0590
Total	5.0000e- 005	8.4000e- 004	4.1000e- 004	0.0000	1.0000e- 004	0.0000	1.1000e- 004	3.0000e- 005	0.0000	3.0000e- 005	0.0000	0.2546	0.2546	1.0000e- 005	0.0000	0.2549

3.3 Grading - 2018

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					ton	s/yr							МТ	/yr		
Fugitive Dust		, , ,	1		0.0321	0.0000	0.0321	0.0168	0.0000	0.0168	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0108	0.1215	0.0519	1.0000e- 004		5.8400e- 003	5.8400e- 003		5.3700e- 003	5.3700e- 003	0.0000	9.4232	9.4232	2.9300e- 003	0.0000	9.4966
Total	0.0108	0.1215	0.0519	1.0000e- 004	0.0321	5.8400e- 003	0.0379	0.0168	5.3700e- 003	0.0222	0.0000	9.4232	9.4232	2.9300e- 003	0.0000	9.4966

Page 12 of 33

## Almond Knolls (unmitigated) - Bay Area AQMD Air District, Annual

## 3.3 Grading - 2018

#### 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					ton	s/yr							MT	/yr		
Hauling	4.7900e- 003	0.1649	0.0314	4.0000e- 004	8.4400e- 003	6.5000e- 004	9.1000e- 003	2.3200e- 003	6.3000e- 004	2.9500e- 003	0.0000	39.1269	39.1269	2.0700e- 003	0.0000	39.1787
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	2.0000e- 004	1.5000e- 004	1.5400e- 003	0.0000	4.0000e- 004	0.0000	4.0000e- 004	1.1000e- 004	0.0000	1.1000e- 004	0.0000	0.3684	0.3684	1.0000e- 005	0.0000	0.3687
Total	4.9900e- 003	0.1650	0.0330	4.0000e- 004	8.8400e- 003	6.5000e- 004	9.5000e- 003	2.4300e- 003	6.3000e- 004	3.0600e- 003	0.0000	39.4953	39.4953	2.0800e- 003	0.0000	39.5474

## 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					ton	s/yr							МТ	ī/yr		
Fugitive Dust					0.0321	0.0000	0.0321	0.0168	0.0000	0.0168	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.1300e- 003	0.0905	0.0607	1.0000e- 004		2.4300e- 003	2.4300e- 003		2.4300e- 003	2.4300e- 003	0.0000	9.4232	9.4232	2.9300e- 003	0.0000	9.4966
Total	3.1300e- 003	0.0905	0.0607	1.0000e- 004	0.0321	2.4300e- 003	0.0345	0.0168	2.4300e- 003	0.0192	0.0000	9.4232	9.4232	2.9300e- 003	0.0000	9.4966

Page 13 of 33

## Almond Knolls (unmitigated) - Bay Area AQMD Air District, Annual

## 3.3 Grading - 2018

## 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					ton	s/yr							MT	/yr		
Hauling	4.7900e- 003	0.1649	0.0314	4.0000e- 004	8.4400e- 003	6.5000e- 004	9.1000e- 003	2.3200e- 003	6.3000e- 004	2.9500e- 003	0.0000	39.1269	39.1269	2.0700e- 003	0.0000	39.1787
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	2.0000e- 004	1.5000e- 004	1.5400e- 003	0.0000	4.0000e- 004	0.0000	4.0000e- 004	1.1000e- 004	0.0000	1.1000e- 004	0.0000	0.3684	0.3684	1.0000e- 005	0.0000	0.3687
Total	4.9900e- 003	0.1650	0.0330	4.0000e- 004	8.8400e- 003	6.5000e- 004	9.5000e- 003	2.4300e- 003	6.3000e- 004	3.0600e- 003	0.0000	39.4953	39.4953	2.0800e- 003	0.0000	39.5474

## 3.4 Building Construction - 2018

## Unmitigated Construction On-Site

	ROG	NOx	СО	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N20	CO2e
Category					ton	s/yr							MT	'/yr		
Off-Road	0.2287	1.6256	1.2339	1.9600e- 003	, , , , , , , , , , , , , , , , , , ,	0.0987	0.0987		0.0946	0.0946	0.0000	165.9127	165.9127	0.0357	0.0000	166.8062
Total	0.2287	1.6256	1.2339	1.9600e- 003		0.0987	0.0987		0.0946	0.0946	0.0000	165.9127	165.9127	0.0357	0.0000	166.8062

Page 14 of 33

## Almond Knolls (unmitigated) - Bay Area AQMD Air District, Annual

## 3.4 Building Construction - 2018

## 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					ton	s/yr							MT	/yr		
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.4800e- 003	0.0631	0.0168	1.3000e- 004	3.0900e- 003	4.8000e- 004	3.5700e- 003	8.9000e- 004	4.6000e- 004	1.3600e- 003	0.0000	12.4959	12.4959	7.2000e- 004	0.0000	12.5139
Worker	0.0133	0.0101	0.1019	2.7000e- 004	0.0261	1.8000e- 004	0.0262	6.9300e- 003	1.7000e- 004	7.1000e- 003	0.0000	24.2949	24.2949	7.2000e- 004	0.0000	24.3128
Total	0.0157	0.0732	0.1186	4.0000e- 004	0.0291	6.6000e- 004	0.0298	7.8200e- 003	6.3000e- 004	8.4600e- 003	0.0000	36.7907	36.7907	1.4400e- 003	0.0000	36.8267

## Mitigated Construction On-Site

	ROG	NOx	СО	SO2	Fugitive 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	s/yr							MT	/yr		
Off-Road	0.0744	1.5736	1.2095	1.9600e- 003		0.0642	0.0642	ſ	0.0642	0.0642	0.0000	165.9125	165.9125	0.0357	0.0000	166.8060
Total	0.0744	1.5736	1.2095	1.9600e- 003		0.0642	0.0642		0.0642	0.0642	0.0000	165.9125	165.9125	0.0357	0.0000	166.8060

Page 15 of 33

## Almond Knolls (unmitigated) - Bay Area AQMD Air District, Annual

## 3.4 Building Construction - 2018

## 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					ton	s/yr							МТ	/yr		
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.4800e- 003	0.0631	0.0168	1.3000e- 004	3.0900e- 003	4.8000e- 004	3.5700e- 003	8.9000e- 004	4.6000e- 004	1.3600e- 003	0.0000	12.4959	12.4959	7.2000e- 004	0.0000	12.5139
Worker	0.0133	0.0101	0.1019	2.7000e- 004	0.0261	1.8000e- 004	0.0262	6.9300e- 003	1.7000e- 004	7.1000e- 003	0.0000	24.2949	24.2949	7.2000e- 004	0.0000	24.3128
Total	0.0157	0.0732	0.1186	4.0000e- 004	0.0291	6.6000e- 004	0.0298	7.8200e- 003	6.3000e- 004	8.4600e- 003	0.0000	36.7907	36.7907	1.4400e- 003	0.0000	36.8267

3.4 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	СО	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							MT	/yr		
Off-Road	0.1829	1.3521	1.0907	1.7900e- 003		0.0780	0.0780	ſ	0.0747	0.0747	0.0000	149.9743	149.9743	0.0312	0.0000	150.7543
Total	0.1829	1.3521	1.0907	1.7900e- 003		0.0780	0.0780		0.0747	0.0747	0.0000	149.9743	149.9743	0.0312	0.0000	150.7543

Page 16 of 33

## Almond Knolls (unmitigated) - Bay Area AQMD Air District, Annual

## 3.4 Building Construction - 2019

## 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					ton	s/yr							МТ	/yr		
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.0300e- 003	0.0543	0.0139	1.2000e- 004	2.8100e- 003	3.7000e- 004	3.1900e- 003	8.1000e- 004	3.6000e- 004	1.1700e- 003	0.0000	11.3052	11.3052	6.3000e- 004	0.0000	11.3209
Worker	0.0109	8.0700e- 003	0.0822	2.4000e- 004	0.0237	1.6000e- 004	0.0239	6.3100e- 003	1.5000e- 004	6.4600e- 003	0.0000	21.4646	21.4646	5.8000e- 004	0.0000	21.4789
Total	0.0129	0.0624	0.0962	3.6000e- 004	0.0265	5.3000e- 004	0.0271	7.1200e- 003	5.1000e- 004	7.6300e- 003	0.0000	32.7698	32.7698	1.2100e- 003	0.0000	32.7998

## Mitigated Construction On-Site

	ROG	NOx	СО	SO2	Fugitive 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	s/yr							MT	/yr		
Off-Road	0.0677	1.4333	1.1017	1.7900e- 003		0.0585	0.0585	1 1 1	0.0585	0.0585	0.0000	149.9742	149.9742	0.0312	0.0000	150.7541
Total	0.0677	1.4333	1.1017	1.7900e- 003		0.0585	0.0585		0.0585	0.0585	0.0000	149.9742	149.9742	0.0312	0.0000	150.7541

Page 17 of 33

## Almond Knolls (unmitigated) - Bay Area AQMD Air District, Annual

## 3.4 Building Construction - 2019

#### Mitigated Construction Off-Site

	ROG	NOx	СО	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							MT	ī/yr		
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.0300e- 003	0.0543	0.0139	1.2000e- 004	2.8100e- 003	3.7000e- 004	3.1900e- 003	8.1000e- 004	3.6000e- 004	1.1700e- 003	0.0000	11.3052	11.3052	6.3000e- 004	0.0000	11.3209
Worker	0.0109	8.0700e- 003	0.0822	2.4000e- 004	0.0237	1.6000e- 004	0.0239	6.3100e- 003	1.5000e- 004	6.4600e- 003	0.0000	21.4646	21.4646	5.8000e- 004	0.0000	21.4789
Total	0.0129	0.0624	0.0962	3.6000e- 004	0.0265	5.3000e- 004	0.0271	7.1200e- 003	5.1000e- 004	7.6300e- 003	0.0000	32.7698	32.7698	1.2100e- 003	0.0000	32.7998

3.5 Paving - 2019

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					ton	s/yr							МТ	/yr		
Off-Road	1.2500e- 003	0.0126	0.0119	2.0000e- 005		7.3000e- 004	7.3000e- 004		6.7000e- 004	6.7000e- 004	0.0000	1.5842	1.5842	4.9000e- 004	0.0000	1.5965
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	1.2500e- 003	0.0126	0.0119	2.0000e- 005		7.3000e- 004	7.3000e- 004		6.7000e- 004	6.7000e- 004	0.0000	1.5842	1.5842	4.9000e- 004	0.0000	1.5965

Page 18 of 33

## Almond Knolls (unmitigated) - Bay Area AQMD Air District, Annual

## 3.5 Paving - 2019

#### Unmitigated Construction Off-Site

	ROG	NOx	со	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							МТ	/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	5.0000e- 005	4.0000e- 005	4.1000e- 004	0.0000	1.2000e- 004	0.0000	1.2000e- 004	3.0000e- 005	0.0000	3.0000e- 005	0.0000	0.1072	0.1072	0.0000	0.0000	0.1073
Total	5.0000e- 005	4.0000e- 005	4.1000e- 004	0.0000	1.2000e- 004	0.0000	1.2000e- 004	3.0000e- 005	0.0000	3.0000e- 005	0.0000	0.1072	0.1072	0.0000	0.0000	0.1073

## 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					ton	s/yr							МТ	/yr		
Off-Road	7.3000e- 004	0.0156	0.0130	2.0000e- 005		5.6000e- 004	5.6000e- 004		5.6000e- 004	5.6000e- 004	0.0000	1.5842	1.5842	4.9000e- 004	0.0000	1.5965
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	7.3000e- 004	0.0156	0.0130	2.0000e- 005		5.6000e- 004	5.6000e- 004		5.6000e- 004	5.6000e- 004	0.0000	1.5842	1.5842	4.9000e- 004	0.0000	1.5965

Page 19 of 33

## Almond Knolls (unmitigated) - Bay Area AQMD Air District, Annual

## 3.5 Paving - 2019

#### Mitigated Construction Off-Site

	ROG	NOx	со	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							МТ	'/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	5.0000e- 005	4.0000e- 005	4.1000e- 004	0.0000	1.2000e- 004	0.0000	1.2000e- 004	3.0000e- 005	0.0000	3.0000e- 005	0.0000	0.1072	0.1072	0.0000	0.0000	0.1073
Total	5.0000e- 005	4.0000e- 005	4.1000e- 004	0.0000	1.2000e- 004	0.0000	1.2000e- 004	3.0000e- 005	0.0000	3.0000e- 005	0.0000	0.1072	0.1072	0.0000	0.0000	0.1073

3.6 Architectural Coating - 2018

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					ton	s/yr							MT	/yr		
Archit. Coating	0.2001					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0220	0.1474	0.1363	2.2000e- 004		0.0111	0.0111		0.0111	0.0111	0.0000	18.7665	18.7665	1.7800e- 003	0.0000	18.8110
Total	0.2220	0.1474	0.1363	2.2000e- 004		0.0111	0.0111		0.0111	0.0111	0.0000	18.7665	18.7665	1.7800e- 003	0.0000	18.8110

Page 20 of 33

## Almond Knolls (unmitigated) - Bay Area AQMD Air District, Annual

## 3.6 Architectural Coating - 2018

## Unmitigated Construction Off-Site

	ROG	NOx	СО	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/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	2.3600e- 003	1.8000e- 003	0.0182	5.0000e- 005	4.6500e- 003	3.0000e- 005	4.6800e- 003	1.2400e- 003	3.0000e- 005	1.2700e- 003	0.0000	4.3328	4.3328	1.3000e- 004	0.0000	4.3360
Total	2.3600e- 003	1.8000e- 003	0.0182	5.0000e- 005	4.6500e- 003	3.0000e- 005	4.6800e- 003	1.2400e- 003	3.0000e- 005	1.2700e- 003	0.0000	4.3328	4.3328	1.3000e- 004	0.0000	4.3360

## 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					ton	s/yr							МТ	/yr		
Archit. Coating	0.2001	, , ,		, , ,		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.3700e- 003	0.1729	0.1347	2.2000e- 004		6.9900e- 003	6.9900e- 003		6.9900e- 003	6.9900e- 003	0.0000	18.7664	18.7664	1.7800e- 003	0.0000	18.8110
Total	0.2084	0.1729	0.1347	2.2000e- 004		6.9900e- 003	6.9900e- 003		6.9900e- 003	6.9900e- 003	0.0000	18.7664	18.7664	1.7800e- 003	0.0000	18.8110

Page 21 of 33

## Almond Knolls (unmitigated) - Bay Area AQMD Air District, Annual

## 3.6 Architectural Coating - 2018

## Mitigated Construction Off-Site

	ROG	NOx	СО	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							МТ	/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	2.3600e- 003	1.8000e- 003	0.0182	5.0000e- 005	4.6500e- 003	3.0000e- 005	4.6800e- 003	1.2400e- 003	3.0000e- 005	1.2700e- 003	0.0000	4.3328	4.3328	1.3000e- 004	0.0000	4.3360
Total	2.3600e- 003	1.8000e- 003	0.0182	5.0000e- 005	4.6500e- 003	3.0000e- 005	4.6800e- 003	1.2400e- 003	3.0000e- 005	1.2700e- 003	0.0000	4.3328	4.3328	1.3000e- 004	0.0000	4.3360

3.6 Architectural Coating - 2019

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					ton	s/yr							МТ	/yr		
Archit. Coating	0.2082	1 1 1				0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0204	0.1404	0.1409	2.3000e- 004		9.8500e- 003	9.8500e- 003		9.8500e- 003	9.8500e- 003	0.0000	19.5324	19.5324	1.6500e- 003	0.0000	19.5736
Total	0.2286	0.1404	0.1409	2.3000e- 004		9.8500e- 003	9.8500e- 003		9.8500e- 003	9.8500e- 003	0.0000	19.5324	19.5324	1.6500e- 003	0.0000	19.5736

Page 22 of 33

## Almond Knolls (unmitigated) - Bay Area AQMD Air District, Annual

## 3.6 Architectural Coating - 2019

## 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					ton	s/yr							МТ	/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	2.2200e- 003	1.6400e- 003	0.0168	5.0000e- 005	4.8400e- 003	3.0000e- 005	4.8700e- 003	1.2900e- 003	3.0000e- 005	1.3200e- 003	0.0000	4.3744	4.3744	1.2000e- 004	0.0000	4.3773
Total	2.2200e- 003	1.6400e- 003	0.0168	5.0000e- 005	4.8400e- 003	3.0000e- 005	4.8700e- 003	1.2900e- 003	3.0000e- 005	1.3200e- 003	0.0000	4.3744	4.3744	1.2000e- 004	0.0000	4.3773

## 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					ton	s/yr							МТ	/yr		
Archit. Coating	0.2082	1		, , ,		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.7100e- 003	0.1800	0.1402	2.3000e- 004		7.2700e- 003	7.2700e- 003		7.2700e- 003	7.2700e- 003	0.0000	19.5324	19.5324	1.6500e- 003	0.0000	19.5736
Total	0.2169	0.1800	0.1402	2.3000e- 004		7.2700e- 003	7.2700e- 003		7.2700e- 003	7.2700e- 003	0.0000	19.5324	19.5324	1.6500e- 003	0.0000	19.5736

Page 23 of 33

## Almond Knolls (unmitigated) - Bay Area AQMD Air District, Annual

## 3.6 Architectural Coating - 2019

#### 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					ton	s/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	2.2200e- 003	1.6400e- 003	0.0168	5.0000e- 005	4.8400e- 003	3.0000e- 005	4.8700e- 003	1.2900e- 003	3.0000e- 005	1.3200e- 003	0.0000	4.3744	4.3744	1.2000e- 004	0.0000	4.3773
Total	2.2200e- 003	1.6400e- 003	0.0168	5.0000e- 005	4.8400e- 003	3.0000e- 005	4.8700e- 003	1.2900e- 003	3.0000e- 005	1.3200e- 003	0.0000	4.3744	4.3744	1.2000e- 004	0.0000	4.3773

## 4.0 Operational Detail - Mobile

## 4.1 Mitigation Measures Mobile

Increase Density

Increase Transit Accessibility

Improve Pedestrian Network

Page 24 of 33

## Almond Knolls (unmitigated) - Bay Area AQMD Air District, Annual

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							МТ	/yr		
Mitigated	0.1082	0.4685	1.0642	2.9100e- 003	0.2244	3.7700e- 003	0.2281	0.0602	3.5600e- 003	0.0638	0.0000	266.1815	266.1815	0.0123	0.0000	266.4884
Unmitigated	0.1222	0.5777	1.3776	4.1300e- 003	0.3290	5.3000e- 003	0.3343	0.0884	5.0000e- 003	0.0933	0.0000	378.2367	378.2367	0.0157	0.0000	378.6303

## 4.2 Trip Summary Information

	Aver	age Daily Trip Ra	ate	Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	382.22	415.28	352.06	883,735	602,590
Total	382.22	415.28	352.06	883,735	602,590

## 4.3 Trip Type Information

		Miles			Trip %			Trip Purpos	e %
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3

## 4.4 Fleet Mix

Apartmonto Low Pice 0.570522 0.041952 0.104077 0.115902 0.019544								
Apartments Low Rise 0.370523 0.041653 0.194077 0.115693 0.016544	0.005373	0.016909	0.024079	0.002502	0.002562	0.005975	0.000872	0.000837

# 5.0 Energy Detail

Historical Energy Use: N

Page 25 of 33

## Almond Knolls (unmitigated) - Bay Area AQMD Air District, Annual

## 5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							МТ	'/yr		
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	48.9390	48.9390	3.4600e- 003	7.2000e- 004	49.2391
Electricity Unmitigated	n					0.0000	0.0000		0.0000	0.0000	0.0000	50.2408	50.2408	3.5600e- 003	7.4000e- 004	50.5489
NaturalGas Mitigated	3.2800e- 003	0.0280	0.0119	1.8000e- 004		2.2600e- 003	2.2600e- 003		2.2600e- 003	2.2600e- 003	0.0000	32.4159	32.4159	6.2000e- 004	5.9000e- 004	32.6085
NaturalGas Unmitigated	4.1700e- 003	0.0356	0.0152	2.3000e- 004		2.8800e- 003	2.8800e- 003	       	2.8800e- 003	2.8800e- 003	0.0000	41.2246	41.2246	7.9000e- 004	7.6000e- 004	41.4695

Page 26 of 33

## Almond Knolls (unmitigated) - Bay Area AQMD Air District, Annual

# 5.2 Energy by Land Use - NaturalGas

## <u>Unmitigated</u>

	NaturalGa s 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					ton	s/yr							MT	/yr		
Apartments Low Rise	772519	4.1700e- 003	0.0356	0.0152	2.3000e- 004		2.8800e- 003	2.8800e- 003		2.8800e- 003	2.8800e- 003	0.0000	41.2246	41.2246	7.9000e- 004	7.6000e- 004	41.4695
Total		4.1700e- 003	0.0356	0.0152	2.3000e- 004		2.8800e- 003	2.8800e- 003		2.8800e- 003	2.8800e- 003	0.0000	41.2246	41.2246	7.9000e- 004	7.6000e- 004	41.4695

## Mitigated

	NaturalGa s 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					ton	s/yr							MT	/yr		
Apartments Low Rise	607451	3.2800e- 003	0.0280	0.0119	1.8000e- 004		2.2600e- 003	2.2600e- 003		2.2600e- 003	2.2600e- 003	0.0000	32.4159	32.4159	6.2000e- 004	5.9000e- 004	32.6085
Total		3.2800e- 003	0.0280	0.0119	1.8000e- 004		2.2600e- 003	2.2600e- 003		2.2600e- 003	2.2600e- 003	0.0000	32.4159	32.4159	6.2000e- 004	5.9000e- 004	32.6085

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Page 27 of 33

## Almond Knolls (unmitigated) - Bay Area AQMD Air District, Annual

# 5.3 Energy by Land Use - Electricity

## <u>Unmitigated</u>

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr		МТ	/yr	
Apartments Low Rise	270277	50.2408	3.5600e- 003	7.4000e- 004	50.5489
Total		50.2408	3.5600e- 003	7.4000e- 004	50.5489

## Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr		ΜT	/yr	
Apartments Low Rise	263274	48.9390	3.4600e- 003	7.2000e- 004	49.2391
Total		48.9390	3.4600e- 003	7.2000e- 004	49.2391

## 6.0 Area Detail

6.1 Mitigation Measures Area

CalEEMod Version: CalEEMod.2016.3.1

Page 28 of 33

## Almond Knolls (unmitigated) - Bay Area AQMD Air District, Annual

No Hearths Installed

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							МТ	/yr		
Mitigated	0.2806	5.0100e- 003	0.4328	2.0000e- 005		2.3700e- 003	2.3700e- 003		2.3700e- 003	2.3700e- 003	0.0000	0.7035	0.7035	6.9000e- 004	0.0000	0.7207
Unmitigated	0.4144	8.0900e- 003	0.6171	3.9000e- 004		0.0287	0.0287		0.0287	0.0287	2.6442	1.7896	4.4338	4.9400e- 003	1.7000e- 004	4.6090

## 6.2 Area by SubCategory

**Unmitigated** 

	ROG	NOx	со	SO2	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					ton	s/yr							МТ	ī/yr		
Architectural Coating	0.0408					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.2265					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.1338	3.0800e- 003	0.1843	3.7000e- 004		0.0264	0.0264		0.0264	0.0264	2.6442	1.0861	3.7303	4.2500e- 003	1.7000e- 004	3.8882
Landscaping	0.0133	5.0100e- 003	0.4328	2.0000e- 005		2.3700e- 003	2.3700e- 003		2.3700e- 003	2.3700e- 003	0.0000	0.7035	0.7035	6.9000e- 004	0.0000	0.7207
Total	0.4144	8.0900e- 003	0.6171	3.9000e- 004		0.0287	0.0287		0.0287	0.0287	2.6442	1.7896	4.4338	4.9400e- 003	1.7000e- 004	4.6090

Page 29 of 33

Almond Knolls (unmitigated) - Bay Area AQMD Air District, Annual

## 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					ton	s/yr							MT	ī/yr		
Architectural Coating	0.0408					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.2265					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0133	5.0100e- 003	0.4328	2.0000e- 005		2.3700e- 003	2.3700e- 003		2.3700e- 003	2.3700e- 003	0.0000	0.7035	0.7035	6.9000e- 004	0.0000	0.7207
Total	0.2806	5.0100e- 003	0.4328	2.0000e- 005		2.3700e- 003	2.3700e- 003		2.3700e- 003	2.3700e- 003	0.0000	0.7035	0.7035	6.9000e- 004	0.0000	0.7207

## 7.0 Water Detail

7.1 Mitigation Measures Water

Page 30 of 33

Almond Knolls (unmitigated) - Bay Area AQMD Air District, Annual

	Total CO2	CH4	N2O	CO2e
Category		MT	ī/yr	
Mitigated	6.5498	0.1235	2.9900e- 003	10.5275
Unmitigated	6.5498	0.1235	2.9900e- 003	10.5275

# 7.2 Water by Land Use

<u>Unmitigated</u>

	Indoor/Out door Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal		MT	√yr	
Apartments Low Rise	3.77893 / 2.38237	6.5498	0.1235	2.9900e- 003	10.5275
Total		6.5498	0.1235	2.9900e- 003	10.5275

CalEEMod Version: CalEEMod.2016.3.1

Page 31 of 33

Almond Knolls (unmitigated) - Bay Area AQMD Air District, Annual

## 7.2 Water by Land Use

#### Mitigated

	Indoor/Out door Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal		МТ	/yr	
Apartments Low Rise	3.77893 / 2.38237	6.5498	0.1235	2.9900e- 003	10.5275
Total		6.5498	0.1235	2.9900e- 003	10.5275

## 8.0 Waste Detail

## 8.1 Mitigation Measures Waste

#### Category/Year

	Total CO2	CH4	N2O	CO2e					
	MT/yr								
Mitigated	5.4158	0.3201	0.0000	13.4174					
Unmitigated	5.4158	0.3201	0.0000	13.4174					

Page 32 of 33

Almond Knolls (unmitigated) - Bay Area AQMD Air District, Annual

## 8.2 Waste by Land Use

<u>Unmitigated</u>

	Waste Disposed	Total CO2	CH4	N2O	CO2e			
Land Use	tons	MT/yr						
Apartments Low Rise	26.68	5.4158	0.3201	0.0000	13.4174			
Total		5.4158	0.3201	0.0000	13.4174			

## Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e			
Land Use	tons	MT/yr						
Apartments Low Rise	26.68	5.4158	0.3201	0.0000	13.4174			
Total		5.4158	0.3201	0.0000	13.4174			

## 9.0 Operational Offroad

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

## Almond Knolls (unmitigated) - Bay Area AQMD Air District, Annual

## **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	
User Defined Equipment						
Equipment Type	Number					
		-				
11.0 Vegetation						

Page 1 of 11

## Almond Knolls (unmitigated)

## Bay Area AQMD Air District, Mitigation Report

## **Construction Mitigation Summary**

Phase	ROG	NOx	СО	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Architectural Coating	0.06	-0.22	0.01	0.00	0.32	0.32	0.00	0.00	0.00	0.00	0.00	0.00
Building Construction	0.61	-0.01	0.01	0.00	0.30	0.27	0.00	0.00	0.00	0.00	0.00	0.00
Grading	0.48	0.11	-0.10	0.00	0.53	0.49	0.00	0.00	0.00	0.00	0.00	0.00
Paving	0.40	-0.24	-0.09	0.00	0.23	0.16	0.00	0.00	0.00	0.00	0.00	0.00
Site Preparation	0.64	0.15	-0.07	0.00	0.47	0.43	0.00	0.00	0.00	0.00	0.00	0.00

**OFFROAD Equipment Mitigation**
Equipment Type	Fuel Type	Tier	Number Mitigated	Total Number of Equipment	DPF	Oxidation Catalyst
Air Compressors	Diesel	Tier 2	1	1	No Change	0.00
Cement and Mortar Mixers	Diesel	Tier 2	1	1	No Change	0.00
Cranes	Diesel	Tier 2	1	1	No Change	0.00
Forklifts	Diesel	Tier 2	2	2	No Change	0.00
Generator Sets	Diesel	Tier 2	1	1	No Change	0.00
Graders	Diesel	Tier 2	2	2	No Change	0.00
Pavers	Diesel	Tier 2	1	1	No Change	0.00
Paving Equipment	Diesel	Tier 2	1	1	No Change	0.00
Rollers	Diesel	Tier 2	2	2	No Change	0.00
Rubber Tired Dozers	Diesel	Tier 2	1	1	No Change	0.00
Scrapers	Diesel	Tier 2	1	1	No Change	0.00
Tractors/Loaders/Backhoes	Diesel	Tier 2	5	5	No Change	0.00
Welders	Diesel	Tier 2	3	3	No Change	0.00

## Page 2 of 11

#### Date: 3/7/2017 10:44 AM

Page 3 of 11

Date:	3/7/2017	10:44	AM
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Equipment Type	ROG	NOx	со	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
		U	nmitigated tons/yr	r					Unmitiga	ated mt/yr		
Air Compressors	4.23300E-002	2.87830E-001	2.77150E-001	4.50000E-004	2.09200E-002	2.09200E-002	0.00000E+000	3.82988E+001	3.82988E+001	3.43000E-003	0.00000E+000	3.83847E+001
Cement and Mortar Mixers	6.00000E-005	3.70000E-004	3.10000E-004	0.00000E+000	1.00000E-005	1.00000E-005	0.00000E+000	4.58300E-002	4.58300E-002	0.00000E+000	0.00000E+000	4.59500E-002
Cranes	8.08400E-002	9.64930E-001	3.61920E-001	8.60000E-004	4.13800E-002	3.80700E-002	0.00000E+000	7.83975E+001	7.83975E+001	2.45900E-002	0.00000E+000	7.90124E+001
Forklifts	4.44900E-002	3.95010E-001	3.15820E-001	4.00000E-004	3.11100E-002	2.86200E-002	0.00000E+000	3.63423E+001	3.63423E+001	1.14000E-002	0.00000E+000	3.66273E+001
Generator Sets	7.14200E-002	5.93020E-001	5.60360E-001	9.90000E-004	3.67200E-002	3.67200E-002	0.00000E+000	8.47811E+001	8.47811E+001	5.76000E-003	0.00000E+000	8.49251E+001
Graders	3.12000E-003	4.27700E-002	1.14900E-002	4.00000E-005	1.39000E-003	1.28000E-003	0.00000E+000	3.64653E+000	3.64653E+000	1.14000E-003	0.00000E+000	3.67491E+000
Pavers	2.90000E-004	3.12000E-003	2.90000E-003	0.00000E+000	1.50000E-004	1.40000E-004	0.00000E+000	4.22290E-001	4.22290E-001	1.30000E-004	0.00000E+000	4.25630E-001
Paving Equipment	2.10000E-004	2.26000E-003	2.52000E-003	0.00000E+000	1.10000E-004	1.00000E-004	0.00000E+000	3.65890E-001	3.65890E-001	1.20000E-004	0.00000E+000	3.68780E-001
Rollers	4.50000E-004	4.48000E-003	3.81000E-003	1.00000E-005	2.90000E-004	2.70000E-004	0.00000E+000	4.71160E-001	4.71160E-001	1.50000E-004	0.00000E+000	4.74890E-001
Rubber Tired Dozers	5.83000E-003	6.28000E-002	2.18800E-002	4.00000E-005	3.05000E-003	2.81000E-003	0.00000E+000	3.90168E+000	3.90168E+000	1.21000E-003	0.00000E+000	3.93205E+000
Scrapers	1.15000E-003	1.41900E-002	8.79000E-003	2.00000E-005	5.60000E-004	5.10000E-004	0.00000E+000	1.38327E+000	1.38327E+000	4.30000E-004	0.00000E+000	1.39404E+000
Tractors/Loaders/ Backhoes	3.09500E-002	3.07810E-001	2.85850E-001	3.80000E-004	2.12900E-002	1.95800E-002	0.00000E+000	3.46768E+001	3.46768E+001	1.08700E-002	0.00000E+000	3.49486E+001
Welders	1.86650E-001	7.44500E-001	8.25440E-001	1.15000E-003	4.81200E-002	4.81200E-002	0.00000E+000	8.46993E+001	8.46993E+001	1.52500E-002	0.00000E+000	8.50806E+001

Page 4 of 11

Date: 3/7/2017 10:44 AM

	POG	NOv	00	502	Exhaust PM10	Exhaust DM2 5	Bio. CO2	NBio CO2	Total CO2	CH4	N2O	6020
	ROG	NOX	itigated tops/ur	302	Exhaust Pivito	Exhaust Fivi2.5	BI0- CO2	NBI0- CO2	Nitigat		1120	COZe
		111							willigat			
Air Compressors	1.70900E-002	3.52860E-001	2.74860E-001	4.50000E-004	1.42600E-002	1.42600E-002	0.00000E+000	3.82988E+001	3.82988E+001	3.43000E-003	0.00000E+000	3.83846E+001
Cement and Mortar Mixers	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	4.58300E-002	4.58300E-002	0.00000E+000	0.00000E+000	4.59500E-002
Cranes	2.12700E-002	7.35480E-001	4.60780E-001	8.60000E-004	1.56000E-002	1.56000E-002	0.00000E+000	7.83975E+001	7.83975E+001	2.45900E-002	0.00000E+000	7.90123E+001
Forklifts	1.89500E-002	3.91440E-001	3.04910E-001	4.00000E-004	1.58200E-002	1.58200E-002	0.00000E+000	3.63423E+001	3.63423E+001	1.14000E-002	0.00000E+000	3.66273E+001
Generator Sets	3.78200E-002	7.81120E-001	6.08450E-001	9.90000E-004	3.15700E-002	3.15700E-002	0.00000E+000	8.47810E+001	8.47810E+001	5.76000E-003	0.00000E+000	8.49250E+001
Graders	9.70000E-004	3.36700E-002	2.10900E-002	4.00000E-005	7.10000E-004	7.10000E-004	0.00000E+000	3.64653E+000	3.64653E+000	1.14000E-003	0.00000E+000	3.67491E+000
Pavers	1.80000E-004	4.02000E-003	3.56000E-003	0.00000E+000	1.20000E-004	1.20000E-004	0.00000E+000	4.22290E-001	4.22290E-001	1.30000E-004	0.00000E+000	4.25630E-001
Paving Equipment	1.60000E-004	3.49000E-003	3.10000E-003	0.00000E+000	1.10000E-004	1.10000E-004	0.00000E+000	3.65880E-001	3.65880E-001	1.20000E-004	0.00000E+000	3.68780E-001
Rollers	2.50000E-004	5.09000E-003	3.97000E-003	1.00000E-005	2.10000E-004	2.10000E-004	0.00000E+000	4.71160E-001	4.71160E-001	1.50000E-004	0.00000E+000	4.74890E-001
Rubber Tired Dozers	1.05000E-003	3.61600E-002	2.26500E-002	4.00000E-005	7.70000E-004	7.70000E-004	0.00000E+000	3.90168E+000	3.90168E+000	1.21000E-003	0.00000E+000	3.93204E+000
Scrapers	3.70000E-004	1.17800E-002	8.08000E-003	2.00000E-005	2.70000E-004	2.70000E-004	0.00000E+000	1.38327E+000	1.38327E+000	4.30000E-004	0.00000E+000	1.39404E+000
Tractors/Loaders/Ba ckhoes	1.79300E-002	3.70200E-001	2.88370E-001	3.80000E-004	1.49600E-002	1.49600E-002	0.00000E+000	3.46768E+001	3.46768E+001	1.08700E-002	0.00000E+000	3.49486E+001
Welders	4.76400E-002	7.60650E-001	6.73580E-001	1.15000E-003	4.60000E-002	4.60000E-002	0.00000E+000	8.46992E+001	8.46992E+001	1.52500E-002	0.00000E+000	8.50805E+001

CalEEMod Version: CalEEMod.2016.3.1

CalEEMod Version: CalEEMod.2016.3.1

Page 5 of 11

#### Date: 3/7/2017 10:44 AM

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Air Compressors	5.96267E-001	-2.25932E-001	8.26267E-003	0.00000E+000	3.18356E-001	3.18356E-001	0.00000E+000	1.30552E-006	1.30552E-006	0.00000E+000	0.00000E+000	1.04208E-006
Cement and Mortar Mixers	1.00000E+000	1.00000E+000	1.00000E+000	0.00000E+000	1.00000E+000	1.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Cranes	7.36888E-001	2.37789E-001	-2.73154E-001	0.00000E+000	6.23006E-001	5.90229E-001	0.00000E+000	1.14800E-006	1.14800E-006	0.00000E+000	0.00000E+000	1.26562E-006
Forklifts	5.74062E-001	9.03775E-003	3.45450E-002	0.00000E+000	4.91482E-001	4.47240E-001	0.00000E+000	1.37581E-006	1.37581E-006	0.00000E+000	0.00000E+000	1.09208E-006
Generator Sets	4.70456E-001	-3.17190E-001	-8.58198E-002	0.00000E+000	1.40251E-001	1.40251E-001	0.00000E+000	1.17951E-006	1.17951E-006	0.00000E+000	0.00000E+000	1.17751E-006
Graders	6.89103E-001	2.12766E-001	-8.35509E-001	0.00000E+000	4.89209E-001	4.45313E-001	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Pavers	3.79310E-001	-2.88462E-001	-2.27586E-001	0.00000E+000	2.00000E-001	1.42857E-001	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Paving Equipment	2.38095E-001	-5.44248E-001	-2.30159E-001	0.00000E+000	0.00000E+000	-1.00000E-001	0.00000E+000	2.73306E-005	2.73306E-005	0.00000E+000	0.00000E+000	0.00000E+000
Rollers	4.44444E-001	-1.36161E-001	-4.19948E-002	0.00000E+000	2.75862E-001	2.22222E-001	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Rubber Tired Dozers	8.19897E-001	4.24204E-001	-3.51920E-002	0.00000E+000	7.47541E-001	7.25979E-001	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	2.54320E-006
Scrapers	6.78261E-001	1.69838E-001	8.07736E-002	0.00000E+000	5.17857E-001	4.70588E-001	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Tractors/Loaders/Ba ckhoes	4.20679E-001	-2.02690E-001	-8.81581E-003	0.00000E+000	2.97323E-001	2.35955E-001	0.00000E+000	1.15351E-006	1.15351E-006	0.00000E+000	0.00000E+000	1.43067E-006
Welders	7.44763E-001	-2.16924E-002	1.83975E-001	0.00000E+000	4.40565E-002	4.40565E-002	0.00000E+000	1.18065E-006	1.18065E-006	0.00000E+000	0.00000E+000	1.17536E-006

## **Fugitive Dust Mitigation**

Yes/No	Mitigation Measure	Mitigation Input		Mitigation Input		Mitigation Input	
No	Soil Stabilizer for unpaved Roads	PM10 Reduction	0.00	PM2.5 Reduction	0.00		
No	Replace Ground Cover of Area Disturbed	PM10 Reduction	0.00	PM2.5 Reduction	0.00		
No	Water Exposed Area	PM10 Reduction	0.00	PM2.5 Reduction	0.00	Frequency (per day)	

CalEEMod	Version: CalEEMod.2016.3.1		Page 6	of 11		Date: 3/7/201	7 10:44 AM
No	Unpaved Road Mitigation	Moisture Content %	0.00	Vehicle Speed (mph)	0.00		
No	Clean Paved Road	% PM Reduction	0.00				

		Unmitigated		Mi	tigated	Percent Reduction		
Phase	Source	PM10	PM2.5	PM10	PM2.5	PM10	PM2.5	
Architectural Coating	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00	
Architectural Coating	Roads	0.01	0.00	0.01	0.00	0.00	0.00	
Building Construction	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00	
Building Construction	Roads	0.06	0.01	0.06	0.01	0.00	0.00	
Grading	Fugitive Dust	0.03	0.02	0.03	0.02	0.00	0.00	
Grading	Roads	0.01	0.00	0.01	0.00	0.00	0.00	
Paving	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00	
Paving	Roads	0.00	0.00	0.00	0.00	0.00	0.00	
Site Preparation	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00	
Site Preparation	Roads	0.00	0.00	0.00	0.00	0.00	0.00	

**Operational Percent Reduction Summary** 

## Page 7 of 11

Date: 3/7/2017 10:44 AM

Category	ROG	NOx	со	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
Electricity	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.59	2.59	2.81	2.70	2.59
Hearth	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
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	11.42	18.90	22.75	29.54	28.87	28.80	0.00	29.63	29.63	21.98	0.00	29.62
Natural Gas	21.34	21.38	21.39	21.74	21.53	21.53	0.00	21.37	21.37	21.52	22.37	21.37
Water Indoor	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 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:

Mitigation	Category	Measure	% Reduction	Input Value 1	Input Value 2	Input Value
Yes	Land Use	Increase Density	0.00	20.00	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		
Yes	Land Use	Increase Transit Accessibility	0.22	0.07		
No	Land Use	Integrate Below Market Rate Housing	0.00	0.00		
	Land Use	Land Use SubTotal	0.31			

/ersion: CalEEMod.2016.3.1	Page 8 of 11		Date: 3/7	7/2017 10:44 AM	
Neighborhood Enhancements	Improve Pedestrian Network	1.00	Project Site		
Neighborhood Enhancements	Provide Traffic Calming Measures	0.00			
Neighborhood Enhancements	Implement NEV Network	0.00			
Neighborhood Enhancements	Neighborhood Enhancements Subtotal	0.01			
Parking Policy Pricing	Limit Parking Supply	0.00	0.00		
Parking Policy Pricing	Unbundle Parking Costs	0.00	0.00		
Parking Policy Pricing	On-street Market Pricing	0.00	0.00		
Parking Policy Pricing	Parking Policy Pricing Subtotal	0.00			
Transit Improvements	Provide BRT System	0.00	0.00		
Transit Improvements	Expand Transit Network	0.00	0.00		
Transit Improvements	Increase Transit Frequency	0.00		0.00	
Transit Improvements	Transit Improvements Subtotal	0.00			
	Land Use and Site Enhancement Subtotal	0.32			
Commute	Implement Trip Reduction Program				
Commute	Transit Subsidy				
Commute	Implement Employee Parking "Cash Out"				
Commute	Workplace Parking Charge		0.00		
Commute	Encourage Telecommuting and Alternative Work Schedules	0.00			
Commute	Market Commute Trip Reduction Option	0.00			
Commute	Employee Vanpool/Shuttle	0.00		2.00	
Commute	Provide Ride Sharing Program				
Commute	Commute Subtotal	0.00			
	Version: CalEEMod.2016.3.1 Neighborhood Enhancements Neighborhood Enhancements Neighborhood Enhancements Neighborhood Enhancements Parking Policy Pricing Parking Policy Pricing Parking Policy Pricing Transit Improvements Transit Improvements Transit Improvements Transit Improvements Transit Improvements Commute	fersion: CallEEMod.2016.3.1   Page 8 of 11     Neighborhood Enhancements   Improve Pedestrian Network     Neighborhood Enhancements   Provide Traffic Calming Measures     Neighborhood Enhancements   Implement NEV Network     Neighborhood Enhancements   Neighborhood Enhancements Subtotal     Parking Policy Pricing   Limit Parking Supply     Parking Policy Pricing   Unbundle Parking Costs     Parking Policy Pricing   On-street Market Pricing     Parking Policy Pricing   Parking Policy Pricing Subtotal     Transit Improvements   Provide BRT System     Transit Improvements   Increase Transit Frequency     Transit Improvements   Increase Transit Frequency     Transit Improvements   Transit Improvements Subtotal     Land Use and Site Enhancement Subtotal   Land Use and Site Enhancement Subtotal     Commute   Implement Trip Reduction Program     Commute   Workplace Parking Charge     Commute   Encourage Telecommuting and Alternative     Work Schedules   Work Schedules     Commute   Employee Vanpool/Shuttle     Commute   Provide Ride Sharing Program     Commute   Provide Ride Sharing Program	Version: CalleEMod.2016.3.1   Page 8 of 11     Neighborhood Enhancements   Improve Pedestrian Network   1.00     Neighborhood Enhancements   Implement NEV Network   0.00     Neighborhood Enhancements   Implement NEV Network   0.00     Neighborhood Enhancements   Implement NEV Network   0.00     Neighborhood Enhancements   Neighborhood Enhancements   0.01     Parking Policy Pricing   Limit Parking Supply   0.00     Parking Policy Pricing   On-street Market Pricing   0.00     Parking Policy Pricing   On-street Market Pricing Subtotal   0.00     Parking Policy Pricing   Parking Policy Pricing Subtotal   0.00     Transit Improvements   Provide BRT System   0.00     Transit Improvements   Increase Transit Network   0.00     Transit Improvements   Increase Transit Frequency   0.00     Transit Improvements   Transit Improvements Subtotal   0.32     Commute   Implement Trip Reduction Program   0.32     Commute   Implement Employee Parking Cash Out"   0.00     Commute   Encourage Telecommuting and Alternative   0.00     Work Schedules   0.00 <td< td=""><td>rerision: CallEEMod.2016.3.1   Page 8 of 11   Date: 37     Neighborhood Enhancements   Improve Pedestrian Network   1.00 Project Site     Neighborhood Enhancements   Provide Traffic Calming Measures   0.00     Neighborhood Enhancements   Implement NEV Network   0.00     Neighborhood Enhancements   Implement NEV Network   0.00     Neighborhood Enhancements   Neighborhood Enhancements   0.00     Parking Policy Pricing   Limit Parking Supply   0.00   0.00     Parking Policy Pricing   On-street Market Pricing   0.00   0.00     Parking Policy Pricing   Provide BRT System   0.00   0.00     Transit Improvements   Provide BRT System   0.00   0.00     Transit Improvements   Increase Transit Frequency   0.00   0.00     Transit Improvements   Transit Improvements Subtotal   0.32   0.00     Commute   Implement Trip Reduction Program   0.00   0.00     Commute   Encourage Telecommuting and Alternative   0.00   0.00     Commute   Market Commute Trip Reduction Option   0.00   0.00     Commute   Encourage Telecommuting and Alternative</td><td>Version: CallEEMod.2016.3.1 Page 8 of 11 Date: 3/7/2017 10:44 AM   Neighborhood Enhancements Improve Pedestrian Network 1.00 Provide Traffic Calming Measures 0.00   Neighborhood Enhancements Implement NEV Network 0.00 0.00   Neighborhood Enhancements Implement NEV Network 0.00 0.00   Neighborhood Enhancements Neighborhood Enhancements 0.00 0.00   Parking Policy Pricing Limit Parking Supply 0.00 0.00   Parking Policy Pricing On-street Market Pricing 0.00 0.00   Parking Policy Pricing Provide BRT System 0.00 0.00   Transit Improvements Increase Transit Frequency 0.00 0.00   Transit Improvements Increase Transit Frequency 0.00 0.00   Commute Implement Trip Reduction Program 0.00 0.00   Commute Implement Trip Reduction Program 0.00 0.00   Comm</td></td<>	rerision: CallEEMod.2016.3.1   Page 8 of 11   Date: 37     Neighborhood Enhancements   Improve Pedestrian Network   1.00 Project Site     Neighborhood Enhancements   Provide Traffic Calming Measures   0.00     Neighborhood Enhancements   Implement NEV Network   0.00     Neighborhood Enhancements   Implement NEV Network   0.00     Neighborhood Enhancements   Neighborhood Enhancements   0.00     Parking Policy Pricing   Limit Parking Supply   0.00   0.00     Parking Policy Pricing   On-street Market Pricing   0.00   0.00     Parking Policy Pricing   Provide BRT System   0.00   0.00     Transit Improvements   Provide BRT System   0.00   0.00     Transit Improvements   Increase Transit Frequency   0.00   0.00     Transit Improvements   Transit Improvements Subtotal   0.32   0.00     Commute   Implement Trip Reduction Program   0.00   0.00     Commute   Encourage Telecommuting and Alternative   0.00   0.00     Commute   Market Commute Trip Reduction Option   0.00   0.00     Commute   Encourage Telecommuting and Alternative	Version: CallEEMod.2016.3.1 Page 8 of 11 Date: 3/7/2017 10:44 AM   Neighborhood Enhancements Improve Pedestrian Network 1.00 Provide Traffic Calming Measures 0.00   Neighborhood Enhancements Implement NEV Network 0.00 0.00   Neighborhood Enhancements Implement NEV Network 0.00 0.00   Neighborhood Enhancements Neighborhood Enhancements 0.00 0.00   Parking Policy Pricing Limit Parking Supply 0.00 0.00   Parking Policy Pricing On-street Market Pricing 0.00 0.00   Parking Policy Pricing Provide BRT System 0.00 0.00   Transit Improvements Increase Transit Frequency 0.00 0.00   Transit Improvements Increase Transit Frequency 0.00 0.00   Commute Implement Trip Reduction Program 0.00 0.00   Commute Implement Trip Reduction Program 0.00 0.00   Comm

С	alEEMod \	/ersion: CalEEMod.2016.3.1	Page 9 of 11	Date	e: 3/7/2017 10:44 AM
ſ	No	School Trip	Implement School Bus Program	0.00	
			Total VMT Reduction	0.32	

# Area Mitigation

Measure Implemented	Mitigation Measure	Input Value
No	Only Natural Gas Hearth	
Yes	No Hearth	T I I I
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

Measure Implemented	Mitigation Measure	Input Value 1	Input Value 2
Yes	Exceed Title 24	28.00	
No	Install High Efficiency Lighting		
No	On-site Renewable		

Page 10 of 11

Appliance Type	Land Use Subtype	% Improvement
ClothWasher		30.00
DishWasher		15.00
Fan		50.00
Refrigerator	r	15.00

## Water Mitigation Measures

Measure Implemented	Mitigation Measure	Input Value 1	Input Value 2
No	Apply Water Conservation on Strategy		
No	Use Reclaimed Water		
No	Use Grey Water		
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		
No	Use Water Efficient Irrigation Systems	6.10	
No	Water Efficient Landscape		

## **Solid Waste Mitigation**

Mitigation Measures	Input Value

CalEEMod Version: CalEEMod.2016.3.1	Page 11 of 11				
Institute Recycling and Composting Services Percent Reduction in Waste Disposed					

Date: 3/7/2017 10:44 AM

#### Almond Knolls (unmitigated) - Bay Area AQMD Air District, Summary Report

### Almond Knolls (unmitigated)

Bay Area AQMD, Summary Report

#### **1.0 Project Characteristics**

#### 1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments Low Rise	58.00	Dwelling Unit	2.90	58,000.00	166

#### **1.2 Other Project Characteristics**

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	64		
Climate Zone	4			Operational Year	2019		
Utility Company	Pacific Gas & Electric Company						
CO2 Intensity (Ib/MWhr)	409.81	CH4 Intensity (Ib/MWhr)	0.029	N2O Intensity ( (Ib/MWhr)	0.006		

#### **1.3 User Entered Comments**

Only CalEEMod defaults were used.

Project Characteristics - Intensity Factors for CO2 adjusted based on PG&E RPS reductions

Land Use - \*Applicant provided

Construction Phase - \*Applicant provided

Grading - \*Applicant provided

Energy Use -

Construction Off-road Equipment Mitigation - Mitigation requirement

Mobile Land Use Mitigation - \*Applicant provided

Area Mitigation -

Energy Mitigation -

Page 2 of 3

Almond Knolls (unmitigated) - Bay Area AQMD Air District, Summary Report

### 2.0 Peak Daily Emissions

#### **Peak Daily Construction Emissions**

#### Peak Daily Construction Emissions

		Unmitigated						Mitigated					
		ROG	NOX	CO	SO2	PM10	PM2.5	ROG	NOX	СО	SO2	PM10	PM2.5
Year	Phase						lb/d	day					
2018	Site Preparation	1.9595 W	24.4749 W	13.1658 S	0.0273 S	2.6071 W	1.0770 W	0.7225 W	20.8727 W	14.0628 S	0.0273 S	2.1519 W	0.6981 W
2018	Grading	3.1715 W	57.4396 W	17.2974 W	0.1029 S	9.5505 W	5.0597 W	1.6462 W	51.2552 W	19.0619 W	0.1029 S	8.8672 W	4.4699 W
2018	Building Construction	3.1324 W	21.6529 W	17.3261 S	0.0304 S	1.6517 W	1.3164 W	1.1668 W	20.9916 W	17.0159 S	0.0304 S	1.2120 W	0.9291 W
2019	Building Construction	2.7561 W	19.7934 W	16.6898 S	0.0302 S	1.4833 W	1.1553 W	1.1451 W	20.9296 W	16.8435 S	0.0302 S	1.2110 W	0.9281 W
2019	Paving	1.3056 W	12.6126 W	12.2980 S	0.0191 S	0.8541 S	0.7062 S	0.7947 W	15.6550 W	13.4210 S	0.0191 S	0.6820 S	0.5914 S
2018	Architectural Coating	3.0562 W	2.0327 W	2.1222 S	3.6700e-003 S	0.2167 S	0.1684 S	2.8715 W	2.3793 W	2.1004 S	3.6700e-003 S	0.1613 S	0.1129 S
2019	Architectural Coating	3.0205 W	1.8589 W	2.0799 S	3.6500e-003 S	0.1949 S	0.1466 S	2.8680 W	2.3760 W	2.0710 S	3.6500e-003 S	0.1612 S	0.1129 S
	Peak Daily Total	3.1715 W	57.4396 W	17.3261 S	0.1029 S	9.5505 W	5.0597 W	2.8715 W	51.2552 W	19.0619 W	0.1029 S	8.8672 W	4.4699 W
	Air District Threshold												
	Exceed Significance?												

Peak Daily Operational Emissions

Peak Daily Operational Emissions

#### Almond Knolls (unmitigated) - Bay Area AQMD Air District, Summary Report

		Unmitigated						Mitigated					
		ROG	NOX	СО	SO2	PM10	PM2.5	ROG	NOX	CO	SO2	PM10	PM2.5
	Operational Activity						lb/e	day					
On-Site	Area	25.4652 S	0.5830 S	36.3234 S	0.0610 S	4.5003 S	4.5003 S	1.6121 S	0.0557 S	4.8088 S	2.5000e-004 S	0.0264 S	0.0264 S
On-Site	Energy	0.0228 S	0.1951 S	0.0830 S	1.2400e-003 S	0.0158 S	0.0158 S	0.0180 S	0.1534 S	0.0653 S	9.8000e-004 S	0.0124 S	0.0124 S
Off-Site	Mobile	0.8287 S	3.5180 W	8.6414 W	0.0261 S	2.0703 W	0.5756 W	0.7435 S	2.8415 W	6.7604 W	0.0184 S	1.4127 W	0.3934 W
	Peak Daily Total	26.3168 S	4.2961 W	45.0478 W	0.0883 S	6.5864 W	5.0916 W	2.3736 S	3.0505 W	11.6344 W	0.0196 S	1.4514 W	0.4321 W
	Air District Threshold												
	Exceed Significance?												

# 3.0 Annual GHG Emissions

### Annual GHG

Annual GHG

	Unmitigated				Mitigated				
	CO2	CH4	N2O	CO2e	CO2	CH4	N2O	CO2e	
GHG Activity	Year	MT/yr							
Construction	2018	277.2152	0.0448	0.0000	278.3355	277.2149	0.0448	0.0000	278.3353
Construction	2019	208.3423	0.0347	0.0000	209.2088	208.3421	0.0347	0.0000	209.2086
Operational	2019	486.1015	0.4686	4.6448e-003	499.2010	360.2055	0.4606	4.2910e-003	372.9998
	Total								
	Significance Threshold								
	Exceed Significance?								