CITY OF ANTIOCH
COMMUNITY DEVELOPMENT DEPARTMENT

ANTIOCH
CALIFORNIA

Vineyard Crossing Subdivision Project

Modified Initial Study/15183 Checklist

August 2025

Prepared by

RANEY PLANNING & MANAGEMENT, INC.
25 years
1501 Sports Drive, Suite A, • Sacramento • CA • 95834
Office 916.372.6100 • Fax 916.419.6108

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MODIFIED INITIAL STUDY
AUGUST 2025

A. PROJECT SUMMARY

1. Project Title: Vineyard Crossing Subdivision Project

2. Lead Agency Name and Address: City of Antioch
Community Development Department
P.O. Box 5007
Antioch, CA 94531

3. Lead Agency Contact and Phone Number: Nathan Tinclair
Associate Planner
(925) 779-6113

4. Project Location: Northwest of the intersection of Phillips Lane and Oakley Road
Antioch, CA 94509
Assessor's Parcel Numbers (APNs): 051-190-028 and -034

5. Project Applicant: Charles McKeag
BrightSky Residential
1255 Treat Boulevard, Suite 300
Walnut Creek, CA 94597

6. General Plan Designation: Medium Low Density Residential (MLDR)
Medium Density Residential (MDR)

7. Zoning Designation: Planned Development (P-D)

8. Required Approvals from Other Public Agencies: None

9. Project Location and Setting:

The project site consists of two parcels totaling approximately 14.6 acres, identified by APNs 051-190-028 and -034, located northwest of the intersection of Phillips Lane and Oakley Road in the City of Antioch, California. The project site consists of a 10.3-acre western parcel (APN 051-190-028) and a 4.3-acre eastern parcel (APN 051-190-034), which are separated by an approximately four-acre existing Pacific Gas and Electric (PG&E)-owned parcel. The northern 80 feet of both parcels contain a PG&E easement. The project site is currently developed with an existing vineyard, three electrical transmission towers within the PG&E-owned parcel and easement, and a paved walking trail. In addition, an off-site residence located on the Oakley Road frontage would be surrounded by the proposed project to the west, north, and east. Surrounding existing land uses include single-family residences and Almondridge Park to the north; single-family residences to the east, across Phillips Lane; the aforementioned single-family residence which would be surrounded to the west, north, and east by the proposed project on the Oakley Road frontage and undeveloped land within the Hillcrest Station Area Specific Plan focus area to the south, across Oakley Road; and single-family residences to the west.

The City of Antioch General Plan designates the western parcel as MLDR and the eastern parcel as MDR. Both parcels are zoned P-D.

10. Project Description Summary:

    The Vineyard Crossing Subdivision Project (proposed project) would include the removal of the existing vineyards and on-site trees from the project site, and subdivision of the site into 71 residential lots, with 45 single-family residential lots on the western parcel and 26 duplex building lots on the eastern parcel. Of the 45 lots on the western parcel, 40 would include accessory dwelling units (ADUs), 13 of which would be deed-restricted and available to low-income households. The 26 lots on the eastern parcel would consist of duplex buildings with a total of 52 units; a vesting tentative map is being prepared for potential future condominium purposes. The proposed project would include an overall total of 137 residential units, with 45 single-family units and 40 ADUs in the western parcel and 52 residential units in the eastern parcel of the project site. Amenities located in the western parcel of the project site would include a recreation center with an outdoor pool and spa area as well as a children's play area. Amenities located in the eastern parcel of the project site would include an activity lawn area with park benches. The existing walking trail located along the northern boundary of the project site that connects Phillips Lane to the east and Hickorynut Street to the west would be maintained during project construction. Primary site access would be provided by two new private streets off Phillips Lane and Oakley Road which would connect to internal streets throughout the project site. The proposed project would require City approval of a Vesting Tentative Map, Density Bonus, and Design Review.

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

    Assembly Bill (AB) 52 (Public Resources Code [PRC] Section 21080.3.1) notification to tribes is not required for the proposed project given that this checklist determines no additional environmental review is required for the project, consistent with CEQA Guidelines Section 15183.

B. SOURCES

The following documents are referenced information sources used for the analysis within this Modified Initial Study:

1. Antioch Unified School District. *Developer's Fee Overview*. Available at: https://www.antiochschools.net/page/developer-fees. Accessed June 2025.
2. Apex Companies. *Limited Phase II Environmental Site Assessment*. April 11, 2023.
3. Apex Companies. *Phase I Environmental Site Assessment*. February 20, 2025.
4. California Building Standards Code. *California Building Standards Code: Materials and Construction Methods for Exterior Wildfire Exposure*. July 2024.
5. California Building Standards Commission. *2022 California Green Building Standards Code*. 2023.
6. California Department of Forestry and Fire Protection. *Fire Hazard Severity Zones in State Responsibility Area*. Available at: https://osfm.fire.ca.gov/what-we-do/community-wildfire-preparedness-and-mitigation/fire-hazard-severity-zones. Accessed June 2025.
7. California Department of Resources Recycling and Recovery (CalRecycle). *Facility/Site Summary Details: Keller Canyon Landfill (07-AA-0032).* Available at:

https://www2.calrecycle.ca.gov/SolidWaste/SiteActivity/Details/4407?siteID=228. Accessed June 2025.
8. California Department of Transportation. *California State Scenic Highway System Map*. Available at: https://caltrans.maps.arcgis.com/apps/webappviewer/index.html?id=465dfd3d807c46cc8e8057116f1aacaa/. Accessed June 2025.
9. City of Antioch. *2020 Urban Water Management Plan*. May 2021.
10. City of Antioch. *2023-2031 Housing Element Update*. October 2023.
11. City of Antioch. *City of Antioch Emergency Operations Plan.* 2021.
12. City of Antioch. *City of Antioch General Plan.* Updated November 24, 2003.
13. City of Antioch. *General Plan Update Environmental Impact Report.* Adopted July 2003.
14. City of Antioch. *Master Fee Schedule*. Amended March 11, 2025.
15. City of Antioch. *Single-Family and Missing Middle Residential Objective Design Standards*. August 2023.
16. Contra Costa Clean Water Program. *Stormwater C.3 Guidebook, Stormwater Quality Requirements for Development Applications*. Updated June 2025.
17. Delta Diablo. *Delta Diablo Resource Recovery Facility 2022 Master Plan*. December 2022.
18. Eastern Contra Costa Transit Authority. *2020-2029 Tri Delta Transit Short Range Transit Plan*. Approved August 26, 2020.
19. Federal Emergency Management Agency. *Flood Insurance Rate Map 06013C0332F*. Effective June 16, 2009.
20. Hexagon Transportation Consultants, Inc. *Vineyard Crossing Residential Development Transportation Analysis*. June 6, 2025.
21. Live Oak Associates. *Vineyards Crossing Technical Biological Report, City of Antioch, Contra Costa County, California*. May 2025.
22. LSA. *Farmland Impact Assessment*. February 2025.
23. Miller Star Regalia. *Fourth District Belatedly Publishes CEQA Opinion Upholding City of Newport Beach's Approval of Multifamily-Housing Development Pursuant To Addendum To 2006 EIR For Larger Mixed-Use Development*. Available at: https://www.ceqadevelopments.com/2023/08/08/fourth-district-belatedly-publishes-ceqa-opinion-upholding-city-of-newport-beachs-approval-of-multifamily-housing-development-pursuant-to-addendum-to-2006-eir-for-larger-mixed-use-development/. Accessed June 2025.
24. Quantum Geotechnical, Inc. *Geotechnical Investigation: Proposed Residential Development, 3001 Oakley Road, Antioch, California*. January 16, 2023.

C. BACKGROUND AND INTRODUCTION

The following provides a background of the proposed project, as well as a description of this Modified Initial Study's approach to evaluating the proposed project's consistency with California Environmental Quality Act (CEQA) Section 15183 and Government Code Sections 65915 through 65918.

CEQA Guidelines Section 15183

This Modified Initial Study identifies and analyzes the potential environmental impacts of the proposed project. The information and analysis presented in this document is organized in accordance with the order of the CEQA checklist in Appendix G of the CEQA Guidelines.

On November 24, 2003, the City of Antioch adopted the updated General Plan.[1] The City of Antioch also certified a General Plan Environmental Impact Report (EIR) in July 2003.[2] The

[1] City of Antioch. *City of Antioch General Plan.* Updated November 24, 2003.
[2] City of Antioch. *General Plan Update Environmental Impact Report.* Adopted July 2003.

General Plan EIR was prepared pursuant to Section 15169 of the CEQA Guidelines (Title 14, California Code of Regulations [CCR], 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 to the maximum extent feasible.

The City's General Plan designates the western parcel of the project site as MLDR, and the eastern parcel of the project site as MDR, which allow for residential uses. Appropriate land uses in the MLDR designation include single-family detached homes and small lot single-family detached homes. The maximum allowed density in the MLDR designation is six dwelling units per acre (du/ac). Appropriate land uses in the MDR designation include single-family detached homes, small lot single-family detached homes, multi-family attached homes, and mobile homes. The maximum allowed density in the MDR designation is 10 du/ac. The proposed project would consist of a density of 4.95 du/ac in the western parcel and 12.09 du/ac in the eastern parcel, which exceeds the allowed density in the MDR designation in the eastern parcel. However, as allowed under State Density Bonus Law (Government Code Sections 65915 through 65918), the project applicant is requesting a density bonus for the project site. The State Density Bonus Law states that a City shall grant one density bonus to any applicant for a housing development who agrees to construct a housing development that will contain at least 10 percent of the total units for rental or sale to lower income households. The developer is proposing 121 base units as part of the project (not including 16 duplex units which are granted through the density bonus). Of the proposed 121 base residential units, 13 of the proposed 40 ADUs, or approximately 10.7 percent of the total proposed units, would be deed-restricted and available to low-income households earning 60 percent of the area median income (AMI). Therefore, the proposed project would be eligible for a density bonus under the State Density Bonus Law. With the approval of the density bonus, the proposed project would be consistent with the site's MLDR and MDR land use designations.

Pursuant to Section 15183 of the CEQA Guidelines, where a project is consistent with the use and density established for a property under an existing general plan or zoning ordinance for which the City has already certified an EIR, additional environmental review is not required "except as might be necessary to examine whether there are project-specific significant effects which are peculiar to the project or its site." If such requirements are met, the examination of environmental effects is limited to those which the agency determines, in an Initial Study or other analysis:

1. Are peculiar to the project or the parcel on which the project would be located;
2. Were not analyzed as significant effects in a prior EIR on the zoning action, general plan or community plan with which the project is consistent;
3. Are potentially significant off-site impacts and cumulative impacts which were not discussed in the prior EIR prepared for the general plan, community plan or zoning action; or
4. Are previously identified significant effects which, as a result of substantial new information which was not known at the time the EIR was certified, are determined to have a more severe adverse impact than discussed in the prior EIR.

As set forth by Section 15183 of the CEQA Guidelines, the City's General Plan EIR serves as a basis for the Modified Initial Study to determine if project-specific impacts would occur that are not adequately covered in the previously certified EIR.

This Modified Initial Study indicates whether the proposed project would result in a significant impact that: (1) is peculiar to the project or the project site; (2) was not identified as a significant effect in the General Plan EIR; or (3) are previously identified significant effects, which as a result

of substantial new information that was not known at the time that the General Plan EIR was certified, are determined to have a more severe adverse impact than discussed in the General Plan EIR.

Regarding "peculiar" impacts, CEQA Guidelines Section 15183(f) states the following:

> An effect of a project on the environment shall not be considered peculiar to the project or the parcel for the purposes of this section if uniformly applied development policies or standards have been previously adopted by the city or county with a finding that the development policies or standards will substantially mitigate that environmental effect when applied to future projects, unless substantial new information shows that the policies or standards will not substantially mitigate the environmental effect. The finding shall be based on substantial evidence which need not include an EIR.

D. 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 project site consists of two parcels totaling approximately 14.6 acres, identified by APNs 051-190-028 and -034, located northwest of the intersection of Phillips Lane and Oakley Road in the City of Antioch, California (see Figure 1 and Figure 2). The project site consists of a 10.3-acre western parcel and a 4.3-acre eastern parcel, which are separated by an approximately four-acre PG&E-owned parcel. The project site is currently developed with an existing vineyard, electrical transmission towers within the PG&E-owned parcel and easements, and a paved walking trail. In addition, an off-site residence located on the Oakley Road frontage would be surrounded by the proposed project to the west, north, and east.

Surrounding existing land uses include single-family residences and Almondridge Park to the north; single-family residences to the east, across Phillips Lane; the aforementioned single-family residence which would be surrounded to the west, north, and east by the proposed project on the Oakley Road frontage and undeveloped land within the Hillcrest Station Area Specific Plan focus area to the south, across Oakley Road; and single-family residences to the west. The City of Antioch General Plan designates the western parcel as MLDR and the eastern parcel as MDR. Both parcels are zoned P-D.

Project Components

The proposed project would include the removal of the existing vineyards and on-site trees from the project site, and subdivision of the site into 71 residential lots, with 45 single-family residential lots on the western parcel and 26 duplex building lots on the eastern parcel (see Figure 3). The 10.3-acre western parcel would be developed with 45 single-family residences and 40 ADUs (see Figure 4). Thirteen of the ADUs would be deed-restricted and available to low-income households earning 60 percent of the AMI. Amenities located on the western parcel of the site would include a recreation center with an outdoor pool and spa area as well as a children's play area. The 4.3-acre eastern parcel would be developed with 26 duplex buildings, consisting of 52 units total. The proposed project would include an overall total of 137 residential units, with 45 single-family units and 40 ADUs in the western parcel and 52 residential units in the eastern parcel of the project site. Amenities located on the eastern parcel would include an activity lawn area with park benches in the northern portion of the parcel.

Figure 1
Regional Vicinity Map



Figure 2
Project Site



Figure 3
Tentative Subdivision Map



Figure 4
Preliminary Site Plan



UNIT MIX SUMMARY (WEST)

PLAN	A	B	C	UNIT COUNT	% MIX
PLAN 1	5	4	4	13	29.5%
PLAN 2	5	5	4	15	29.4%
PLAN 3	5	6	6	17	36.6%
ADU				40	100.0%
TOTAL	16	15	14	85	

(45 LOTS)

UNIT MIX SUMMARY (EAST)

PLAN	PLAN 1	PLAN 2	PLAN 3	UNIT COUNT	% MIX
BLDG 100	3	3	0	3	11.5%
BLDG 200	4	0	4	4	15.4%
BLDG 300	0	19	19	19	73.1%
TOTAL	7	22	23	52	

(26 LOTS)

OPEN SPACE SUMMARY

TYPE	AREA (SF)	% MIX
COMMON OPEN SPACE	24,911	8.3%
PRIVATE OPEN SPACE	114,795	38.3%
LANDSCAPE OPEN SPACE	160,177	53.4%
TOTAL:	299,833	–

PARCEL SUMMARY

PARCEL	LAND USE	ACREAGE
PARCEL A	MIXED USE	2.06
PARCEL B	COMMON USE	0.57
PARCEL C	LANDSCAPING	1.29
PARCEL D	STORMWATER BASIN	0.41
PARCEL E	MIXED USE	0.11
PARCEL F	STORMWATER BASIN	0.57
PARCEL G	MIXED USE	0.09
PARCEL H	LANDSCAPING	0.22
PARCEL I	MIXED USE	0.06
PARCEL J	LANDSCAPING	0.23
PARCEL K	LANDSCAPING	0.04
PARCEL L	MIXED USE	1.18
PARCEL M	LANDSCAPING	0.61
PARCEL N	LANDSCAPING	0.007
PARCEL O	LANDSCAPING	0.01
PARCEL P	LANDSCAPING	0.07
PARCEL Q	LANDSCAPING	0.05
PARCEL R	LANDSCAPING	0.09
PARCEL S	LANDSCAPING	0.02
PARCEL T	LANDSCAPING	0.04

VESTING TENTATIVE MAP FOR
CONDOMINIUM PURPOSES

PRELIMINARY SITE PLAN

VINEYARD CROSSING

CITY OF ANTIOCH CONTRA COSTA COUNTY CALIFORNIA

SCALE: 1" = 50' DATE: AUGUST 2025

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H:\2788\ACAD\PDP\C3.0 PRELIMINARY SITE PLAN.DWG

Details regarding the proposed project's parking, access, and circulation; landscaping; and utilities are provided below.

Parking, Access, and Circulation

Project site access would be provided through two new private streets off Phillips Lane and Oakley Road. The proposed project would include changes to Oakley Road, including an extension of the right-of-way (ROW) by 7.5-feet and the construction of a six-foot sidewalk along the project frontage. Circulation through the proposed project would be provided by private streets with a ROW ranging from 40 to 49 feet, consisting of two travel lanes ranging from 11 to 14.5 feet, each bound on either side by 4.5-foot sidewalks, and bound on either side or on one side by eight-foot parking lanes on sections of Bright Oak Lane and Elderberry Place.

The internal private streets throughout the project site would be connected to the two new private streets off Phillips Lane and Oakley Road, with Bright Oak Lane connecting the western and eastern parcels. The construction of Bright Oak Lane would require removal of a portion of the existing vineyard within the PG&E parcel. Bright Oak Lane would run throughout the proposed project, with connections to Greenleaf Place and Elderberry Place in the western parcel and Buttercup Lane and Oak Grove Place in the eastern parcel. The private streets would be bordered by gutter, curb, and sidewalk additions throughout the project site.

The proposed project would provide a total of 408 parking spaces for future residents, comprised of garages, driveways, and on-street parking along the proposed internal roadways (see Figure 5). The western parcel of the project site would provide a total of 270 parking spaces, including 90 garage spaces, 130 driveway spaces, and 50 street spaces. The eastern parcel would provide 138 parking spaces, including 104 garage spaces and 34 street spaces.

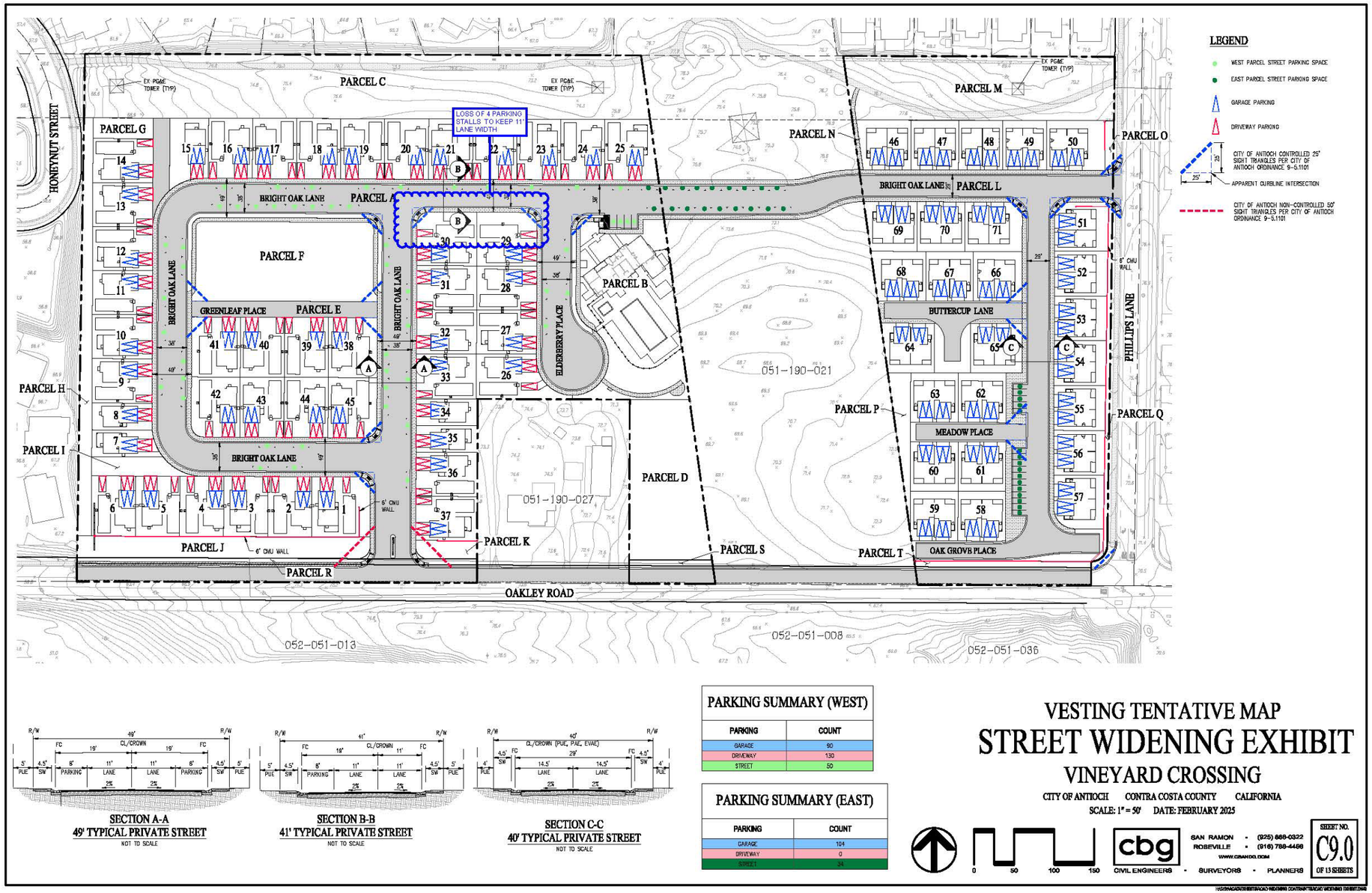
Sidewalks would be provided throughout the project site along the proposed internal roadways and would connect to existing sidewalks along Phillips Lane and Oakley Road. The existing walking trail located along the northern boundary of the project site that connects to Phillips Lane to the east and Hickorynut Street to the west would be maintained as part of the project.

Landscaping

Landscaping would be provided throughout the site. All landscaping would comply with the Landscaping and Irrigation Requirements contained in Article 10 of Title 9, Planning and Zoning, of the City's Municipal Code. The requirements outlined in the City Code require landscape and irrigation plans to be submitted along with final development plans and describe general and specific design standards, such as demonstrating a recognizable pattern or theme for overall landscape development and incorporating water conservation measures into landscape design.

Landscaping, including trees and shrubs, would be provided throughout the project site, surrounding the proposed buildings and residences. For example, the interior street trees would be prospector elm trees, island oak trees, and natchez crepe myrtle trees. In addition, marina strawberry trees and oak trees would be planted along the project site's Phillips Lane and Oakley Road frontages. A combination of prospector elm trees, western redbud trees, and other tree and shrub species would be located in the open space landscape areas throughout the project site. The total landscape area in the project site would be 3.6 acres, or 25 percent of the total project site area, with 3.5 acres of the landscaped area consisting of shrubs and 0.11-acres consisting of turf.

Figure 5
Parking Plan



Utilities

PG&E supplies electricity and natural gas service to the City of Antioch, including the project site. Utilities for the proposed project, including water service, sewer service, and stormwater infrastructure, are discussed in further detail below.

Water

Treated water service for the proposed project would be provided by the City of Antioch. The City uses raw water diverted from the San Joaquin River, as well as purchased water from the Contra Costa Water District, to meet the City's demands.

The proposed project would include installation of eight-inch water lines within the proposed internal roadways and a 12-inch water line within Oakley Road (see Figure 6). The proposed eight-inch water lines would connect to an existing 12-inch water line located in Phillips Lane, to the northeast of the project site, and the proposed 12-inch water line would connect to an existing 12-inch water line located in Phillips Lane, to the southeast of the project site. The proposed 12-inch water line would extend west from the Phillips Lane and Oakley Road intersection along the Oakley Road project frontage.

Wastewater

Wastewater collection and maintenance of sewer lines for the project area is currently provided by the City of Antioch. The Delta Diablo Sanitation District (DDSD) wastewater treatment plant (WWTP) provides wastewater treatment for the City of Antioch. Wastewater generated in the project area is collected in the City's sanitary sewer system through a series of sewer pipes and flows into the DDSD interceptor sewers, where the sewage is conveyed to the Bridgehead and Antioch pump stations.

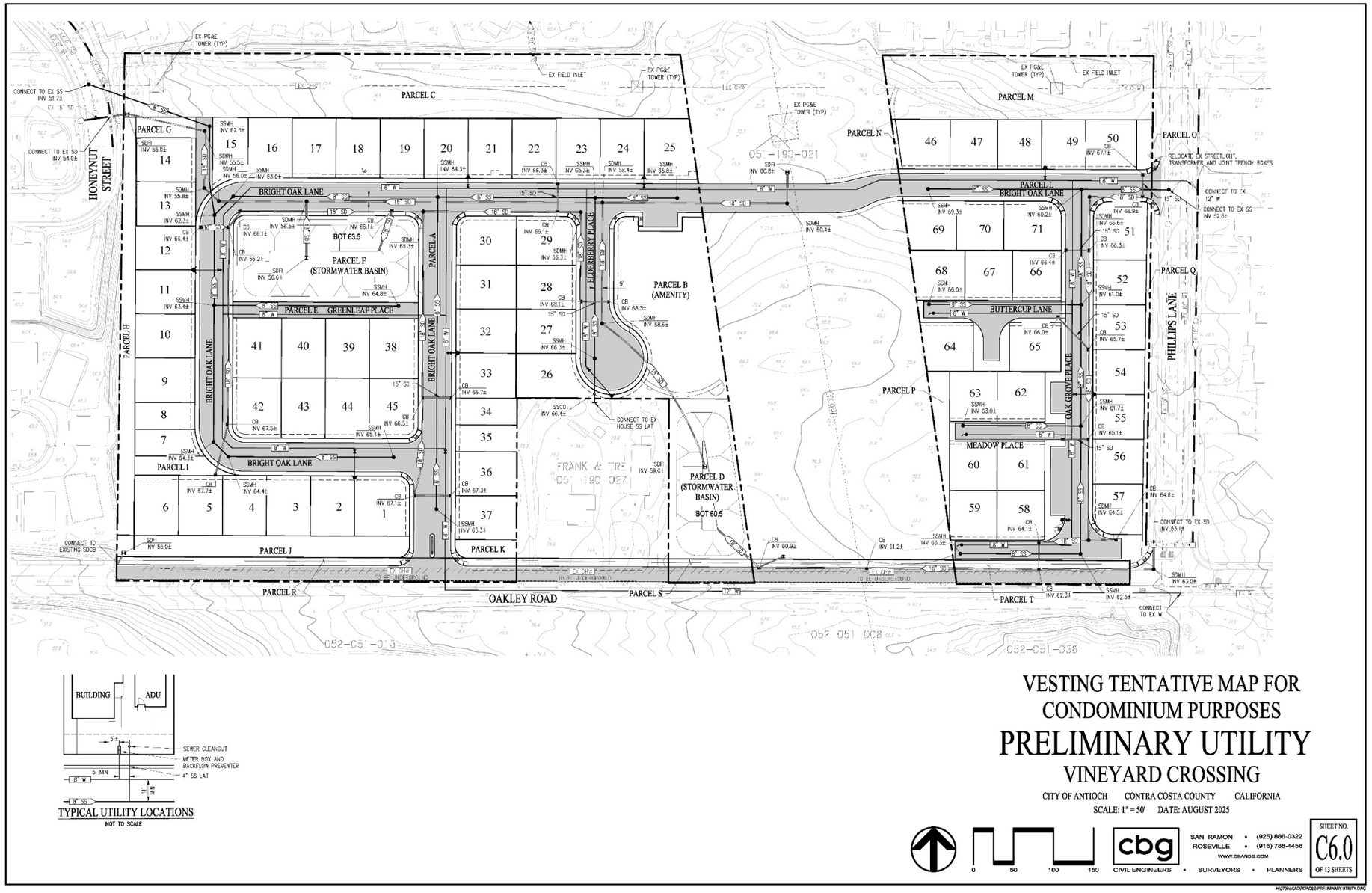
The proposed project would include installation of eight-inch sanitary sewer lines that would connect to an existing 10-inch sanitary sewer line located within Phillips Lane, northeast of the project site, and an existing six-inch sanitary sewer line located within Honeynut Street, northwest of the project site (see Figure 6).

Stormwater

The Contra Costa County Flood Control and Water Conservation District (Flood Control District) oversees stormwater collection within the Antioch Planning Area. The City has over 110 miles of trunk lines to collect stormwater, independent from the area's wastewater collection system. The stormwater trunk lines discharge to channels owned and maintained by both the City and the Flood Control District. The Flood Control District releases stormwater from the channels to the San Joaquin River.

As shown in the Stormwater Control Plan prepared for the proposed project, the project site would be divided into three drainage management areas (DMAs), located in the southern portion of the project site, and three self-retaining areas (SRAs), located in the northern portion of the project site (see Figure 7). As shown in Figure 7, stormwater runoff from the on-site impervious surfaces would be directed through a network of 18-inch storm drain lines throughout the project site and within Oakley Road to two of the proposed on-site stormwater drainage basins, located in the western parcel of the project site.

Figure 6
Preliminary Utilities Plan



TYPICAL UTILITY LOCATIONS
NOT TO SCALE

VESTING TENTATIVE MAP FOR
CONDOMINIUM PURPOSES

PRELIMINARY UTILITY

VINEYARD CROSSING

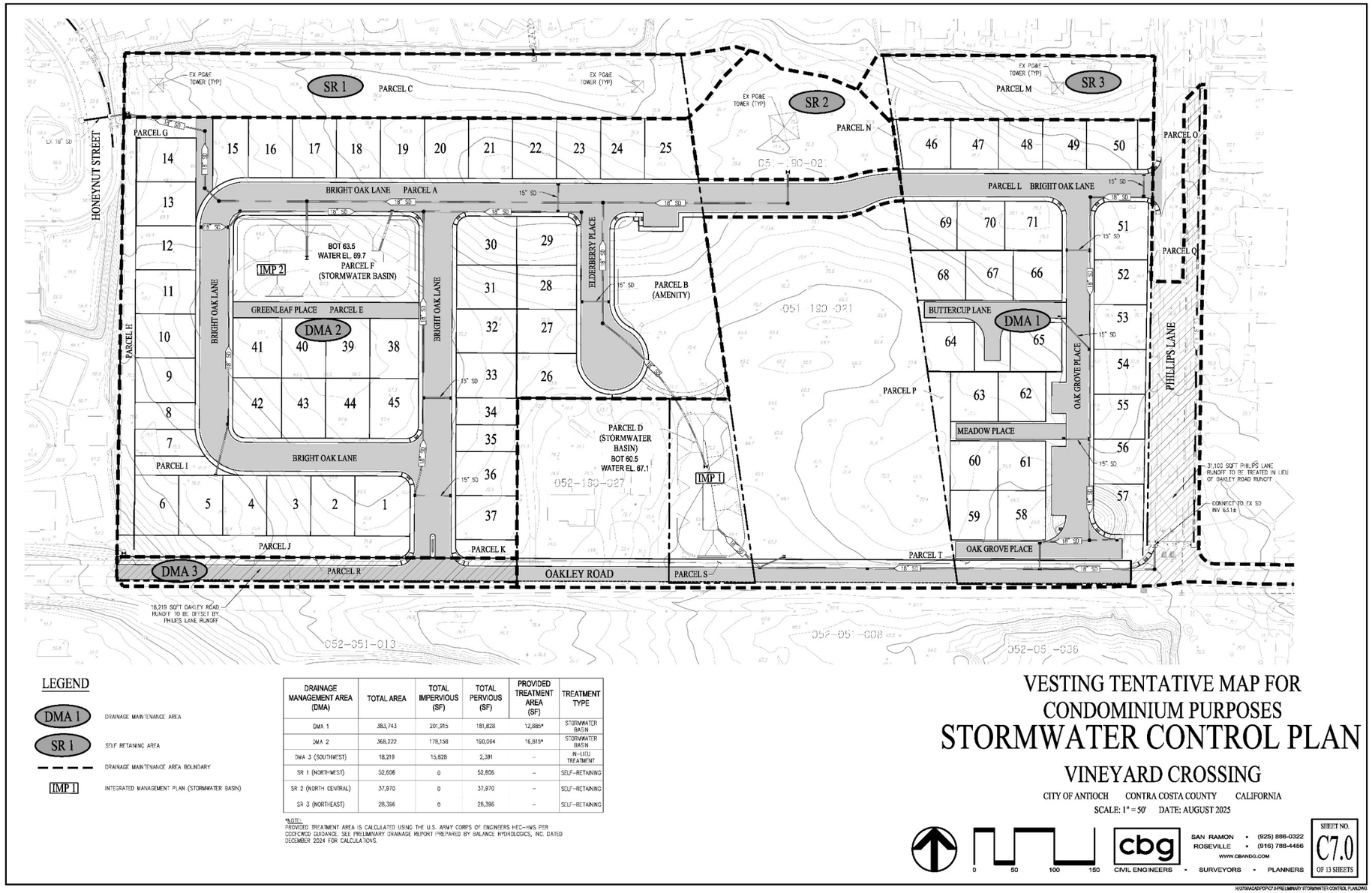
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Figure 7
Stormwater Control Plan



LEGEND

- DMA 1 — DRAINAGE MAINTENANCE AREA
- SR 1 — SELF RETAINING AREA
- DRAINAGE MAINTENANCE AREA BOUNDARY
- IMP 1 — INTEGRATED MANAGEMENT PLAN (STORMWATER BASIN)

DRAINAGE MANAGEMENT AREA (DMA)	TOTAL AREA	TOTAL IMPERVIOUS (SF)	TOTAL PERVIOUS (SF)	PROVIDED TREATMENT AREA (SF)	TREATMENT TYPE
DMA 1	383,743	201,915	181,828	12,885*	STORMWATER BASIN
DMA 2	368,222	178,158	190,064	16,815*	STORMWATER BASIN
DMA 3 (SOUTHWEST)	18,219	15,828	2,391	–	IN-LIEU TREATMENT
SR 1 (NORTHWEST)	52,606	0	52,606	–	SELF-RETAINING
SR 2 (NORTH CENTRAL)	37,970	0	37,970	–	SELF-RETAINING
SR 3 (NORTHEAST)	28,396	0	28,396	–	SELF-RETAINING

*NOTE:
PROVIDED TREATMENT AREA IS CALCULATED USING THE U.S. ARMY CORPS OF ENGINEERS HEC-HMS PER CCCFCWCD GUIDANCE. SEE PRELIMINARY DRAINAGE REPORT PREPARED BY BALANCE HYDROLOGICS, INC. DATED DECEMBER 2024 FOR CALCULATIONS.

VESTING TENTATIVE MAP FOR
CONDOMINIUM PURPOSES
STORMWATER CONTROL PLAN
VINEYARD CROSSING
CITY OF ANTIOCH CONTRA COSTA COUNTY CALIFORNIA
SCALE: 1" = 50' DATE: AUGUST 2025

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H:\3756\ACAD\PDFC7-PRELIMINARY STORMWATER CONTROL PLAN.DWG

Flows within DMA-1, including runoff from Phillips Lane, as shown in Figure 7, would be directed to the integrated management plan (IMP-1) stormwater basin located along the Oakley Road project frontage. Flows within DMA-2 would be directed to the IMP-2 stormwater basin, located in the northwestern portion of the project site. Flows within DMA-3 would flow through new curb and gutter installments and would be offset by the runoff collected from Phillips Lane and treated on-site, and stormwater runoff in the three SRAs would be collected through pervious surfaces.

The treated on-site stormwater would ultimately be routed to the existing stormwater drainage infrastructure in the project vicinity, including an 18-inch stormwater drain line in Honeynut Street, northwest of the project site, and an 18-inch line in Phillips Lane, southeast of the project site.

Discretionary Actions

The proposed project would require City approval of a Vesting Tentative Map, Density Bonus, and Design Review. Each project approval is described in further detail below. It should be noted that the project applicant is requesting a density bonus pursuant to the State Density Bonus Law, resulting in "bonus" residential density, an unlimited number of waivers from development standards that would physically preclude the project, and one "concession or incentive" as defined by California Government Code Section 65915(k). Also, a preliminary application for the project was filed with the City on December 6, 2024. As a result, the project is subject only to the "ordinances, policies, and standards" adopted and in effect as of that date, pursuant to California Government Code Section 65589.5(o)(1).

Vesting Tentative Map

As previously discussed, the proposed project would require approval of a Vesting Tentative Map to subdivide the project site into 71 residential lots, with 45 single family lots on the western parcel and 26 duplex lots on the eastern parcel, with the map also serving for potential future condominium purposes on the duplex lots.

In accordance with City Code Sections 9-4.315 through 9-4.325, all new subdivisions in the City shall be developed pursuant to a Vesting Tentative Map and the approval of a Vesting Tentative Map shall confer a vested right to proceed with development in compliance with the ordinances, policies, and standards described in California Governmental Code Section 66474.2.

Design Review

Pursuant to Section 9-5.2607 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 and harmonious development of the City, encourage high quality site design and planning, protect the stability of land values and investments, and ensure consistency with the Single-Family and Missing Middle Residential Objective Design Standards. Applicants of new development in the City must submit written information, plans, and fees as required by the Community Development Department to the Planning Commission for Design Review approval before construction can commence.

D. ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

On the basis of the following initial evaluation, the City has determined that the proposed project is consistent with the General Plan EIR. All project impacts have been determined to be less than significant, or can be mitigated to a less-than-significant level given required compliance with General Plan policies or mitigation measures included in the General Plan EIR.

☐ **Aesthetics**	☐ **Agriculture and Forest Resources**	☐ **Air Quality**
☐ **Biological Resources**	☐ **Cultural Resources**	☐ **Energy**
☐ **Geology and Soils**	☐ **Greenhouse Gas Emissions**	☐ **Hazards and Hazardous Materials**
☐ **Hydrology and Water Quality**	☐ **Land Use and Planning**	☐ **Mineral Resources**
☐ **Noise**	☐ **Population and Housing**	☐ **Public Services**
☐ **Recreation**	☐ **Transportation**	☐ **Tribal Cultural Resources**
☐ **Utilities and Service Systems**	☐ **Wildfire**	☐ **Mandatory Findings of Significance**

E. DETERMINATION

On the basis of this Modified Initial Study/15183 Checklist:

☐ 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
Nathan Tinclair, Associate Planner	City of Antioch
Printed Name	For

F. ENVIRONMENTAL CHECKLIST

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

Significant Impact Peculiar to the Project or Project Site: An impact that could be significant due to something peculiar to the proposed project or the project site that was not previously identified in the General Plan EIR. If any potentially significant peculiar impacts are identified, an additional CEQA document must be prepared to analyze such impacts.

Significant Impact due to New Information: Any impact that would be considered significant based on new information which was not known at the time the prior EIR was prepared. If any significant impacts are identified, an additional CEQA document must be prepared to analyze such impacts.

Impact Adequately Addressed in General Plan EIR: Impacts previously evaluated in the City's General Plan EIR that would not change from what was evaluated previously. This designation applies in cases where implementation of the proposed project would not result in a new significant impact, a substantially increased significant impact, or a peculiar impact that was not analyzed in the General Plan EIR.

I. AESTHETICS. *Would the project:*	Significant Impact Peculiar to the Project or the Project Site	Significant Impact due to New Information	Impact Adequately Addressed in the General Plan EIR
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. In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	✖
d. Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	✖

Discussion

a,b. As noted in the General Plan EIR, important scenic resources in the City include views of Mount Diablo, major ridgelines associated with the foothills of Mount Diablo, and the San Joaquin River, as well as other culturally important or historic landmarks, such as the Antioch Bridge, Riverview Lodge Restaurant, El Campanil Cinema, Riverview Fire District Building, Contra Costa County Fairgrounds, Contra Loma Reservoir, Antioch Municipal Reservoir, and the public service building on L Street. Historic buildings that serve as landmarks and contribute to the existing visual character of the City include the Hard House, the Lynn House, Beedee Lumber, and the Williamson Ranch Park.

According to the General Plan EIR, new urban development would cause a loss in open space and change in aesthetic character, potentially causing significant adverse impacts on existing and future scenic vistas and scenic resources in the City. However, the General Plan includes policies and programs intended to preserve visual resources and ensure new development is designed to lessen impacts associated with preserving scenic views. For example, the General Plan includes Policy 5.4.2(c), which requires the maintenance of view corridors to natural ridges and landmarks, such as Mount Diablo and distant hills, local ridgelines, and the San Joaquin River and other water bodies, as well as important view corridors, including Somersville Road, Lone Tree Way, Hillcrest Avenue, State Route (SR) 4, SR 160, James Donlon Boulevard, Deer Valley Road, and Empire Mine Road. The General Plan EIR concluded that compliance with applicable General Plan policies related to scenic resources would ensure that views of existing scenic resources are preserved within the City and, thus, a less-than-significant impact would occur.

According to the California Scenic Highway Mapping System, the project site is located approximately 1.86 miles southwest of the nearest State Scenic Highway, a portion of SR 160.[3] It should be noted that while not officially designated, the portion of SR 160 located approximately 0.53-mile northeast of the project site is an Eligible State Scenic Highway. The project site may be visible from SR 160; however, existing commercial and residential development are located in between the project site and SR 160, potentially blocking

[3] California Department of Transportation. *California State Scenic Highway System Map*. Available at: https://caltrans.maps.arcgis.com/apps/webappviewer/index.html?id=465dfd3d807c46cc8e8057116f1aacaa/. Accessed June 2025.

views from SR 160 of the proposed project. In addition, scenic resources, including rock outcroppings or historically significant buildings, do not exist on the project site.

Major ridgelines associated with the foothills of Mount Diablo occur along the entire southwest boundary of the General Plan planning area and may be visible from areas near the project site. However, views from public vantage points near the site would only be available intermittently in between surrounding development, and the proposed project is consistent with the General Plan designation and zoning. Thus, development of the site has been previously anticipated. In addition, the project site is located approximately 11.35 miles to the northeast of Mount Diablo, with SR 4 and substantial residential development located in between. Given the substantial distance and existing residential development between Mount Diablo and the project site, the two-story residential development is not likely to obstruct views of Mount Diablo more than the existing development in the area. Furthermore, the project site is not located within the vicinity of any other identified scenic vistas, such as the San Joaquin River, nor important view corridors identified in the General Plan EIR, including Somersville Road, Lone Tree Way, Hillcrest Avenue, James Donlon Boulevard, Deer Valley Road, and Empire Mine Road. While the project site is located approximately 0.53-mile to the southwest of SR 160, as mentioned above, existing commercial and residential development are located in between the project site and SR 160, blocking views from SR 160 of the proposed project. In addition, while the project site is located approximately 0.46-mile to the north of SR 4, surrounding residential uses currently exist to the west, north, and east of the project site. As such, the proposed project would serve as a continuation of the surrounding existing land uses. Therefore, the proposed project would not conflict with any General Plan policies related to the preservation of scenic vistas.

The proposed project would be subject to the objective design standards established in the City Code and the General Plan. The proposed project would be consistent with the surrounding existing residential development. Furthermore, the proposed project would be required to comply with the design and development standards contained within Section 9-5.2609, Design Guidelines and Objective Design Standards, of the Municipal Code, and the Single Family and Missing Middle Residential Objective Design Standards[4] adopted by the City, including standards related to building design, landscaping, and lighting, ensuring the compatibility of the proposed project with adjoining uses.

Given that the proposed project is consistent with the MLDR and MDR land use designations and P-D zoning designation of the project site, development of the site with residential uses has already been generally anticipated by the City and considered as part of the General Plan EIR analysis. The proposed project would also require approval of a Design Review, ensuring consistency with the design standards established in the City Code and the General Plan.

As previously discussed, the General Plan EIR concluded that compliance with General Plan policies would be sufficient to reduce impacts to a less-than-significant level. Consistent with CEQA Guidelines Section 15183(f), General Plan policies would be considered uniformly applied development standards that would apply to the proposed project. Therefore, compliance with such General Plan policies would ensure that effects peculiar to the project or parcel on which the project would be located do not exist. Thus, impacts related to a substantial adverse effect on a scenic vista and substantial damage

[4] City of Antioch. *Single-Family and Missing Middle Residential Objective Design Standards.* August 2023.

to scenic resources, including, but not limited to, rock outcroppings and historic buildings within a State Scenic Highway, have been adequately addressed in the General Plan EIR and the criteria for requiring further CEQA review are not met.

c. The General Plan EIR assessed the potential for implementation of development under the General Plan to substantially degrade the existing visual character or quality of the City under Impact 4.1-1. As discussed above, the General Plan includes policies and programs intended to preserve visual resources and prevent the substantial degradation of views of existing scenic resources, as seen from visually sensitive public locations. The General Plan EIR concluded that, with adherence to the applicable policies, potential development under the General Plan would not result in substantial changes to important scenic resources or their visibility from visually sensitive locations. Therefore, the impact was determined to be less than significant.

The project site is currently developed with an existing vineyard, three electrical transmission towers within the PG&E-owned parcel and easement, and a paved walking trail. In addition, an off-site residence is located on the Oakley Road frontage which would be surrounded by the proposed project to the west, north, and east. Surrounding existing land uses include single-family residences and Almondridge Park to the north; single-family residences to the east, across Phillips Lane; the aforementioned single-family residence which would be surrounded to the west, north, and east by the proposed project on the Oakley Road frontage and undeveloped land within the Hillcrest Station Area Specific Plan focus area to the south, across Oakley Road; and single-family residences to the west. While residential land uses are currently located to the north, east, and the west of the project site, the land to the south of the project site is undeveloped. Therefore, the project site is considered to be in a non-urbanized area, and the relevant threshold is whether the proposed project would substantially degrade the existing visual character or quality of public views of the site and its surroundings.

The proposed project is consistent with the General Plan land use and zoning designation for the project site and would comply with all applicable objective development standards required by the City within the Municipal Code, including standards related to building height and building design, as well as all applicable General Plan Policies, such as Policy 4.4.2-2, except as modified through the Density Bonus application. Furthermore, the proposed project would be subject to the Design Review process, during which the City would ensure consistency with all applicable design standards. In addition, landscaping would be provided throughout the project site in compliance with the Landscaping and Irrigation Requirements contained in Article 10 of Title 9, Planning and Zoning, of the City's Municipal Code. The requirements outlined in the City Code describe general and specific design standards, such as demonstrating a recognizable pattern or theme for overall landscape development and, thus, contributing to an overall aesthetic pattern within the surrounding landscape. Compliance with the design and landscaping standards outlined in the General Plan and Municipal Code would ensure that degradation of visual quality is minimized to the furthest extent feasible.

Based on the above, impacts related to substantial degradation of the existing visual character or quality of public views of the site and its surroundings were adequately addressed in the General Plan EIR, the project would not result in more severe impacts beyond what was identified in the General Plan EIR, and the criteria for requiring further CEQA review are not met.

d. According to the General Plan EIR, development associated with buildout of the General Plan would convert vacant land to urbanized uses, creating additional sources of light and glare. New development consistent with the General Plan would increase the amount of light and glare in developed areas from exterior lighting, street lighting, vehicular lighting, and interior lighting visible from the outside. During evening hours, streetlights, security lighting, recreational lighting, and lighting from multi-story structures, if not adequately focused or screened, may cause spillover lighting and glare that may be a nuisance to residential uses. During daylight hours, glare from materials used in new buildings may also present a nuisance or a potential safety hazard by distracting motorists.

To minimize potential light and glare impacts, the General Plan EIR identifies mitigation measures necessary in order to ensure that potential light and glare impacts resulting from future development within the City would not have any significant adverse impacts. The mitigation measures require sources of lighting be limited to the minimum standard required to ensure safe circulation and visibility, street lighting be limited to intersections and other locations that are needed to maintain safe access within rural areas, exterior lighting be of a low profile and intensity, and commercial and industrial development provide design features such as screened walls, landscaping, setback, and lighting restrictions between the boundaries of adjacent residential land use designations. The General Plan EIR concluded that compliance with Mitigation Measures 4.1.2A, 4.1.2B, 4.1.2C, and 4.1.2D would ensure potential impacts related to increased sources of light and glare would be less than significant.

The project site is currently comprised of an existing vineyard, two electrical transmission towers, and a paved walking trail. Therefore, the project site does not contain substantial 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. 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. While the site does not currently contain any substantial sources of light or glare, the site is bordered to the west, north, and east by existing development that currently generates light and glare in the area, including the residence located on the southern boundary of the project site. Furthermore, the proposed project would be subject to Design Review by the City of Antioch, which would ensure that the proposed project would be designed such that light and glare would not obstruct day or nighttime views in the area. Single-Family and Missing Middle Residential Objective Design Standards for landscaping, common space, and lighting prohibit the use of flood lights to light entire structures or yards and state that any exterior night lighting installed shall be of a low intensity, low-glare design, and shall be shielded to direct light downward onto the subject parcel and minimize spillover onto adjacent parcels.[5] Compliance with such standards would ensure that on-site lighting would be directed within the project site and would not substantially illuminate adjacent properties. In addition, new landscaping along the project site boundaries such as trees and shrubs would help to further screen the proposed exterior light fixtures.

Given that the proposed project is consistent with the MLDR and MDR land use designations and P-D zoning designation of the project site and would be consistent with the surrounding residential development, as well as the added assurance of the Design Review process, impacts related to creating a new source of substantial light or glare

[5] City of Antioch. *Single-Family and Missing Middle Residential Objective Design Standards.* August 2023.

which would adversely affect day or nighttime views in the area were adequately addressed in the General Plan EIR, and the project would not result in more severe impacts beyond what was identified in the General Plan EIR. Thus, the criteria for requiring further CEQA review are not met.

II. AGRICULTURE AND FOREST RESOURCES. *Would the project:*	Significant Impact Peculiar to the Project or the Project Site	Significant Impact due to New Information	Impact Adequately Addressed in the General Plan EIR
a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	✖
b. Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	✖
c. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	✖
d. Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	✖
e. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	✖

Discussion

a,e. The General Plan EIR determined that the lands planned for development by the General Plan do not include prime farmlands or important agricultural resources and, thus, impacts related to the conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Significance to non-agricultural use would not occur. However, based on the California Department of Conservation (DOC) Farming Mapping and Monitoring Program, the project site is designated Farmland of Statewide Importance. In addition, the project site is developed with an existing vineyard that would be removed upon construction of the proposed project.

The following discussion is based primarily on the findings of a Farmland Impact Assessment prepared for the proposed project by LSA (see Appendix A).[6] The Land Evaluation and Site Assessment (LESA) model was prepared for the proposed project by LSA. LESA models assess the potential value of agricultural land to determine whether the conversion of on-site Prime Farmland would be considered substantial. The LESA calculations are based on Land Evaluation factors and Site Assessment factors. Land Evaluation factors include information sourced from the U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) Web Soil Survey, such as the site's Land Capability Classification and Storie Index rating, while Site Assessment factors include the project site's size, water resource availability, surrounding agricultural land use, and surrounding protected resource land (i.e., Williamson Act contracted lands, public parks, and other natural resource lands). A single numeric score is generated after all individual LESA factors have been scored and weighted consistent with the DOC's LESA Instruction Manual guidance.[7] Final project scores are based on a scale of 100 points, with projects able to derive a maximum of 50 points from the Land Evaluation factors and 50 points from the Site Assessment factors.

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6 LSA. *Farmland Impact Assessment.* February 2025.

7 California Department of Conservation. *Land Evaluation & Site Assessment (LESA) Model*. Available at: https://www.conservation.ca.gov/dlrp/Pages/qh_lesa.aspx. Accessed July 2025.

According to the Farmland Impact Assessment prepared for the proposed project, the proposed project achieved a final score of 43. According to the LESA Model instructions, a final score between 40 to 59 points is considered significant only if both the Land Evaluation and Site Assessment subscores are greater than or equal to 20 points. The Land Evaluation subtotal is greater than 20 points (26.5 points), and the Site Assessment subtotal is less than 20 points (16.5 points). Therefore, the proposed project would not exceed applicable LESA model thresholds and conversion of the site to the proposed non-agricultural uses would not be considered substantial. In addition, the Farmland Impact Assessment determined that the conversion of the site due to project implementation would result in a nominal loss of the existing inventory of farmland within Contra Costa County. Given that the proposed project is consistent with the MLDR and MDR land use designations and P-D zoning designation of the project site, development of the site with non-agricultural uses has already been anticipated by the City and considered as part of the General Plan EIR analysis.

Therefore, the proposed project would not result in any peculiar effects related to the conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, and impacts were adequately addressed in the General Plan EIR. Thus, the criteria for requiring further CEQA review are not met.

b. As discussed in the General Plan EIR, none of the lands planned for development by the General Plan include any land zoned for agriculture or land subject to a Williamson Contract. As such, the General Plan EIR concluded that buildout of the General Plan would not conflict with such. The project site is not designated nor zoned as agricultural land and is not under a Williamson Act Contract. Therefore, the proposed project would not result in any peculiar effects related to conflicts with existing zoning for agricultural use, or a Williamson Act contract, and impacts were adequately addressed in the General Plan EIR. Thus, the criteria for requiring further CEQA review are not met.

c,d. Although the General Plan EIR does not specifically address impacts related to the loss of forest land or timberland, it is noted that the City of Antioch does not contain a zoning district for forest land or timberland. Woodlands are not located on the project site and the project site is not considered forest land (as defined in PRC Section 12220[g]) or timberland (as defined by PRC Section 4526), and is not zoned Timberland Production (as defined by Government Code Section 51104[g]). As such, the proposed project would not result in any peculiar effects related to the loss of forest land or timberland, and the criteria for requiring further CEQA review are not met.

III. AIR QUALITY. *Would the project:*	Significant Impact Peculiar to the Project or the Project Site	Significant Impact due to New Information	Impact Adequately Addressed in the General Plan EIR
a. Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	✖
b. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	☐	☐	✖
c. Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	✖
d. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	✖

Discussion

a,b. 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 District (BAAD), formerly the Bay Area Air Quality Management District (BAAQMD). The SFBAAB area is currently designated as a nonattainment area for State and federal ozone, State and federal fine particulate matter 2.5 microns in diameter ($PM_{2.5}$), and State respirable particulate matter 10 microns in diameter (PM_{10}) ambient air quality standards (AAQS). The SFBAAB is designated attainment or unclassified for all other AAQS. It should be noted that on January 9, 2013, the U.S. Environmental Protection Agency (USEPA) issued a final rule to determine that the Bay Area has attained the 24-hour $PM_{2.5}$ federal AAQS. Nonetheless, the Bay Area must continue to be designated as nonattainment for the federal $PM_{2.5}$ AAQS until such time as the BAAD submits a redesignation request and a maintenance plan to the USEPA, and the USEPA approves the proposed redesignation. The USEPA has not yet approved a request for redesignation of the SFBAAB; therefore, the SFBAAB remains in nonattainment for 24-hour $PM_{2.5}$.

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

The most recent federal ozone plan is the 2001 Ozone Attainment Plan, which was adopted on October 24, 2001 and approved by the California Air Resources Board (CARB) on November 1, 2001. The plan was submitted to the USEPA on November 30, 2001 for review and approval. The most recent State ozone plan is the 2017 Clean Air Plan, adopted on April 19, 2017. The 2017 Clean Air Plan was developed as a multi-pollutant plan that provides an integrated control strategy to reduce ozone, PM, toxic air contaminants (TACs), and greenhouse gases (GHGs). Although a plan for achieving the State PM_{10} standard is not required, the BAAD has prioritized measures to reduce PM in developing the control strategy for the 2017 Clean Air Plan. The control strategy serves as the backbone of the BAAD'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 BAAD 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 BAAD's established significance thresholds associated with development projects for emissions of the ozone precursors reactive organic gases (ROG) and oxides of nitrogen (NO_X), as well as for PM_{10} and $PM_{2.5}$, expressed in pounds per day (lbs/day) and tons per year (tons/yr), are listed in Table 1. By exceeding BAAD's mass emission thresholds for ROG, NO_X, PM_{10}, or $PM_{2.5}$, a project would be considered to conflict with or obstruct implementation of the BAAD's air quality planning efforts.

Table 1
BAAD Thresholds of Significance

Pollutant	Construction	Operational	
	Average Daily Emissions (lbs/day)	Average Daily Emissions (lbs/day)	Maximum Annual Emissions (tons/yr)
ROG	54	54	10
NO_x	54	54	10
PM_{10} (exhaust)	82	82	15
$PM_{2.5}$ (exhaust)	54	54	10

Source: BAAD, CEQA Air Quality Guidelines, April 2023.

Emissions of particulate matter can be split into two categories: fugitive emissions and exhaust emissions. The BAAD thresholds of significance for exhaust are presented in Table 1. It should be noted that BAAD does not maintain quantitative thresholds for fugitive emissions of PM_{10} or $PM_{2.5}$; rather, BAAD requires all projects within the district's jurisdiction to implement Basic Construction Mitigation Measures (BCMMs) related to dust suppression.

As discussed under Impact 4.2.1 of the General Plan EIR, buildout of the General Plan would result in emissions during construction, demolition, and renovation and removal of asbestos containing buildings which would result in a net increase in criteria pollutant emissions. However, the General Plan included several policies to reduce construction emissions, including implementation of the BAAD's BCMMs, which would be required for each construction project within the City. Therefore, the General Plan EIR concluded that construction-related air quality impacts would be reduced to less-than-significant level with implementation of such General Plan policies.

Under Impact 4.2.2 of the General Plan EIR, the General Plan EIR concluded that the General Plan would result in vehicular emissions NO_x in excess of the BAAD thresholds of significance. Additionally, as discussed under Impact 4.2.3 of the General Plan EIR, buildout of the General Plan would increase growth in population and jobs within Antioch, which would result in an increase in emissions from increased trip lengths and vehicle miles traveled (VMT). The General Plan EIR noted that the General Plan includes several policies to reduce operational criteria pollutant emissions. However, even with implementation of Air Quality Policies 10.5.2.b and 10.5.2.c, the General Plan EIR concluded that impact related to vehicular emissions would be significant and unavoidable.

The General Plan EIR concluded that despite implementation of applicable General Plan policies, criteria air pollutant emissions associated with buildout of the General Plan would cause a substantial net increase in emissions that exceeds the BAAD regional significance thresholds, and impacts would be significant and unavoidable. For those impacts determined to be significant in a General Plan EIR, CEQA Section 15183 allows for future

environmental documents to limit examination of environmental effects to those impacts which were not already analyzed as a significant effect in the prior EIR, provided that the proposed project is consistent with the General Plan. Given that the proposed project is consistent with the City's General Plan land use designation for the project site, criteria pollutant emissions associated with buildout of the site have been anticipated by the City and analyzed in the General Plan EIR. Because associated impacts were previously determined to be significant and unavoidable, pursuant to CEQA Section 15183, further analysis of issues related to criteria pollutant emissions is not required in this Modified Initial Study.

The proposed project's construction-related and operational emissions were quantified using the California Emissions Estimator Model (CalEEMod) web-based version 2022.1.1.29 – 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 trip generation rates based on the Institute of Transportation Engineers (ITE) Manual, vehicle mix, trip length, average speed, etc. However, where project-specific information is available, such information should be applied in the model. Accordingly, the proposed project's modeling assumed the following:

- Project construction was assumed to start in December of 2025 and occur over approximately two years;
- Trip rates were adjusted to be consistent with the Traffic Impact Analysis Report prepared by Hexagon Traffic Consultants; and
- The recreation center was assumed to include a propane fire pit.

All CalEEMod results are included in Appendix B. The proposed project's estimated emissions associated with construction and operations are provided below.

Construction Emissions

According to the CalEEMod results, buildout of the proposed project would result in maximum unmitigated construction criteria air pollutant emissions as shown in Table 2. As shown in the table, the proposed project's construction emissions would be below the applicable thresholds of significance for ROG, NO_X, PM_{10}, and $PM_{2.5}$.

Table 2
Maximum Unmitigated Construction Emissions (lbs/day)

Pollutant	Construction Emissions	Threshold of Significance	Exceeds Threshold?
ROG	10.20	54	**NO**
NO_X	31.70	54	**NO**
PM_{10}*	1.37	82	**NO**
$PM_{2.5}$*	1.26	54	**NO**

* Denotes emissions from exhaust only. BAAD does not have adopted PM thresholds for fugitive emissions.

Source: CalEEMod, June 2025 (see Appendix B).

All projects within the jurisdiction of the BAAD are required to implement all of the BAAD's BCMMs, which would be required by the City as a condition of approval, consistent with General Plan Policy 10.5.2.a:

1. All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.
2. All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
3. All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
4. All vehicle speeds on unpaved roads shall be limited to 15 miles per hour (mph).
5. All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
6. Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to five minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of CCR). Clear signage shall be provided for construction workers at all access points.
7. All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified visible emissions evaluator.
8. Post a publicly visible sign with the telephone number and person to contact at the lead agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.

The proposed project's required implementation of the BAAD's BCMMs, listed above would help to further minimize construction-related emissions.

Based on the above and in accordance with BAAD guidance, the proposed project would not conflict with or obstruct implementation of the applicable air quality plans during project construction, and impacts related to such were adequately addressed in the City's General Plan EIR.

Operational Emissions

According to the CalEEMod results, buildout of the proposed project would result in maximum unmitigated operational criteria air pollutant emissions as shown in Table 3.

Table 3
Maximum Unmitigated Operational Emissions

Pollutant	Proposed Project Emissions		Threshold of Significance		Exceeds Threshold?
	lbs/day	tons/yr	lbs/day	tons/yr	
ROG	10.10	1.74	54	10	**NO**
NO_X	4.56	0.80	54	10	**NO**
PM_{10}*	0.17	0.03	82	15	**NO**
$PM_{2.5}$*	0.16	0.03	54	10	**NO**

Note:
* Denotes emissions from exhaust only. BAAD does not have adopted PM thresholds for fugitive emissions.

Source: CalEEMod, June 2025 (see Appendix B).

Since preparation of the General Plan EIR, regulations pertaining to air quality emissions have become much more stringent. Therefore, the operational emissions from the buildout

of the proposed project (especially related to energy) are anticipated to be less than what was included in the General Plan EIR.

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 not be considered to conflict with air quality plans during project operation, and impacts related to such were adequately addressed in the City's General Plan EIR.

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, BAAD 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, as presented above, the proposed project would result in emissions below the applicable thresholds of significance, the proposed project would not be expected to result in a cumulatively considerable contribution to the region's existing air quality conditions, and impacts related to such were adequately addressed in the City's General Plan EIR.

Conclusion

As discussed above, because the proposed project would result in emissions below the applicable thresholds of significance during both construction and operations, the proposed project would not be considered to conflict with or obstruct implementation of regional air quality plans. In addition, the proposed project would not result in a cumulatively considerable net increase in any criteria air pollutant. Therefore, the proposed project would not result in any peculiar effects related to the generation of criteria pollutants, and the criteria for requiring additional CEQA review are not met.

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

The major pollutant concentrations of concern are localized carbon monoxide (CO) emissions and toxic air contaminant (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.

As discussed in Section 4.2.3 of the General Plan EIR, the entire Bay Area has been in attainment of federal and State CO standards and ambient CO concentrations monitored at all Bay Area monitoring stations have low to moderate CO levels with sufficient margins before standards could be exceeded. Therefore, the General Plan EIR concluded that buildout of the General Plan would not result in future ambient CO concentrations which would violate either the State or Federal CO standards. Thus, the General Plan EIR determined mitigation measures are not required and impacts related to localized CO emissions would be less than significant.

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

- The project is consistent with an applicable congestion management program established by the county congestion management agency for designated roads or highways, regional transportation plan, and local congestion management agency plans;
- The project traffic would not increase traffic volumes at affected intersections to more than 44,000 vehicles per hour; and
- The project traffic would not increase traffic volumes at affected intersections to more than 24,000 vehicles per hour where vertical and/or horizontal mixing is substantially limited (e.g., tunnel, parking garage, underpass, etc.).

While BAAD has established the foregoing screening criteria for potential impacts, as discussed above, the SFBAAB has been in attainment of California Ambient Air Quality Standards (CAAQS) and National Ambient Air Quality Standards (NAAQS) for CO for more than 20 years.[8] Due to the continued attainment of CAAQS and NAAQS, and advances in vehicle emissions technologies, the likelihood that any single project would create a CO hotspot is minimal.

As indicated in the Traffic Impact Analysis Report prepared for the proposed project by Hexagon Transportation Consultants, Inc.,[9] the proposed project would not conflict with the level of service (LOS) standards set forth under the City of Antioch General Plan and

[8] Bay Area Air Quality Management District. *Air Quality Summary Reports*. Available at: https://www.BAAD.gov/~/media/files/communications-and-outreach/annual-bay-area-air-quality-summaries/pollsum2019-pdf.pdf?la=en. Accessed June 2025.

[9] Hexagon Transportation Consultants, Inc. *Vineyard Crossing Residential Development Transportation Analysis.* June 6, 2025.

Contra Costa Transportation Authority (CCTA) Congestion Management Program. According to the Traffic Impact Analysis Report, the proposed project is expected to generate approximately 1,068 daily vehicle trips, 73 of which would be during the AM peak hour, and 92 during the PM peak hour. The addition of 165 total peak hour trips per day generated by the proposed project is not anticipated to increase traffic volumes at any nearby intersections to more than 44,000 vehicles per hour. Furthermore, areas where vertical and/or horizontal mixing is limited due to tunnels, underpass, or similar features do not exist in the project area. Therefore, based on the BAAD's screening criteria for localized CO emissions, the proposed project would not be expected to result in substantial levels of localized CO at surrounding intersections or generate localized concentrations of CO that would exceed standards or cause health hazards.

Therefore, based on the BAAD's screen criteria for localized CO emissions, similar to the conclusions of the General Plan EIR, the proposed project would not be expected to result in substantial levels of localized CO at surrounding intersections or generate localized concentrations of CO that would exceed standards or cause health hazards.

TAC Emissions

Another category of environmental concern is TACs. 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 discussed in Impact 4.2.4 of the General Plan EIR, buildout of the General Plan could result in increased stationary source emissions which have the potential for emitting TACs. However, implementation of General Plan Policies 10.5.2.d, 10.5.2.e, and 10.5.2.f would help to minimize stationary source emissions through the support and implementation of employer-based trip reduction programs, the implementation of best available technologies, and the physical separation of sensitive receptors and industries with the potential to emit TACs. Thus, with implementation of the policies above, the General Plan EIR determined that a less-than-significant impact would occur.

Operational-related emissions of TACs are typically associated with stationary diesel engines or land uses that involve heavy diesel truck traffic or idling. The proposed project would not involve long-term operation of any stationary diesel engine or other major on-site stationary source of TACs. Residential uses, such as the proposed project, do not typically involve long-term operation of any stationary sources of TACs. Therefore, the proposed project would not expose any existing sensitive receptors to any new permanent or substantial TAC emissions during operations.

Short-term, construction-related activities could result in the generation of TACs, specifically DPM, from on-road haul trucks and off-road equipment exhaust emissions. However, as discussed above, construction is temporary and occurs over a relatively short duration in comparison to the operational lifetime of the proposed project. Health risks are typically associated with exposure to high concentrations of TACs over extended periods

of time (e.g., 30 years or greater), whereas the construction period associated with the proposed project would likely be limited to approximately two years. All construction equipment and operation thereof would be regulated per the In-Use Off-Road Diesel Vehicle Regulation, which is intended to help reduce emissions associated with off-road diesel vehicles and equipment, including DPM. Project construction would also be required to comply with all applicable BAAD rules and regulations, particularly associated with permitting of air pollutant sources.

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

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

Conclusion

Based on the above, the proposed project would not expose any sensitive receptors to substantial concentrations of localized CO, TACs, or criteria pollutants during construction or operation. Therefore, the proposed project would not result in any peculiar effects, and the criteria for requiring further CEQA review are not met.

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

Odors

Pursuant to the BAAD CEQA Guidelines, odors are generally regarded as an annoyance rather than a health hazard. Manifestations of a person’s reaction to odors can range from psychological (e.g., irritation, anger, or anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting, and headache). The presence of an odor impact is dependent on several variables including: the nature of the odor source; the frequency of odor generation; the intensity of odor; the distance of odor source to sensitive receptors; wind direction; and sensitivity of the receptor. While the General Plan EIR does not

specifically evaluate the potential for buildout of the General Plan to result in sources of odors that adversely affect a substantial number of people, BAAD rules and regulations, as well as applicable General Plan policies, would act to reduce objectionable odors to the maximum extent feasible.

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, quantification of significant odor impacts is relatively difficult. Typical odor-generating land uses include, but are not limited to, wastewater treatment plants, landfills, and composting facilities. The proposed project would not introduce any such land uses.

Construction activities often include diesel-fueled equipment and heavy-duty diesel trucks, which can create odors associated with diesel fumes, which could be found to be objectionable. However, as discussed above, construction activities would be temporary, and operation of construction equipment would be regulated and intermittent. Project construction would also be required to comply with all applicable BAAD 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 occur during construction activities or affect a substantial number of people.

For the aforementioned reasons, construction and operation of the proposed project would not result in emissions (such as those leading to odors) adversely affecting a substantial number of people. Therefore, the proposed project would not result in any peculiar effects and impacts have been adequately addressed in the General Plan EIR. Thus, the criteria for requiring further CEQA review are not met.

Dust

The General Plan EIR does not specifically evaluate the potential for buildout to result in the emission of dust that adversely affects a substantial number of people. However, BAAD rules and regulations, as well as applicable General Plan policies, would act to reduce construction related dust, which would ensure that construction of the proposed project does not result in substantial emissions of dust. Following project construction, vehicles operating within the project site would be limited to paved areas of the site, which would not have the potential to create substantial dust emissions. Thus, project operations would not include sources of dust that could adversely affect a substantial number of people.

Conclusion

Based on the above, construction and operation of the proposed project would not result in emissions (such as those leading to odors) adversely affecting a substantial number of people. Furthermore, given that the proposed project is consistent with the site's General Plan land use designation, emissions associated with construction and operation of the proposed project have been generally anticipated and analyzed in the General Plan EIR. Therefore, the proposed project would not result in any peculiar effects, and the criteria for requiring further CEQA review are not met.

IV. BIOLOGICAL RESOURCES. *Would the project:*	Significant Impact Peculiar to the Project or the Project Site	Significant Impact due to New Information	Impact Adequately Addressed in the General Plan EIR
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 state or federally protected wetlands (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 General Plan EIR concluded that applicable federal, State, regional, and local regulations, together with the policies and programs included in the General Plan, would reduce potential impacts to special-status plant and wildlife species that could result from buildout of the General Plan to a less-than-significant level. Applicable federal and State regulations include, but are not limited to, the Clean Water Act (CWA), federal Endangered Species Act (FESA), Migratory Bird Treaty Act (MBTA), California Endangered Species Act (CESA), and California Fish and Game Code (CFGC). Local regulations related to biological resources include Policy 10.4.2, which directs the City to avoid, minimize or mitigate impacts on sensitive biological resources, including sensitive habitat areas, from development activities to the greatest extent feasible. Policy 10.3.2 requires the implementation of Resource Management Plans for all new development on land containing significant natural resources. The Resource Management Plans shall determine the significance of the resources, define areas that are to be maintained in long-term open space, and establish mechanisms to ensure the long-term protection and management of lands retained in open space.

Special-status species include those species that are:

- Listed as endangered or threatened under the FESA (or formally proposed for, or candidates for, listing);
- Listed as endangered or threatened under the CESA (or proposed for listing);
- Designated as endangered or rare, pursuant to CFGC (Section 1901);

- Designated as fully-protected, pursuant to CFGC (Section 3511, Section 4700, or Section 5050);
- Designated as species of special concern by the California Department of Fish and Wildlife (CDFW); or
- Defined as rare or endangered under CEQA (California Rare Plant Rank [CRPR] 1, 2, and 3).

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 U.S., including non-status species, are protected by the MBTA of 1918. Under the MBTA, destroying active nests, eggs, and young is illegal.

The following discussion is based primarily on the findings of a Technical Biological Report prepared for the proposed project by Live Oak Associates, Inc. (see Appendix C).[10] According to the Technical Biological Report, the project site currently consists of three land cover types: Vineyard, Developed, and Stormwater Basin. The site is primarily composed of vineyards with several scattered coast live oak trees. Vegetation between the vineyard rows is ruderal and, aside from scattered miniature lupines, consists almost entirely of non-native invasive vegetation, including, but not limited to, Mediterranean storksbill, tumbleweed, and sow-thistle. The edges of the vineyard are weedy and disturbed with additional non-native plants including, but not limited to, slender wild oat, great brome, cheeseweed mallow, Puncture vine, and hairy vetch, and also includes the native species of deerweed and miniature lupine. A shallow stormwater basin exists in the southeast corner of the project site. Plant species associated with the stormwater basin include slender wild oat, bromes, and vetch. The stormwater basin was dry at the time of the site visit conducted for the Technical Biological Report, although aerial imagery shows the basin holds water intermittently. The developed land cover is comprised of the on-site paved pathway. Animal species in adjacent habitat would be expected to move through the developed land cover habitat. Surrounding existing land uses include single-family residences and Almondridge Park to the north; single-family residences to the east, across Phillips Lane; one single-family residence which would be surrounded to the west, north, and east by the proposed project on the Oakley Road frontage and undeveloped land within the Hillcrest Station Area Specific Plan focus area to the south, across Oakley Road; and single-family residences to the west.

According to the General Plan EIR, 19 special-status plant species and 38 special-status animal species have potential to occur in the Antioch Planning Area. In order to ascertain the potential for any special-status species to occur on the project site, a search for records of special-status species within the vicinity of the project site was conducted through the California Natural Diversity Database (CNDDB) as part of the Technical Biological Report. Live Oak Associates, Inc. also conducted a site visit on April 16, 2025. The potential for special-status species to occur on the project site is discussed in further detail below.

Special-Status Plants

Special-status plants generally occur in relatively undisturbed areas within vegetation communities such as vernal pools, marshes and swamps, chenopod scrub, seasonal wetlands, riparian scrub, chaparral, alkali playa, dunes, and areas with unusual soil characteristics. The General Plan EIR determined that 19 special-status plants have the

[10] Live Oak Associates, Inc. *Vineyards Crossing Technical Biological Report, City of Antioch, Contra Costa County, California.* May 2025.

potential to occur in the Planning Area. Of the 19 special-status species, five are federally listed as endangered, including the large-flowered fiddleneck, soft bird's beak, Contra Costa wallflower, Contra Costa goldfields, and Antioch Dunes evening-primrose. The remainder of the special-status plant species are not federally listed, but State of California listed as endangered or threatened. As discussed under Impact 4.3.1 of the General Plan EIR, implementation of the General Plan will result in the mortality of individuals of listed, proposed, or candidate species or loss of habitat occupied by such species. To ensure the significant impacts to sensitive biological resources do not occur, future development must be in accordance with City standards and guidelines, including the policies described in the General Plan EIR, as well as the CESA and FESA. The General Plan EIR concluded that compliance with General Plan Policies 10.4.2 and 10.3.2, would avoid, minimize, and/or compensate for potential adverse effects to special-status plants species and habitats. Thus, the General Plan EIR concluded that impacts to special-status plant species would be less than significant.

The CNDDB query conducted for the project site as part of the Technical Biological Report identified 14 special-status plant species known to occur in the project region, including the following: large-flowered fiddleneck, Contra Costa wallflower, Antioch dunes evening-primrose, big tarplant, Mt. Diablo fairy lantern, Hoover's cryptantha, recurved larkspur, Antioch dunes buckwheat, Mt. Diablo buckwheat, diamond-petaled California poppy, San Joaquin spearscale, showy golden madia, shining navarretia, and Mt. Diablo jewelflower. However, the Technical Biological Report determined that specialized habitats required to support special-status plant species, such as vernal pools, marshes, and alkaline soils, do not occur on-site. For example, the on-site stormwater basin did not hold water or support riparian habitat at the time of the field survey conducted by Live Oak Associates. Therefore, habitat necessary to support special-status plant species does not occur on-site. In addition, the project site has been significantly disturbed as part of regular agricultural activities. Overall, the lack of suitable habitat and the regular disturbance of the site would preclude any special-status plant species from occurring on-site.

Based on the above, impacts related to special-status plant species were adequately addressed in the General Plan EIR. The project would not result in more severe impacts beyond what was identified in the General Plan EIR and, thus, the criteria for requiring further CEQA review are not met.

Special-Status Wildlife

The General Plan EIR identified 38 special-status wildlife species with the potential to occur in habitat within the planning area, including special-status invertebrates, fish species, reptiles and amphibians, bird species, and mammals. Of the 38 special-status species, six are federally listed as endangered, including Lange's metalmark butterfly, vernal pool tadpole shrimp, California clapper rail, California least tern, salt marsh harvest mouse, and San Joaquin kit fox. The remainder of the special-status wildlife species are either federally threatened or listed by the State of California as endangered or threatened. Under Impacts 4.3.1 through 4.3.4, the General Plan EIR concluded that potential impacts to special-status wildlife species would be less than significant with implementation of all applicable General Plan policies and compliance with the CESA and FESA.

According to the CNDDB results summarized within Table 1 of the Technical Biological Report, 38 special-status wildlife species have previously been documented within the region. Of the 38 special-status wildlife species, 29 of the species would either not have the potential to occur on-site or would be unlikely to occur on-site due to the lack of suitable

habitat (i.e., aquatic, riparian, woodland, and/or coastal habitat). For example, due to the lack of permanent on-site aquatic resources, potential impacts as a result of the proposed project would not occur to special-status fish species, western pond turtle, vernal pool fairy shrimp, vernal pool tadpole shrimp, or giant garter snake, as the project site does not contain requisite flowing waters or vernal pools. In addition, the project site supports vineyards and has been subject to regular disturbance associated with such. The nature of the disturbance limits the site's ability to contain habitat necessary for accommodating special-status wildlife species that depend on preserved foraging habitat, such as tricolored blackbird. Therefore, although identified in the CNDDB query, the majority of the special-status species previously recorded in the area are not anticipated to be significantly impacted by the proposed project. Furthermore, the existing development in the site vicinity further reduces the likelihood of wildlife species, including those with special status, to occur on-site.

According to the Technical Biological Report, the project site provides potentially suitable breeding and foraging habitat for nine special-status wildlife species, including the northern harrier, loggerhead shrike, Swainson's hawk, burrowing owl, pallid bat, western red bat, Townsend's big-eared bat, Northern California legless lizard, and the coast horned lizard. Because the project site could provide potential habitat for special-status species, project construction activities could result in an adverse effect if such species are present within or near the project site during project construction, including initial site grading, soil excavation, and associated improvements. Vegetation removal occurring during the nesting period for migratory birds (typically between February 1 to August 31) could also have the potential to result in nest abandonment or death of any live eggs or young.

The General Plan EIR specifically addressed the potential for northern harrier, loggerhead shrike, Swainson's hawk, burrowing owl, pallid bat, Townsend's big-eared bat, and Northern California legless lizard to occur in the Antioch General Plan Area, and has determined that impacts to the above-mentioned species would be less than significant with compliance with applicable federal, State, regional, and local regulations, together with the policies and programs included in the General Plan. It should be noted that since the General Plan EIR was prepared, the status of burrowing owl has changed from a California State Species of Concern to a candidate for listing under the CESA, which affords the same protection as an endangered or threatened species under CESA. The Technical Biological Report identified two additional special-status wildlife species beyond those identified in the General Plan EIR that have the potential to occur within the region, the coast horned lizard and western red bat, which are discussed in further detail below.

Coast Horned Lizard

Coast horned lizard (*Phrynosoma blainvillii*) is listed as California Species of Special Concern. Coast horned lizard have been found in grasslands, scrublands, and oak woodlands in central California. The species is common in sandy washes with scattered shrubs. The project site supports potentially suitable habitat for the coast horned lizard, as well as ant hills as an appropriate food source for the species. Although the species were not observed on-site during the 2025 survey conducted by Live Oak Associates, Inc., a focused survey was not conducted for the species and they could be potentially present or could occupy the site prior to project construction. Therefore, according to the Technical Biological Report, the potential exists for the species to occur within the project site.

Western Red Bat

Western red bat (*Lasiurus blossevillii*) is listed as a California Species of Special Concern. The species roosts in tree or shrub foliage, although will occasionally use caves. According to the Technical Biological Report, although breeding habitat is absent from the project site, foraging habitat for the species is present. However, foraging habitat for special-status bats, including western red bat, is abundant in the project region. Therefore, due to the abundance of foraging habitat in the surrounding area, the loss of on-site foraging habitat due to development of the proposed project would not be considered substantial. As such, the proposed project would not result in any impacts to western red bat.

General Plan Requirements

Pursuant to General Plan Policy 10.4.2(d), through the project approval and design review process, new development is required to protect sensitive habitat areas and ensure the preservation in place of habitat areas found to be occupied by special-status species. Furthermore, pursuant to General Plan Policy 10.4.2(j), whenever a biological resources survey is undertaken to determine the presence or absence of a threatened or endangered species, or of a species of special concern, the survey must follow established protocols for the species in question prior to any final determination that the species is absent from the site. In accordance with General Plan policies, the Technical Biological Report was prepared for the proposed project and, as discussed above, the Technical Biological Report identified that nesting migratory birds and raptors, including Swainson's hawk and burrowing owl, as well as Northern California legless lizard and coast horned lizard, have the potential to occur on the project site. As noted above, burrowing owl has become a candidate for listing under the CESA since the General Plan EIR was prepared, which affords the same protection as an endangered or threatened species under CESA. The Technical Biological Report includes measures sufficient to ensure that, if any of the aforementioned identified species are found to be on-site, development of the proposed project would not have a substantial adverse effect on the species. Such measures include conducting pre-construction surveys and establishing non-disturbance buffers during construction. The measures related to burrowing owl would be consistent with the current State requirements for the species. Thus, consistent with General Plan Policy 10.4.2(d) and (j), the City of Antioch would require as a condition of approval that the proposed project implement the recommended measures set forth in the Technical Biological Report (Appendix C).

Conclusion

Pursuant to CEQA Guidelines Section 15183(f), "An effect of a project on the environment shall not be considered peculiar to the project or the parcel for the purposes of this section if uniformly applied development policies or standards have been previously adopted by the city or county with a finding that the development policies or standards will substantially mitigate that environmental effect when applied to future projects, unless substantial new information shows that the policies or standards will not substantially mitigate the environmental effect. […]" The General Plan EIR concluded that applicable federal, State, regional, and local regulations, together with General Plan policies and programs, would reduce potential impacts to special-status species that could result from buildout of the General Plan.

Based on the above, impacts to species identified as special-status species in local or regional plans, policies, or regulations, or by the CDFW or U.S. Fish and Wildlife Service

(USFWS) were adequately addressed in the General Plan EIR. Given required compliance with applicable federal, State, regional, and local regulations, together with the uniformly applied development policies and programs included in the General Plan, which would be ensured through a condition of approval and which the General Plan EIR found would substantially mitigate potential environmental effects, the proposed project would not result in any peculiar effects related to having 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 CDFW or USFWS. Therefore, the proposed project would not result in any peculiar effects, and the criteria for requiring further CEQA review would not be required for this topic.

b,c. According to the General Plan EIR, compliance with General Plan policies and programs would ensure that General Plan buildout would have a less-than-significant impact related to the loss or modification of riparian habitat or on jurisdictional waters of the U.S. and wetlands. For example, General Plan Policy 10.4.2 requires a no net loss of wetlands, including preservation in place or on-site replacement, off-site replacement, or restoration at a minimum ratio of one acre of replacement/restoration for each acre of impacted on-site habitat.

According to the Technical Biological Report, an existing stormwater basin occurs in the southeast corner of the project site. The stormwater basin is approximately 100 feet in diameter at the widest point and did not hold water or support any riparian habitat at the time of the Live Oak Associates. Inc. site visit. In addition, the stormwater basin is not considered to be jurisdictional waters and, thus, is not subject to the regulatory authority of the U.S. Army Corps of Engineers (USACE), CDFW, or the Regional Water Quality Control Board (RWQCB). Therefore, the proposed project would not result in a substantial adverse effect on riparian habitat, sensitive natural communities, or federally protected wetlands, and such impacts were adequately addressed in the General Plan EIR. The proposed project would not result in any peculiar effects related to effects on any riparian habitat, protected wetlands, or other sensitive natural communities and the criteria for requiring further CEQA review would not be required for this topic.

d. Under Impact 4.3.3, the General Plan EIR states that, as development proceeds under implementation of the General Plan, wildlife movement will be increasingly inhibited. In particular, new development in the southern portion of the General Plan study area has the potential to further degrade the habitat corridors in Lone Tree Valley and in Horse Valley. General Plan Policy 4.4.6.7(b) would require the retainment of a viable grassland linkage in order to mitigate development impacts within the southern portion of the General Plan study area, particularly within the Sand Creek Focus Area. The project site is not located within either of the above-mentioned areas that are particularly at risk for impacts to migratory wildlife corridors. In addition, the project site is surrounded by existing residential development to the north, east, and west; SR 4 to the south; and SR 160 to the east, which would provide a significant barrier to dispersal of native wildlife travelling to and from the site. Most current animal movements on the project site would likely be local movements within the site and its immediate vicinity rather than regional movements. The proposed project would preserve the four-acre existing PG&E parcel that would divide the western and eastern parcels of the proposed project, allowing for wildlife movement to the north and south to be maintained after construction. Additionally, given that the proposed project is consistent with the City's General Plan land use designation and zoning

designation for the project site, impacts related to migratory corridors associated with buildout of the site have been anticipated by the City.

Based on the above, impacts related to interfering 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 were adequately addressed in the General Plan EIR, and the proposed project would not result in any peculiar effects. Thus, the criteria for requiring further CEQA review would not be met for this topic.

e. The General Plan EIR did not specifically evaluate potential impacts related to conflicts with local policies or ordinances protecting biological resources. Article 12 of the City's Municipal Code establishes guidelines for the protection, retention, and removal of City trees. According to the Tree Preservation and Regulation Ordinance, tree removal is evaluated as part of the development application process for proposed projects. Pursuant to Section 9-5.203, Definitions, of the Municipal Code, six categories of trees exist in the City, described below:

- An established tree is any tree that is at least ten inches in diameter, at diameter at breast height (DBH). DBH is measured 4.5 feet above natural or finished grade;
- An indigenous tree is a naturally growing tree of the following species: Blue Oak (*Quercus douglasii*). Valley Oak (*Quercus lobata*), Coast Live Oak (*Quercus agrifolia*), Canyon Live Oak (*Quercus chrysolepis*), Interior Live Oak (*Quercus wislizenii*), California Buckeye (*Aesculus californica*), and California Bay (*Umbellularia californica*);
- A landmark tree is any tree that is at least 48 inches DBH and/or is over 40 feet in height;
- A mature tree is any tree which is at least 26 inches DBH;
- A street tree is any tree planted within a public right-of-way and/or a tree planting easement; and
- A protected tree is any tree required to be preserved as a condition of an approval from a regular development application.

The City's Tree Preservation and Regulation Ordinance requires two 24-inch box trees to replace the removal of each established tree, two 48-inch box trees for removal of each mature tree, and the City Council has discretion in determining the appropriate ratio of box tree replacement for the removal of any landmark or indigenous trees.

According to the Technical Biological Report, trees exist on-site that may require approval for removal, including established and indigenous trees. In accordance with the Tree Preservation and Regulation Ordinance, the proposed project would be required to replace each such tree removed during project construction. Compliance with the aforementioned uniformly applicable standards would ensure that effects peculiar to the project or parcel on which the project would be located do not exist. Therefore, impacts related to conflicts with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance, were adequately addressed in the General Plan EIR and the project would not result in any peculiar effects. Thus, the criteria for requiring further CEQA review would not be met.

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. Based on the above, impacts related to conflicts with the provisions of an adopted HCP/NCCP, or other approved local, regional, or State habitat conservation plan, were adequately addressed in the General Plan EIR and the project would not result in any peculiar effects related to such. Thus, the criteria for requiring further CEQA are not met.

V. CULTURAL RESOURCES. *Would the project:*	Significant Impact Peculiar to the Project or the Project Site	Significant Impact due to New Information	Impact Adequately Addressed in the General Plan EIR
a. Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?	☐	☐	✖
b. Cause a substantial adverse change in the significance of a unique archaeological resource pursuant to Section 15064.5?	☐	☐	✖
c. Disturb any human remains, including those interred outside of dedicated cemeteries.	☐	☐	✖

Discussion

a-c. Historical resources are features that are associated with the lives of historically important persons and/or historically significant events, that embody the distinctive characteristics of a type, period, region or method of construction, or that have yielded, or may be likely to yield, information important to the pre-history or history of the local area, California, or the nation. Examples of typical historical resources include, but are not limited to, buildings, farmsteads, rail lines, bridges, and trash scatters containing objects such as colored glass and ceramics. As defined in PRC Section 21083.2, unique archaeological resources are archaeological artifacts, objects, or sites about which it can be clearly demonstrated that there is a high probability of containing information needed to answer important scientific research questions, having a special and particular quality, or being directly associated with a scientifically recognized important prehistoric or historic event or person.

According to the General Plan EIR, the City's Planning Area contains numerous known historic resources recognized at the federal, State, and local level, including landmark commercial buildings, Victorian, Craftsman, and Modern-style homes, as well as churches, schools, and civic buildings. Of Antioch's historical buildings, 50 buildings and four monuments and vanished sites are listed on national, State, and local registers of historic properties and landmarks. In addition, the General Plan EIR notes that 20 historical archaeological sites associated with homes, farms, ranch sites, and industrial activities have been found throughout the City, primarily in the Downtown area.

The General Plan EIR determined that compliance with the General Plan policies, along with implementing federal and State policies and regulations to protect and preserve historic and archaeological resources set forth in the General Plan, would reduce the significance of impacts to historic and archaeological resources to a less-than-significant level.

The General Plan EIR does not identify any known historical resources on or adjacent to the project site. However, to ensure cultural resources have not been discovered on the project site since preparation of the General Plan EIR, a California Historic Resources Information System (CHRIS) search was performed for the proposed project. Based on the results of the project-specific CHRIS search, one cultural resource study has been previously conducted that included the project area, and known historic or archaeological resources have not been identified on or adjacent to the project site. The CHRIS search concluded that a low potential exists for previously unrecorded cultural resources to occur on-site, based on the environmental setting of the site. In addition, a search of the Native American Heritage Commission (NAHC) Sacred Lands File was conducted for the project site, which yielded a negative result.

While known resources are not located on-site, in the event that historical or archaeological resources are discovered during construction or grading activities, the project would be required to comply with all applicable General Plan policies and programs, including General Plan Policy 10.7.2(a), which requires all new development to avoid and mitigate impacts to archaeological, paleontological, and historic resources, and General Plan Policy 10.7.2(b), which requires all construction to be halted in the vicinity if cultural or paleontological resources are encountered during grading until a qualified expert evaluates and records the cultural resource. Mitigation Measure 4.4.2A, as outlined in the General Plan EIR, provides the necessary measures to be taken if avoidance and/or preservation in the location of any cultural resources is not possible, including the presence of a member of the appropriate Indian Band or Tribe, the implementation of a test level research design detailing how the cultural resource investigation shall be executed, the submittal of the results of the test level research design report to the City for review, and implementation of a Treatment Plan if the resource is identified as being potentially eligible for either the California or National Register. Additionally, Mitigation Measure 4.4.3A requires the presence of a paleontologist to monitor site grading activities when existing information indicates that a site proposed for development may contain paleontological resources.

As previously discussed, pursuant to CEQA Guidelines Section 15183(f), "An effect of a project on the environment shall not be considered peculiar to the project or the parcel for the purposes of this section if uniformly applied development policies or standards have been previously adopted by the city or county with a finding that the development policies or standards will substantially mitigate that environmental effect when applied to future projects, unless substantial new information shows that the policies or standards will not substantially mitigate the environmental effect. […]" In the case of the proposed project, compliance with the City's General Plan policies, programs, and actions, as well as federal and State policies and regulations to protect and preserve historic and archaeological resources, would substantially mitigate potential project impacts to cultural resources.

Based on the above, impacts related to causing a substantial adverse change in the significance of a historic or archaeological resource pursuant to CEQA Guidelines Section 15064.5 and/or disturbing human remains, including those interred outside of formal cemeteries, were adequately addressed in the General Plan EIR, and the proposed project would not result in any peculiar effects. Thus, the criteria for requiring further CEQA review are not met.

VI. ENERGY. *Would the project:*	Significant Impact Peculiar to the Project or the Project Site	Significant Impact due to New Information	Impact Adequately Addressed in the General Plan EIR
a. Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	✖
b. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	✖

Discussion

a,b. According to the General Plan EIR, electricity and natural gas are the primary sources of household energy in the City of Antioch, while fossil fuels are the primary source of energy for most modes of transportation. However, implementation of policies and programs included in the General Plan would reduce energy use for new development and encourage the use of renewable energy sources. The policies would also ensure that new development projects use design features, building materials, and building practices that would increase energy efficiency. General Plan Policy 9.4.1 requires the City to provide incentives for energy conservation measures in new housing by providing information on programs available through PG&E. In addition, Mitigation Measure 4.12.4A requires the City to review all development proposals prior to the approval of development plans to guarantee that sufficient energy resources and facilities are available to supply adequate energy to proposed projects and associated uses. Mitigation Measure 4.12.4B requires the City to review all development plans prior to approval to guarantee that energy conservation and efficiency standards of Title 24 are met and are incorporated into the design of future proposed projects. Thus, the General Plan EIR concluded that a less-than-significant impact would occur related to wasteful, inefficient, or unnecessary energy consumption, as well as potential conflicts with or obstructing a State or local energy plan, with the implementation of General Plan policies and programs.

A description of the 2022 California Green Building Standards Code and the Building Energy Efficiency Standards, with which the proposed project would be required to comply, as well as discussions regarding the project's potential effects related to energy demand during construction and operations are provided below.

California Green Building Standards Code

The 2022 California Green Building Standards Code, otherwise known as the CALGreen Code (CCR Title 24, Part 11), is a portion of the California Building Standards Code (CBSC), which became effective with the rest of the CBSC on January 1, 2023.[11] The purpose of the CALGreen Code is to improve public health, safety, and general welfare by enhancing the design and construction of buildings through the use of building concepts having a reduced negative impact or positive environmental impact and encouraging sustainable construction practices. The CALGreen Code standards regulate the method of use, properties, performance, types of materials used in construction, alteration, repair, improvement, and rehabilitation of a structure or improvement to a property. The provisions of the code apply to the planning, design, operation, construction, use, and occupancy of every newly constructed building or structure throughout California. Requirements of the CALGreen Code include, but are not limited to, the following measures:

[11] California Building Standards Commission. *2022 California Green Building Standards Code*. 2023.

- Compliance with relevant regulations related to future installation of electric vehicle (EV) charging infrastructure in residential and non-residential structures;
- Indoor water use consumption is reduced through the establishment of maximum fixture water use rates;
- Outdoor landscaping must comply with the California Department of Water Resources' Model Water Efficient Landscape Ordinance (MWELO), or a local ordinance, whichever is more stringent, to reduce outdoor water use;
- Diversion of 65 percent of construction and demolition waste from landfills;
- Incentives for installation of electric heat pumps, which use less energy than traditional heating, ventilation, and air conditioning (HVAC) systems and water heaters;
- Required solar photovoltaic (PV) systems and battery storage standards for certain buildings; and
- Mandatory use of low-pollutant emitting interior finish materials such as paints, carpet, vinyl flooring, and particle board.

Building Energy Efficiency Standards

The 2022 Building Energy Efficiency Standards is a portion of the CBSC, which expands upon energy-efficiency measures from the 2019 Building Energy Efficiency Standards, and went into effect starting January 1, 2023. The 2022 standards provide for additional efficiency improvements beyond the 2019 standards. The proposed project would be subject to all relevant provisions of the most recent update of the CBSC, including the Building Energy Efficiency Standards. Adherence to the most recent CALGreen Code and Building Energy Efficiency Standards would ensure that the proposed structures would consume energy efficiently.

Construction Energy Use

Construction of the proposed project would involve increased energy demand and consumption related to the use of oil in the form of gasoline and diesel fuel for construction worker vehicle trips, hauling and materials delivery truck trips, and operation of off-road construction equipment. In addition, diesel-fueled portable generators may be necessary to provide additional electricity demands for temporary lighting, welding, and for supplying energy to areas of the site where energy supply cannot be met through a hookup to the existing electricity grid. Even during the most intense period of construction, due to the different types of construction activities (e.g., site preparation, grading, building construction), only portions of the project site would be disturbed at a time, with operation of construction equipment occurring at different locations on the project site, rather than a single location. Project construction would not involve the use of natural gas appliances or equipment.

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

multi-function equipment, hybrid equipment, or other design changes, which could help to reduce demand on oil and limit emissions associated with construction.

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

Operational Energy Use

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

The proposed project would be subject to all relevant provisions of the CBSC, including the Building Energy Efficiency Standards and CALGreen Code. Adherence to the CALGreen Code, Building Energy Efficiency Standards, and all applicable actions included in the City's Climate Action and Resilience Plan (CARP) would ensure that the proposed structures would consume energy efficiently through the incorporation of such features as efficient water heating systems, high-performance attics and walls, and high-efficacy lighting. Required compliance with the CBSC would ensure that the building energy use associated with the proposed project would not be wasteful, inefficient, or unnecessary. In addition, electricity supplied to the project site by PG&E would comply with the State's Renewable Portfolio Standard (RPS), which requires investor-owned utilities, electric service providers, and community choice aggregators to increase procurement from eligible renewable energy sources to 60 percent of total procurement by 2030.

With respect to transportation energy use, the proposed project would comply with all applicable regulations associated with vehicle efficiency and fuel economy. Further discussion of impacts related to transportation associated with the proposed project is provided in Section XVII, Transportation, of this Modified Initial Study. Additionally, the City of Antioch and surrounding areas provide residents with numerous public transportation options. Transit options include local bus stops, regional transit throughout the City, and the Bay Area Rapid Transportation (BART) system. Transit would provide access to several grocery stores, restaurants, and businesses within close proximity to the project site. The site's access to public transit and pedestrian facilities would reduce passenger vehicle trips and, consequently, fuel consumption associated with the proposed residential units.

Based on the above, compliance with the State's latest Energy Efficiency Standards and local regulations would ensure that the proposed project would implement all necessary energy efficiency regulations and would contribute to the efficient use of energy resources.

Conclusion

Based on the above, the proposed project would involve energy use associated with construction activities and operations. Given that the proposed project would be consistent with the site's General Plan land use designation, buildout of the project site and associated energy demands have been anticipated by the City and analyzed in the General Plan EIR. Furthermore, the project would comply with applicable General Plan policies, as well as other State energy standards, which would ensure that construction and operation of the proposed project would not result in wasteful, inefficient, or unnecessary consumption of energy resources or conflict with or obstruct a State or local plan for renewable energy or energy efficiency. Based on the above, impacts related to energy use were adequately addressed in the General Plan EIR, and the proposed project would not result in any peculiar effects related to such. Thus, the criteria for requiring further CEQA review are not met.

VII. GEOLOGY AND SOILS. *Would the project:*	Significant Impact Peculiar to the Project or the Project Site	Significant Impact due to New Information	Impact Adequately Addressed in the General Plan EIR
a. Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:			
i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	✖
ii. Strong seismic ground shaking?	☐	☐	✖
iii. Seismic-related ground failure, including liquefaction?	☐	☐	✖
iv. Landslides?	☐	☐	✖
b. Result in substantial soil erosion or the loss of topsoil?	☐	☐	✖
c. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	✖
d. Be located on expansive soil, as defined in Table 18-1B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	☐	☐	✖
e. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	✖
f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	✖

Discussion

ai-aii. The General Plan EIR identifies the City as being located in a geologically young and seismically active region. According to the General Plan EIR, although known faults are not located within the City of Antioch, the City is located in Eastern Contra Costa County, which is located in one of the most seismically active regions in the U.S. Major earthquakes have occurred in the vicinity of Antioch in the past and can be expected to occur again in the near-future.

According to the General Plan EIR, based on the potential for seismic activity within the region, the design and construction of all structures and facilities in the City are required to adhere to the standards and requirements detailed in the CBSC and/or professional engineering standards appropriate for the seismic area in which construction may occur. Pursuant to the CBSC, as adopted by Section 8-1.01 of the City's Municipal Code, development within the City is required to implement standards to protect property and public safety by regulating the design and construction of excavations, foundations, building frames, retaining walls, and other building elements, which would further reduce the potential for seismic-related ground failure. Projects designed in accordance with the CBSC should be able to: 1) resist minor earthquakes without damage; 2) resist moderate earthquakes without structural damage, but with some non-structural damage; and 3) resist major earthquakes without collapse, but with some structural, as well as non-structural, damage. Although conformance with the CBSC does not guarantee that substantial structural damage would not occur in the event of a maximum magnitude

earthquake, conformance with the CBSC can reasonably be assumed to ensure that structures would be survivable, allowing occupants to safely evacuate in the event of a major earthquake. Conformance with the design standards would be enforced through building plan review and approval by the City of Antioch Building Division prior to the issuance of building permits for any structure or facility.

In addition, General Plan Policy 11.3.2 requires geologic and soils reports to be prepared for proposed development sites, continued investigation by State agencies of geologic conditions to update knowledge of seismic hazards, expedited review of any seismic-related revisions to the Uniform Building Code (UBC), coordination with PG&E and other pipeline companies to implement measures to safeguard the public from seismic hazards, engineered slopes be designed to resist seismically induced failure, limited development in areas which will be hazardous to the community, and evaluations of potential slope stability. Furthermore, Mitigation Measure 4.5.1A requires a site-specific assessment to be prepared by a licensed geologist for new development to ascertain potential ground shaking impacts resulting from development. The site-specific ground shaking assessment is required to be submitted to the City of Antioch Building Division for review and approval prior to the issuance of building permits. The General Plan EIR concluded that compliance with applicable General Plan policies and CBSC requirements would ensure that impacts related to seismic ground shaking would be less than significant. Consistent with the requirements of the General Plan EIR, the proposed project would be subject to the CBSC requirements.

In compliance with Mitigation Measure 4.5.1A of the General Plan EIR, a Geotechnical Investigation was prepared for the proposed project by Quantum Geotechnical, Inc. (see Appendix D).[12] According to the Geotechnical Investigation, the project site is not located with an Alquist-Priolo Earthquake Fault Rupture Hazard Zone. The project site is subject to periodic very strong to violent ground shaking with the nearest potentially active fault, the Antioch Fault, located approximately 0.68-mile to the west of the project site, as well as the active Concord-Green Valley Fault located approximately 14.29 miles to the west of the project site. The major active San Andreas and Hayward-Rodgers Creek faults are located approximately 26.10 to 45.36 miles away, respectively. Thus, the potential for fault rupture risk at the project site is relatively low.

Nonetheless, as previously discussed, the General Plan EIR concluded that compliance with General Plan Policy 11.3.2 and Mitigation Measure 4.5.1A would be sufficient to reduce impacts to a less-than-significant level. Consistent with CEQA Guidelines Section 15183(f), General Plan Policy 11.3.2 and Mitigation Measure 4.5.1A would be considered uniformly applied development standards that would apply to the proposed project. Thus, consistent with Mitigation Measure 4.5.1A, the Geotechnical Investigation was prepared for the proposed project. All applicable recommendations included within the site-specific Geotechnical Investigation with the purpose to reduce the significance of potential ground shaking hazards would be required as a project condition of approval. In addition, because the proposed project would be consistent with the site's General Plan land use designation, potential ground shaking hazards associated with buildout of the project site have been anticipated by the City. Compliance with General Plan Policy 11.3.2, Mitigation Measure 4.5.1A, and the recommendations included in the Geotechnical Investigation, which are considered uniformly applicable development standards that would apply to the

[12] Quantum Geotechnical, Inc. *Geotechnical Investigation: Proposed Residential Development, 3001 Oakley Road, Antioch, California.* January 16, 2023.

proposed project, would ensure that impacts related to seismic rupture of a known earthquake fault or strong seismic ground shaking would be less than significant.

Overall, impacts related to seismic rupture of a known earthquake fault or strong seismic ground shaking were adequately addressed in the General Plan EIR, and the proposed project would not result in any peculiar effects related to such. Thus, the criteria for requiring further CEQA review are not met.

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

Liquefaction

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

According to the General Plan EIR, the City of Antioch consists of two general topographic areas, including the Lowland Area and the Upland Area. The Lowland Area generally corresponds to the esturine and flatland soils, and the Upland Area includes hillside soils. Antioch's Lowland Area's potential for liquefaction ranges from low to very high and the Upland Area ranges from very low to moderate. In order to reduce the significance of potential liquefaction impacts, General Plan Policy 11.3.2(k) requires the preparation of specialized reports in areas suspected as having problems with potential liquefaction. Mitigation Measure 4.5.2A requires development proposed within an identified or potential liquefaction hazard area to implement adequate and appropriate measures such as to design foundations in a manner that limits the effects of liquefaction, to place an engineered fill with low liquefaction potential, and to alternatively site structures in areas with a lower liquefaction risk. According to the General Plan EIR, compliance with General Plan policies and Mitigation Measures would reduce the potential for substantial adverse effects related to liquefaction to a less-than-significant level.

According to the Geotechnical Investigation, the California Geological Survey (CGS) 2019 Seismic Hazard Zones Map for Antioch, California, indicates that the project site resides within an area of potential liquefaction hazards, with historically high groundwater generally between 20 to 30 feet below ground surface. The field investigation performed on December 28, 2022 by Quantum Geotechnical consisted of drilling a total of five borings to depths ranging from 21.5 to 41.5 feet below the ground surface and laboratory testing for moisture content, dry density, sieve analysis, and corrosivity. Groundwater was not encountered in the deepest boring at 41.5 feet. Based on the lack of groundwater in the upper 41.5 feet of the site's subsurface soils, the Geotechnical Investigation concluded that potential does not exist for on-site liquefaction. Because the potential for liquefaction on-site does not exist, specific mitigation measures for liquefaction as outlined in General Plan Mitigation Measure 4.5.2A are not required.

Given that the proposed project would be consistent with the project site's General Plan land use designation, the risks from liquefaction have been previously analyzed in the General Plan EIR. The EIR concluded that compliance with the General Plan policies and the CBSC would ensure that seismically induced ground shaking and secondary effects, including liquefaction, would be minimized. Furthermore, as determined by the Geotechnical Investigation, the potential for liquefaction does not exist on the project site and, thus, impacts related to such would not occur. Based on the above, impacts related to liquefaction were adequately addressed in the General Plan EIR, and the proposed project would not result in any peculiar effects related to such. Thus, the criteria for requiring further CEQA review are not met.

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 General Plan EIR, landslides and rockfalls can be expected to occur in the southwest corner of the General Plan planning area. General Plan Policy 5.4.14 requires the design of hillside development to be sensitive to existing terrain, protect important natural features, minimize the amount of grading, and implement grading plans that conform to the hillside design policies. The General Plan EIR concluded that compliance with General Plan Policy 5.4.14 would reduce impacts related to landslides to a less-than-significant level. The topography of the project site is considered level terrain and the project site does not contain any steep or unstable slopes. Thus, the proposed project would not be subject to potential impacts related to landslides. Based on the above, impacts related to landslides were adequately addressed in the General Plan EIR, and the proposed project would not result in any peculiar effects related to such. Thus, the criteria for requiring further CEQA review are not met.

Lateral Spreading

Lateral spreading is horizontal/lateral ground movement of relatively flat-lying soil deposits towards a free face such as an excavation, channel, or open body of water; typically, lateral spreading is associated with liquefaction of one or more subsurface layers near the bottom of the exposed slope. General Plan Policy 11.3.2(a) requires geologic and soil reports to be prepared for proposed development sites and General Plan Policy 11.3.2(i) requires development to be limited in areas which would be hazardous to the overall community due to adverse geological conditions. In addition, General Plan Policy 11.3.2(j) requires evaluations of potential slope stability for developments proposed within hillside areas and General Plan Policy 11.3.2(k) requires specialized soil reports in areas suspected of having problems with potential liquefaction, bearing strength, expansion, settlement, or subsidence. Mitigation Measure 4.5.1A requires site-specific assessments to be prepared to ascertain potential ground shaking impacts resulting from development that include specific measures to reduce the significance of potential ground shaking hazards. As discussed in Impact 4.5.5 of the General Plan EIR, the General Plan EIR determined that General Plan Policies 11.3.2(a), 11.3.2(i), 11.3.2(j), and 11.3.2(k), as well as Mitigation Measure 4.5.1A, would reduce potential impacts associated with lateral spreading to a less-than-significant level.

The project site does not contain any open faces that would be considered susceptible to lateral spreading. In addition, as noted above, the site is not anticipated to be subject to liquefaction hazards. Therefore, the potential for lateral spreading to pose a risk to the proposed development is low. Based on the above, impacts related to lateral spreading were adequately addressed in the General Plan EIR, and the proposed project would not

result in any peculiar effects related to such. Thus, the criteria for requiring further CEQA review are not met.

Subsidence/Settlement

Subsidence is the settlement of soils of very low density generally from either oxidation of organic material, or desiccation and shrinkage, or both, following drainage. Subsidence takes place gradually, usually over a period of several years, and is a common consequence of liquefaction. General Plan Policy 11.3.2(k) requires the preparation of specialized reports in areas suspected of having problems with potential liquefaction, bearing strength, expansion, settlement, or subsidence, including implementation of the recommendations of the report into the project development. Under Impact 4.5.2 in the General Plan EIR, the General Plan EIR determined that the risk of liquefaction (and associated effects, such as subsidence/settlement) would be less than significant with compliance with the CBSC and General Plan policies, including General Plan Policy 11.3.2(k).

As discussed above, on-site soils are not anticipated to be subject to substantial liquefaction risks. Because the site presents low potential for liquefaction, the potential for seismically-induced settlement to occur at the project site is also considered to be low. However, according to the field investigation performed by Quantum Geotechnical consistent with General Plan Policy 11.3.2(k), the cohesionless soil above the groundwater table was found to be generally medium dense and has the potential for dynamic settlements of up to 0.5 inches. The Geotechnical Investigation recommends a differential settlement of 0.25 inches over 50 feet, with Quantum Geotechnical present during removal activities of the on-site vineyard in order to verify that all excavations are left open, as loosely backfilled excavations have the potential to cause future settlement and damage to structures. Consistent with CEQA Guidelines Section 15183(f), the recommendations included in the Geotechnical Investigation required by General Plan Policy 11.3.2(k) would be considered uniformly applied development standards that would apply to the proposed project. Thus, consistent with General Plan Policy 11.3.2(k), the proposed project would be required to implement all applicable recommendations included within the site-specific Geotechnical Report with the purpose to reduce the significance of potential impacts related to subsidence/settlement. Based on the above, impacts related to subsidence/settlement were adequately addressed in the General Plan EIR, and the proposed project would not result in any peculiar effects related to such. Thus, the criteria for requiring further CEQA review are not met.

Conclusion

Based on the above, impacts related to substantial risks related to liquefaction, landslides, lateral spreading, and subsidence/settlement were adequately addressed in the General Plan EIR, and the proposed project would not result in any peculiar effects related to such. Thus, the criteria for requiring further CEQA review are not met.

b. During construction activities, topsoil would be exposed following site grading and prior to constructing building foundations. As a result, the potential for topsoil erosion would exist. Following project development, exposed soils would be covered with impervious surfaces or landscaping and, thus, the potential for erosion to occur would not exist long-term.

General Plan Policy 8.7.2 requires all new development to provide erosion and sedimentation control measures to maintain the capacity of area storm drains and to protect water quality. In addition, General Plan Policy 10.6.2 requires the implementation

of best management practices (BMPs) to minimize erosion and sedimentation resulting from new development. The General Plan EIR concluded that, with implementation of General Plan Policies 8.7.2 and 10.6.2, along with all required regulations, including compliance with grading and erosion control requirements of the UBC and the CBSC, impacts related to soil erosion and loss of topsoil would be less than significant.

Issues related to erosion and degradation of water quality during construction are discussed in Section X, Hydrology and Water Quality, of this Modified Initial Study, under question 'a.' As noted therein, 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 any project that would disturb more than one acre of land to prepare a Storm Water Pollution Prevention Plan (SWPPP). A SWPPP describes BMPs to control or minimize pollutants from entering stormwater and must address both grading/erosion impacts and non-point source pollution impacts of the development project. Additionally, in accordance with Municipal Code Section 9-4.516, every final map for new development approved by the City shall be required to comply with City requirements for grading and erosion control, including the prevention of sedimentation or damages to off-site property. The erosion control measures included in both the SWPPP and grading and erosion control compliance in the Municipal Code would ensure that the proposed project would not result in substantial erosion or the loss of topsoil.

The proposed project would be required to prepare and implement both grading and erosion control measures in the final map for the proposed project and a SWPPP. As previously discussed, the General Plan EIR concluded that compliance with General Plan Policies 8.7.2 and 10.6.2 would be sufficient to reduce impacts to a less-than-significant level. Consistent with CEQA Guidelines Section 15183(f), General Plan Policies 8.7.2 and 10.6.2 would be considered uniformly applied development standards that would apply to the proposed project. Therefore, compliance with such General Plan policies would ensure that effects peculiar to the project or parcel on which the project would be located do not exist. Thus, impacts related to substantial risks related to soil erosion or loss of topsoil have been adequately addressed in the General Plan EIR and the criteria for requiring further CEQA review are not met.

d. Expansive soils can undergo significant volume change with changes in moisture content. Specifically, such soils shrink and harden when dried and expand and soften when wetted. Expansive soils can shrink or swell and cause heaving and cracking of slabs-on-grade, pavements, and structures founded on shallow foundation. Building damage due to volume changes associated with expansive soil can be reduced by a variety of solutions. If structures are underlain by expansive soils, foundation systems must be capable of tolerating or resisting any potentially damaging soil movements, and building foundation areas must be properly drained. Exposed soils must be kept moist prior to placement of concrete for foundation construction.

As discussed under Impact 4.5.6 of the General Plan EIR, the General Plan includes various policies related to soil hazards, including General Plan Policy 11.3.2(k), which includes the City's requirement for projects located in areas suspected of having problems with liquefaction, bearing strength, expansion, settlement, or subsidence, to submit specialized soil reports. The General Plan EIR concluded that with implementation of General Plan Policy 11.3.2, General Plan Policy 11.8.2, which requires the City's Emergency Response Plan to be maintained and updated, and Mitigation Measures

4.5.1A and 4.5.1B, which require site-specific assessments to ascertain potential ground shaking impacts, the potential impacts related to ground shaking would be reduced to a less-than-significant level.

According to the Geotechnical Investigation prepared for the proposed project, the subsurface exploration conducted as part of the report indicated the presence of non-expansive near-surface sandy soil. Therefore, as the project site does not contain potentially expansive soils, a minimal risk regarding impacts due to expansive soils would exist on-site. The proposed project would be required to comply with General Plan Policy 11.3.2(k), which would enforce compliance with the recommendations in the Geotechnical Investigation prepared for the proposed project.

As previously discussed, the General Plan EIR concluded that compliance with General Plan Policies 11.3.2(k) and 11.8.2 and Mitigation Measures 4.5.1A and 4.5.1B would be sufficient to reduce impacts to a less-than-significant level. Consistent with CEQA Guidelines Section 15183(f), General Plan Policies 11.3.2(k) and 11.8.2 and Mitigation Measures 4.5.1A and 4.5.1B would be considered uniformly applicable development standards that would apply to the proposed project. Therefore, compliance with such would ensure that effects peculiar to the project or parcel on which the project would be located do not exist. Thus, impacts related to substantial direct or indirect risks to life or property related to being located on expansive soil, as defined in Table 18-1B of the UBC, creating substantial direct or indirect risks to life or property have been adequately addressed in the General Plan EIR and the criteria for requiring further CEQA review are not met.

e. The proposed project would connect to existing City sewer services. Thus, the construction or operation of septic tanks or other alternative wastewater disposal systems is not included as part of the project, and the proposed project would not result in any peculiar effects that would require further CEQA review for this topic.

f. Paleontological resources or fossils are the remains of prehistoric plant and animal life. Impact 4.4.1 of the General Plan EIR determined that construction activities associated with General Plan buildout could potentially affect known or unknown paleontological resources. However, General Plan Policy 10.7.2 requires all construction to be halted in the vicinity if cultural or paleontological resources are encountered during grading until a qualified expert evaluates and records the cultural resource. In addition, Mitigation Measure 4.4.3A requires the presence of a paleontologist to monitor site grading activities when existing information indicates that a site proposed for development may contain paleontological resources. The General Plan EIR concluded that, with implementation of General Plan Policy 10.7.2 and Mitigation Measure 4.4.3A, potential paleontological resource impacts would be reduced to a less-than-significant level.

The project site does not contain any peculiar conditions that would result in increased potential for subsurface paleontological resources. Furthermore, consistent with CEQA Guidelines Section 15183(f), General Plan Policies 10.7.2 and Mitigation Measures 4.4.3A would be considered uniformly applied development standards that would apply to the proposed project. Therefore, compliance with such General Plan policies would ensure that effects peculiar to the project or parcel on which the project would be located do not exist. Thus, impacts related to resulting in the direct or indirect destruction of a unique paleontological resource have been adequately addressed in the General Plan EIR and the criteria for requiring further CEQA review are not met.

VIII. GREENHOUSE GAS EMISSIONS. *Would the project:*	Significant Impact Peculiar to the Project or the Project Site	Significant Impact due to New Information	Impact Adequately Addressed in the General Plan EIR
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?	☐	☐	✖

Discussion

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

Implementation of the proposed project would cumulatively contribute to increases of GHG emissions. Estimated GHG emissions attributable to the project would be primarily associated with increases of carbon dioxide (CO_2) and, to a lesser extent, other GHG pollutants, such as methane (CH_4) and nitrous oxide (N_2O) associated with area sources, mobile sources or vehicles, utilities (electricity and natural gas), water usage, wastewater generation, and the generation of solid waste. The common unit of measurement for GHG is expressed in terms of annual metric tons of CO_2 equivalents ($MTCO_2e$/yr).

An evaluation of GHG emissions was not required pursuant to CEQA at the time of preparation of the General Plan EIR and, as a result, GHG emissions were not directly addressed in the General Plan EIR. However, potential impacts related to GHG emissions do not constitute "new information" as defined by CEQA, considering GHG emissions were known as a potential environmental issue since before 2003 and the General Plan EIR was circulated in 2003. The proposed project would be consistent with the City's General Plan land use designation for the site, as such, the proposed project would not result in any new impacts related to GHG emissions and global climate change than what was previously anticipated for the project site.

Since the General Plan EIR has been prepared, there have been several new pieces of legislation to address GHG emissions. Specifically, AB 32, and more recently Senate Bill (SB) 32, have established statewide GHG emissions reduction targets. Accordingly, the CARB has prepared the Climate Change Scoping Plan for California (Scoping Plan), which was approved in 2008, and updated in 2017 and 2022. The Scoping Plan provides the outline for actions to reduce California's GHG emissions and achieve the emissions reductions targets required by AB 32. In concert with statewide efforts to reduce GHG emissions, air districts, counties, and local jurisdictions throughout the State have implemented their own policies and plans to achieve reductions in line with the Scoping Plan and emissions reductions targets, including AB 32 and SB 32.

As part of the City's efforts to meet the Statewide goal, the City prepared the 2020 CARP to increase community resiliency. The CARP is a five-year plan that includes action items intended to build community resilience, sustainability, and equity. Therefore, on November 26, 2024, the City adopted the updated 2025 CARP. Implementation of the proposed actions outlined in the CARP would reduce the community's reliance on carbon-based energy sources, and the CARP aligns with the statewide goals established by AB 32 and SB 32. The 2025 CARP is intended to create a roadmap to build resilience through actions and tools through adaptation, mitigation of GHGs, and community development.

Pursuant to CEQA Guidelines Section 15183(f), "An effect of a project on the environment shall not be considered peculiar to the project or the parcel for the purposes of this section if uniformly applied development policies or standards have been previously adopted by the city or county with a finding that the development policies or standards will substantially mitigate that environmental effect when applied to future projects, unless substantial new information shows that the policies or standards will not substantially mitigate the environmental effect. […]" The City's CARP strategies and actions, as well as federal and State policies and regulations related to reducing GHG emissions, would substantially mitigate environmental effects related to GHG emissions within the City. While the majority of the action items set forth in the CARP are citywide efforts in support of increasing resilience and reducing GHG emissions, various measures related to new development within the City would apply directly to the proposed project. The project's general consistency with the applicable CARP actions is discussed below.

Transportation Electrification Action 1 is intended to strategically expand EV charging stations within the commercial and residential areas of the City, and Air Quality Action 5 is intended to support the expansion of alternative transportation and EV infrastructure to reduce pollution from exhaust pipes. The 2022 CALGreen Code requires that all single-family residences, townhomes, and duplexes be EV capable (i.e., each dwelling unit must have a listed raceway to accommodate a dedicated 208/40-volt branch circuit), which would be suitable for EV charging. The proposed project would be required to comply with the 2022 CALGreen Code, which would satisfy the general goals of Transportation Electrification Action 1 and Air Quality Action 5. In addition, all newly constructed buildings within the proposed project would be built without natural gas appliances. As such, the proposed project would generally comply with Residential Energy Action 2 of the CARP, which is intended to encourage fuel switching from natural gas to electricity. Drought Action 2 is intended to encourage and require water conservation, and Drought Action 5 is intended to increase the use of drought resistant landscaping, including native plants. The proposed project would be required to comply with the MWELO to reduce outdoor water use. The proposed project's required compliance with the MWELO would satisfy the goals of Drought Action 2 and Drought Action 5. Flooding Action 2 is intended to expand green infrastructure for stormwater management purposes. Low impact development (LID) stormwater features, such as the proposed on-site drainage basins, would satisfy the general goals of Flooding Action 2. In addition, the proposed project would be required to comply with the City of Antioch's residential organics recycling program, in accordance with SB 1383, which would divert organic waste from landfills, and with the current CALGreen Code, which requires at least a 65 percent diversion of construction waste for all projects. Thus, the proposed project would align with the CARP's general waste reduction goals for the City. The proposed project would construct new sidewalks along the project frontages on Phillips Lane and Oakley Road and along both sides of all internal roadways. Pedestrian travel to and from the project site would be aided by marked crosswalks and pedestrian signal heads and push buttons at the nearby signalized

intersection of Phillips Lane and East 18th Street. Therefore, the proposed project would be generally consistent with the CARP's general alternative transportation goals for the City.

The proposed project would be consistent with the City's General Plan land use designation for the site, and buildout of the site would not result in any peculiar effects related to the generation of GHG emissions. Therefore, residential uses and associated GHG emissions have been anticipated in relation to buildout of the site, and would not result in greater GHG emissions than the buildout of the General Plan land use designations. Furthermore, the CARP action items are intended to reduce GHG emissions from new development within the City. Thus, compliance with such would ensure the proposed project GHG emissions would not be substantial.

Based on the above, the proposed project would not generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment, or conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs. Because the proposed project would not be considered to conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs, the proposed project would not result in any peculiar effects related to the generation of GHG emissions, and requirements for additional CEQA review are not met.

IX. HAZARDS AND HAZARDOUS MATERIALS. *Would the project:*	Significant Impact Peculiar to the Project or the Project Site	Significant Impact due to New Information	Impact Adequately Addressed in the General Plan EIR
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 or excessive noise for people residing or working in the project area?	☐	☐	✖
f. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	✖
g. Expose people or structures, either directly or indirectly, to the risk of loss, injury or death involving wildland fires?	☐	☐	✖

Discussion

a. As noted in the General Plan EIR, anticipated residential, commercial, and industrial growth within Antioch would make the identification of potential problems associated with the handling, transport, storage, and disposal of hazardous materials an increasingly important consideration. However, the General Plan EIR addresses only non-residential development and the associated potential for an increase in the use and transport of hazardous materials, as well as an increase in generation of hazardous waste. Therefore, the General Plan EIR determined that the risk of exposure to hazardous materials generated by residential development would be less than significant.

Residential uses are not typically associated with the routine transport, use, disposal, or generation of hazardous materials. Operations of the proposed project would likely involve use of common household cleaning products, fertilizers, and herbicides on-site, any of which could contain potentially hazardous chemicals; however, such products would be expected to be used in accordance with label instructions. Due to the regulations governing use of such products and the amount that would be used on the site, occasional use of such products would not represent a substantial risk to public health or the environment during project operation. As discussed above, General Plan EIR Impact 4.6.1 identifies that build out of the General Plan may result in increased risk of upset associated with the routine use, generation, and transportation of hazardous materials. However, only non-residential development is included in the analysis and the General Plan policies are aimed at decreasing impacts regarding hazardous materials related to such uses accordingly. Therefore, impacts related to creating a significant hazard to the public or the

environment through the routine transport, use, or disposal of hazardous materials have been adequately addressed in the General Plan EIR, and the proposed project would not result in any peculiar effects related to such. Thus, the criteria for requiring further CEQA review are not met.

b,d. The General Plan EIR identified several sites within Antioch where surface and/or subsurface contamination has occurred due to the release of hazardous materials or wastes. The City of Antioch has adopted the Contra Costa County's Hazardous Waste Management Plan, which establishes a comprehensive approach to management of hazardous wastes in the County, including siting criteria, efforts to minimize and control hazardous waste stream, and policies to maintain a unified database on business generating hazardous wastes. As discussed under Impact 4.6.1 of the General Plan EIR, General Plan Policy 11.7.2(b) requires the implementation of the provisions of the Contra Costa County Hazardous Waste Management Plan, including provisions for pretreatment and disposal, storage, handling, and emergency response. General Plan Policy 11.7.2(o) requires the cleanup of the GBF/Pittsburg Landfill, Hickmott Cannery, and other contaminated sites to remain high priority. In regards to mine hazards, General Plan Policy 11.3.2 requires actions to reduce the impacts of mine hazards by both sealing mine openings and by ensuring that construction of structures are designed adequately and located properly. The General Plan EIR concluded that given compliance with the above-mentioned applicable General Plan policies, as well as local, State, and federal regulations related to hazardous waste, impacts related to hazards and hazardous materials would be less than significant.

It is noted that the project site is not located in the vicinity of any of the hazardous materials sites identified in the General Plan EIR. Nonetheless, the following discussion provides an analysis of potential hazards and hazardous materials associated with upset or accident conditions related to the proposed construction activities and existing on-site conditions. The project-specific analysis below is based primarily on a Phase I Environmental Site Assessment (ESA) (Appendix E)[13] and Phase II ESA (Appendix F)[14] prepared for the proposed project by Apex Companies.

Construction Activities

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 City ordinances regulating the handling, storage, and transportation of hazardous and toxic materials. The City of Antioch has also adopted the Contra Costa County Hazardous Waste Management Plan, which establishes a comprehensive approach to management of hazardous wastes in the County. Compliance with such regulations, as well as the General Plan policies listed under Impact 4.6.1 of the General Plan EIR aimed at minimizing impacts regarding hazardous materials, would ensure that a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions during construction would not occur.

[13] Apex Companies. *Phase I Environmental Site Assessment.* February 20, 2025.
[14] Apex Companies. *Limited Phase II Environmental Site Assessment.* April 11, 2023.

Existing On-Site Hazardous Conditions

The purpose of the Phase I ESA was to review past and present land use practices and activities at and near the project site for evidence of recognized environmental conditions (RECs) that could result in impacts to soil, soil vapor, surface water, and/or groundwater at, beneath, or originating from the project site. The Phase I ESA included review of historical documentation, aerial photography, topographic maps, regulatory agency files, previous environmental reports, environmental records searches, and site reconnaissance. According to the American Society for Testing and Materials (ASTM), RECs are defined as "the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property due to a release to the environment; under conditions indicative of a release to the environment or under conditions that pose a material threat of future release."

The California Environmental Protection Agency (Cal-EPA) has compiled a list of data resources that provide information regarding the facilities or sites identified as meeting the "Cortese List" requirements, pursuant to Government Code 65962.5. The components of the Cortese List include the Department of Toxic Substances (DTSC) Hazardous Waste and Substances Site List, the list of leaking underground storage tank (UST) sites from the State Water Resources Control Board (SWRCB's) GeoTracker database, the list of solid waste disposal sites identified by the SWRCB, and the list of active Cease and Desist Orders (CDO) and Cleanup and Abatement Orders (CAO) from the SWRCB. The Phase I ESA determined that the project site is not listed on any significant or relevant databases regarding hazardous materials. However, several adjoining properties were identified in the database search, with one site adjacent to the project site identified as containing potentially hazardous materials. The hazardous site is currently in operation as a PG&E facility and is used for natural gas pipeline equipment storage. Previously, the site was used for routine operations that involved the handling of natural gas well liquids containing water and petroleum hydrocarbons until the mid-1970s. The eastern portion of the project site contains one groundwater monitoring well associated with the PG&E facility. The most recent groundwater sampling was conducted in 2022 and found low levels of gasoline, diesel, and oil in the groundwater samples collected.

Because contaminated groundwater is migrating onto the project site, Apex Companies conducted a Phase II ESA in 2023 to investigate if the contaminated groundwater from the PG&E facility would adversely impact future development activities. A soil vapor survey on the eastern portion of the project site was conducted and several volatile organic compounds (VOCs) were detected in the soil samples collected. However, concentrations were not found above their respective San Francisco RWQCB (SFRWQCB) Environmental Screening Levels (ESLs). In addition, a Tier 1 Vapor Encroachment Screen (VES) in accordance with ASTM standards was conducted during the Phase I ESA. The goal of a VES is to identify a vapor encroachment condition (VEC) at the subject property. A VEC is defined as the presence or likely presence of chemicals of concern (COC) vapors in the subsurface of a project site caused by the release of vapors from contaminated soil or groundwater either on or near the project site. Based on the VES conducted for the project site, a VEC does not exist. Therefore, because contaminant concentrations in groundwater on the project site are below screening levels and soil vapor on-site was not found to be adversely affected, the PG&E facility does not represent a REC for the project site.

The Phase I ESA noted that, based on historical aerial photographs, the project site was historically in agricultural use. The Phase I ESA determined that, based on the length of time since agricultural activities occurred on-site, the likelihood that residual chemicals

would be found above cleanup levels is low. The report determined that the potential past use of pesticides and/or fertilizers does not represent a REC to the project site.

According to the Phase I ESA, Apex Companies did not identify evidence of any additional RECs, controlled RECs, or historical RECs associated with the project site. However, development of the proposed project would require abandonment and removal of the existing on-site well. Proper abandonment of the well would need to occur in accordance with the standards set forth in Department of Water Resources Bulletin 74-81. Pursuant to Part III of Bulletin 74-81, the top of the well or well casing shall be provided with a cover, that is secured by a lock or by other means to prevent its removal without the use of equipment or tools, to prevent unauthorized access, to prevent a safety hazard to humans and animals, and to prevent illegal disposal of wastes in the well. The cover shall be watertight where the top of the well casing or other surface openings to the well are below ground level, such as in a vault or below known levels of flooding. All abandoned wells shall be destroyed. The objective of destruction is to restore as nearly as possible those subsurface conditions which existed before the well was constructed taking into account changes, if any, which have occurred since the time of construction. Destruction of a well shall consist of the complete filling of the well with impervious sealing material or filing material such as clay, silt, sand, gravel, crushed stone, or native soils in accordance with Section 23 of Part III of Bulletin 74-81. Consistent with CEQA Guidelines Section 15183(f), the requirements of Part III of Department of Water Resources Bulletin 74-81 would be considered a uniformly applied development standard that would apply to the proposed project. Compliance with such would ensure that potential impacts related to abandonment of the on-site well would not occur.

Conclusion

Based on the above, the proposed project would not result in any peculiar effects that would require further CEQA review related to creating 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, or through being located on a site which is included on a list of hazardous materials compiled pursuant to Government Code Section 65962.5, and impacts were adequately addressed in the General Plan EIR. Thus, the criteria for requiring further CEQA review are not met.

c. The General Plan EIR did not specifically evaluate impacts related to the release of hazardous materials within one-quarter mile of existing or proposed schools. The project site is located approximately 0.86-mile northwest of Imaginations Preschool, 0.89-mile northeast of Mno Grant Elementary School, and 1.07 miles west of Orchard Park School. Therefore, the project site is located further than 0.25-mile of an existing school. As discussed above, evidence of RECs or hazardous facilities was not identified in connection with the project site, and residential uses generally do not include any activities that would involve the routine transport, use, or disposal of hazardous material. As such, future operations at the project site would not emit any hazardous emissions, substances, or waste. Overall, the proposed project would not result in any adverse peculiar effects 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, and impacts related to such were adequately addressed in the General Plan EIR. Thus, the criteria for requiring further CEQA review are not met.

e. The General Plan EIR determined that none of the lands suitable for development identified in the General Plan are located within an airport land use plan or within two miles of a public use airport. Therefore, the General Plan EIR concluded that implementation of

the General Plan would not result in a safety hazard for people residing or working in the City. The nearest airport to the project site is Byron Airport, located approximately 13.38 miles southeast of the project site. Therefore, the proposed project would not result in an airport-related safety hazard for people residing or working in the project area, impacts were adequately addressed in the General Plan EIR, and the proposed project would not result in any peculiar effects related to such. Thus, the criteria for requiring further CEQA review are not met.

f. Impact 4.6.2 of the General Plan EIR determined that buildout of the General Plan would result in a substantial increase in population and residential and non-residential structures, which may impair implementation of or physically interfere with an adopted emergency response or emergency evacuation plan. However, in order to ensure that significant impacts do not occur, General Plan Policy 11.8.2 requires the City's Emergency Response Plan to be maintained and updated, disaster preparedness information be disseminated, maintenance of an effective and properly equipped emergency operations center, and the maintenance of ongoing emergency response coordination with surrounding jurisdictions. The General Plan EIR concluded that compliance with applicable local laws and regulations, as well as General Plan Policy 11.8.2, would ensure that impacts related to interfering with an adopted emergency response plan, or emergency evacuation plan would be less than significant.

Implementation of the proposed project would not result in any substantial modifications to the City's existing roadway system except for the proposed changes to Oakley Road, which would consist of an extension of the ROW by 7.5-feet and the construction of a six-foot sidewalk along the project frontage. According to the City of Antioch Emergency Operations Plan,[15] the proposed project is located in Evacuation Zone 2, with the main evacuation streets leading out of the City including Wilbur Avenue to SR 160, East 18th Street to SR 160, Hillcrest Avenue to SR 4, and A Street to SR 4. While the project site is near SR 160 and SR 4, none of the main evacuation streets border the project site. Therefore, the project would not interfere with potential evacuation or response routes used by emergency response teams. During construction of the proposed project, all construction equipment would be staged on-site so as to prevent obstruction of local and regional travel routes in the City that could be used as evacuation routes during emergency events. In addition, construction activities would be temporary, and substantial permanent modifications to the nearby existing roadways would not occur. Given that the proposed project would be consistent with the site's General Plan land use designation, buildout of the project site with residential uses has been anticipated by the City and would not conflict with the City's emergency planning efforts. Therefore, impacts related to interfering with an emergency evacuation or response plan were adequately addressed in the General Plan EIR, and the proposed project would not result in any peculiar effects related to such. Thus, the criteria for requiring further CEQA review are not met.

g. Under Impact 4.6.3 of the General Plan EIR, wildfire risk is discussed as being predominantly associated with areas within the southern, mostly unincorporated portions of the General Plan study area, including rural, hilly terrain as well as areas adjacent to or covered by natural grassland or brush. The entirety of the City's planning area is located in a Local Responsibility Area (LRA); thus, fire protection responsibility lies with local agencies, including the Contra Costa County Fire Protection District (CCCFPD). The General Plan EIR determined that implementation of the General Plan may expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including

[15] City of Antioch. *City of Antioch Emergency Operations Plan.* 2021.

where wildlands are adjacent to urbanized areas. In order to minimize the effects of prospective growth on wildland fire hazards, General Plan Policy 8.10.2 requires the City to work with the CCCFPD to provide high quality fire protection services to area residents and businesses, an annual assessment of the adequacy of facilities and services serving Antioch, maintenance of the performance standards set forth in the Growth Management Element, and the involvement of the CCCFPD in the development review process. Prior to construction of the proposed project, the CCCFPD would review the project and ensure compliance with fire codes and standards. Furthermore, the General Plan EIR requires the implementation of the Uniform Fire Code (UFC) and the UBC in order to reduce the effects of development on wildland fire hazard impacts. The General Plan EIR concluded that with implementation of General Plan Policy 8.10.2, along with the UFC and UBC, the effects of development on wildland fire hazard impacts would be reduced to a less-than-significant level.

According to the California Department of Forestry and Fire Protection (CALFIRE), the nearest Very High Fire Hazard Safety Zone (FHSZ) is approximately 3.54 miles southwest of the project site, and the project site is separated from such areas by existing urban development, which serves as a fire break to the project site.[16] Furthermore, the proposed project would be required to comply with all applicable requirements of the California Fire Code and Section 7-201, Fire Prevention Code, of the City's Municipal Code.

Based on the above, impacts related to wildfire risks were adequately addressed in the General Plan EIR, and the site would not be subject to any peculiar hazards related to the exposure of people or structures, either directly or indirectly, to the risk of loss, injury, or death involving wildland fires. Thus, the criteria for requiring further CEQA review are not met.

[16] California Department of Forestry and Fire Protection. *Fire Hazard Severity Zones in State Responsibility Area*. Available at: https://osfm.fire.ca.gov/what-we-do/community-wildfire-preparedness-and-mitigation/fire-hazard-severity-zones. Accessed June 2025.

X. HYDROLOGY AND WATER QUALITY. *Would the project:*	Significant Impact Peculiar to the Project or the Project Site	Significant Impact due to New Information	Impact Adequately Addressed in the General Plan EIR
a. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☐	☐	✖
b. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	✖
c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:			
i. Result in substantial erosion or siltation on- or off-site;	☐	☐	✖
ii. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	☐	☐	✖
iii. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	☐	☐	✖
iv. Impede or redirect flood flows?	☐	☐	✖
d. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	✖
e. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	✖

Discussion

a. According to the General Plan EIR, impacts associated with new development can include erosion and sedimentation associated with groundbreaking and clearing activities. Additionally, stormwater runoff from urban areas contains a variety of pollutants that may reduce the quality of groundwater resources when introduced into groundwater aquifers. To mitigate for the potential violation of water quality or waste discharge standards set by the RWQCB and the degradation of surface or groundwater quality, the General Plan EIR contains General Plan Policies 8.7.2(e) and 8.7.2(f) that require new development to provide erosion and sedimentation control measures and BMPs when designing new drainage systems. Additionally, implementation of General Plan Policy 10.6.2(b) would protect groundwater recharge areas. General Plan Policies 10.6.2(d) through 10.6.2(f) would require opposition to proposals that could degrade water quality in the Delta; stormwater pollution is reduced, and BMPs are implemented to minimize erosion and sedimentation. The General Plan EIR concluded that compliance with the above-mentioned General Plan policies would ensure that impacts related to discharge into surface waters or other alteration of surface water quality in violation with RWQCB standards would be less than significant. The proposed project's potential to result in water quality impacts during construction and operations is discussed in detail separately below.

Construction

Project construction activities such as grading, excavation, import of fill, and trenching for site improvements would result in the disturbance of on-site soils. The exposed soils have the potential to affect water quality in two ways: 1) suspended soil particles and sediments

transported through runoff; or 2) sediments transported as dust that eventually reach local water bodies. Spills or leaks from heavy equipment and machinery, staging areas, or building sites also have the potential to enter runoff. Typical pollutants include, but are not limited to, petroleum and heavy metals from equipment and products such as paints, solvents, and cleaning agents, which could contain hazardous constituents. Sediment from erosion of graded or excavated surface materials, leaks or spills from equipment, or inadvertent releases of building products could result in water quality degradation if runoff containing the sediment or contaminants should enter receiving waters in sufficient quantities. Impacts from construction-related activities would generally be short-term.

Water quality degradation is regulated by the federal NPDES Program, established by the CWA, which controls and reduces pollutants to water bodies from point and non-point discharges. In California, the NPDES permitting program is administered by the SWRCB. New development within the City that disturbs one or more acres of land is required to comply with the NPDES Construction General Permit and prepare a SWPPP incorporating BMPs to control sedimentation, erosion, and hazardous materials contamination of runoff during construction. The proposed project would disturb approximately 14.6 acres and, thus, would be subject to the State NPDES Construction General Permit conditions.

Compliance with the SWRCB NPDES General Construction Permit requires preparation of a SWPPP that specifies site management activities to be implemented during site development, such as construction stormwater BMPs, erosion and sedimentation controls, dewatering, runoff controls, and construction equipment maintenance. In addition, Section 9-4.516 of the City's Municipal Code requires every final map approved in the City to comply with City requirements for grading and erosion control, including the prevention of sedimentation or damages to off-site property. Compliance with the SWRCB NPDES General Construction Permit, Section 9-4.516 of the Municipal Code, and General Plan Policies 8.7.2 and 10.6.2 regarding storm drainage, flood control, and water resources policies would ensure that construction of the proposed project would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality during construction.

Operations

Following project buildout, the majority of site surfaces would be covered with either impervious surfaces or landscaped areas, and topsoil would not be exposed. As such, the potential for erosion and associated impacts to water quality would be reduced. However, the addition of impervious surfaces on the site would result in the generation of urban runoff during project operations, which could contain pollutants if the runoff comes into contact with vehicle fluids on parking surfaces and/or landscape fertilizers and herbicides. During the dry season, vehicles and other urban activities may release contaminants onto the impervious surfaces, where they would accumulate until the first storm event. During the initial storm event, or first flush, the concentrated pollutants would be transported by way of stormwater runoff from the site to the stormwater drainage system and eventually a downstream waterway. Typical urban pollutants that would likely be associated with the proposed project include sediment, pesticides, oil and grease, nutrients, metals, bacteria, and trash. In addition, stormwater runoff could cause soil erosion if not properly addressed, which would provide a more lucrative means of transport for pollutants to enter the waterways.

As shown in the Stormwater Control Plan, the proposed project would be divided into three DMAs and three SRAs, which would serve to collect stormwater runoff from the on-site

impervious surfaces. Stormwater collected in the DMAs would flow through new curb and gutter installments and be directed to stormwater basins located on the project site, while stormwater collected in the SRAs would be collected through pervious surfaces. The final design of the proposed drainage system would be reviewed and approved by the City of Antioch, which would ensure that the proposed drainage system complies with all applicable regional and local standards, General Plan policies, and requirements pertaining to the incorporation of sufficient permanent stormwater treatment control BMPs. In addition, because the proposed project would be consistent with the site's General Plan land use designation, compliance with all of the above-mentioned applicable standards, policies, and requirements would ensure water quality standards or waste discharge requirements would not be violated, and downstream water quality would not be degraded as a result of operations of the proposed project.

Conclusion

The General Plan EIR concluded that required compliance with the NPDES permit requirements and adherence to General Plan policies and actions would render any potential construction and operational impacts to water quality less than significant. As discussed above, the proposed project would comply with the aforementioned requirements. Therefore, impacts related to violation of water quality standards or degradation of water quality during construction or operation were adequately addressed in the General Plan EIR, and the proposed project would not result in any peculiar effects related to such. Thus, the criteria for requiring further CEQA review are not met.

b,e. Water supplies for the project site would be provided by the City of Antioch. According to the City's Urban Water Management Plan (UWMP), the City of Antioch does not rely on groundwater for water supplies.[17] The City of Antioch receives water from the San Joaquin River and the Sacramento-San Joaquin Delta, and municipal water is not pumped from groundwater. Therefore, the General Plan EIR determined that implementation of the General Plan would not contribute to the depletion of groundwater supplies or reduce the amount of water available for public water supplies. Furthermore, General Plan Policy 10.6.2(c) requires the protection of groundwater recharge areas. General Plan Policy 10.6.2(a) requires that adequate long-term water supplies are available prior to the approval of new development. To further assist in the conservation of water supplies, General Plan Policies 10.6.2(b) and 10.6.2(f) require new development to be designed with water conservation devices and use of drought-resistant landscaping. The General Plan EIR concluded that because the City does not rely on groundwater for water supplies, has evaluated existing water supplies as sufficient for more than 20 years into the future, even during multiple dry years, together with the above-mentioned General Plan policies and adherence to the regulatory requirements of current legislation, potential impacts related to water supply would be less than significant.

The project site is currently undeveloped, with rain infiltrating on-site. The proposed project would result in an increase of impervious surfaces within the project site, totaling approximately 395,901 square feet (sf) of impervious surfaces, which would reduce the infiltration of groundwater as compared to existing conditions. However, the increase in impervious surfaces on the project site would not lead to a significant impact on water supply, as the City does not rely on groundwater for water supplies. In addition, the project site represents a relatively small area compared to the size of the groundwater basin, and thus, does not currently represent a substantial source of groundwater recharge.

[17] City of Antioch. *2020 Urban Water Management Plan.* May 2021.

Furthermore, the project site has been previously designated for the proposed uses, and the loss of groundwater infiltration at the site due to development has been previously anticipated in the General Plan EIR. Therefore, the proposed project would not interfere substantially with groundwater recharge. Furthermore, stormwater runoff from the proposed impervious surfaces would be directed to the stormwater drainage system, including stormwater basins located on the project site, which would continue to allow stormwater to percolate, with ultimate discharge into several creeks that are present in the City of Antioch, with connections to the San Joaquin River.

The proposed project is consistent with the site's General Plan land use designation and would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge beyond what has already been generally anticipated in the General Plan EIR. As such, potential impacts related to substantially decreasing groundwater supplies or interfering substantially with groundwater recharge were adequately addressed in the General Plan EIR, and the proposed project would not result in any peculiar effects related to such. Thus, the criteria for requiring further CEQA review are not met.

c.i-iii. According to Impact 4.7.1 of the General Plan EIR, development and land use changes consistent with the General Plan would increase the amount of impervious surfaces, thereby increasing the total volume and peak discharge rate of stormwater runoff, which could alter local drainage patterns and result in downstream sedimentation. Increases in runoff can amplify drainage volumes and velocities causing storm drainage facilities that are at or near capacity to fail during peak events, causing localized ponding and flooding. However, General Plan Policy 8.7.2 requires adequate infrastructure to be in place and operational prior to occupancy of new development in order to reduce impacts to storm drainage and flood control facilities. In addition, General Plan Policy 10.6.2(g) requires public and private development projects be in compliance with applicable NPDES permit requirements and require the implementation of BMPs to minimize erosion and sedimentation resulting from new development. General Plan Policy 11.4.2 requires the implementation of design measures in order to ensure that proposed development would not substantially alter existing drainages or contribute to runoff water causing substantial erosion or flooding, exceeding the capacity of existing or planned stormwater drainage systems within the City or adjacent municipalities. The General Plan EIR concluded that with implementation of General Plan Policies 8.7.2, 10.6.2(g), 11.4.2, and compliance with all applicable grading, erosion, and flood control regulations, impacts related to changes to drainage patterns would be reduced to a less-than-significant level.

Implementation of the proposed project would increase the amount of impervious surfaces within the project site, which currently contains an existing vineyard. Considering that the amount of impervious surfaces would increase from existing conditions, drainage patterns would change and could increase the rate or amount of runoff on- and off-site. However, as required under General Plan Policy 10.6.2(g), the proposed project would be required to comply with all applicable NPDES permit requirements and to implement BMPs in order to minimize erosion and sedimentation resulting from development. The project's compliance with NPDES requirements would ensure that operation of the project would not result in degradation of downstream water quality.

Existing stormwater drainage infrastructure in the project vicinity includes an 18-inch stormwater drain line in Honeynut Street, northwest of the project site, and an 18-inch line in Phillips Lane, southeast of the project site. Stormwater infrastructure, such as curbs,

gutters, and stormwater drainage lines within the project site would connect to the existing City stormwater system, in compliance with City standards. The new on-site stormwater drainage lines would convey on-site stormwater flows into three DMAs and three SRAs on the project site. Stormwater collected in the DMAs would flow through new curb and gutter installments and be directed to stormwater basins located on the project site, while stormwater collected in the SRAs would be collected through pervious surfaces. The treated on-site stormwater would be routed to the existing stormwater drainage infrastructure in the project vicinity, with ultimate discharge into several creeks that are present in the City of Antioch with connections to the San Joaquin River. In addition, in compliance with Section 6-9.05 of the Municipal Code, a Stormwater Control Plan was developed for the proposed project in compliance with all applicable standards set forth in the Contra Costa Clean Water Program Stormwater C.3 Guidebook.[18] 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 sf of impervious area to contain and treat all stormwater runoff from the project site. Compliance with the County C.3 Stormwater Standards would ensure that stormwater flows would be equal to or less than existing conditions on the project site, ensuring that impacts to drainage patterns would not occur during operation of the proposed project. The stormwater control plan prepared for the proposed project demonstrates how the project plans to meet the requirements of the SWRCB and the RWQCB, including the C.3 standards, which are included in the City's NPDES General Permit. Components of the stormwater control plan prepared for the proposed project designed to comply with the above-mentioned requirements and standards include DMAs, SRAs, and stormwater basins. The City will review the stormwater control plan in order to ensure consistency with the SWRCB, RWQCB, and the C.3 standards included in the City's NPDES General Permit.

Based on the above, impacts related to substantially altering the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would result in substantial 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, were adequately addressed in the General Plan EIR, and the proposed project would not result in any peculiar effects related to such. Thus, the criteria for requiring further CEQA review are not met.

c.iv. According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) 06013C0332F, the project site is located within Zone X, which is not a Special Flood Hazard Area (SFHA).[19] Therefore, the proposed project would not be expected to impede or redirect flood flows. As such, impacts related to impeding or redirecting flood flows were adequately addressed in the General Plan EIR, and the proposed project would not result in any peculiar effects related to such. Thus, the criteria for requiring further CEQA review are not met.

d. Impacts related to flooding risks are discussed under question 'c.iv' above. Because the proposed project is not located within a flood risk area, risks related to the release of pollutants due to inundation do not exist. Tsunamis are defined as sea waves created by undersea fault movement, whereas a seiche is a long-wavelength, large-scale wave action

[18] Contra Costa Clean Water Program. *Stormwater C.3 Guidebook, Stormwater Quality Requirements for Development Applications.* Updated June 2025.

[19] Federal Emergency Management Agency. *Flood Insurance Rate Map 06013C0332F*. Effective June 16, 2009.

set up in a closed body of water such as a lake or reservoir. According to the General Plan EIR, the City of Antioch is located over 50 miles from the Pacific Coast and is surrounded by moderate hillsides to the south. Due to the geographic location of the City, the General Plan EIR determined that implementation of the General Plan would not expose people or property to flooding associated with seiches or tsunamis. Therefore, consistent with the General Plan EIR, due to the project site's distance to the nearest body of water, impacts related to flooding associated with seiches or tsunamis would be less than significant. Overall, impacts related to flooding, seiches zones, and tsunami zones have been adequately addressed in the General Plan EIR, and the proposed project would not result in any peculiar effects related to such. Thus, the criteria for requiring further CEQA review are not met.

XI. LAND USE AND PLANNING. *Would the project:*	Significant Impact Peculiar to the Project or the Project Site	Significant Impact due to New Information	Impact Adequately Addressed in the General Plan EIR
a. Physically divide an established community?	☐	☐	✖
b. Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	✖

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 would include a total of 137 residential units, which would be consistent with the existing urban development to the north, east, and west of the project site. The proposed project would also include street connections to the existing roadways Phillips Lane and Oakley Road. Therefore, the proposed project would be a continuation of the surrounding residential neighborhood and would not isolate an existing land use. Furthermore, the proposed project would be consistent with the site's existing land use and zoning designations and, thus, would be consistent with the type and intensity of development that has previously been anticipated for the site by the City and analyzed in the General Plan EIR. The General Plan EIR concluded that the General Plan would protect existing neighborhoods and would not disrupt or divide any established community, and impacts were determined to be less than significant. As such, impacts related to physically dividing an established community were adequately addressed in the General Plan EIR, and the proposed project would not result in any peculiar effects that would require further CEQA review related to such.

b. The proposed project would be consistent with applicable objective standards from the site's current MLDR and MDR General Plan land use designation and P-D zoning designation, except as modified through the Density Bonus. As discussed throughout this Modified Initial Study, the proposed project would not result in any new significant environmental effects that were not previously identified in the General Plan EIR and could not be substantially mitigated by uniformly applicable development policies and standards, pursuant to CEQA Guidelines Section 15183. In addition, the proposed project would not conflict with City policies and regulations adopted for the purpose of avoiding or mitigating an environmental effect, including, but not limited to, the City's noise standards, biological resource policies, applicable regulations related to stormwater, and development standards included in the City of Antioch Municipal Code. Therefore, the proposed project would not cause a significant environmental impact in excess of what has already been analyzed and anticipated in the General Plan EIR. Impacts related to causing a significant environmental impact due to conflict with a land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect were adequately addressed in the General Plan EIR, and the proposed project would not result in any peculiar effects related to such. Thus, the criteria for requiring further CEQA review are not met.

XII. MINERAL RESOURCES. *Would the project:*		Significant Impact Peculiar to the Project or the Project Site	Significant Impact due to New Information	Impact Adequately Addressed in the General Plan EIR
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. The General Plan EIR concluded that none of the areas identified in the General Plan as available for new development contain known mineral resources that would be of value to the region and residents of the State. Thus, the proposed project would not result in any peculiar effects related to mineral resources, and the criteria for requiring further CEQA review are not met.

XIII. NOISE. *Would the project result in:*	Significant Impact Peculiar to the Project or the Project Site	Significant Impact due to New Information	Impact Adequately Addressed in the General Plan EIR
a. Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	✖
b. Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	✖
c. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	✖

Discussion

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

- Decibel (dB): A unit of sound energy intensity. An A-weighted decibel (dBA) is a decibel corrected for the variation in frequency response to the typical human ear at commonly encountered noise levels. All references to dB herein will be A-weighted unless noted otherwise.
- Community Noise Equivalent Level (CNEL): The cumulative noise exposure over a 24-hour period. Weighting factors of +5 and +10 dBA are applied to the evening and nighttime periods, respectively, to account for the greater sensitivity of people to noise during those periods.
- Maximum Sound Level (L_{max}): The maximum sound level over a given time-period.

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, sensitive land uses include the existing single-family residences to the west, north, and east of the project site.

Standards of Significance

As presented in the General Plan EIR, the policies related to noise and vibration as established in the Environmental Hazards Element of the General Plan, sets forth standards for daytime and nighttime noise levels. The standards are reproduced below:[20]

[20] It should be noted that the Environmental Hazards Element of the General Plan has been updated since the General Plan EIR was certified in 2003. The updated element includes additional sections; Thus, the Noise section has been redesignated as 11.8, not 11.6. The discussion herein is consistent with the numbering set forth in the General Plan EIR.

11.6.1 Noise Objective: Achieve and maintain exterior noise levels appropriate to planned land uses through Antioch, as described below:

- Residential Single Family: 60 dBA CNEL within rear yards;
- Residential Multi-Family: 60 dBA CNEL within interior open space; and
- Commercial/Industrial: 70 dBA at front setback.

In addition, Noise Element Section 11.6.1 establishes standards for maximum allowable noise exposure from transportation noise sources. The maximum allowable exterior noise level is 60 dBA CNEL, applied at outdoor activity areas of single-family residential uses.

Pursuant to General Plan Policy 11.6.2(d), a noise attenuation study is required to determine appropriate mitigation where new development is proposed in areas exceeding the noise levels identified in the General Plan Noise Objective, or where the development of proposed uses could result in a significant increase in noise. General Plan Policy 11.6.2(e) requires appropriate noise mitigation when a new development would cause noise in excess of the General Plan noise objectives or an audible 3 dBA increase in noise in areas where General Plan noise objectives are already exceeded due to existing development. In regard to long-term ambient noise impacts, the General Plan EIR determined that an increase in long-term ambient noise by 5 dBA or more produced by a new development would represent a significant effect on noise.

Pursuant to Sections 5-17.04 and 5-17.05 of the City of Antioch Municipal Code, the operation of heavy construction equipment and construction activities are prohibited on weekdays prior to 7:00 AM and after 6:00 PM; on weekdays within 300 feet of occupied dwelling space prior to 8:00 AM and after 5:00 PM; and on weekends and holidays prior to 9:00 AM and after 5:00 PM, irrespective of the distance from an occupied dwelling.

Project Construction Noise

Impact 4.9.1 of the General Plan EIR includes an analysis of potential short-term construction noise impacts associated with construction of new development occurring pursuant to the General Plan. As stated therein, typical noise levels associated with grading and other construction activities could potentially reach 91 dBA L_{max} at off-site locations 50 feet from project site boundaries and, thus, could exceed the noise standards at off-site sensitive receptors adjacent to individual construction sites, as set forth by Section 11.6.1 of the Environmental Hazards Element of the General Plan. Thus, Section 11.6.2, Noise Policies, of the Environmental Hazards Element of the General Plan, provides guidance and standards for reducing noise impacts due to construction, including General Plan Policies 11.6.2(i), (j), and (k). General Plan Policy 11.6.2(i) requires that construction activities are regulated as to hours of operation in order to avoid or mitigate noise impacts on adjacent noise-sensitive land uses. General Plan Policy 11.6.2(j) requires proposed development adjacent to noise sensitive land uses to implement a construction-related noise mitigation plan. General Plan Policy 11.6.2(k) requires that all construction equipment utilize noise reduction features such as mufflers and engine shrouds. The General Plan EIR concluded that, while the above-mentioned policies would provide guidance and standards for reducing noise impacts due to construction, significant impacts could remain. Thus, the General Plan EIR includes additional measures to further ensure that impacts are reduced to less-than-significant levels. Specifically, Mitigation Measure 4.9.1A requires construction-related noise mitigation plans to be submitted to the City for approval prior to the issuance of grading plans for all new development adjacent to any noise-sensitive land uses. In addition, Mitigation Measure 4.9.1B requires the

above-mentioned construction-related noise mitigation plan to specify noise reduction mitigation for haul truck deliveries.

As discussed above, according to Impact 4.9.1 of the General Plan EIR, activities involved in typical construction would generate maximum noise levels up to 91 dBA L_{max} at a distance of 50 feet. Because the project site is located directly adjacent to sensitive noise receptors located less than 50 feet from the project site, consistent with what was anticipated and analyzed in the General Plan EIR, the sensitive noise receptors to the west, north, and east of the project site could be exposed to maximum noise levels up to 91 dBA L_{max}. However, the proposed project would be required to comply with General Plan Policies 11.6.2(i), (j), and (k), as well as Mitigation Measures 4.9.1A and 4.9.1B, which, in accordance with the General Plan EIR, would ensure construction noise would be reduced to a less-than-significant level. Therefore, with implementation of Mitigation Measures included in the General Plan EIR, construction activities associated with the proposed project would not result in new significant noise impacts relative to what was analyzed in the General Plan EIR.

Project Operational Noise

Impact 4.9.2, Long-Term Vehicular Noise Impacts, Impact 4.9.3, Long-Term Stationary Noise Impacts, and Impact 4.9.4, Long-Term Railroad Noise Impacts, of the General Plan EIR include an analysis of potential long-term operational noise impacts associated with construction of new development occurring pursuant to the General Plan. The General Plan EIR concluded that compliance with the requirements included in General Plan Policy 11.6.2 would ensure long-term operational noise impacts would be less than significant.

Residential uses are not typically considered substantial sources of noise. Noise-generating operations associated with the proposed single-family residences would primarily consist of landscaping maintenance, HVAC systems, and other typical activities. Such activities do not generate substantial noise levels and would not exceed the City's exterior noise level standards. Therefore, on-site operation of the proposed project would not be considered to generate a substantial permanent increase in ambient noise levels in the vicinity of the project. In addition, generally, a doubling in traffic volumes is required to increase traffic noise levels by 3.0 dBA, which is considered to be the threshold for a significant increase pursuant to General Plan Policy 11.6.2(e). According to Table 4.9.C of the General Plan EIR, the traffic noise level on the segment of Hillcrest Avenue between Davison Drive and Larkspur Drive, the nearest modeled roadway segment to the project site, is 70.7 dBA at 50 feet from the outermost travel lane and features an average daily traffic of 28,354 cars. The proposed project would not result in a doubling of traffic volumes along area roadways after the proposed project's trip generation. Accordingly, the proposed project would not be considered to result in any long-term vehicular noise impacts beyond what has been addressed in the General Plan EIR.

The proposed project is consistent with the Geneal Plan land use designation and, thus, development of the project with the proposed uses has been anticipated by the City. Therefore, overall, operations associated with the proposed project would not result in new significant noise impacts relative to what was analyzed in the General Plan EIR.

Conclusion

Based on the above, impacts related to an increase in noise associated with buildout of the proposed project have been adequately addressed in the General Plan EIR, and the proposed project would not result in any peculiar impacts related to such. Thus, the criteria for requiring further CEQA review are not met.

b. The General Plan EIR did not include a specific analysis of potential vibration impacts associated with buildout of the General Plan. The General Plan EIR determined that buildout of the General Plan would have a significant effect on noise if implementation of General Plan policies would result in exposure of persons to, or generation of, excessive groundborne vibration or groundborne noise levels. Mitigation Measures 4.9.1A and 4.9.1B require applicants for subdivisions and non-residential development adjacent to any developed/occupied noise-sensitive land uses to submit for City approval a construction-related noise mitigation plan depicting the location of construction equipment and how the noise from the equipment would be mitigated during construction, including the specification that haul truck deliveries be subject to the same noise reducing requirements specified for construction equipment. Thus, it can be determined that through implementation of the above-mentioned General Plan Mitigation Measures aimed at reducing noise impacts, vibration impacts would also be reduced to less than significant.

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

Vibration is measured in terms of acceleration, velocity, or displacement. A common practice is to monitor vibration in terms of peak particle velocities (PPV) in inches per second (in/sec). Standards pertaining to perception as well as damage to structures have been developed for vibration levels defined in terms of PPV. Human and structural response to different vibration levels is influenced by a number of factors, including ground type, distance between source and receptor, duration, and the number of perceived vibration events. Table 4, which was developed by Caltrans, shows that the vibration levels that would normally be required to result in damage to structures range from 0.2 to 0.6 in/sec PPV. The general threshold at which human annoyance could occur is 0.10 in/sec PPV.

The primary vibration-generating activities associated with the proposed project would occur during project construction, as heavy equipment would be used for grading, excavation, paving, and building construction, which would generate localized vibration in the immediate vicinity of construction. The range of vibration source levels for construction equipment commonly used in similar projects is shown in Table 5.

As shown in Table 5, with the exception of vibratory compactors, the vibration levels of typical construction equipment are less than the 0.2 in/sec threshold at distance of 25 feet. However, the proposed project could include the use of vibratory compactors during construction, which could occur at less than 25 feet from the adjacent residences to the north, east, and west of the project site.

Table 4
Effects of Vibration on People and Buildings

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

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

Table 5
Vibration Levels for Various Construction Equipment

Type of Equipment	PPV at 25 feet (in/sec)	PPV at 50 feet (in/sec)	PPV at 100 feet (in/sec)
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: Federal Transit Administration. Transit Noise and Vibration Impact Assessment Guidelines. May 2006.

However, as discussed above, General Plan Policy 11.6.2(d) requires a construction-related noise mitigation plan be prepared for the City's review and approval. The plan would include methods to be employed to minimize noise impacts on adjacent noise sensitive land uses, which could include the use of static drum rollers, which would use weight instead of vibrations to achieve soil compaction, rather than vibratory compactors for any compaction occurring less than 26 feet from existing residences. Thus, compliance with the General Plan Noise Policies would ensure vibration impacts would be less than significant. In addition, construction activities would be temporary in nature, occur throughout the project site, and would only occur during the specified allowed timeframes detailed in the Municipal Code Sections 5-17.04 and 5-17.05. Such factors would further

reduce the intensity of vibration levels experienced at the existing single-family residences located to the west, north, and east of the project site.

Based on the above, impacts related to vibration were adequately addressed in the General Plan EIR, and the proposed project would not result in any peculiar effects related to such. Thus, the criteria for requiring further CEQA review are not met.

c. The General Plan EIR concluded that none of the lands suitable for development identified in the General Plan are located within an airport land use plan or within two miles of a public use airport. Therefore, impacts related to excessive noise levels from private airstrips or heliports would not occur during buildout of the General Plan, and further discussion of noise-related impacts from aviation facilities was not included in the General Plan EIR. The nearest airport to the project site is the Byron Airport, located approximately 13.38 miles southeast of the project site.

Based on the above, impacts related to aircraft noise were adequately addressed in the General Plan EIR, and the proposed project would not result in any peculiar effects that would require further CEQA review for this topic.

XIV. POPULATION AND HOUSING. *Would the project:*	Significant Impact Peculiar to the Project or the Project Site	Significant Impact due to New Information	Impact Adequately Addressed in the General Plan EIR
a. Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (e.g., through projects in an undeveloped area or extension of major infrastructure)?	☐	☐	✖
b. Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	✖

Discussion

a. The General Plan EIR determined that implementation of the Housing Element of the General Plan would result in a substantial increase in population and residential and non-residential structures, and associated infrastructure. However, the General Plan is, by definition, growth inducing, as the General Plan provides a plan for accommodating future increases in population, housing, and employment, while also providing a plan for ensuring that adequate infrastructure is available to serve that growth. The General Plan EIR determined that implementation of General Plan Rate of Growth Policies 3.6.2(a) through 3.6.2(f) would ensure that future development under the General Plan would be allocated at a steady rate until buildout. The land use policies included in the General Plan would not induce development beyond what was planned by the City and addressed in the General Plan EIR. Thus, the General Plan EIR concluded that impacts related to population growth would be less than significant.

The proposed project would include the development of 137 new residential units on a site that is designated for such development. Based on the projected 2.90 persons per household in 2025 provided in Table 4.10.A of the General Plan EIR, the proposed project would potentially generate approximately 397 additional residents (137 residential units x 2.90 persons per household) in the City of Antioch. Given that the proposed project is consistent with the site's current land use and zoning designations, the potential growth of 397 residents associated with development of the site has been anticipated by the City and analyzed in the General Plan EIR. In addition, the project site is bordered by existing development to the west, north, and east. The project would not include extension of major infrastructure. Therefore, the proposed project would not result in more intensive population growth beyond what has been previously analyzed for the site.

Based on the above, the proposed project would not result in any peculiar effects related to inducing substantial unplanned population growth in an area, either directly or indirectly, and the criteria for requiring further CEQA review are not met.

b. The Initial Study prepared for the General Plan EIR determined that future developments anticipated by the General Plan would be constructed on vacant and underutilized land within the City and would not displace existing housing. Therefore, the topic was not discussed further in the EIR.

The project site does not currently include existing housing or other habitable structures. As such, the proposed project would not displace existing housing or people and would not necessitate the construction of replacement housing elsewhere. Therefore, impacts related to displacement of substantial housing or people were adequately addressed in

the General Plan EIR, and the proposed project would not result in any peculiar effects related to such. Thus, the criteria for requiring further CEQA review are not met.

XV. PUBLIC SERVICES.

Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:	Significant Impact Peculiar to the Project or the Project Site	Significant Impact due to New Information	Impact Adequately Addressed in the General Plan EIR
a. Fire protection?	☐	☐	✖
b. Police protection?	☐	☐	✖
c. Schools?	☐	☐	✖
d. Parks?	☐	☐	✖
e. Other Public Facilities?	☐	☐	✖

Discussion

a,b. The General Plan EIR concluded under Impacts 4.11.1 and 4.11.2 that, although General Plan buildout would require the development of additional fire protection and police facilities, implementation of General Plan policies would ensure that adequate facilities would be available to accommodate current and future needs of the City. Therefore, according to the General Plan EIR, buildout of the General Plan would result in a less-than-significant impact related to fire and police protection services.

Fire protection services would be provided to the site by the 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. A future CCCFPD fire station is planned for development on a two-acre property as part of the approved The Ranch Project. The future fire station would house up to four firefighting equipment vehicles. The closest fire station to the project site is Fire Station 88, located approximately 0.95-mile to the south of the project site at 4288 Folsom Drive.

The Antioch Police Department (Antioch PD) currently provides police protection services to the project area. The Antioch PD operates out of the police headquarters at 300 L Street located approximately 3.26 miles to the east of the project site, and is currently staffed with 115 sworn and 33 non-sworn employees.[21] According to the General Plan EIR, population growth has created an increased demand for police-related services, and consequently a need for additional Antioch PD staff. The City of Antioch General Plan establishes a goal for the Antioch PD staffing ratio to be between 1.20 to 1.50 officers per 1,000 residents. According to the City's Housing Element, the City of Antioch had a population of 112,520 in 2020. Thus, the Antioch PD staffing ratio is approximately 1.02 per 1,000 residents.

While the proposed project could result in increased demand on fire and police protection services, because the proposed project would be consistent with the General Plan land use designation and zoning for the project site, such demand would be consistent with what has been anticipated by the City and analyzed in the General Plan EIR. In addition,

[21] City of Antioch. *About APD*. Available at: http://www.antiochca.gov/police/about-apd/. Accessed July 2025.

the project site is surrounded by existing residential development currently served by the CCCFPD and Antioch PD. Furthermore, the project would comply with all applicable State and local requirements related to fire safety and security, including installation of fire sprinklers.

As established by Municipal Code Section 3-7.05 and Section 9-3.50 (3), the City of Antioch requires new development projects to contribute fees for the provision of adequate fire and police protection services and facilities. The proposed project would be subject to all applicable development impact fees. According to the City of Antioch Master Fee Schedule,[22] each single-family dwelling unit constructed in the City would be required to pay a fee of $951.00 for fire protection services and $1,190.00 for police services, while ADU units would be required to pay a modified rate in accordance with Municipal Code Section 9-3.60 for police services. Payment of applicable development impact fees would ensure the project contributes a fair share towards funding any new fire and police facilities deemed necessary by the City. Such facilities would be required to be designed in compliance with applicable regulations and standards, and if necessary, undergo analysis of all potential environmental impacts under CEQA. In addition, the project site would be required to annex into a community facilities district (CFD) for financing police and fire services. Compliance with such standards would minimize fire and police protection demand associated with the project.

Therefore, impacts related to the need for new or physically altered fire or police protection facilities, the construction of which could cause significant environmental impacts, were adequately addressed in the General Plan EIR, and the proposed project would not result in any peculiar effects related to such. Thus, the criteria for requiring further CEQA review are not met.

c-e. The General Plan EIR concluded that with implementation of applicable General Plan policies, as well as applicable federal, State, and local development standards, implementation of the General Plan would result in a less-than-significant impact related to schools, parks, and other public facilities.

The proposed project is consistent with the General Plan land use and zoning designations for the site; as such, any associated increase in student population was anticipated and analyzed in the General Plan EIR. In addition, the proposed project would be subject to General Plan Policy 8.8.2(c), which requires all new development to pay all legally established fees or participate in land-based financing districts established by local school districts for the acquisition and development of school sites with adequate, permanent classroom space, as required by the local school district. Pursuant to General Plan Policy 8.8.2(c), the proposed project would be subject to Antioch Unified School District (AUSD) Developer Fees at the current rate of $5.17 per sf of residential development.[23] Payment of such fees would serve as the project's fair-share contribution for funding expanded educational services that could result from a student population increase generated by the project's future residents. According to SB 50, payment of the necessary school impact fees for the project would be considered full and satisfactory CEQA mitigation. Proposition 1A/SB 50 prohibits local agencies from using the inadequacy of school facilities as a basis for denying or conditioning approvals of any "[…]

[22] City of Antioch. *Master Fee Schedule.* Amended March 11, 2025.
[23] Antioch Unified School District. *Developer's Fee Overview.* Available at: https://www.antiochschools.net/page/developer-fees. Accessed June 2025.

legislative or adjudicative act […] involving […] the planning, use, or development of real property" (Government Code 65996[b]). As such, payment of developer fees would be considered sufficient to reduce any potential impacts related to school services.

With regard to parks and other public facilities, development of the proposed project would result in an increase in demand for public and governmental facilities through the development of new residences. Future residents of the proposed project would have access to Almondridge Park, located approximately 0.06-mile to the north of the project site. Consistent with the requirements of the Quimby Act, Standard 3.5.7.2 in the City of Antioch General Plan and Section 9-4.1004 of the Antioch Municipal Code set a standard of five acres of parks and open space per 1,000 residents. The City of Antioch receives land for parks through land dedications or purchases funded through fee collection. The Antioch Municipal Code requires a dedication of parkland at the rate of 0.015 acres per single-family unit. Given that the proposed project would include a total of 137 residential-units, the project would be required to include a minimum of 2.06 acres of dedicated public parkland. Alternatively, fees may be paid in lieu of parkland dedication at a rate of $1,500 for single-family detached units, and $1,100 for single-family attached units. The proposed project does not include a parkland dedication. Thus, the proposed project would include payment of fees consistent with Section 9-4.1007 of the Municipal Code in lieu of dedicating parkland as part of the proposed development. In addition, pursuant to Municipal Code Section 9-3.50, the project would be required to pay Development Impact Fees, which include a component for parks. Pursuant to Section 9-4.1014 of the Municipal Code, funds collected from the park impact fees are to be placed in the Park Fee Trust Fund, intended to be used only for the purpose of developing new or rehabilitating existing park or recreation facilities. Payment of all applicable fees would be considered sufficient to ensure that adequate public parkland and facilities are provided as decided by the City. In addition, the proposed project would include the construction of a recreation center with an outdoor pool and spa area, an activity lawn area with park benches, and the maintenance of the existing walking trail located along the northern boundary that would serve as additional recreational area on the project site. Furthermore, the proposed project is consistent with the General Plan land use designation for the site; as such, any associated increase in demand for parks and other public facilities was generally anticipated and analyzed in the General Plan EIR.

Based on the above, impacts related to the need for new or physically altered schools, parks, or other public facilities, the construction of which could cause significant environmental impacts, were adequately addressed in the General Plan EIR, and the proposed project would not result in any peculiar effects related to such. Thus, the criteria for requiring further CEQA review are not met.

XVI. RECREATION. *Would the project:*	Significant Impact Peculiar to the Project or the Project Site	Significant Impact due to New Information	Impact Adequately Addressed in the General Plan EIR
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. As discussed under Impact 4.11.4 of the General Plan EIR, implementation of General Plan Policies 8.9.2(a) through 8.9.2(p), aimed at providing a comprehensive system of recreation and park facilities and services needed by various segments of the City's population, and making the facilities and services easily accessible and affordable to all users, would lessen the potential impacts on park and recreation facilities and/or services to a less-than-significant level.

As discussed in Section XIV, Population and Housing, the proposed project would include 137 residential units, which is anticipated to include an increase in population of 397 residents. The increase in population could result in an associated increase in demand on recreational facilities such that substantial physical deterioration could occur or be accelerated, or that the additional demand could require the construction or expansion of such facilities. However, given that the proposed project would be consistent with the General Plan land use designation of the project site, any increase in population associated with project buildout, as well as the resulting increase in demand for parks and recreation facilities, has been anticipated and analyzed in the General Plan EIR.

Sections 9-3.50 and 9-4.1014 of the Municipal Code require new residential developments to pay parks and recreation facilities impact fees. As previously discussed in Section XV, Public Services, of this Modified Initial Study, the proposed project would be required to dedicate at least 2.06 acres of parkland. Because the proposed project would not include the dedication of parkland, the project would be subject to the payment of in-lieu fees as required by Section 9-4.1004 of the Municipal Code. The payment of all applicable fees would ensure that adequate parkland is provided within the City, and existing recreational facilities would not experience impacts due to increased population growth. In addition, the proposed project is located approximately 0.06-mile to the south of Almondridge Park. Furthermore, the proposed project would include the construction of a recreation center with an outdoor pool and spa area, an activity lawn area with park benches, and the maintenance of the existing walking trail located along the northern boundary that would serve as additional recreational area on the project site. As such, future residents of the proposed project would have access to existing recreational facilities and new recreational facilities included in the proposed project, thereby reducing any demand for parks associated with the increase in population due to the proposed project.

Based on the above, impacts related to parks and recreation facilities were adequately addressed in the General Plan EIR, and the proposed project would not result in any peculiar effects related to such. Thus, the criteria for requiring further CEQA review are not met.

XVII. TRANSPORTATION. *Would the project:*	Significant Impact Peculiar to the Project or the Project Site	Significant Impact due to New Information	Impact Adequately Addressed in the General Plan EIR
a. Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?	☐	☐	✖
b. Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	☐	☐	✖
c. Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	✖
d. Result in inadequate emergency access?	☐	☐	✖

Discussion

a. Since the release of the General Plan EIR, the law has changed with respect to how transportation-related impacts may be addressed under CEQA. Traditionally, lead agencies used LOS to assess the significance of such impacts, with greater levels of congestion considered to be more significant than lesser levels. LOS represents a qualitative description of the traffic operations experienced by the driver along a roadway segment or at an intersection and ranges from LOS A, which represents the absence of congestion and little delay, to LOS F, which signifies excessive congestion and delays. Mitigation measures typically took the form of capacity-increasing improvements, which often had their own environmental impacts (e.g., to biological resources). Depending on circumstances, and an agency's tolerance for congestion (e.g., as reflected in its general plan), LOS D, E, or F often represented significant environmental effects. In 2013, the Legislature passed legislation with the intention of ultimately removing LOS in most instances as a basis for environmental analysis under CEQA. However, pursuant to the conclusions of *Olen Properties Corp. v. City of Newport Beach* (2023) (93 Cal.App.5th 270), when evaluating a project's consistency with a previously certified EIR, a document "may properly analyze traffic impacts under the old LOS methodology, and need not employ the newly mandated VMT methodology, when the previously certified EIR used the LOS methodology."[24]

Therefore, the following analysis addresses impacts related to LOS, as well as potential impacts upon transit, bicycle, and pedestrian facilities. A Transportation Analysis (see Appendix G)[25] has been prepared for the proposed project by Hexagon Transportation Consultants to analyze potential transit, bicycle, and pedestrian facilities impacts, as well as LOS impacts associated with the proposed project.

Level of Service

As discussed in Impact 4.16.1 of the General Plan EIR, implementation of the General Plan, including traffic and transportation General Plan policies, would result in a small number of roadway and highway links not operating at an acceptable LOS. Each of the roadway and highways links either already operated at unacceptable LOS at the time of

[24] Miller Star Regalia. *Fourth District Belatedly Publishes CEQA Opinion Upholding City of Newport Beach's Approval of Multifamily-Housing Development Pursuant To Addendum To 2006 EIR For Larger Mixed-Use Development*. Available at: https://www.ceqadevelopments.com/2023/08/08/fourth-district-belatedly-publishes-ceqa-opinion-upholding-city-of-newport-beachs-approval-of-multifamily-housing-development-pursuant-to-addendum-to-2006-eir-for-larger-mixed-use-development/. Accessed June 2025.

[25] Hexagon Transportation Consultants, Inc. *Vineyard Crossing Residential Development Transportation Analysis.* June 6, 2025.

the certification of the General Plan EIR or will operate at unacceptable LOS regardless of whether any future development occurs within the City, as they are not under the City's jurisdiction. Although local traffic impacts would be partially mitigated through implementation of General Plan Policies 3.4.4, 3.4.5, and 7.3.2, growth within adjacent jurisdictions would cause the region to experience significant traffic and circulation impacts, which would occur even if the General Plan was not adopted or if additional growth were to not occur within the City. Thus, significant impacts identified in the General Plan EIR regarding transportation would remain significant and unavoidable.

The Transportation Analysis prepared for the proposed project analyzed LOS impacts that may occur due to the proposed project. As discussed therein, under existing and background conditions, with and without the proposed project, when measured against the City of Antioch and the East County Action Plan (ECAP), all of the intersections in the vicinity of the project site would operate at acceptable LOS (high-level LOS D or better for signalized intersections and a delay of less than 35 seconds for unsignalized intersections). Therefore, all study intersections would continue to meet the City's LOS standards under existing plus project conditions. However, under cumulative conditions, the signalized intersections of eastbound SR 4 Off Ramp/Hillcrest Avenue and Hillcrest Avenue/Slatten Ranch Road/Sunset Drive would operate at unacceptable LOS during the PM peak hour with and without the proposed project. Specifically, the eastbound SR 4 Off Ramp/Hillcrest Avenue intersection would operate at unacceptable LOS F and Hillcrest Avenue/Slatten Ranch Road/Sunset Drive would operate at unacceptable LOS E, with and without the project. Pursuant to the City of Antioch and the ECAP LOS standards, an adverse impact would occur if the proposed project would increase the average intersection delay by three or more seconds. Because the project would add less than three seconds of delay, the project's contribution to the unacceptable LOS at the aforementioned intersections under cumulative conditions would not be considered significant, and intersection improvements are not recommended. Furthermore, as mentioned above, the General Plan EIR identified a significant and unavoidable impact related to traffic and circulation. Thus, the proposed project would not result in a significant impact that is peculiar to the project or the project site, was not identified as a significant effect in the General Plan EIR, and would not result in a more severe adverse impact than the significant effects previously identified within the General Plan EIR.

Given that the proposed project would be consistent with the site's General Plan designation and traffic associated with the proposed project would have been anticipated and included in the analysis of the General Plan EIR, the proposed project would not result in a significant impact that is peculiar to the project or site and would not result in a more severe adverse impact than the significant effects previously identified within the General Plan EIR. As such, impacts related to conflicting with an applicable plan, ordinance, or policy addressing roadway facilities were adequately addressed in the General Plan EIR, and effects peculiar to the proposed project would not occur.

Pedestrian, Bicycle, and Transit Facilities

As discussed in the General Plan EIR, the Contra Costa County Transportation Commission has facilitated implementation of a number of Transportation Demand Management (TDM) projects, in cooperation with Caltrans, local agencies, and adjoining counties. The TDM project efforts reduce reliance on the single occupant vehicle. All future development projects occurring pursuant to the provisions of the General Plan would be required to adhere to all applicable policies, plans, and programs Antioch has in place to support alternative modes of transportation. Therefore, the General Plan EIR concluded

that compliance with such policies, regulations, and standards would reduce potential impacts to pedestrian, bus, and transit facilities to a less-than-significant impact.

According to the Transportation Analysis, pedestrian facilities near the project site consist of sidewalks along Philips Lane and other nearby neighborhood roadways. The proposed project would construct new sidewalks along the project frontages on Phillips Lane and Oakley Road, and along both sides of all internal roadways. Pedestrian travel to and from the project site would be aided by marked crosswalks and pedestrian signal heads and push buttons at the nearby signalized intersection of Phillips Lane and East 18th Street. The nearby unsignalized intersections along Oakley Road at Willow Avenue and Phillips Lane do not have marked crosswalks.

Bicycle lanes are present on the entire length of Phillips Lane and Holub Lane in the vicinity of the project site. Although neither Filbert Street nor the other nearby residential streets have striped bike lanes, the low traffic volumes make the roadways conducive to bicycle traffic.

Transit service in the study area is provided by Tri Delta Transit with two local bus routes, Routes 383 and 391, and bus stops within one mile of the project site. The nearest bus stop to the project site is located approximately 0.38-mile to the north of the project site on East 18th Street, and the Antioch BART station is located approximately 0.77-mile to the southwest of the project site. Bus Routes 383 and 391 provide service between the Brentwood and Antioch BART stations. According to the Transportation Analysis, the 2023 U.S. Census reports that bus trips comprise approximately six percent of the total commute mode share in the City of Antioch. Assuming the same mode split for the proposed project, the mode split would equate to five transit trips during the AM peak commute hours and six transit trips during the PM peak commute hours. According to the 2020-2029 Tri Delta Short Range Transit Plan,[26] the capacity of the bus fleet ranges between 32 and 38 seats per vehicle. With a total of two to three buses in each direction during commute hours and given that the estimated number of transit riders would be dispersed among the different routes and buses, the project-generated riders would not be expected to exceed the carrying capacity of the existing bus service near the project site.

The Transportation Analysis prepared for the proposed project determined that the proposed project would not have an adverse effect on the existing pedestrian, bicycle, or transit facilities in the City. Development of the proposed project would not preclude the construction of any planned pedestrian, bicycle, or transit facilities and the proposed project would not conflict with any adopted programs, plans, ordinances, or policies addressing such facilities. All internal roadways and sidewalks proposed as part of the project would adhere to the applicable policies established by the General Plan.

Based on the above, impacts related to conflicts with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities were adequately addressed in the General Plan EIR, and the proposed project would not result in any peculiar effects related to such. Thus, the criteria for requiring further CEQA review are not met.

[26] Eastern Contra Costa Transit Authority. *2020-2029 Tri Delta Transit Short Range Transit Plan.* Approved August 26, 2020.

b. As discussed above, this Modified Initial Study is not required to address potential impacts related to VMT. As such, impacts were adequately addressed under the LOS standards in the General Plan EIR, and effects peculiar to the proposed project would not occur. Thus, the criteria for requiring further CEQA review are not met.

c,d. As noted in the General Plan EIR, all future roadway development occurring pursuant to the provisions of the General Plan must adhere to the applicable standards of Antioch pertaining to roadway design. General Plan Policy 7.3.2(a) requires the design of roadways to optimize safe traffic flow and General Plan Policy 7.3.2(f) requires the design of street intersections to ensure the safe passage of through traffic and to implement intersection improvements. In addition, use of roadways within the City would be required to adhere to the applicable provisions of the State Vehicle and/or Streets and Highway Codes. Adherence to the above-mentioned standards would reduce any potential impacts related to increased hazards due to a design feature or incompatible use to a less-than-significant level.

The General Plan EIR determined that impacts related to emergency access would not occur through buildout of the General Plan. The roadway network would be designed, constructed, and maintained to ensure that adequate and efficient emergency access would be maintained. General Plan Policy 7.3.2(n) requires that private streets, where permitted, shall provide for adequate circulation and emergency vehicle access, with the design subject to the review and approval of the City Engineer. In addition, future development within the City would be required to adhere to the applicable emergency access/evacuation guidelines promulgated by the Antioch PD, CCCFPD, and/or other responsible entities. The General Plan EIR concluded that adherence to the above-mentioned standards would reduce any potential impacts related to emergency access to a less-than-significant level.

Project site access would be provided by two new driveways off Phillips Lane and Oakley Road. The proposed roadway on Phillips Lane would be located approximately 400 feet north of Oakley Road and the roadway on Oakley Road would be located approximately 800 feet west of Phillips Lane. Both driveways would provide access to the vehicular parking spaces located along the internal roads. The two roadways would connect to Bright Oak Lane, which would serve as the main internal roadway that would provide connections between the single-family residences and ADUs that would be located on the west side and the duplexes that would be located on the east side of the project site. All internal roadways would meet the minimum width to accommodate an emergency vehicle and would be in compliance with the City of Antioch minimum driveway width of 20 feet for a two-way driveway. The roadway on Phillips Lane would be 29 feet in width, the roadway on Oakley Road would be 46 feet in width (with a six-foot median), and all internal roads would have a width of at least 20 feet. Therefore, the project would meet the City's design standards for roadway widths.

In addition, the project internal roads would be constructed in accordance with the City standards for adequate sight distance, stopping distances, and other components to ensure public safety. The queuing analysis conducted for the Transportation Analysis prepared for the proposed project determined that the proposed project may contribute to impacts on roadway and intersection capacity in the project area under cumulative conditions. However, as discussed above, the project's contribution to such impacts would not be considered significant. Furthermore, as mentioned above, the General Plan EIR identified a significant and unavoidable impact related to traffic and circulation. Thus, the proposed project would not result in a significant impact that is peculiar to the project or

the project site, was not identified as a significant effect in the General Plan EIR, and would not result in a more severe adverse impact than the significant effects previously identified within the General Plan EIR. Overall, the proposed project would not result in substantial alterations to the existing roadway network in the immediate project vicinity and would not substantially impact emergency vehicle access beyond what has previously been identified.

Based on the above, impacts related to substantially increasing hazards due to design features or incompatible uses were adequately addressed in the General Plan EIR, and effects peculiar to the proposed project would not occur. Thus, the criteria for requiring further CEQA review are not met.

XVIII. TRIBAL CULTURAL RESOURCES. *Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American Tribe, and that is:*	Significant Impact Peculiar to the Project or the Project Site	Significant Impact due to New Information	Impact Adequately Addressed in the General Plan EIR
a. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k).	☐	☐	✖
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. Although the General Plan EIR does not specifically address impacts to tribal cultural resources, as discussed in Section V, Cultural Resources, of this Modified Initial Study, the General Plan EIR concluded that compliance with existing regulations and General Plan policies would ensure that potential impacts to unknown archaeological resources or human remains would be less than significant.

AB 52 (PRC Section 21080.3.1) notification to tribes is not required for the proposed project, given that this checklist determines no additional environmental review is required for the project, consistent with CEQA Guidelines Section 15183. The CHRIS search conducted for the proposed project concluded that a low potential exists for previously unrecorded cultural resources to occur on-site, based on the environmental setting of the site. In addition, a search of the NAHC Sacred Lands File was conducted for the project site, which yielded a negative result. While known resources are not located on-site, in the event that historical or archaeological resources are discovered during construction or grading activities, the project would be required to comply with all applicable General Plan policies and programs, including General Plan Policies 10.7.2(a) and 10.7.2(b), Mitigation Measure 4.4.2A, and Mitigation Measure 4.4.3A, as described in Section V, Cultural Resources, of this Modified Initial Study.

The project site is currently developed with an existing vineyard, three electrical transmission towers within the PG&E-owned parcel and easement, and a paved walking trail. As the project site is highly disturbed considering the on-site vineyard, tribal cultural resources are not expected to be found on the project site. In addition, the proposed project would preserve the existing four-acre PG&E parcel and, as such, any possible tribal cultural resources present in the PG&E parcel would be preserved. Given that the proposed project would be consistent with the site's General Plan land use designation, buildout of the project site and potential disturbance of buried prehistoric, historical, or archaeological resources, which are assumed to include tribal cultural resources, has been anticipated by the City and analyzed in the General Plan EIR. In addition, as

previously discussed, pursuant to CEQA Guidelines Section 15183(f), "An effect of a project on the environment shall not be considered peculiar to the project or the parcel for the purposes of this section if uniformly applied development policies or standards have been previously adopted by the city or county with a finding that the development policies or standards will substantially mitigate that environmental effect when applied to future projects, unless substantial new information shows that the policies or standards will not substantially mitigate the environmental effect. […]" In the case of the proposed project, compliance with the City's General Plan policies, programs, and actions, as well as federal and State policies and regulations to protect and preserve historic and archaeological resources, including California Health and Safety Code Section 7050.5 and 7052 and PRC 5097, would substantially mitigate potential project impacts to tribal cultural resources.

Based on the above, the proposed project is not expected to adversely impact tribal cultural resources. Therefore, impacts related to resulting in a substantial adverse change in the significance of a tribal cultural resource were adequately addressed in the General Plan EIR, and the proposed project would not result in any peculiar effects related to such. Thus, the criteria for requiring further CEQA review are not met.

XIX. UTILITIES AND SERVICE SYSTEMS. *Would the project:*	Significant Impact Peculiar to the Project or the Project Site	Significant Impact due to New Information	Impact Adequately Addressed in the General Plan EIR
a. Require or result in the relocation or construction of new or expanded water, wastewater treatment, or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	☐	☐	✖
b. Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?	☐	☐	✖
c. Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	✖
d. Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	✖
e. Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	✖

Discussion

a. Water and sewer services for the proposed project would be provided by the City of Antioch. As part of the proposed project, new water lines would be extended from an existing 12-inch public water line located in Phillips Lane to the northeast and the southeast of the project site. Sanitary sewer lines would be extended from an existing 10-inch sanitary sewer line located within Phillips Lane, northeast of the project site, and an existing six-inch sanitary sewer line located within Honeynut Street, northwest of the project site. Stormwater runoff from the project site would be conveyed through the proposed stormwater drainage system, as shown in Figure 6, and ultimately into the City's existing storm drainage system. Electricity and telecommunications utilities would be provided by way of connections to existing infrastructure located within the immediate project vicinity. Therefore, the relocation or construction of new or expanded water, wastewater treatment, stormwater drainage, or other utility infrastructure would not be required.

The City would ensure the project design is consistent with all applicable regulations and policies included in the General Plan EIR, including Policies 8.4.2(a), 8.4.2(b), 8.5.2(a), and 8.5.2(b). General Plan Policy 8.4.2(a) requires adequate pumping and storage capacity for both drought and emergency conditions as part of the design of new water systems, and General Plan Policy 8.4.2(b) requires adequate infrastructure to be in place and operational prior to occupancy or new development such that the development will not negatively impact the performance of water facilities serving existing developed areas. General Plan Policy 8.5.2(a) requires adequate capacity for average and peak conditions as part of the design of new sewer systems, and General Plan Policy 8.5.2(b) requires adequate infrastructure to be in place and operational prior to occupancy or new development such that the development will not negatively impact the performance of sewer facilities serving existing developed areas.

Because the proposed project is consistent with the site's current land use designation, the type and intensity of growth that would be induced by the proposed project and the associated water and sewer demands was generally considered in the General Plan and analyzed in the General Plan EIR. According to the General Plan EIR, with implementation of General Plan policies and applicable regulations, impacts related to the construction or expansion of water, wastewater, storm drainage, electric, or telecommunications facilities or infrastructure would be less than significant.

Based on the above, impacts related to the relocation or construction of new or expanded water, wastewater treatment, or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects, were adequately addressed in the General Plan EIR, and the proposed project would not result in any peculiar effects related to such. Thus, the criteria for requiring further CEQA review are not met.

b. Water service to the project site would be provided by the City of Antioch through connection to existing water lines to the northeast and southeast of the project site. To meet the City's water demand, the City uses raw water diverted from the San Joaquin River and purchased water from the Contra Costa Water District. The UWMP includes a water supply reliability assessment of the City's projected supplies and demands during normal, single dry, and five consecutive dry years. The City is not projected to have a reduction in water supplies and is anticipated to have sufficient water supply to adequately meet projected demands in all water year types through 2045.[27]

In order to address potential water supply impacts from buildout of the General Plan, General Plan Policy 10.6.2 requires all new development to ensure that adequate long-term water supplies are available to serve the development, including during peak drought and firefighting needs, the use of drought tolerant landscaping and water conservation devices, the installation of dual water systems in development projects and public facilities using reclaimed wastewater for irrigation where feasible, and the protection of groundwater recharge areas. In addition, the proposed project would be required to pay City of Antioch public works facilities development impact fees, as described in Section 9-3.50 of the Municipal Code, applicable to all new development, thereby further reducing the potential impact related to water demand.

According to the General Plan EIR, because the City does not rely on groundwater for water supplies and has sufficient water supply for more than 20 years into the future, even during multiple dry years, together with the applicable General Plan policies and adherence to the regulatory requirements of current legislation, potential impacts related to water supply were determined to be less than significant. Given that the proposed project is consistent with the site's current land use designation, the type and intensity of growth that would be created by the proposed project and the associated water and sewer demands was generally considered in the General Plan and analyzed in the General Plan EIR. Impacts related to sufficient water supplies being available to serve the project and reasonably foreseeable future development were adequately addressed in the General Plan EIR, and the proposed project would not result in any peculiar effects that would require further CEQA review related to such.

[27] City of Antioch. *2020 Urban Water Management Plan*. May 2021.

c. Sanitary sewer services would be provided to the project site by the City of Antioch, which is responsible for the collection and conveyance of wastewater to the Delta Diablo WWTP. The Delta Diablo WWTP provides wastewater treatment for the City of Antioch. Wastewater generated in the project area is collected in the City's sanitary sewer system through a series of sewer pipes and flows into the Delta Diablo WWTP interceptor sewers, where the sewage is conveyed to the Bridgehead and Antioch pump stations. The Delta Diablo WWTP handles an average of 13 million gallons of wastewater per day (mgd) and has a capacity to treat up to 19.5 mgd.[28] In order to address the effects of future development on wastewater facilities, General Plan Policy 8.5.2(b) requires adequate infrastructure to be in place prior to occupancy of new development such that new development would not negatively impact the performance of sewer facilities or the performance standards set forth in the Growth Management Element of the General Plan. General Plan Policy 8.5.2(e) requires the installation of dual water systems permitting the use of reclaimed water supplies for irrigation purposes where feasible. The General Plan EIR concluded that with implementation of General Plan policies, buildout of the General Plan would result in a less-than-significant impact related to wastewater treatment capacity.

Given that the proposed project is consistent with the site's current land use designation, the type and intensity of growth that would be induced by the proposed project, as well as the associated wastewater demand, has been anticipated by the City and analyzed in the General Plan EIR. In addition, the proposed project would be required to pay public works facilities development impact fees, as described in Section 9-3.50 of the Municipal Code, applicable to all new development. Therefore, the proposed project would not generate wastewater flows beyond the capacity of existing wastewater treatment facilities or planned future improvements to such facilities.

Based on the above, the availability of adequate capacity to serve the wastewater demand projected for the proposed project in addition to the City's existing commitments was adequately addressed in the General Plan EIR, and the proposed project would not result in any peculiar effects related to such. Thus, the criteria for requiring further CEQA review are not met.

d,e. According to the General Plan EIR, Republic Services provides solid waste collection, disposal, recycling, and yard waste services to the City of Antioch. Solid waste and recyclables from the City are taken to the Contra Costa Transfer and Recovery Station located in Martinez. Recyclables are separated out and stored at the Transfer and Recovery Station before shipment to recycling markets. Solid waste is transferred from the Transfer and Recovery Station to the Keller Canyon Landfill in Pittsburg. The Keller Canyon Landfill has a maximum permitted throughput of 3,500 tons of waste per day. According to the California Department of Resources Recycling and Recovery (CalRecycle), the Keller Canyon Landfill has a remaining capacity of 63,408,410 cubic yards out of a total permitted capacity of 75,018,280 cubic yards, or 15.48 percent remaining capacity.[29] In order to address the effects of future development on solid waste facilities, Mitigation Measure 4.12.6C of the General Plan EIR requires all new development projects to coordinate with appropriate departments and/or agencies to

[28] Delta Diablo. *Delta Diablo Resource Recovery Facility 2022 Master Plan.* December 2022.
[29] California Department of Resources Recycling and Recovery (CalRecycle). *Facility/Site Summary Details: Keller Canyon Landfill (07-AA-0032)*. Available at: https://www2.calrecycle.ca.gov/SolidWaste/SiteActivity/Details/4407?siteID=228. Accessed June 2025.

ensure that an adequate waste disposal capacity exists to meet the waste disposal requirements of the proposed project, and the incorporation of measures to promote waste reduction, reuse, recycling, and composting. Considering such existing capacity, as well as implementation of General Plan EIR policies and Mitigation Measures that would promote long-term reduction of solid waste generation in the General Plan planning area, the General Plan EIR concluded that impacts would be less than significant.

Given that the proposed project is consistent with the General Plan land use designation of the project site, the associated increase in solid waste disposal needs associated with development of the site was generally considered in the General Plan EIR analysis. During construction activities, the project would be required to comply with the 2022 California Green Building Standards Code, otherwise known as the CALGreen Code (CCR Title 24, Part 11), which requires diversion of at least 65 percent of construction waste from landfills. Therefore, the proposed project would not generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals and would comply with federal, State, and local management and reduction statutes and regulations related to solid waste.

Based on the above, impacts related to solid waste were adequately addressed in the General Plan EIR, and the proposed project would not result in any peculiar effects that would require further CEQA review related to such.

XX. WILDFIRE. *If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:*	Significant Impact Peculiar to the Project or the Project Site	Significant Impact due to New Information	Impact Adequately Addressed in the General Plan EIR
a. Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	✖
b. Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	✖
c. Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	✖
d. Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	✖

Discussion

a-d. Wildfire risk is discussed above in Section IX, Hazards and Hazardous Materials, of this Modified Initial Study. According to the General Plan EIR, areas of potential wildland fire hazard exist within the southern portions of the General Plan study area, including rural, hilly terrain, as well as the areas adjacent to or covered by natural grasslands and brush. The potential exists for an increase in the occurrence of fire in the above-mentioned areas due to increasing population and the fact that a majority of wildfires are caused by human carelessness. General Plan Policies 8.10.2(a) through 8.10.2(d) require the City to work with the CCCFPD to provide high-quality fire protection services to area residents and businesses, the enforcement of building codes to reduce fire hazards, the establishment of fees that are adequate to mitigate the impacts of new development, and the involvement of the Fire Protection District in the development review process. Overall, the General Plan EIR concluded that compliance with the UFC, UBC and the applicable General Plan policies would minimize risks associated with wildfires.

According to the CALFIRE Fire and Resource Assessment Program, the project site is not located within or near a Very High FHSZ.[30] The nearest Very High FHSZ is located approximately 3.54 miles to the southwest of the project site and the project site is separated from such areas by existing urban development, which serves as a fire break to the project site. The project site is not located in a State Responsibility Area. The proposed project would be required to comply with all applicable requirements of the California Fire Code (CFC), as adopted by Section 8-15.01 of the City's Municipal Code, including installation of fire sprinkler systems. In addition, the CBSC includes requirements related to fire hazards for new buildings, such as the use of ignition-resistant construction, fire-resistant materials, and defensible space around structures.[31] Compliance with such features would help to reduce the spread of fire on- and off-site.

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30 California Department of Forestry and Fire Protection. *Fire Hazard Severity Zones in State Responsibility Area*. Available at: https://osfm.fire.ca.gov/what-we-do/community-wildfire-preparedness-and-mitigation/fire-hazard-severity-zones. Accessed June 2025.

31 California Building Standards Code. *California Building Standards Code: Materials and Construction Methods for Exterior Wildfire Exposure.* July 2024.

The project is not located on a substantial slope, and the project area does not include any existing features that would substantially increase fire risk for future residents, workers, or visitors. Given that the project site is located within a developed urban area and is situated adjacent to existing roads, water lines, and other utilities, the project would not result in substantial fire risks related to installation or maintenance of such infrastructure. Lastly, as discussed in Section VII, Geology and Soils, and Section X, Hydrology and Water Quality, of this Modified Initial Study, development of the proposed project would not expose people or structures to significant risks related to flooding or landslides.

Based on the above, impacts related to wildfire risks were adequately addressed in the General Plan EIR, and the site would not be subject to any peculiar hazards related to wildfire risk. Thus, the criteria for requiring further CEQA review are not met.

XXI. MANDATORY FINDINGS OF SIGNIFICANCE.	Significant Impact Peculiar to the Project or the Project Site	Significant Impact due to New Information	Impact Adequately Addressed in the General Plan EIR
a. Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☐	✖
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

a. As discussed in Section IV, Biological Resources, of this Modified Initial Study, the proposed project would not adversely impact special-status plant or wildlife species. The proposed project would be required to comply with applicable policies included in the General Plan and the recommendations included in the Technical Biological Report related to effects on any special-status plant and wildlife species, including pre-construction surveys and buffers during construction if any special-status species are discovered. In addition, because the project site does not contain any known historic or prehistoric resources, implementation of the proposed project is not anticipated to have the potential to result in impacts related to historic or prehistoric resources. The proposed project would be required to comply with applicable General Plan policies, as well as all applicable State regulations, related to preservation of archaeological resources and human remains if such resources are discovered within the project site during construction activities, consistent with the requirements of CEQA.

Considering the above, the proposed project would not: 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. Impacts associated with such resources have been adequately addressed and would not change from what was identified in the General Plan EIR, and the criteria for requiring further CEQA review are not met.

b. The proposed project, in conjunction with other development within the City of Antioch, could incrementally contribute to cumulative impacts in the area. However, the proposed project was included in the future development assumptions evaluated in the General Plan EIR. The General Plan EIR concluded that cumulative impacts to agricultural resources, transportation and circulation, water supply, air quality, noise, and biological resources would be significant and unavoidable. For those impacts determined to be significant in a General Plan EIR, CEQA Section 15183 allows for future environmental documents to

limit examination of environmental effects to those impacts which were not already analyzed as a significant effect in the prior EIR, provided that the proposed project is consistent with the General Plan. Given that the proposed project is consistent with the City's General Plan land use designation for the project site, cumulative impacts associated with buildout of the site have been anticipated by the City and were analyzed in the General Plan EIR. Cumulative effects peculiar to the project or project site do not exist. Additionally, the proposed project does not incrementally contribute to cumulative impacts that were not analyzed or discussed in the City's General Plan EIR. Furthermore, as discussed throughout this Modified Initial Study, all impacts associated with the proposed project were adequately addressed in the General Plan EIR, and the proposed project would not result in any peculiar effects that would require further CEQA review. As such, this Modified Initial Study does not include any substantial new information that shows impacts are more severe than previously discussed, and further analysis is not required.

c. As described in this Modified Initial Study, the proposed project would comply with all applicable General Plan policies, Municipal Code standards, and other applicable local, County and State regulations. In addition, as discussed in the Air Quality, Geology and Soils, Hazards and Hazardous Materials, and Noise sections of this Modified Initial Study, the proposed project would not cause substantial adverse effects to human beings, including effects related to exposure to air pollutants, geologic hazards, hazardous materials, and excessive noise, beyond the effects previously analyzed as part of the General Plan EIR. Therefore, further CEQA review is not required.

APPENDIX A

FARMLAND IMPACT ASSESSMENT

DRAFT

FARMLAND IMPACT ASSESSMENT

VINEYARD CROSSING PROJECT

ANTIOCH, CALIFORNIA

LSA

February 2025

DRAFT

FARMLAND IMPACT ASSESSMENT

VINEYARD CROSSING PROJECT

ANTIOCH, CALIFORNIA

Submitted to:

Brightsky Residential
1255 Treat Boulevard, Suite 300
Walnut Creek, California 94597

Prepared by:

LSA
157 Park Place
Richmond, California 94801
510.236.6810

Project No. 20241840

LSA

February 2025

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A: LESA MODEL

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LIST OF ABBREVIATIONS AND ACRONYMS

°F	degrees Fahrenheit
ADUs	accessory dwelling units
APNs	Assessor's Parcel Numbers
CAGP	City of Antioch General Plan
CEQA	California Environmental Quality Act
City	City of Antioch
DOC	California Department of Conservation
du/ac	dwelling units per gross developable acre
FMMP	Farmland Mapping and Monitoring Program
FMMP	Farmland Mapping and Monitoring Program
FSZ	Farmland Security Zone
GIS	geographic information system
LCC	land capability classification
LESA	Land Evaluation and Site Assessment
NRCS	Natural Resources Conservation Service
PRC	Public Resources Code
project	Vineyard Crossing Project
SB	Senate Bill
USDA	United States Department of Agriculture

1.0 INTRODUCTION

The Vineyard Crossing Project (project) is a 14.63-acre development that would result in the construction of 71 residential lots, private streets, open space/landscape, and amenity space. The project site is located in northeastern Antioch along Oakley Road and Phillips Lane and is composed of Assessor's Parcel Numbers (APNs) 051-190-028 and 051-190-034. The project site is currently used as a vineyard and has a City of Antioch General Plan (CAGP) land use designation of Medium Low Density Residential and Medium Density Residential and a zoning designation of planned development.

This Farmland Impact Assessment has been prepared to determine if implementation of the proposed project would significantly impact agricultural resources. This report is based on information obtained from the California Department of Conservation (DOC) Farmland Mapping and Monitoring Program (FMMP), the United States Department of Agriculture (USDA), the Natural Resources Conservation Service (NRCS), and the CAGP.

2.0 PROJECT DESCRIPTION

2.1 PROJECT LOCATION

The project site is located in northeastern Antioch along Oakley Road and Phillips Lane and is composed of APNs 051-190-028 and 051-190-034 (see Figure 1-1). The project site is bounded by single-family residential uses to the north, Phillips Lane to the east, Oakley Road to the south, and single-family residential uses to the west.

2.2 EXISTING CONDITIONS

The project site is generally flat and primarily consists of an active vineyard. Elevations at the project site range from approximately 65 to 75 feet above mean sea level. The two parcels associated with the project site are separated by APN 051-109-021, which is not part of the proposed project and is an active vineyard. The project site is generally surrounded by residential uses, undeveloped open space, agricultural land, and a park (see Figure 1-2).

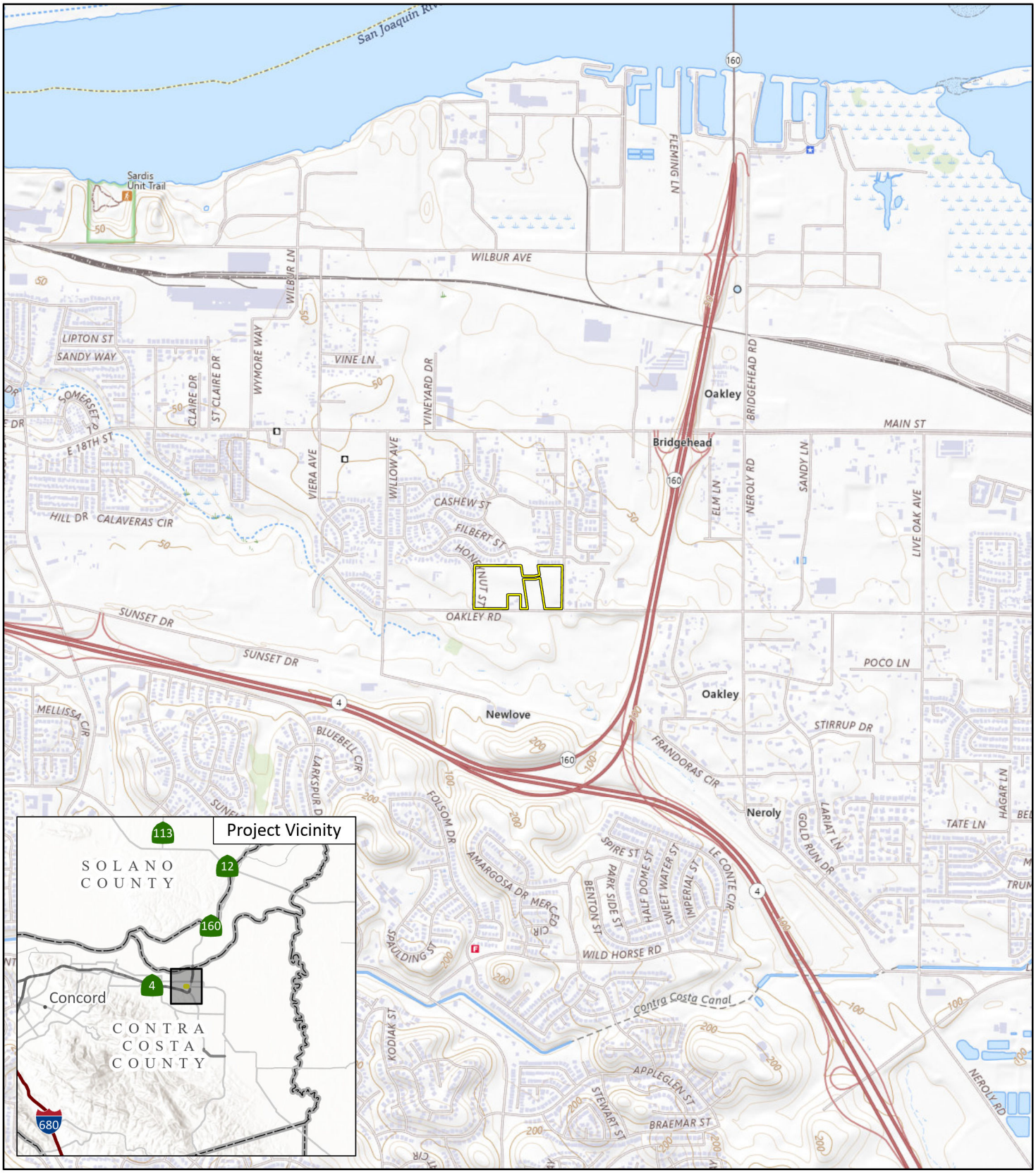
2.2.1 Existing Land Use and Zoning

The project site is designated Medium Low Density Residential and Medium Density Residential in the CAGP. The Medium Low Density Residential designation provides for single-family homes in typical subdivision development, as well as other detached housing with a maximum allowable density of six dwelling units per gross developable acre (du/ac) and an anticipated population of 14 to 18 persons per acre. The Medium Density Residential Designation provides for a wide range of living accommodations, including conventional single-family dwellings, small lot single-family detached dwellings, mobile homes, townhouses, and garden apartments with a maximum allowable density of 10 du/ac and an anticipated population of 20 to 25 persons per acre. The project site is zoned Planned Development, which accommodates various types of development, and is intended to enable and encourage flexibility in the design and development of land so as to promote its most appropriate use; to allow diversification in the relationship of various uses, structures, and space; to facilitate the adequate and economical provision of streets and utilities; to preserve the natural and scenic qualities of open space; to offer recreational opportunities convenient to residents to enhance the appearance of neighborhoods through the preservation of natural green spaces; and to counteract the effects of urban congestion and monotony.

2.3 PROPOSED PROJECT

The proposed project is a 14.63-acre development that would result in the construction of 71 residential lots, private streets, open space/landscape, and amenity space (see Figure 1-3). The majority of the existing vegetation, including the existing vineyard, would be removed. The parcel separating the eastern and western portions of the project site (APN 051-109-021) would primarily remain as active vineyard, except for a small portion along the northern end of the parcel that would be removed to construct a private paved roadway. The proposed project would include 45 single family homes, 41 accessory dwelling units (ADUs), and 52 duplexes with a site density of 5.93 du/acre on the western parcel (APN 051-190-028) and 14.86 du/acre on the eastern parcel (APN 051-190-034). The proposed residential units would front new internal roadways. A total of 420 parking spaces would be provided on the project site, including 194 garage spaces, 130 driveway

spaces, and 96 on-street spaces. Additionally, the proposed project would provide 24,911 square feet of common open space, 114,795 square feet of private open space, and 160,177 square feet of landscaped open space.



LSA

FIGURE 1-1

Vineyard Crossing

Project Location and Vicinity

SOURCE: USGS The National Map (2018)

I:\2024\20241840\GIS\Pro\Vineyard Crossing\Vineyard Crossing.aprx (2/7/2025)



LSA

Project Site

FIGURE 1-2

N

0 310 620

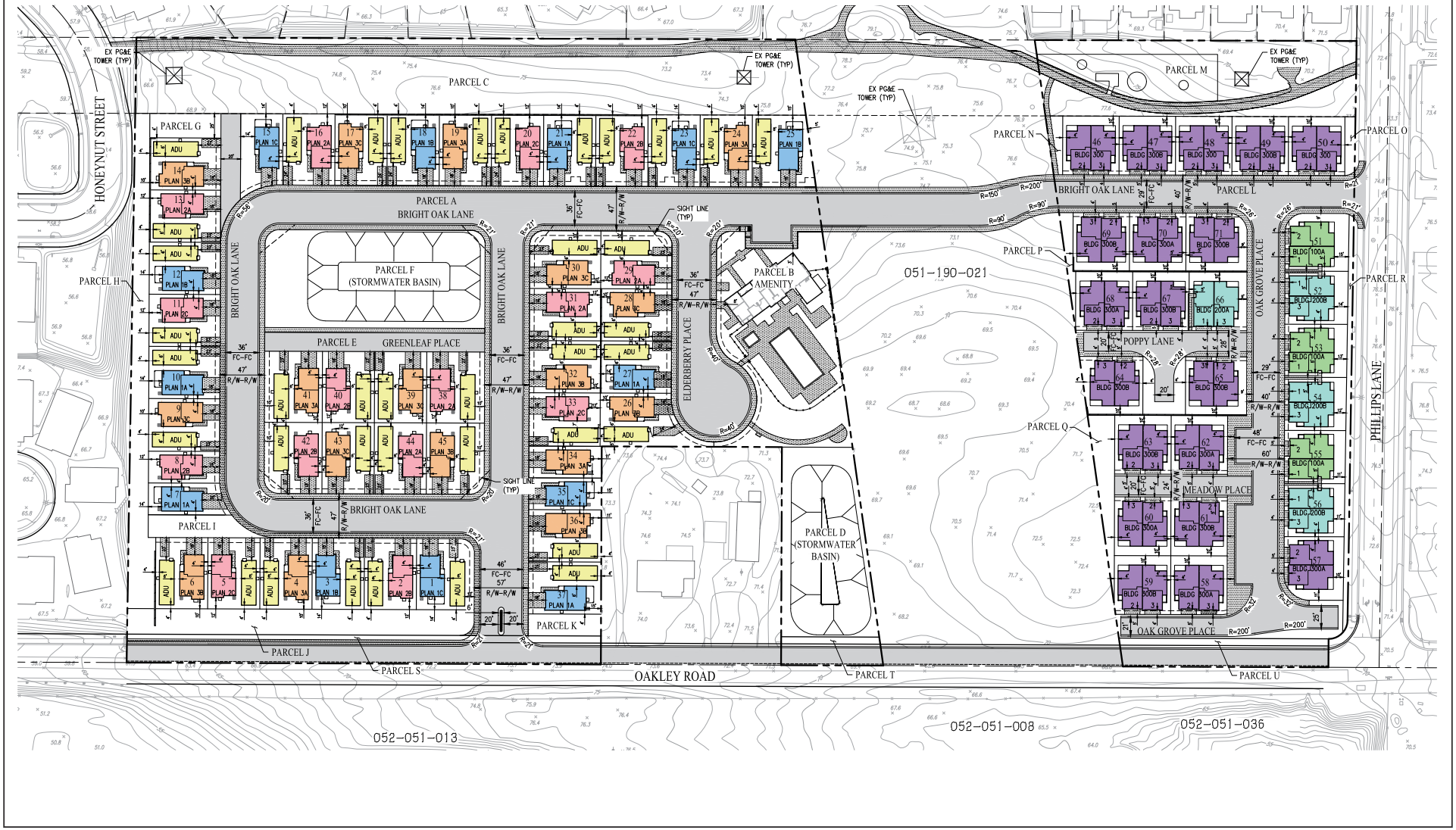
FEET

SOURCE: Google Maps (2024)

I:\2024\20241840\GIS\Pro\Vineyard Crossing\Vineyard Crossing.aprx (2/7/2025)

Vineyard Crossing

Aerial Imagery of the Project Site and Surrounding Land Uses



LSA

FIGURE 1-3

0 75 150

FEET

SOURCE: CBG Engineers

I:\2024\20241840\G\Site_Plan.ai (1/30/2025)

Vineyard Crossing

Preliminary Site Plan

3.0 EXISTING AGRICULTURAL SETTING

3.1 COUNTY OF CONTRA COSTA

Contra Costa County spans 458,240 acres, of which 208,948 acres (approximately 46 percent) include agricultural uses.[1] In 2022, agricultural production in Contra Costa County equated to $117.87 million. The top five agricultural commodities in Contra Costa County in 2022 were cattle and calves, sweet corn, tomatoes, cherries, and grapes.[2] The most recent agricultural land conversion data available for Contra Costa County are for the 2018–2020 period and was obtained through the DOC FMMP. Land converted in this period is shown in Table 3.A below.

Table 3.A: Contra Costa County Agricultural Land Conversion 2018–2020

Land Use Category	Total Acreage Inventoried		2018–2020 Acreage Changes		
	2018	2020	Acres Lost (-)	Acres Gained (+)	Net Acreage Gained/(Lost)
Prime Farmland	25,174	24,457	810	93	(717)
Farmland of Statewide Importance	7,593	7,466	138	11	(127)
Unique Farmland	3,291	2,881	439	29	(410)
Farmland of Local Importance	61,016	61,378	1,287	1,649	362
Important Farmland Subtotal	**97,074**	**96,182**	**2,674**	**1,782**	**(892)**
Grazing Land	157,424	159,382	268	2,226	1,958
Agricultural Land Subtotal	**254,498**	**255,564**	**2,942**	**4,008**	**1,066**
Urban and Built-Up Land	152,513	149,085	4,063	635	(3,428)
Other Land	52,577	54,661	313	2,397	2,084
Water Area	54,486	54,764	52	330	278
Total Area Inventoried	**514,074**	**514,074**	**7,370**	**7,370**	**--**

Source: Table A-6, Contra Costa County 2018–2020 Land Use Conversion, Division of Land Resources Protection, Website: https://www.conservation.ca.gov/dlrp/fmmp/Pages/ContraCosta.aspx (accessed January 6, 2025) (California Department of Conservation 2024).

3.2 CITY OF ANTIOCH

Agricultural uses in the City of Antioch (City) generally include hayfields, vineyards, almond orchards, and walnut orchards. The majority of agricultural lands are found along the eastern edge of the Antioch Planning Area, but they can also be found scattered among the more urban areas.[3] The city as a whole spans approximately 18,750 acres, and approximately 928 acres (5 percent) of the land within the city consist of agricultural uses.[4]

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1 United States Department of Agriculture (USDA). 2023. *2022 Census of Agriculture County Profile, Contra Costa County California.* Website: https://www.nass.usda.gov/Publications/AgCensus/2022/Online_Resources/County_Profiles/California/cp06013.pdf (accessed January 2025).

2 Contra Costa County Department of Agriculture. 2023. *2022 Agricultural Crop Report*. Website: https://www.contracosta.ca.gov/DocumentCenter/View/83169/2022-Crop-Report-PDF (accessed January 6, 2025).

3 City of Antioch. 2003. *Draft General Plan Update Environmental Impact Report, City of Antioch, Contra Costa County, California.* July.

4 Ibid.

3.3 PROJECT SITE

The project site was used an orchard from at least 1939 through the 1980s.[5] The project site has been actively farmed for winegrapes since approximately 2002. According to the DOC FMMP, the project site is designated as Farmland of Statewide Importance (refer to Figure 3-1 and Table 3.B). The project site is designated Medium Low Density Residential and Medium Density Residential in the CAGP and the City's zoning code classifies the project site as Planned Development. The project site is not under a Williamson Act Contract or a Farmland Security Zone (FSZ) contract.

Table 3.B: Farmland Mapping and Monitoring Program Land Use Designations on the Project Site

FMMP Designations	Acres in Project Site
Farmland of Statewide Importance (S)	14.31
Other Land (X)	0.23
Urban and Built-up Land (D)	0.08

Source: Farmland Mapping and Monitoring Program, Website: https://www.conservation.ca.gov/dlrp/fmmp/Pages/ContraCosta.aspx (accessed January 2025) (California Department of Conservation 2025).

3.3.1 Water Availability and Water Quality

The project site is currently irrigated using Contra Costa Water District canal water. The Contra Costa Canal is a 48-mile aqueduct that was constructed in the 1930s and 40s to meet agricultural and industrial needs. Throughout its 80-plus years, the area surrounding the canal has become urbanized, and the canal now primarily conveys water for municipal, commercial, and industrial needs.[6] Irrigation is feasible at the project site with no physical or economic restrictions during both regular rainfall and drought years.[7]

3.3.2 Site Climate

The City of Antioch is characterized by a Mediterranean climate. Average temperatures range from 55 degrees Fahrenheit (°F) to 91°F in the summer and from 37°F to 65°F in the winter. Annual rainfall is approximately 13.2 inches. The majority of the rainfall occurs from November to April.[8]

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5 Historic Aerials. 2025. Website: https://www.historicaerials.com/viewer (accessed January 28, 2025).

6 Contra Costa Water District. n.d. *Canal Replacement Program.* Website: https://www.ccwater.com/688/Canal-Replacement-Program#:~:text=The%20Contra%20Costa%20Canal%20is,municipal%2C%20commercial%20and%20industrial%20needs (accessed January 23, 2025).

7 TK Consulting, Inc. 2025. Personal communication with LSA Associates, Inc. from Jessica Heidari. January 22.

8 Western Regional Climate Center. n.d. Antioch Pump Plt 3, California (040232). Website: https://wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca0232 (accessed January 7, 2025).



LSA

Project Site

Important Farmland Category

D - Urban and Built-up Land

S - Farmland of Statewide Importance

X - Other Land

N

0 210 420

FEET

SOURCE: Google Maps (2024)

I:\2024\20241840\GIS\Pro\Vineyard Crossing\Vineyard Crossing.aprx (2/7/2025)

FIGURE 3-1

Vineyard Crossing

Important Farmland Designations of the Project Site and Vicinity

3.3.3 United States Department of Agriculture Natural Resources Conservation Service

The USDA NRCS Soil Survey Division is the lead agency for the National Cooperative Soil Survey, a joint effort of federal and State agencies, universities, and professional societies. The NRCS Soil Survey Division maps and describes soils by land area (e.g., a city or county) and compiles them into a document called a "Soil Survey." The soil surveys contain information about each soil, including the acreage and extent of each soil type in a given area, its classification, its physical and chemical properties, its land capability classification (LCC), and the Storie Index.

3.3.3.1 Land Capability Classification

The LCC system indicates the suitability of soils for most kinds of crops. Groupings are made according to the limitations of the soils when used to grow crops and the risk of damage to soils when they are used in agriculture. Soils are rated from Class I to Class VIII, with soils that have the fewest limitations receiving the highest rating (Class I) and soils that are unsuitable for agriculture receiving the lowest rating (Class VIII). Specific subclasses are also used to further characterize soils. Generally, as the range of the Capability Class increases, yields and profits from these lands are more difficult to obtain. Class III soils are found on the project site and are defined as follows:

- **Class III:** These soils have severe limitations that reduce the choice of plants or require special conservation practices or both. These soils have more restrictions than those in Class II, and when used for cultivated crops, the conservation practices are usually more difficult to apply and maintain. They may be used for cultivated crops, pasture, woodland, range, or wildlife food and cover.

As noted above, subclasses are used to further define specific limitations for soils classified in the USDA Soil Capability Classification System. The four kinds of limitations recognized at the subclass level include: risks of erosion, designated by symbol (e); wetness, drainage, or overflow, designated by symbol (w); rooting-zone limitations, designated by symbol (s); and climatic limitations, designated by symbol (c). The subclass that is identified for the soils located on the project site is defined as follows:

- **Subclass (s)**, **Rooting-Zone Limitations:** This subclass is made up of soils that have soil limitations within the rooting zone, such as shallowness of the rooting zone, stones, low moisture-holding capacity, low fertility that is difficult to correct, and salinity or sodium content.

3.3.3.2 Storie Index

The Storie Index is another method used to evaluate the potential productivity of a soil based on its characteristics. Four factors that represent the inherent characteristics and qualities of the soil are considered in the Storie Index rating system: profile characteristics, texture of the surface layer, slope, and other factors (i.e., drainage, salinity). The Storie Index rating system ranks soils on a 100-point scale that is divided into six grade classes as follows:

- **Grade 1, Excellent:** 81 to 100 points
- **Grade 2, Good:** 61 to 80 points
- **Grade 3, Fair:** 41 to 60 points

- **Grade 4, Poor:** 21 to 40 points
- **Grade 5, Very Poor:** 11 to 20 points
- **Grade 6, Non-Agricultural:** 10 points or less

The project site contains soils with a Storie Index rating of 46.

3.3.3.3 Soil Type of the Project Site

The project site includes one soil type which consists of Delhi sand, 2 to 9 percent slopes (DaC). The soil type on the project site is listed in Table 3.C: Soil Type of the Project Site and shown on Figure 3-2. Delhi sand, 2 to 9 percent slopes, are somewhat excessively drained soils. The parent material consists of Eolian deposits derived from igneous and sedimentary rock. Depth to a root restrictive layer is more than 80 inches. Water movement in the most restrictive layer is high to very high. Runoff is very low on this soil, and the hazard erosion is slight. The soil is categorized as A in the Hydrologic Soil group, and it is classified as farmland of statewide importance.

Table 3.C: Soil Type of the Project Site

Soil Unit	Soil Name	Acres in Site	Capability Class	Storie Index
Soil Unit DaC	Delhi sand, 2 to 9 percent slopes	14.63	III s	46

Source: Web Soil Survey, National Resource Conservation Service (NRCS), Website: https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm (accessed January 7, 2025) (United States Department of Agriculture [USDA] n.d.).



LSA

Project Site

Soils

DaC - Delhi sand, 2 to 9 percent slopes

FIGURE 3-2

N

0 150 300

FEET

SOURCE: Google Maps (2024)

I:\2024\20241840\GIS\Pro\Vineyard Crossing\Vineyard Crossing.aprx (2/7/2025)

Vineyard Crossing

Soils of the Project Site

4.0 REGULATORY SETTING

The following section describes the regulations applicable to analyzing the potential impacts to agricultural resources from development of the proposed project.

4.1 FEDERAL REGULATIONS

Federal regulations regarding agricultural resources do not apply to the proposed project.

4.2 STATE REGULATIONS

4.2.1 California Department of Conservation Farmland Mapping and Monitoring Program

In 1982, the California DOC began coordinating with the USDA Soil Conservation Service in the preparation and completion of Important Farmland mapping for California through the establishment of the FMMP. The FMMP created a greater level of mapping compared to the USDA Soil Conservation Service by modifying the federal criteria for use in California and incorporating irrigation criteria for farmland significance. The primary purpose of the FMMP is to monitor the conversion of California's agricultural lands. The DOC Division of Land Resource Protection works with landowners, local governments, and researchers to conserve California's farmland and open space resources based on information provided in the FMMP.

The DOC FMMP produces maps and statistical data used for analyzing impacts on agricultural resources. Agricultural land is categorized according to soil quality and irrigation status. The maps are updated every 2 years through review of aerial photographs, a computer mapping system, public review, and field reconnaissance. The latest statewide data available are for the period from 2018 to 2020. The FMMP categories are defined as follows:

- **Prime Farmland:** Farmland with the best combination of physical and chemical features able to sustain long-term agricultural production. This land has the soil quality, growing season, and moisture supply needed to produce sustained high yields. Land must have been used for irrigated agricultural production at some time during the 4 years prior to the mapping date.

- **Farmland of Statewide Importance:** Farmland similar to Prime Farmland but with minor shortcomings, such as greater slopes or less ability to store soil moisture. Land must have been used for irrigated agricultural production at some time during the 4 years prior to the mapping date.

- **Unique Farmland:** Farmland of lesser quality soils used for the production of the State's leading agricultural crops. This land is usually irrigated but may include nonirrigated orchards or vineyards as found in some climatic zones in California. Land must have been cropped at some time during the 4 years prior to the mapping date.

- **Farmland of Local Importance:** Land of importance to the local agricultural economy as determined by each county's board of supervisors and a local advisory committee. In some

counties, Confined Animal Agriculture facilities are part of Farmland of Local Importance, but they are shown separately.

- **Grazing Land:** Land on which the existing vegetation is suited to the grazing of livestock. This category was developed in cooperation with the California Cattlemen's Association, University of California Cooperative Extension, and other groups interested in the extent of grazing activities.

- **Urban and Built Up Land:** Land occupied by structures with a building density of at least 1 unit to 1.5 acres, or approximately 6 structures to a 10-acre parcel. This land is used for residential, industrial, commercial, construction, institutional, public administration, railroad and other transportation yards, cemeteries, airports, golf courses, sanitary landfills, sewage treatment, water control structures, and other developed purposes.

- **Other Land:** Land not included in any other mapping category. Common examples include low density rural developments; brush, timber, wetland, and riparian areas not suitable for livestock grazing; confined livestock, poultry or aquaculture facilities; strip mines, borrow pits; and water bodies smaller than 40 acres. Vacant and nonagricultural land surrounded on all sides by urban development and greater than 40 acres is mapped as Other Land.

4.2.2 Williamson Act and Farm Land Security Act

The California Land Conservation Act, better known as the Williamson Act, has been the State's most important agricultural land protection program since its enactment in 1965. Fundamentally, the Williamson Act is a State policy administered by local governments. Local governments are not mandated to administer the act, but those that do have some latitude to tailor the program to suit local goals and objectives.

Williamson Act contracts have a minimum term of 10 years, with renewal occurring automatically each year (local governments can establish initial contract terms for longer periods of time). The contracts run with the land and are binding on all successors in interest of the landowner. Only land located within an agricultural preserve is eligible for Williamson Act contracts. An agricultural preserve defines the boundary of an area within which a city or county would enter into contracts with landowners. The boundary is designated by resolution of the board of supervisors or city council having jurisdiction. The rules of each agricultural preserve specify the uses allowed. Generally, any commercial agricultural uses would be permitted within any agricultural preserve. In addition, local governments may identify compatible uses permitted with a use permit.

In August 1998, Senate Bill (SB) 1182 established the FSZ provisions of the Williamson Act. An FSZ is created within an agricultural preserve by County Board of Supervisors' approval and at the request of a landowner or group of landowners. FSZ contracts offer landowners greater property tax reductions than a Williamson Act Contract in return for an initial contract term of 20 years, with renewal occurring automatically each year. Land restricted by an FSZ contract is valued for property assessment purposes at 65 percent of its Williamson Act valuation, or 65 percent of its Proposition 13 valuation, whichever is lower.

4.2.3 California Environmental Quality Act

The California Environmental Quality Act (CEQA) was adopted in 1970 by the California State Legislature to identify, protect, and minimize impacts to the State's environmental resources and was codified as Section 21000 of the State's Public Resources Code (PRC). CEQA vests the primary responsibility of carrying out its objectives to local municipalities. In determining whether a proposed project may have a significant effect on agricultural resources, Madera County uses the thresholds provided in Appendix G of the *State CEQA Guidelines*.

4.2.4 Public Resources Code 21095 - California Agricultural Land Evaluation and Site Assessment Model

Land Evaluation and Site Assessment (LESA) is a term used to define an approach for rating the relative quality of agricultural land based upon specific measurable features.

The formulation of a California LESA Model is the result of SB 850 (Chapter 812/1993), which charges the Resource Agency (in consultation with the Governor's Office of Planning and Research) with developing an amendment to Appendix G of the *State CEQA Guidelines* concerning agricultural lands. Such an amendment is intended "to provide lead agencies with an optional methodology to ensure that significant effects on the environment of agricultural land conversions are quantitatively and consistently considered in the environmental review process" (PRC Section 21095).

A LESA analysis is based on the following definition of agricultural land contained in CEQA, PRC Section 21060.1:

> *21060.1 (a) "Agricultural land" means prime farmland, farmland of statewide importance, or unique farmlands, as defined by the United States Department of Agriculture land inventory and monitoring criteria as modified for California.*
>
> *21060.1 (b) In those areas of the state where lands have not been surveyed for the classifications specific in subdivision (a), "agricultural land" means land that meets the requirement of "prime agricultural land" as defined in paragraph (1), (2), (3), or (4) of subdivision (c) of Section 51201 of the Government Code [the Williamson Act].*

4.2.5 California Agricultural Protection Act "The Right to Farm Act" (California Civil Code Section 3482.5)

The Right to Farm Act is intended to protect commercial agricultural operations from nuisance complaints that may arise when the operation is conducting business in a "manner consistent with proper and accepted customs." The code specifies established operations that have been in business for 3 or more years that were not nuisances at the time they began, shall not be considered a nuisance as a result of a new land use. The alleged land use or activity must meet the following seven factors to be protected under the Right to Farm Act: 1) must be an agricultural activity; 2) must be conducted or maintained for commercial purposes; 3) must be consistent with proper and accepted customs and standards; 4) the activity must be performed as established and followed by similar agricultural operations in the same locality; 5) the claim of nuisance must arise due to any

changed condition in or about the locality; 6) the activity must have been in operation for more than three years; 7) the activity must not have been a nuisance at the time it began.

4.3 LOCAL REGULATIONS

4.3.1 City of Antioch General Plan

The CAGP serves as the City's lead policy document as to how the it will manage its future and is the City's official policy statement identifying the manner in which it expects to coordinate its activities with those of other agencies. The CAGP includes the following agricultural goals and policies relevant to the proposed project:

Land Use Element

- Maintain a pattern of land uses that minimizes conflicts between various land uses, and promotes rational utilization of presently undeveloped and underdeveloped land, and supports the achievement of Antioch's vision for its future.

4.3.2 City of Antioch Code of Ordinances

4.3.2.1 Section 9-5.3809 Agricultural Uses

This code section states that pre-existing agricultural uses can be continued and not expanded.

5.0 METHODS

The potential impacts associated with implementation of the proposed project were evaluated on a qualitative and quantitative basis. Quantitative impacts were assessed by using geographic information system (GIS) tools to calculate the exact acreage of Important Farmlands and Williamson Act contract lands that would be impacted by development of the proposed project as well as completing the LESA Model for the portions of the property being proposed for development. Qualitative impacts were assessed by evaluating the project's potential for impacting agricultural activities within the County. The agricultural resources analysis is based on information from a number of sources, including the DOC, FMMP, the USDA, and the NRCS.

5.1 CALIFORNIA AGRICULTURAL LAND EVALUATION AND SITE ASSESSMENT MODEL

The LESA Model (1997) is a State of California process for assessing and quantifying potential impacts that may result from converting agricultural land to nonagricultural uses. LESA is intended "to provide lead agencies with an optional methodology to ensure that significant effects on the environment of agricultural land conversions are quantitatively and consistently considered in the environmental review process."

The LESA Model, developed by the California DOC, is a point-based approach that is used for rating the relative value of agricultural land resources and thereby helps guide the assessment of the impacts to agricultural resources, based upon specific measurable features. In basic terms, a given LESA Model is created by defining and measuring two separate sets of factors. The first set, Land Evaluation, includes factors that measure the inherent soil-based qualities of land as they relate to agricultural suitability. The second set, Site Assessment, includes factors that are intended to measure social, economic, and geographic attributes that also contribute to the overall value of agricultural land.

A single LESA score is generated for a given project area after all of the individual LESA factors have been scored and weighted. Final project scoring is based on a scale of 100 points, with a given project being capable of deriving a maximum of 50 points from the Land Evaluation factors and 50 points from the Site Assessment factors. Scoring thresholds are based upon both the total LESA score and the component subscores. In this manner, the scoring thresholds are dependent upon the minimum score for the LESA subscores so that a scoring decision is not the result of heavily skewed subscores (i.e., a site with a very high Land Evaluation score, but a very low Site Assessment score, or vice versa). Table 5.A presents the California Agricultural LESA scoring thresholds.

Table 5.A: California LESA Model Scoring Thresholds

Total LESA Score	Scoring Decision
0–39 Points	Not Considered Significant
40–59 Points	Considered Significant only if Land Evaluation and Site Assessment subscores are each greater than or equal to 20 points
60–79 Points	Considered Significant unless either Land Evaluation or Site Assessment subscore is less than 20 points
80–100 Points	Considered Significant

Source: California Agricultural Land Evaluation and Site Assessment Model Instruction Manual (California Department of Conservation 1997).
LESA = Land Evaluation and Site Assessment

5.2 CEQA THRESHOLDS OF SIGNIFICANCE

The thresholds for agriculture impacts used in this analysis are consistent with Appendix G of the *State CEQA Guidelines*. Agricultural impacts associated with implementation of the proposed project may be considered significant if the agricultural impacts exceed the Thresholds of Significance identified below:

Threshold 1: **Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use;**

Threshold 2: **Conflict with existing zoning for agricultural use, or a Williamson Act contract; and**

Threshold 3: **Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use.**

6.0 PROJECT IMPACTS

The proposed project's potential impacts are discussed below using the above referenced methodology.

Threshold 1: Would the proposed project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

The majority of the project site is currently being cultivated as a vineyard. Table 6.A contains the total acreage of Farmland of Statewide Importance, as shown on maps prepared pursuant to the DOC FMMP, that would be directly impacted by implementation of the proposed project.

Table 6.A: Farmland Mapping and Monitoring Program Land Use Designations on the Project Site

FMMP Designations	Acres in Project Site
Farmland of Statewide Importance (S)	14.31
Total	**14.31**

Source: FMMP, Website: https://www.conservation.ca.gov/dlrp/fmmp/Pages/ContraCosta.aspx (accessed January 2025) (California Department of Conservation 2025).

FMMP = Farmland Mapping and Monitoring Program

The proposed project would result in the construction of a 14.63-acre development that would result in the construction of 71 residential lots, private streets, open space/landscape, and amenity space. As shown in Table 6.A, the DOC FMMP identifies 14.31 acres of Farmland of Statewide Importance within the project area, all of which would be permanently converted to a non-agricultural use, resulting in the direct and permanent loss of 14.31 acres of Farmland of Statewide Importance. The loss of Farmland of Statewide Importance on the project site would reduce the total acres of Important Farmland inventory in Contra Costa County. In 2020, Contra Costa County had an Important Farmland inventory of 96,182 acres, 7,466 acres of which was Farmland of Statewide Importance. Developing the proposed project would decrease Important Farmland within Contra Costa County by 0.01 percent, including a decrease of Farmland of Statewide Importance by 0.19 percent. Once the land is converted to a non-agricultural use, the ability to use the land designated for Farmland of Statewide Importance would be lost.

To determine the significance of this conversion of Important Farmland to non-agricultural uses, the LESA Model was prepared for the proposed project. The California LESA Model worksheets that were completed for the proposed project are provided in Appendix A. The final score for the proposed project is provided below in Table 6.B.

The proposed project achieved a Final LESA score of 43. According to the LESA Model instructions, a final score between 40 to 59 points is considered significant only if both the Land Evaluation and Site Assessment subscores are greater than or equal to 20 points. The Land Evaluation subtotal is greater than 20 points (26.5 points), and the Site Assessment subtotal is less than 20 points (16.5 points).

Table 6.B: Vineyard Crossing Land Evaluation and Site Assessment Scoring

Factor Name	Factor Rating (0–100 Points)	×	Factor Weighting (Total = 1.00)	=	Weighted Factor Rating
Land Evaluation					
1. Land Capability Classification	60	×	0.25	=	15
2. Storie Index Rating	46	×	0.25	=	11.5
Land Evaluation Subscore					**26.5**
Site Assessment					
1. Project Size	10	×	0.15	=	1.5
2. Water Resource Availability	100	×	0.15	=	15
3. Surrounding Agricultural Land	0	×	0.15	=	0
4. Protected Resource Lands	0	×	0.05	=	0
Site Assessment Subscore					**16.5**
Total LESA Score (Land Evaluation + Site Assessment)					**43**

Source: Land Evaluation and Site Assessment Model (LSA 2024).
LESA = Land Evaluation Site Assessment

Therefore, the conversion of approximately 14.31 acres of Important Farmlands (Farmland of Statewide Importance) to a non-agricultural use would not be considered a significant impact. Overall, the loss of Important Farmland due to project implementation would result in a nominal loss of the existing inventory within Contra Costa County. Impacts would be less than significant, and no mitigation is required.

Threshold 2: Would the Project conflict with existing zoning for agricultural use, or a Williamson Act Contract?

The project site is not under a Williamson Act Contract or an FSZ contract; as such, the proposed project would not conflict with a Williamson Act Contract.

The project site is zoned Planned Development, which accommodates various types of development and is intended to enable and encourage flexibility in the design and development of land so as to promote its most appropriate use; to allow diversification in the relationship of various uses, structures, and space; to facilitate the adequate and economical provision of streets and utilities; to preserve the natural and scenic qualities of open space; to offer recreational opportunities convenient to residents to enhance the appearance of neighborhoods through the preservation of natural green spaces; and to counteract the effects of urban congestion and monotony.

The project site is not zoned for agricultural uses under existing conditions. As such, the proposed project would not conflict with existing zoning for agricultural use. There would be no impact, and no mitigation is required.

Threshold 3: Would the Project involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?

No changes to the existing environment other than those analyzed as part of the proposed project (e.g., residential, streets, open space/landscape, and amenity space) would result in the direct

conversion of agricultural uses to nonagricultural uses. Projects that are growth inducing (i.e., large retail/outlet uses, commercial uses, etc.) and developed on agricultural land, particularly agricultural land surrounded by other agricultural uses, are an example of projects that would influence the conversion of agricultural land to a non-agricultural use.

The project site is surrounded by a variety of land uses including residential uses, undeveloped open space, agricultural land, and a park (see Figure 1-2). Although the proposed project would develop the existing agricultural land with residential uses, the proposed use is consistent with existing zoning, is consistent with the density of surrounding land uses, would not extend infrastructure into previously unserved areas, and would not expand a jurisdiction or district's sphere of influence. Additionally, the surrounding agricultural uses consist of small-scale vineyards or row crops with single-family residences on site, which would result in fewer compatibility issues than larger scale agricultural production uses due to lower chemical treatments, less farmworker presence, less truck traffic, and fewer odors. Furthermore, State and local Right-to-Farm acts have been implemented to establish the rights of agricultural activities to operate and not be considered a nuisance, which would further protect existing nearby agricultural operations. Additionally, the project site does not directly border any agricultural uses and is bordered directly by residential uses to the north, east, and west. As such, interface conflicts and land use conflicts with adjacent properties are not expected to occur.

Therefore, implementation of the proposed project would not influence the conversion of the City of Antioch's remaining agricultural uses to non-agricultural uses. The proposed project would not involve other changes in the existing environment which, due to their location or nature, could result in conversion of farmland to non-agricultural uses. Project impacts involving other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use would be less than significant, and no mitigation is required.

6.1 IMPACT SUMMARY

Appendix G of the State CEQA Guidelines provides a list of environmental factors to be analyzed to determine whether a project will have a significant impact on the environment. According to Appendix G of the State CEQA Guidelines, the proposed project may have a significant impact on agricultural resources if it exceeds the following thresholds of significance:

- Converts Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use;
- Conflicts with existing zoning for agricultural use, or a Williamson Act contract; and/or
- Involves other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use.

As detailed in the analysis above, the proposed project would result in **no impact** or a **less than significant impac**t related to all three thresholds of significance. Therefore, the proposed project would not have a significant impact on agricultural resources.

APPENDIX A

LESA MODEL

Appendix A. California Agricultural LESA Worksheets

NOTES

The Vineyard Crossing Project is a 14.63 acre site located in the City of Antioch. One soil type has been identified on the site: Delhi sand, 2 to 9 percent slopes (DaC) (refer to Figure 1: Soils, attached at the end of the worksheets). The Land Capability Classification (LCC) and Storie Index for the on-site soils were found on the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Web Soil Survey.

According to the USDA NRCS Web Soil Survey, the LCCs for the DaC soils are as follows: VIe for nonirrigated land and IIIs for irrigated land. The LCC value for irrigated land was used, as the project site is irrigated, which equates to 60 points according to the LCC Scoring Table.

According to the USDA NRCS Web Soil Survey, DaC soil has a Storie Index of 46.

Calculation of the Land Evaluation (LE) Score

Part 1. Land Capability Classification (LCC) Score:

(1) Determine the total acreage of the project.
(2) Determine the soil types within the project area and enter them in **Column A** of the **Land Evaluation Worksheet** provided on page 2-A.
(3) Calculate the total acres of each soil type and enter the amounts in **Column B**.
(4) Divide the acres of each soil type (**Column B**) by the total acreage to determine the proportion of each soil type present. Enter the proportion of each soil type in **Column C**.
(5) Determine the LCC for each soil type from the applicable Soil Survey and enter it in **Column D**.
(6) From the LCC Scoring Table below, determine the point rating corresponding to the LCC for each soil type and enter it in **Column E**.

LCC Scoring Table

LCC Class	I	IIe	IIs,w	IIIe	IIIs,w	IVe	IVs,w	V	VI	VII	VIII
Points	100	90	80	70	60	50	40	30	20	10	0

(7) Multiply the proportion of each soil type (**Column C**) by the point score (**Column E**) and enter the resulting scores in **Column F**.
(8) Sum the LCC scores in **Column F**.
(9) Enter the LCC score in box <1> of the **Final LESA Score Sheet** on page 10-A.

Part 2. Storie Index Score:

(1) Determine the Storie Index rating for each soil type and enter it in **Column G**.
(2) Multiply the proportion of each soil type (**Column C**) by the Storie Index rating (**Column G**) and enter the scores in **Column H**.
(3) Sum the Storie Index scores in **Column H** to gain the Storie Index Score.
(4) Enter the Storie Index Score in box <2> of the **Final LESA Score Sheet** on page 10-A.

Land Evaluation Worksheet

Land Capability Classification (LCC) and Storie Index Scores

A	B	C	D	E	F	G	H
Soil Map Unit	Project Acres	Proportion of Project Area	LCC	LCC Rating	LCC Score	Storie Index	Storie Index Score
DaC	14.63	1.0	IIIs	60	60	46	46
Totals	14.63	(Must Sum to 1.0)		***LCC Total Score***	60	***Storie Index Total Score***	46

Site Assessment Worksheet 1.

Project Size Score

	I	J	K
	LCC Class I - II	LCC Class III	LCC Class IV - VIII
		14.63	
Total Acres	0	14.63	0
Project Size Scores	0	10	0

Highest Project Size Score 10

NOTES

The project site contains 14.63 acres of Class III soils as shown in Column J. As such, a SA score of 10 points was assigned to the project site.

Calculation of the Site Assessment (SA) Score

Part 1. Project Size Score:.

1 sing **Site Assessment Worksheet 1** provided on page 2-A, enter the acreage of each soil type from **Column B** in the **Column - I, J or** □ - that corresponds to the LCC for that soil. Note: While the Project Size Score is a component of the Site Assessment calculations, the score sheet is an extension of data collected in the Land Evaluation Worksheet, and is therefore displayed eside it .

2 Sum **Column I** to determine the total amount of class I and II soils on the project site.

3 Sum **Column J** to determine the total amount of class III soils on the project site.

4 Sum **Column** □ to determine the total amount of class IV and lower soils on the project site.

5 Compare the total score for each LCC group in the Project Size Scoring Ta le elow and determine which group receives the highest score.

Project Size Scoring Ta le

Class I or II		**Class III**		**Class IV or Lower**	
Acreage	Points	Acreage	Points	Acreage	Points
80	100	160	100	320	100
60-79	90	120-159	90	240-319	80
40-59	80	80-119	80	160-239	60
20-39	50	60-79	70	100-159	40
10-19	30	40-59	60	40-99	20
10	0	20-39	30	40	0
		10-19	10		
		10	0		

6 Enter the **Project Size Score** the highest score from the three LCC categories in ox 3 of the **Final LESA Score Sheet** on page 10-A.

NOTES

The project site is currently irrigated using Contra Costa Water District canal water. Irrigation is feasible with no physical or economic restrictions during both regular rainfall and drought years. As such, a Water Resource Availability Score of 100 points was assigned to the project site.

Part 2. Water Resource Availability Score:

(1) Determine the type(s) of irrigation present on the project site, including a determination of whether there is dryland agricultural activity as well.

(2) Divide the site into portions according to the type or types of irrigation or dryland cropping that is available in each portion. Enter this information in **Column B** of **Site Assessment Worksheet 2. - Water Resources Availability**.

(3) Determine the proportion of the total site represented for each portion identified, and enter this information in **Column C**.

(4) Using the Water Resources Availability Scoring Table, identify the option that is most applicable for each portion, based upon the feasibility of irrigation in drought and non-drought years, and whether physical or economic restrictions are likely to exist. Enter the applicable Water Resource Availability Score into **Column D**.

(5) Multiply the Water Resource Availability Score for each portion by the proportion of the project area it represents to determine the weighted score for each portion in **Column E**.

(6) Sum the scores for all portions to determine the project's total Water Resources Availability Score

(7) Enter the Water Resource Availability Score in box <4> of the **Final LESA Score Sheet** on page 10-A.

Site Assessment Worksheet 2. - Water Resources Availability

A	B	C	D	E
Project Portion	Water Source	Proportion of Project Area	Water Availability Score	Weighted Availability Score (C x D)
1	Contra Costa Water District	1	100	100
2				
3				
4				
5				
6				
		(Must Sum to 1.0)	***Total Water Resource Score***	100

Water Resource Availability Scoring Table

Option	Non-Drought Years			Drought Years			WATER RESOURCE SCORE
	RESTRICTIONS			RESTRICTIONS			
	Irrigated Production Feasible?	Physical Restrictions ?	Economic Restrictions ?	Irrigated Production Feasible?	Physical Restrictions ?	Economic Restrictions ?	
1	YES	NO	NO	YES	NO	NO	100
2	YES	NO	NO	YES	NO	YES	95
3	YES	NO	YES	YES	NO	YES	90
4	YES	NO	NO	YES	YES	NO	85
5	YES	NO	NO	YES	YES	YES	80
6	YES	YES	NO	YES	YES	NO	75
7	YES	YES	YES	YES	YES	YES	65
8	YES	NO	NO	NO	-- --	-- --	50
9	YES	NO	YES	NO	-- --	-- --	45
10	YES	YES	NO	NO	-- --	-- --	35
11	YES	YES	YES	NO	-- --	-- --	30
12	Irrigated production not feasible, but rainfall adequate for dryland production in both drought and non-drought years						25
13	Irrigated production not feasible, but rainfall adequate for dryland production in non-drought years (but not in drought years)						20
14	Neither irrigated nor dryland production feasible						0

NOTES

As shown in Figure 2, the total acreage of the Zone of Influence (ZOI) is 321.62 acres, and 11.98 acres of the ZOI are under agricultural production (based on observation of aerial imagery from Maxar Imagery from July of 2022 and Division of Water Rights data from 2021). 3.7 percent of the ZOI is under agricultural production. Therefore, the Surrounding Agricultural Land Score equates to 0 points.

Part 3. Surrounding Agricultural Land Use Score:

(1) Calculate the project's Zone of Influence (ZOI) as follows:

(a) a rectangle is drawn around the project such that the rectangle is the smallest that can completely encompass the project area.

(b) a second rectangle is then drawn which extends one quarter mile on all sides beyond the first rectangle.

(c) The ZOI includes all parcels that are contained within or are intersected by the second rectangle, less the area of the project itself.

(2) Sum the area of all parcels to determine the total acreage of the ZOI.

(3) Determine which parcels are in agricultural use and sum the areas of these parcels

(4) Divide the area in agriculture found in step (3) by the total area of the ZOI found in step (2) to determine the percent of the ZOI that is in agricultural use.

(5) Determine the Surrounding Agricultural Land Score utilizing the Surrounding Agricultural Land Scoring Table below.

Surrounding Agricultural Land Scoring Table

Percent of ZOI in Agriculture	Surrounding Agricultural Land Score
90-100	100
80-89	90
75-79	80
70-74	70
65-69	60
60-64	50
55-59	40
50-54	30
45-49	20
40-44	10
<40	0

(5) Enter the Surrounding Agricultural Land Score in box <5> of the **Final LESA Score Sheet** on page 10-A.

Site Assessment Worksheet 3.
Surrounding Agricultural Land and Surrounding Protected Resource Land

A	B	C	D	E	F	G
Zone of Influence						
Total Acres	Acres in Agriculture	Acres of Protected Resource Land	Percent in Agriculture (A/B)	Percent Protected Resource Land (A/C)	Surrounding Agricultural Land Score (From Table)	Surrounding Protected Resource Land Score (From Table)
321.62	11.98	21.60	3.7	6.7	0	0

Part 4. Protected Resource Lands Score:

The Protected Resource Lands scoring relies upon the same Zone of Influence information gathered in Part 3, and figures are entered in Site Assessment Worksheet 3, which combines the surrounding agricultural and protected lands calculations.

(1) Use the total area of the ZOI calculated in Part 3. for the Surrounding Agricultural Land Use score.
(2) Sum the area of those parcels within the ZOI that are protected resource lands, as defined in the California Agricultural LESA Guidelines.
(3) Divide the area that is determined to be protected in Step (2) by the total acreage of the ZOI to determine the percentage of the surrounding area that is under resource protection.
(4) Determine the Surrounding Protected Resource Land Score utilizing the Surrounding Protected Resource Land Scoring Table below.

Surrounding Protected Resource Land Scoring Table

Percent of ZOI Protected	Protected Resource Land Score
90-100	100
80-89	90
75-79	80
70-74	70
65-69	60
60-64	50
55-59	40
50-54	30
45-49	20
40-44	10
<40	0

(5) Enter the Protected Resource Land score in box <6> of the **Final LESA Score Sheet** on page 10-A.

NOTES

As shown in Figure 3, the total acreage of the ZOI is 321.62 acres, and 21.60 acres of the ZOI is considered protected resource lands (based on observation of aerial imagery from Maxar Imagery from July of 2022, California Protected Areas Database data from 2023 and the 2023 City of Antioch General Plan). Protected resource lands are defined as Williamson Act contracted lands; publicly owned lands maintained as park, forest, or watershed resources; and lands with agricultural, wildlife habitat, open space, or other natural resource easements that restrict the conversion of such land to urban or industrial uses. 6.7 percent of the ZOI consists of protected resource lands. Therefore, the Surrounding Protected Resource Score equates to 0 points.

LESA Worksheet (cont.)

NOTES

The component LE and SA factors have been entered into the Final LESA Score Sheet.

The LE factor scores are multiplied by the factor weights to determine the weighted score for each. The weighted LE factor scores are summed to determine the LE portion of the Final LESA score.

The SA factor scores are multiplied by the factor weights to determine the weighted score for each. The weighted SA factor scores are summed to determine the SA portion of the Final LESA score.

The LE and SA subtotals are summed to determine the Final LESA Score. The Final LESA Score for the proposed project is 43 points. A final score between 40 to 59 points is considered significant only if both the LE and SA subscores are greater than or equal to 20 points. The LE subtotal is greater than 20 points (26.5 points) but the SA subtotal is less than 20 points (16.5 points). Therefore, the LESA Model concludes that the conversion of the agricultural land (Farmland of Statewide Importance) on the project site to a non-agricultural use would not constitute a significant impact.

Final LESA Score Sheet

Calculation of the Final LESA Score:

(1) Multiply each factor score by the factor weight to determine the weighted score and enter in Weighted Factor Scores column.
(2) Sum the weighted factor scores for the LE factors to determine the total LE score for the project.
(3) Sum the weighted factor scores for the SA factors to determine the total SA score for the project.
(4) Sum the total LE and SA scores to determine the Final LESA Score for the project.

	Factor Scores	Factor Weight	Weighted Factor Scores
LE Factors			
Land Capability Classification	<1> 60	0.25	15
Storie Index	<2> 46	0.25	11.5
LE Subtotal		***0.50***	26.5
SA Factors			
Project Size	<3> 10	0.15	1.5
Water Resource Availability	<4> 100	0.15	15
Surrounding Agricultural Land	<5> 0	0.15	0
Protected Resource Land	<6> 0	0.05	0
SA Subtotal		***0.50***	16.5
		Final LESA Score	43

For further information on the scoring thresholds under the California Agricultural LESA Model, consult Section 4 of the Instruction Manual.



LSA

Project Site

Soil Type

DaC - Delhi sand, 2 to 9 percent slopes (14.63 ac)

FIGURE 1

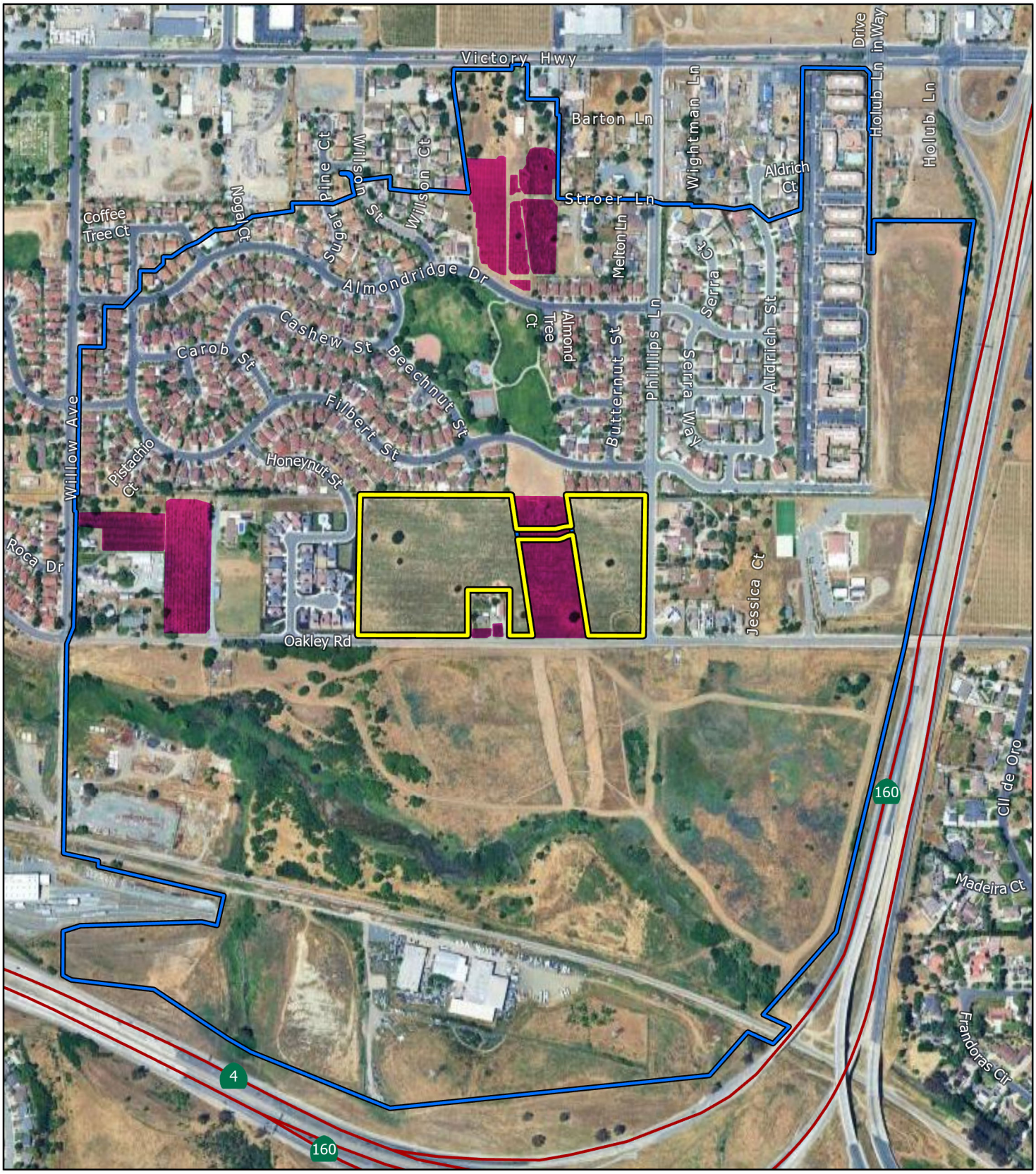
0 70 140
FEET

Vineyard Crossing

Site Soils

SOURCE: Google Imagery, USDA NRCS SSURGO Database (April 2024)

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LSA

Project Site (14.63 ac)

Zone of Influence (321.62 ac)

Vineyards within Zone of Influence (11.98 ac)

FIGURE 2

N

0 300 600

FEET

SOURCE: Maxar Imagery (July 2022), DWR (2021)

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Vineyard Crossing

Zone of Influence Agricultural Lands



LSA

Project Site (14.63 ac)

Zone of Influence (321.62 ac)

Protected Resource Land in Zone of Influence (21.60 ac)

City Park or Trail

Designated Open Space in City of Antioch General Plan

0 300 600

FEET

FIGURE 3

Vineyard Crossing

Zone of Influence Protected Resource Lands

SOURCE: Maxar Imagery (July 2022), California Protected Areas Database (2023), City of Antioch General Plan (February 2023)

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APPENDIX B

CALEEMOD RESULTS

Vineyard Crossing Custom Report

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1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Vineyard Crossing
Construction Start Date	12/1/2025
Operational Year	2028
Lead Agency	City of Antioch
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.60
Precipitation (days)	20.6
Location	37.99850712117728, -121.76249851906096
County	Contra Costa
City	Antioch
Air District	Bay Area AQMD
Air Basin	San Francisco Bay Area
TAZ	1360
EDFZ	1
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Pacific Gas & Electric
App Version	2022.1.1.29

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Single Family Housing	85.0	Dwelling Unit	9.73	165,750	299,833	—	246	—

Condo/Townhouse	52.0	Dwelling Unit	4.12	55,120	0.00	—	150	—
Parking Lot	20.0	Space	0.18	0.00	0.00	—	—	—
Recreational Swimming Pool	1.53	1000sqft	0.28	1,526	0.00	—	—	—
Health Club	2.68	1000sqft	0.28	2,676	0.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	10.5	10.2	11.4	17.6	0.03	0.41	0.80	1.21	0.38	0.19	0.57	—	3,661	3,661	0.14	0.11	3.65	3,700
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	10.5	10.2	31.7	30.8	0.06	1.37	19.8	21.2	1.26	10.1	11.4	—	6,760	6,760	0.27	0.11	0.09	6,785
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	6.72	6.51	8.49	12.2	0.02	0.31	0.85	1.12	0.28	0.40	0.52	—	2,600	2,600	0.10	0.07	1.03	2,626
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.23	1.19	1.55	2.23	< 0.005	0.06	0.16	0.20	0.05	0.07	0.10	—	430	430	0.02	0.01	0.17	435

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	10.5	10.2	11.4	17.6	0.03	0.41	0.80	1.21	0.38	0.19	0.57	—	3,661	3,661	0.14	0.11	3.65	3,700
2027	10.4	10.1	10.9	17.4	0.03	0.36	0.80	1.16	0.33	0.19	0.53	—	3,639	3,639	0.14	0.11	3.28	3,678
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	4.00	3.37	31.7	30.8	0.06	1.37	19.8	21.2	1.26	10.1	11.4	—	6,760	6,760	0.27	0.06	0.02	6,785
2026	10.5	10.2	27.3	28.2	0.06	1.12	9.37	10.5	1.03	3.69	4.72	—	6,757	6,757	0.27	0.11	0.09	6,782
2027	10.4	10.1	11.0	16.9	0.03	0.36	0.80	1.16	0.33	0.19	0.53	—	3,579	3,579	0.14	0.11	0.09	3,615
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.24	0.20	1.86	1.81	< 0.005	0.08	0.85	0.93	0.07	0.40	0.47	—	374	374	0.02	< 0.005	0.02	375
2026	6.72	6.51	8.49	12.2	0.02	0.31	0.81	1.12	0.28	0.24	0.52	—	2,600	2,600	0.10	0.07	1.03	2,626
2027	3.68	3.59	3.64	5.61	0.01	0.12	0.26	0.38	0.11	0.06	0.17	—	1,193	1,193	0.05	0.04	0.47	1,205
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.04	0.04	0.34	0.33	< 0.005	0.01	0.16	0.17	0.01	0.07	0.09	—	61.9	61.9	< 0.005	< 0.005	< 0.005	62.1
2026	1.23	1.19	1.55	2.23	< 0.005	0.06	0.15	0.20	0.05	0.04	0.10	—	430	430	0.02	0.01	0.17	435
2027	0.67	0.66	0.66	1.02	< 0.005	0.02	0.05	0.07	0.02	0.01	0.03	—	197	197	0.01	0.01	0.08	199

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	10.6	10.1	4.16	38.5	0.08	0.17	7.02	7.18	0.16	1.78	1.94	75.4	9,905	9,980	8.08	0.33	23.9	10,303

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	9.63	9.24	4.56	28.3	0.08	0.16	7.02	7.18	0.16	1.78	1.94	75.4	9,365	9,441	8.12	0.36	2.18	9,752
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	9.95	9.55	4.38	31.2	0.08	0.16	6.93	7.09	0.16	1.76	1.92	75.4	9,417	9,492	8.10	0.34	11.2	9,808
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.82	1.74	0.80	5.70	0.01	0.03	1.26	1.29	0.03	0.32	0.35	12.5	1,559	1,572	1.34	0.06	1.86	1,624

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	4.01	3.72	2.66	30.0	0.07	0.05	7.02	7.07	0.04	1.78	1.82	—	7,606	7,606	0.29	0.29	22.3	7,722
Area	6.38	6.34	0.10	7.92	< 0.005	0.01	—	0.01	< 0.005	—	< 0.005	0.00	45.6	45.6	< 0.005	< 0.005	—	45.8
Energy	0.16	0.08	1.41	0.61	0.01	0.11	—	0.11	0.11	—	0.11	—	2,222	2,222	0.23	0.01	—	2,231
Water	—	—	—	—	—	—	—	—	—	—	—	10.0	31.0	41.0	1.03	0.03	—	74.3
Waste	—	—	—	—	—	—	—	—	—	—	—	65.3	0.00	65.3	6.53	0.00	—	229
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.60	1.60
Total	10.6	10.1	4.16	38.5	0.08	0.17	7.02	7.18	0.16	1.78	1.94	75.4	9,905	9,980	8.08	0.33	23.9	10,303
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	3.81	3.51	3.13	27.7	0.07	0.05	7.02	7.07	0.04	1.78	1.82	—	7,088	7,088	0.33	0.32	0.58	7,192
Area	5.65	5.65	0.03	0.01	0.00	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	24.4	24.4	< 0.005	< 0.005	—	24.5
Energy	0.16	0.08	1.41	0.61	0.01	0.11	—	0.11	0.11	—	0.11	—	2,222	2,222	0.23	0.01	—	2,231

Water	—	—	—	—	—	—	—	—	—	—	—	10.0	31.0	41.0	1.03	0.03	—	74.3
Waste	—	—	—	—	—	—	—	—	—	—	—	65.3	0.00	65.3	6.53	0.00	—	229
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.60	1.60
Total	9.63	9.24	4.56	28.3	0.08	0.16	7.02	7.18	0.16	1.78	1.94	75.4	9,365	9,441	8.12	0.36	2.18	9,752
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	3.78	3.48	2.93	26.7	0.07	0.05	6.93	6.97	0.04	1.76	1.80	—	7,148	7,148	0.31	0.31	9.62	7,257
Area	6.01	5.99	0.04	3.90	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	16.0	16.0	< 0.005	< 0.005	—	16.0
Energy	0.16	0.08	1.41	0.61	0.01	0.11	—	0.11	0.11	—	0.11	—	2,222	2,222	0.23	0.01	—	2,231
Water	—	—	—	—	—	—	—	—	—	—	—	10.0	31.0	41.0	1.03	0.03	—	74.3
Waste	—	—	—	—	—	—	—	—	—	—	—	65.3	0.00	65.3	6.53	0.00	—	229
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.60	1.60
Total	9.95	9.55	4.38	31.2	0.08	0.16	6.93	7.09	0.16	1.76	1.92	75.4	9,417	9,492	8.10	0.34	11.2	9,808
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.69	0.63	0.53	4.88	0.01	0.01	1.26	1.27	0.01	0.32	0.33	—	1,183	1,183	0.05	0.05	1.59	1,201
Area	1.10	1.09	0.01	0.71	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	2.64	2.64	< 0.005	< 0.005	—	2.65
Energy	0.03	0.02	0.26	0.11	< 0.005	0.02	—	0.02	0.02	—	0.02	—	368	368	0.04	< 0.005	—	369
Water	—	—	—	—	—	—	—	—	—	—	—	1.66	5.13	6.79	0.17	< 0.005	—	12.3
Waste	—	—	—	—	—	—	—	—	—	—	—	10.8	0.00	10.8	1.08	0.00	—	37.8
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.27	0.27
Total	1.82	1.74	0.80	5.70	0.01	0.03	1.26	1.29	0.03	0.32	0.35	12.5	1,559	1,572	1.34	0.06	1.86	1,624

3. Construction Emissions Details

3.1. Site Preparation (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.94	3.31	31.6	30.2	0.05	1.37	—	1.37	1.26	—	1.26	—	5,295	5,295	0.21	0.04	—	5,314
Dust From Material Movement	—	—	—	—	—	—	19.7	19.7	—	10.1	10.1	—	—	—	—	—	—	—
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.09	0.87	0.83	< 0.005	0.04	—	0.04	0.03	—	0.03	—	145	145	0.01	< 0.005	—	146
Dust From Material Movement	—	—	—	—	—	—	0.54	0.54	—	0.28	0.28	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.16	0.15	< 0.005	0.01	—	0.01	0.01	—	0.01	—	24.0	24.0	< 0.005	< 0.005	—	24.1
Dust From Material Movement	—	—	—	—	—	—	0.10	0.10	—	0.05	0.05	—	—	—	—	—	—	—

Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.05	0.62	0.00	0.00	0.14	0.14	0.00	0.03	0.03	—	141	141	< 0.005	0.01	0.02	143
Vendor	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	0.00
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.91	3.91	< 0.005	< 0.005	0.01	3.97
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.65	0.65	< 0.005	< 0.005	< 0.005	0.66
Vendor	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	0.00
Hauling	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	0.00

3.3. Grading (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Roa Equipment	3.80	3.20	29.7	28.3	0.06	1.23	—	1.23	1.14	—	1.14	—	6,599	6,599	0.27	0.05	—	6,622
Dust From Material Movement	—	—	—	—	—	—	9.20	9.20	—	3.65	3.65	—	—	—	—	—	—	—
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Roa d Equipm ent	0.13	0.11	0.99	0.94	< 0.005	0.04	—	0.04	0.04	—	0.04	—	220	220	0.01	< 0.005	—	220
Dust From Material Movement	—	—	—	—	—	—	0.31	0.31	—	0.12	0.12	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Roa d Equipm ent	0.02	0.02	0.18	0.17	< 0.005	0.01	—	0.01	0.01	—	0.01	—	36.3	36.3	< 0.005	< 0.005	—	36.5
Dust From Material Movement	—	—	—	—	—	—	0.06	0.06	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.07	0.06	0.71	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	161	161	< 0.005	0.01	0.02	163
Vendor	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	0.00
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.42	5.42	< 0.005	< 0.005	0.01	5.51
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.90	0.90	< 0.005	< 0.005	< 0.005	0.91
Vendor	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	0.00
Hauling	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	0.00

3.5. Grading (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.62	3.04	27.2	27.6	0.06	1.12	—	1.12	1.03	—	1.03	—	6,599	6,599	0.27	0.05	—	6,621

Dust From Material Movement	—	—	—	—	—	—	9.20	9.20	—	3.65	3.65	—	—	—	—	—	—	—
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.10	0.85	0.86	< 0.005	0.04	—	0.04	0.03	—	0.03	—	207	207	0.01	< 0.005	—	207
Dust From Material Movement	—	—	—	—	—	—	0.29	0.29	—	0.11	0.11	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.16	0.16	< 0.005	0.01	—	0.01	0.01	—	0.01	—	34.2	34.2	< 0.005	< 0.005	—	34.3
Dust From Material Movement	—	—	—	—	—	—	0.05	0.05	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.06	0.66	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	158	158	< 0.005	0.01	0.02	160

Vendor	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	0.00
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.01	5.01	< 0.005	< 0.005	0.01	5.08
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.83	0.83	< 0.005	< 0.005	< 0.005	0.84
Vendor	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	0.00
Hauling	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	0.00

3.7. Building Construction (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.28	1.07	9.85	13.0	0.02	0.38	—	0.38	0.35	—	0.35	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.28	1.07	9.85	13.0	0.02	0.38	—	0.38	0.35	—	0.35	—	2,397	2,397	0.10	0.02	—	2,405

Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.83	0.70	6.42	8.45	0.02	0.25	—	0.25	0.23	—	0.23	—	1,562	1,562	0.06	0.01	—	1,568
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.13	1.17	1.54	< 0.005	0.05	—	0.05	0.04	—	0.04	—	259	259	0.01	< 0.005	—	260
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.25	0.24	0.15	2.74	0.00	0.00	0.58	0.58	0.00	0.14	0.14	—	603	603	0.01	0.02	2.22	613
Vendor	0.04	0.01	0.52	0.25	< 0.005	0.01	0.11	0.11	0.01	0.03	0.04	—	407	407	0.02	0.06	0.98	426
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.23	0.21	0.20	2.31	0.00	0.00	0.58	0.58	0.00	0.14	0.14	—	552	552	0.02	0.02	0.06	560
Vendor	0.04	0.01	0.55	0.26	< 0.005	0.01	0.11	0.11	0.01	0.03	0.04	—	407	407	0.02	0.06	0.03	425
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.15	0.13	0.11	1.47	0.00	0.00	0.37	0.37	0.00	0.09	0.09	—	364	364	0.01	0.02	0.62	369
Vendor	0.03	0.01	0.35	0.17	< 0.005	< 0.005	0.07	0.07	< 0.005	0.02	0.02	—	265	265	0.01	0.04	0.28	277

Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.02	0.02	0.27	0.00	0.00	0.07	0.07	0.00	0.02	0.02	—	60.2	60.2	< 0.005	< 0.005	0.10	61.1
Vendor	< 0.005	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	43.9	43.9	< 0.005	0.01	0.05	45.9
Hauling	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	0.00

3.9. Building Construction (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.23	1.03	9.39	12.9	0.02	0.34	—	0.34	0.31	—	0.31	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.23	1.03	9.39	12.9	0.02	0.34	—	0.34	0.31	—	0.31	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.41	0.34	3.11	4.28	0.01	0.11	—	0.11	0.10	—	0.10	—	793	793	0.03	0.01	—	795

Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.07	0.06	0.57	0.78	< 0.005	0.02	—	0.02	0.02	—	0.02	—	131	131	0.01	< 0.005	—	132
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.24	0.21	0.15	2.56	0.00	0.00	0.58	0.58	0.00	0.14	0.14	—	592	592	0.01	0.02	2.01	601
Vendor	0.04	0.01	0.50	0.24	< 0.005	0.01	0.11	0.11	0.01	0.03	0.04	—	398	398	0.02	0.06	0.86	417
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.22	0.20	0.18	2.17	0.00	0.00	0.58	0.58	0.00	0.14	0.14	—	542	542	0.01	0.02	0.05	549
Vendor	0.03	0.01	0.52	0.25	< 0.005	0.01	0.11	0.11	0.01	0.03	0.04	—	399	399	0.02	0.06	0.02	417
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.07	0.06	0.70	0.00	0.00	0.19	0.19	0.00	0.04	0.04	—	181	181	< 0.005	0.01	0.29	184
Vendor	0.01	< 0.005	0.17	0.08	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	132	132	0.01	0.02	0.12	138
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.13	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	30.0	30.0	< 0.005	< 0.005	0.05	30.4
Vendor	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	21.8	21.8	< 0.005	< 0.005	0.02	22.8
Hauling	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	0.00

3.11. Paving (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.91	0.76	7.12	9.94	0.01	0.32	—	0.32	0.29	—	0.29	—	1,511	1,511	0.06	0.01	—	1,516
Paving	0.05	0.05	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.20	0.27	< 0.005	0.01	—	0.01	0.01	—	0.01	—	41.4	41.4	< 0.005	< 0.005	—	41.5
Paving	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.04	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	6.85	6.85	< 0.005	< 0.005	—	6.88
Paving	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.04	0.50	0.00	0.00	0.12	0.12	0.00	0.03	0.03	—	119	119	< 0.005	0.01	0.01	120
Vendor	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	0.00
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.29	3.29	< 0.005	< 0.005	0.01	3.34
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.54	0.54	< 0.005	< 0.005	< 0.005	0.55
Vendor	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	0.00
Hauling	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	0.00

3.13. Architectural Coating (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.12	0.86	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134

Architectural	8.72	8.72	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.12	0.86	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	8.72	8.72	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.08	0.53	0.71	< 0.005	0.01	—	0.01	0.01	—	0.01	—	83.3	83.3	< 0.005	< 0.005	—	83.6
Architectural Coatings	5.45	5.45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.01	0.10	0.13	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	13.8	13.8	< 0.005	< 0.005	—	13.8
Architectural Coatings	0.99	0.99	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.03	0.55	0.00	0.00	0.12	0.12	0.00	0.03	0.03	—	121	121	< 0.005	< 0.005	0.44	123
Vendor	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	0.00
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.04	0.46	0.00	0.00	0.12	0.12	0.00	0.03	0.03	—	110	110	< 0.005	< 0.005	0.01	112
Vendor	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	0.00
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.02	0.28	0.00	0.00	0.07	0.07	0.00	0.02	0.02	—	69.7	69.7	< 0.005	< 0.005	0.12	70.7
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	11.5	11.5	< 0.005	< 0.005	0.02	11.7
Vendor	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	0.00
Hauling	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	0.00

3.15. Architectural Coating (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	0.11	0.83	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	8.72	8.72	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	0.11	0.83	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	8.72	8.72	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.04	0.30	0.40	< 0.005	0.01	—	0.01	0.01	—	0.01	—	47.8	47.8	< 0.005	< 0.005	—	48.0
Architectural Coatings	3.12	3.12	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.05	0.07	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.92	7.92	< 0.005	< 0.005	—	7.94
Architectural Coatings	0.57	0.57	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.03	0.51	0.00	0.00	0.12	0.12	0.00	0.03	0.03	—	118	118	< 0.005	< 0.005	0.40	120
Vendor	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	0.00
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.04	0.43	0.00	0.00	0.12	0.12	0.00	0.03	0.03	—	108	108	< 0.005	< 0.005	0.01	110
Vendor	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	0.00
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.01	0.01	0.15	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	39.2	39.2	< 0.005	< 0.005	0.06	39.8
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	6.49	6.49	< 0.005	< 0.005	0.01	6.59
Vendor	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	0.00
Hauling	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	0.00

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	2.59	2.40	1.72	19.4	0.05	0.03	4.53	4.56	0.03	1.15	1.18	—	4,912	4,912	0.19	0.19	14.4	4,987
Condo/Townhouse	1.42	1.32	0.94	10.6	0.03	0.02	2.49	2.50	0.02	0.63	0.65	—	2,694	2,694	0.10	0.10	7.89	2,735
Parking Lot	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	0.00
Recreational Swimming Pool	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	0.00
Health Club	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	0.00
Total	4.01	3.72	2.66	30.0	0.07	0.05	7.02	7.07	0.04	1.78	1.82	—	7,606	7,606	0.29	0.29	22.3	7,722
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	2.46	2.27	2.02	17.9	0.04	0.03	4.53	4.56	0.03	1.15	1.18	—	4,577	4,577	0.21	0.21	0.37	4,645

Condo/Townhouse	1.35	1.24	1.11	9.81	0.02	0.02	2.49	2.50	0.02	0.63	0.65	—	2,511	2,511	0.12	0.11	0.20	2,547
Parking Lot	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	0.00
Recreational Swimming Pool	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	0.00
Health Club	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	0.00
Total	3.81	3.51	3.13	27.7	0.07	0.05	7.02	7.07	0.04	1.78	1.82	—	7,088	7,088	0.33	0.32	0.58	7,192
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.44	0.41	0.35	3.15	0.01	0.01	0.82	0.82	0.01	0.21	0.21	—	764	764	0.03	0.03	1.03	776
Condo/Townhouse	0.24	0.22	0.19	1.73	< 0.005	< 0.005	0.45	0.45	< 0.005	0.11	0.12	—	419	419	0.02	0.02	0.56	426
Parking Lot	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	0.00
Recreational Swimming Pool	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	0.00
Health Club	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	0.00
Total	0.69	0.63	0.53	4.88	0.01	0.01	1.26	1.27	0.01	0.32	0.33	—	1,183	1,183	0.05	0.05	1.59	1,201

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	294	294	0.05	0.01	—	297
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	124	124	0.02	< 0.005	—	125
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	3.84	3.84	< 0.005	< 0.005	—	3.88
Recreational Swimming Pool	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Health Club	—	—	—	—	—	—	—	—	—	—	—	—	16.3	16.3	< 0.005	< 0.005	—	16.5
Total	—	—	—	—	—	—	—	—	—	—	—	—	438	438	0.07	0.01	—	443
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	294	294	0.05	0.01	—	297
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	124	124	0.02	< 0.005	—	125
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	3.84	3.84	< 0.005	< 0.005	—	3.88
Recreational Swimming Pool	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00

Health Club	—	—	—	—	—	—	—	—	—	—	—	—	16.3	16.3	< 0.005	< 0.005	—	16.5
Total	—	—	—	—	—	—	—	—	—	—	—	—	438	438	0.07	0.01	—	443
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	48.6	48.6	0.01	< 0.005	—	49.1
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	20.6	20.6	< 0.005	< 0.005	—	20.8
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	0.64	0.64	< 0.005	< 0.005	—	0.64
Recreational Swimming Pool	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Health Club	—	—	—	—	—	—	—	—	—	—	—	—	2.70	2.70	< 0.005	< 0.005	—	2.73
Total	—	—	—	—	—	—	—	—	—	—	—	—	72.5	72.5	0.01	< 0.005	—	73.3

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.12	0.06	0.99	0.42	0.01	0.08	—	0.08	0.08	—	0.08	—	1,259	1,259	0.11	< 0.005	—	1,263
Condo/Townhouse	0.04	0.02	0.38	0.16	< 0.005	0.03	—	0.03	0.03	—	0.03	—	487	487	0.04	< 0.005	—	488

Parking Lot	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
Recreational Swimming Pool	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
Health Club	< 0.005	< 0.005	0.03	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	37.6	37.6	< 0.005	< 0.005	—	37.7
Total	0.16	0.08	1.41	0.61	0.01	0.11	—	0.11	0.11	—	0.11	—	1,784	1,784	0.16	< 0.005	—	1,789
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.12	0.06	0.99	0.42	0.01	0.08	—	0.08	0.08	—	0.08	—	1,259	1,259	0.11	< 0.005	—	1,263
Condo/Townhouse	0.04	0.02	0.38	0.16	< 0.005	0.03	—	0.03	0.03	—	0.03	—	487	487	0.04	< 0.005	—	488
Parking Lot	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
Recreational Swimming Pool	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
Health Club	< 0.005	< 0.005	0.03	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	37.6	37.6	< 0.005	< 0.005	—	37.7
Total	0.16	0.08	1.41	0.61	0.01	0.11	—	0.11	0.11	—	0.11	—	1,784	1,784	0.16	< 0.005	—	1,789
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.02	0.01	0.18	0.08	< 0.005	0.01	—	0.01	0.01	—	0.01	—	208	208	0.02	< 0.005	—	209
Condo/Townhouse	0.01	< 0.005	0.07	0.03	< 0.005	0.01	—	0.01	0.01	—	0.01	—	80.6	80.6	0.01	< 0.005	—	80.9

Parking Lot	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
Recreational Swimming Pool	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
Health Club	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	6.22	6.22	< 0.005	< 0.005	—	6.23
Total	0.03	0.02	0.26	0.11	< 0.005	0.02	—	0.02	0.02	—	0.02	—	295	295	0.03	< 0.005	—	296

4.3. Area Emissions by Source

4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	< 0.005	< 0.005	0.03	0.01	0.00	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	24.4	24.4	< 0.005	< 0.005	—	24.5
Consumer Products	4.78	4.78	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.86	0.86	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.74	0.70	0.07	7.90	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	21.3	21.3	< 0.005	< 0.005	—	21.3
Total	6.38	6.34	0.10	7.92	< 0.005	0.01	—	0.01	< 0.005	—	< 0.005	0.00	45.6	45.6	< 0.005	< 0.005	—	45.8

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	< 0.005	< 0.005	0.03	0.01	0.00	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	24.4	24.4	< 0.005	< 0.005	—	24.5
Consumer Products	4.78	4.78	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.86	0.86	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	5.65	5.65	0.03	0.01	0.00	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	24.4	24.4	< 0.005	< 0.005	—	24.5
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	< 0.005	< 0.005	< 0.005	< 0.005	0.00	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	0.91	0.91	< 0.005	< 0.005	—	0.91
Consumer Products	0.87	0.87	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.16	0.16	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.07	0.06	0.01	0.71	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.74	1.74	< 0.005	< 0.005	—	1.74
Total	1.10	1.09	0.01	0.71	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	2.64	2.64	< 0.005	< 0.005	—	2.65

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	5.93	23.3	29.2	0.61	0.01	—	48.9
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	3.63	6.85	10.5	0.37	0.01	—	22.5
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Recreational Swimming Pool	—	—	—	—	—	—	—	—	—	—	—	0.17	0.33	0.50	0.02	< 0.005	—	1.07
Health Club	—	—	—	—	—	—	—	—	—	—	—	0.30	0.57	0.88	0.03	< 0.005	—	1.88
Total	—	—	—	—	—	—	—	—	—	—	—	10.0	31.0	41.0	1.03	0.03	—	74.3
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	5.93	23.3	29.2	0.61	0.01	—	48.9
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	3.63	6.85	10.5	0.37	0.01	—	22.5
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Recreational Swimming Pool	—	—	—	—	—	—	—	—	—	—	—	0.17	0.33	0.50	0.02	< 0.005	—	1.07
Health Club	—	—	—	—	—	—	—	—	—	—	—	0.30	0.57	0.88	0.03	< 0.005	—	1.88

Total	—	—	—	—	—	—	—	—	—	—	—	10.0	31.0	41.0	1.03	0.03	—	74.3
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	0.98	3.85	4.83	0.10	< 0.005	—	8.10
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	0.60	1.13	1.73	0.06	< 0.005	—	3.72
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Recreational Swimming Pool	—	—	—	—	—	—	—	—	—	—	—	0.03	0.05	0.08	< 0.005	< 0.005	—	0.18
Health Club	—	—	—	—	—	—	—	—	—	—	—	0.05	0.09	0.15	0.01	< 0.005	—	0.31
Total	—	—	—	—	—	—	—	—	—	—	—	1.66	5.13	6.79	0.17	< 0.005	—	12.3

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	31.7	0.00	31.7	3.17	0.00	—	111
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	20.7	0.00	20.7	2.07	0.00	—	72.3

Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Recreational Swimming Pool	—	—	—	—	—	—	—	—	—	—	—	4.69	0.00	4.69	0.47	0.00	—	16.4
Health Club	—	—	—	—	—	—	—	—	—	—	—	8.22	0.00	8.22	0.82	0.00	—	28.8
Total	—	—	—	—	—	—	—	—	—	—	—	65.3	0.00	65.3	6.53	0.00	—	229
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	31.7	0.00	31.7	3.17	0.00	—	111
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	20.7	0.00	20.7	2.07	0.00	—	72.3
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Recreational Swimming Pool	—	—	—	—	—	—	—	—	—	—	—	4.69	0.00	4.69	0.47	0.00	—	16.4
Health Club	—	—	—	—	—	—	—	—	—	—	—	8.22	0.00	8.22	0.82	0.00	—	28.8
Total	—	—	—	—	—	—	—	—	—	—	—	65.3	0.00	65.3	6.53	0.00	—	229
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	5.26	0.00	5.26	0.53	0.00	—	18.4
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	3.42	0.00	3.42	0.34	0.00	—	12.0

Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Recreational Swimming Pool	—	—	—	—	—	—	—	—	—	—	—	0.78	0.00	0.78	0.08	0.00	—	2.72
Health Club	—	—	—	—	—	—	—	—	—	—	—	1.36	0.00	1.36	0.14	0.00	—	4.76
Total	—	—	—	—	—	—	—	—	—	—	—	10.8	0.00	10.8	1.08	0.00	—	37.8

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.19	1.19
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.39	0.39
Recreational Swimming Pool	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.01	0.01
Health Club	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.01	0.01
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.60	1.60

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.19	1.19
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.39	0.39
Recreational Swimming Pool	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.01	0.01
Health Club	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.01	0.01
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.60	1.60
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.20	0.20
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.07	0.07
Recreational Swimming Pool	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005	< 0.005
Health Club	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005	< 0.005
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.27	0.27

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Site Preparation	Site Preparation	12/1/2025	12/12/2025	5.00	10.0	—

Grading	Grading	12/15/2025	1/16/2026	5.00	25.0	—
Building Construction	Building Construction	2/2/2026	6/18/2027	5.00	360	—
Paving	Paving	1/19/2026	1/30/2026	5.00	10.0	—
Architectural Coating	Architectural Coating	2/16/2026	7/2/2027	5.00	360	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Grading	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Grading	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Building Construction	Cranes	Diesel	Average	1.00	7.00	367	0.29
Building Construction	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	3.00	7.00	84.0	0.37
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Paving	Pavers	Diesel	Average	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	11.7	LDA,LDT1,LDT2
Site Preparation	Vendor	—	8.40	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	20.0	11.7	LDA,LDT1,LDT2
Grading	Vendor	—	8.40	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	69.8	11.7	LDA,LDT1,LDT2
Building Construction	Vendor	15.3	8.40	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	11.7	LDA,LDT1,LDT2
Paving	Vendor	—	8.40	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	14.0	11.7	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	8.40	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT

Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	447,262	149,087	4,014	1,338	470

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Site Preparation	—	—	15.0	0.00	—
Grading	—	—	75.0	0.00	—
Paving	0.00	0.00	0.00	0.00	1.12

5.6.2. Construction Earthmoving Control Strategies

Non-applicable. No control strategies activated by user.

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Single Family Housing	0.94	0%
Condo/Townhouse	—	0%
Parking Lot	0.18	100%
Recreational Swimming Pool	0.00	0%

Health Club	0.00	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2025	0.00	204	0.03	< 0.005
2026	0.00	204	0.03	< 0.005
2027	0.00	204	0.03	< 0.005

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Single Family Housing	694	694	694	253,310	6,420	6,420	6,420	2,343,429
Condo/Townhouse	381	381	381	138,934	3,521	3,521	3,521	1,285,307
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Recreational Swimming Pool	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Health Club	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

Hearth Type	Unmitigated (number)
Single Family Housing	—
Wood Fireplaces	0

Gas Fireplaces	0
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	0
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0
Condo/Townhouse	—
Wood Fireplaces	0
Gas Fireplaces	0
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	0
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0
Health Club	—
Wood Fireplaces	0
Gas Fireplaces	0
Propane Fireplaces	1
Electric Fireplaces	0
No Fireplaces	0

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)

447261.75	149,087	4,014	1,338	470

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Single Family Housing	525,713	204	0.0330	0.0040	3,928,863
Condo/Townhouse	222,273	204	0.0330	0.0040	1,519,679
Parking Lot	6,869	204	0.0330	0.0040	0.00
Recreational Swimming Pool	0.00	204	0.0330	0.0040	0.00
Health Club	29,196	204	0.0330	0.0040	117,180

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Single Family Housing	3,093,348	4,373,784
Condo/Townhouse	1,892,401	0.00
Parking Lot	0.00	0.00
Recreational Swimming Pool	90,252	0.00
Health Club	158,237	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Single Family Housing	58.9	—
Condo/Townhouse	38.3	—
Parking Lot	0.00	—
Recreational Swimming Pool	8.70	—
Health Club	15.3	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Single Family Housing	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Single Family Housing	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
Condo/Townhouse	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Condo/Townhouse	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
Recreational Swimming Pool	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Recreational Swimming Pool	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00

Health Club	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Health Club	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)

5.17. User Defined

Equipment Type	Fuel Type

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

8. User Changes to Default Data

Screen	Justification
Land Use	Lot acreage adjusted to represent overall acreage of the project site. Health Club is representative of the Recreational Center.
Construction: Construction Phases	Based on typical construction practices, architectural coating assumed to start two weeks after the start of building construction and last for the same number of days. Phase timing is based on the project-specific construction schedule provided by the applicant.
Operations: Vehicle Data	Trip rates adjusted to be consistent with traffic report prepared for the proposed project.
Operations: Hearths	Based on applicant provided information, the Recreational Center would have 1 fire pit.

APPENDIX C

TECHNICAL BIOLOGICAL REPORT

LIVE OAK
ASSOCIATES, INC.

VINEYARDS CROSSING
TECHNICAL BIOLOGICAL REPORT
CITY OF ANTIOCH, CONTRA COSTA COUNTY, CALIFORNIA

Prepared by

LIVE OAK ASSOCIATES, INC.

Rick Hopkins, Ph.D., Principal/Senior Wildlife Ecologist
Katrina Krakow, M.S., Sr. Project Manager/Staff Ecologist
Amy Patten Project Manager/Plant Ecologist
Robert Shields Field Manager/Wildlife Ecologist

Prepared for

Angela DeRosa
Raney Management
1501 Sports Drive, Suite A
Sacramento, CA 95834

May 28, 2025 PN 2965-01

OAKHURST
P.O. Box 2697 | 39930 Sierra Way #B
Oakhurst, CA 93644
P: (559) 642-4880 | F: (559) 642-4883

SAN JOSE
6840 Via Del Oro, Suite 220
San Jose, CA 95119
(408) 224-8300

TRUCKEE
P.O. Box 8810
Truckee, CA 96161
(530) 214-8947

SOUTH LAKE TAHOE
P.O. Box 7314
South Lake Tahoe, CA 96158
(408) 281-5885

WWW.LOAINC.COM

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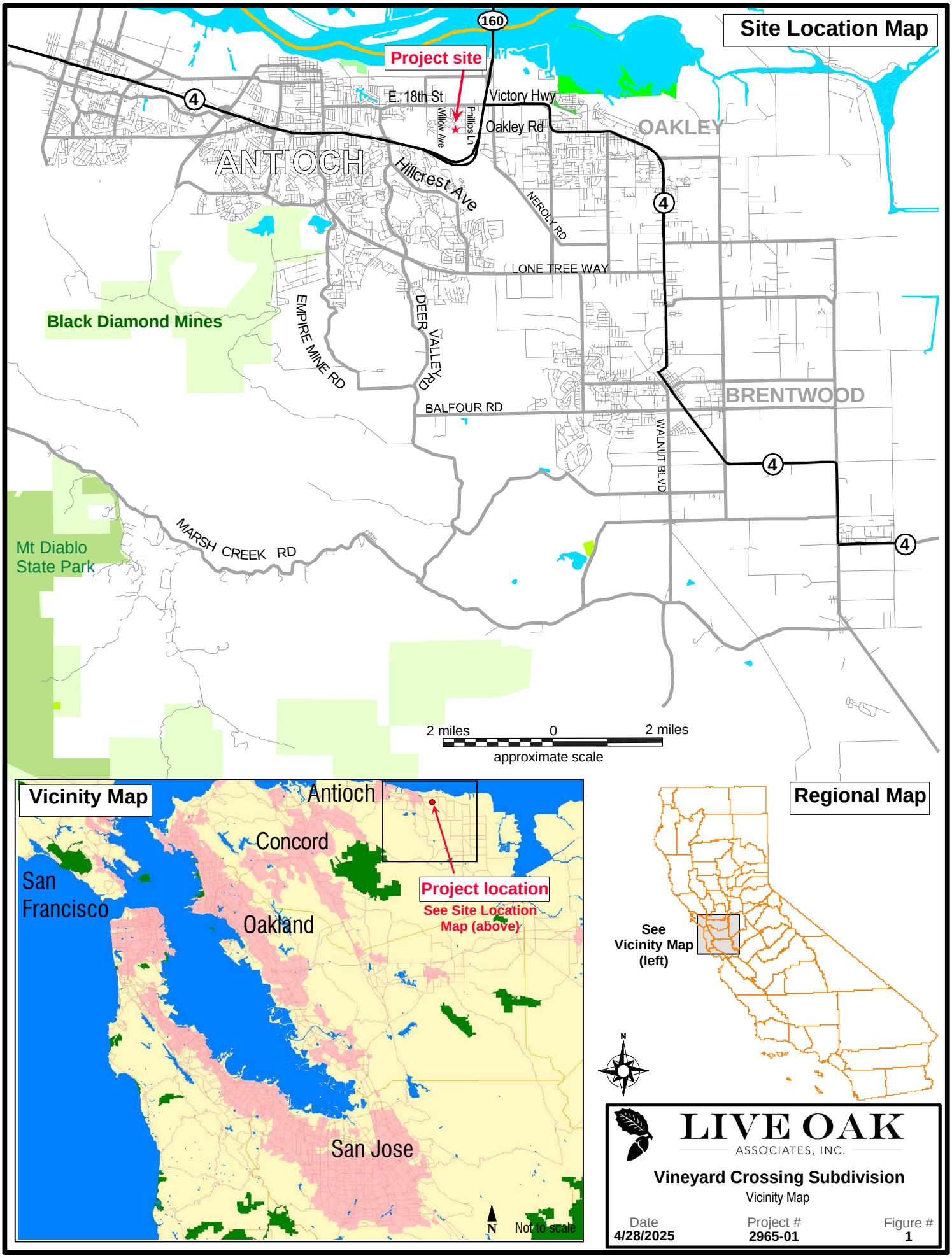
1 INTRODUCTION

The approximately 14.64-acre Vineyards Crossing project site, located at 3001 Oakley Road in the City of Antioch, Contra Costa County, California (APNs 051-090-028 and -034) (Figure 1) was evaluated by Live Oak Associates, Inc. (LOA) to ascertain whether build-out of the project ("project") would have a significant impact, as defined by the California Environmental Quality Act (CEQA), on the biological resources of the site and region. This report describes the biotic resources of the approximately 14.64-acre, project site and evaluates potential impacts to these biotic resources resulting from the proposed project. The site can be found on the Antioch South U.S.G.S. 7.5' quadrangle in Section 21 of Township 2 North, Range 2 East.

In general, the development of parcels can damage or modify biotic habitats used by sensitive plant and wildlife species. In such cases, site development may be regulated by state or federal agencies, subject to provisions of CEQA, and/or covered by local policies and ordinances. Therefore, this report addresses: 1) sensitive biotic resources potentially occurring in the project site; 2) the federal, state, and local laws regulating such resources, 3) possible significant impacts to these resources that could result from the project; and 4) mitigation measures that would reduce these impacts to a less-than-significant level as defined by CEQA.

The analysis of impacts, as discussed in Section 3.0 of this report, was based on the known and potential biotic resources of the project site discussed in Section 2.0. Sources of information used in the preparation of this analysis included: 1) the California Natural Diversity Data Base (RareFind 5; CDFW 2025); 2) the California Rare Plant Rank (CNPS 2025); 3) manuals and references related to plants and animals of the region; and 4) policies and ordinances of the City of Antioch that relate to biotic resources.

A field survey of the project site was conducted on April 16, 2025, by LOA wildlife ecologist Robert Shields and LOA plant ecologist Amy Patten.



LIVE OAK
ASSOCIATES, INC.

Vineyard Crossing Subdivision

Vicinity Map

Date	Project #	Figure #
4/28/2025	2965-01	1

1.1 PROJECT DESCRIPTION

The proposed project would include the subdivision of the project site into 77 residential lots ranging from approximately 3,400-sf to 5,000-sf and subsequent development of 51 single-family residences, 47 ADUs, and 52 duplexes.

2 EXISTING CONDITIONS

The 14.64-acre project site is currently developed with a vineyard located at 3001 Oakley Road in the City of Antioch, Contra Costa County, California (APNs 051-090-028 and -034). These two parcels are separated by an area which supports a linear feature going through the local landscape with high-tension power poles. Elevations of the site are relatively flat and range from a low of approximately 71 feet (21 meters) to a high of approximately 77 feet (23 meters) National Geodetic Vertical Datum (NGVD).

The site is bounded to the north, west, and east by residential development and to the south by natural land.

One soil map unit occurs on the site (NRCS 2025). Delhi Sand, 2 to 9% slopes underlie the entire site. Delhi Sand occur on alluvial fans, floodplains, and terraces and is derived from wind modified material weathered from granite rock. This is a very deep, somewhat excessively drained soil with negligible to slow runoff and rapid permeability. This soil type is not considered hydric.

Annual precipitation in the general vicinity of the project site is about 15-20 inches, almost 85% of which falls between the months of October and March. Virtually all precipitation falls in the form of rain.

2.1 BIOTIC HABITATS

Three land cover types have been identified on the site and these include Vineyard, Developed, and Stormwater Basin (Figure 2). These land cover types are described in greater detail below.

2.1.1 Vineyard

The site is dominated by vineyards (*Vitus* sp.) with several scattered coast live oak (*Quercus agrifolia*) trees in the middle of the site. Understory vegetation between the rows is ruderal and aside from scattered miniature lupines (*Lupinus bicolor*), consists almost entirely of non-native invasive vegetation, including, but not limited to Mediterranean storksbill (*Erodium botrys*), tumbleweed (*Salsola tragus*), and sow-thistle (*Sonchus* sp.). The edges of the vineyard are weedy and disturbed with additional non-native plants including, but not limited to slender wild oat (*Avena barbata*), great brome (*Bromus diandrus*), cheeseweed mallow (*Malva parviflora*),

Puncture vine (*Tribulus terrestris*), hairy vetch (*Vicia villosa*), and also includes the native species of deerweed (*Acmispon glaber*) and miniature lupine.

Wildlife species observed in this habitat during the April 2025 site visit include the Rock pigeon (*Columba livia*),European collared-dove (*Streptopelia decaocto*), Anna's hummingbird (*Calypte anna*), killdeer (*Charadrius vociferus*), turkey vulture (*Cathartes aura*), Cooper's hawk (*Astur cooperii*), red-tailed hawk (*Buteo jamaicensis*), California scrub-jay (*Aphelocoma californica*), American crow (*Corvus brachyrhymchos*), European starling (*Sturnus vulgaris*), and northern mockingbird (*Mimus polyglottos*). Other wildlife sign observed include California harvest ant (*Pogonomyrmex californicus*) mounds, Coast Range fence lizard (*Sceloporus occidentalis bocourtii*), and Botta's pocket gopher (*Thomomys bottae*) burrows.

2.1.2 Stormwater Basin

A shallow stormwater basin, approximately 100-foot diameter at the widest, exists in the southeast corner of the site. Associated plant species include slender wild oat, bromes (*Bromus* sp.), and vetch (*Vicia* sp.) and was dry at the time of the site visit. Review of aerial imagery shows this basin holds water intermittently and has the potential to support Pacific chorus frog (*Pseudacris regilla*) and western toad (*Anaxyrus boreas*) breeding if it is inundated for long enough. Wildlife species occurring in adjacent habitats would be expected to use this habitat or move through this habitat when dry.

2.1.3 Developed

A paved pathway exists along the northern portion of the site along the border and into the northeastern corner of the site. Animal species in adjacent habitat would be expected to move through this habitat.



LEGEND

- Approximate Project Boundaries
- Vineyard Land use
- Stormwater Basin
- Developed

300' 0 150' 300 feet

approximate scale

SOURCES:

County of Contra Costa Planning Department

U.S.D.A. National Agriculture Imagery Program (NAIP) Aerial Photo Field Office 10/23/2024

LIVE OAK ASSOCIATES, INC.

Vineyard Crossing Subdivision

Habitats / Land Cover

Date	Project #	Figure #
5/19/2025	**2965-01**	**2**

2.2 MOVEMENT CORRIDORS

Landscape linkages are defined as “areas that allow for the movement of species from one area of suitable habitat to another. A linkage can vary from a narrow strip of habitat that only functions as a conduit for movement (i.e., a corridor) or a large area of intact habitat that is used for movement, dispersal, and other life functions such as foraging and breeding”. Many wildlife linkages are broad areas of regional movement corridors for wildlife that generally includes a wide swath of land used for movement between two or more core areas for multiple regional species.

Beier and Loe (1992) noted five functions of corridors (rather than physical traits) that are relevant when conducting an analysis regarding the value of linkages. The following five functions should be used to evaluate the suitability of a given tract of land for use as a habitat corridor:

1. Wide ranging mammals can migrate and find mates;
2. Plants can propagate within the corridor and beyond;
3. Genetic integrity can be maintained;
4. Animals can use the corridor in response to environmental changes or a catastrophic event;
5. Individuals can recolonize areas where local extinctions have occurred.

A corridor is “wide enough” when it meets these functions for the suite of animals in the area. It is important to note that landscape linkages are used differently by different species. For instance, medium to large mammals (or some bird species) may traverse a corridor in a matter of minutes or hours, while smaller mammals or other species may take a longer period of time to move through the same corridor (e.g., measured in days, weeks and even years). For example, an individual cougar may traverse the entire length of a long narrow corridor in an hour while travel of smaller species (such as rodent or rabbit species) may best be measured as gene flow within regional populations. These examples demonstrate that landscape linkages are not simply highways that animals use to move back and forth. While linkages may serve this purpose, they also allow for slower or more infrequent movement. Width and length must be considered in evaluating the value of a landscape linkage. A long narrow corridor would most likely only be useful to wide ranging animals such as cougars and coyotes when moving between core habitat areas.

To the extent practicable, conservation of linkages should address the needs of "passage species" (those species that typically use a corridor for the express purpose of moving from one intact area to another) *and* "corridor dwellers" (slow moving species such as plants and some amphibians and reptiles that require days or generations to move through the corridor).

The site occurs within the City of Antioch in an area surrounded by residential development on three sides and more natural land to the south. Most current animal movements on the site would likely be local movements within the site and its immediate vicinity rather than regional movements. Significant areas of open space lands, including natural lands to the south and in the vicinity would continue to provide local and regional movement habitat even after project development.

2.3 SPECIAL STATUS PLANTS AND ANIMALS

Several species of plants and animals within the state of California have low populations, limited distributions, or both. Such species may be considered "rare" and are vulnerable to extirpation as the state's human population grows and the habitats these species occupy are converted to agricultural and urban uses. As described more fully in Section 3.2, state and federal laws have provided the California Department of Fish and Wildlife (CDFW) and the U.S. Fish and Wildlife Service (USFWS) with a mechanism for conserving and protecting the diversity of plant and animal species native to the state. A sizable number of native plants and animals have been formally designated as threatened or endangered under state and federal endangered species legislation. Others have been designated as "candidates" for such listing. Still others have been designated as "species of special concern" by the CDFW. The California Native Plant Society (CNPS) has developed its own set of lists of native plants considered rare, threatened, or endangered (CNPS 2001). Collectively, these plants and animals are referred to as "special status species."

A number of special status plants and animals occur in the vicinity of the project site. These species, and their potential to occur in the project site, are listed in Table 2. Sources of information for this table included *California Natural Diversity Data Base* (CDFW 2025), *Listed Plants* and *Listed Animals* (USFWS 2025), *State and Federally Listed Endangered and Threatened Animals of California* (CDFW 2025), *The California Native Plant Society's Inventory of Rare and Endangered*

Vascular Plants of California (CNPS 2025), *California Bird Species of Special Concern* (Shuford and Gardall 2008), and *California Amphibian and Reptile Species of Special Concern* (Thompson et al. 2016). This information was used to evaluate the potential for special status plant and animal species that occur on the site.

A search of published accounts for all relevant special status plant and animal species was conducted for the Antioch South USGS 7.5-minute quadrangle in which the project site occurs, and for the eight surrounding quadrangles (Honker Bay, Antioch North, Jersey Island, Clayton, Brentwood, Diablo, Tassajara, and Byron Hot Springs) using the CNDDB Rarefind5. All species listed as occurring in these quadrangles with a California Rare Protected Ranking (CRPR) of 1A, 1B, 2, 3, or 4 were also reviewed (Table 1).

Habitats such as vernal pools; wetlands and seeps; marshes and swamps; serpentine; highly alkaline habitats; cismontane, broad-leaf or coniferous forests; and chaparral are absent from the project site. As such, plant and animal species that are known to occur, or to once have occurred, in the project region that only occur in habitats which are not present on the site have been eliminated from consideration in Table 1. These latter species that occur in habitats that are not present on the site and have been eliminated from consideration include green sturgeon (*Acipenser medirostris*), Sacramento perch (*Archoplites interruptus*), Delta smelt (*Hypomesus transpecificus*), steelhead (*Oncorhynchus mykiss irideus*), longfin smelt (*Spirinchus thaleichthys*), yellow rail (*Coturnicops noveboracensis*), California black rail (*Laterallus jamaicensis coturniculus*), California Ridgeway's rail (*Rallus obsoletus obsoletus*), salt-marsh harvest mouse (*Reithrodontomys raviventris*), slender silver moss (*Anomobryum julaceum*), Mt. Diablo *m*anzanita (*Arctostaphylos auriculata*), Contra Costa manzanita (*Arctostaphylos manzanita* ssp. *laevigata*), Alkali milk-vetch (*Astragalus tener* var. *tener*), heartscale (*Atriplex cordulata* var. *cordulata*), brittlescale (*Atriplex depressa*), lesser saltscale (*Atriplex minuscule*), Congdon's tarplant (*Centromadia parryi* ssp. *congdonii*), soft salty bird's-beak (*Chloropyron molle* ssp. *molle*), Bolander's water hemlock (*Cicuta maculate* var. *bolanderi*), Mt. Diablo bird's-beak (*Cordylanthus nidularius*), Hospital Canyon larkspur (*Delphinium californicum* ssp. *interius*), dwarf downingia (*Downingia pusilla*), Lime Ridge eriastrum (*Eriastrum ertterae*), Jepson's coyote-thistle (*Eryngium*

jepsonii), stinkbells (*Fritillaria agrestis*), fragrant fritillary (*Fritillaria liliacea*), Toren's grimmia (*Grimmia torenii*), Diablo helianthella (*Helianthella castanea*), Brewer's western flax (*Hesperolinon breweri*), Woolly rose-mallow (*Hibiscus lasiocarpos* var. *occidentalis*), Contra Costa goldfields (*Lasthenia conjugens*), Delta tule pea (*Lathyrus jepsonii* var. *jepsonii*), Mason's lilaeopsis (*Lilaeopsis masonii*), Delta mudwort (*Limosella australis*), Hall's bush-mallow (*Malcothamnus hallii*), woodland woollythreads (*Monolopia gracilens*), Lime Ridge navarretia (*Navarretia gowenii*), Mount Diablo Phacelia (*Phacelia phacelioides*), bearded popcornflower (*Plagiobothrys hystriculus*), eel-grass pondweed *(Potamogaton zosteriformis*), California alkali grass (*Puccinellia simplex*), chaparral harebell (*Ravenella exigua*), rock sanicle (*Sanicula saxatilis*), chaparral ragwort (*Senecio aphanactis*), Keck's checkerbloom (*Sidalcea keckii*), long-styled sand-spurrey (*Spergularia macrotheca var. longistyla*), most beautiful jewelflower (*Streptanthus albidus* ssp. *perameonus*), northern slender pondweed (*Stuckenia filiformis* ssp. *alpina*), broadleaf pondweed (*Stuckenia striata*), Suisun Marsh aster (*Symphyotrichum lentum*), coastal triquetrella (*Triquetrella californica*), Caper-fruited tropidocarpum (*Tropidocarpum capparideum*), and oval-leaved viburnum (*Viburnum ellipticum*).

TABLE 1: SPECIAL STATUS SPECIES THAT COULD OCCUR IN THE PROJECT VICINITY.

PLANTS (adapted from CDFW 2025 and CNPS 2025)
Threatened and Endangered Plants

Common and scientific names	Status	General habitat description	*Occurrence in the study area
Large-flowered fiddleneck *Amsinckia grandiflora*	FE, CE, CRPR 1B.1	Habitat: Cismontane woodlands and valley and foothill grasslands. Elevation: 275-550 meters. Blooms: April-May. Lifeform: Annual herb.	**Absent.** The site is well below the elevational range at which this species is known to occur; habitats of the site are marginal for this species due to agricultural and other human disturbance; and there are no known occurrences within a three-mile radius.
Contra Costa wallflower *Erysimum capitatum* var. *angustatum*	FE, CE, CRPR 1B.1	Habitat: Inland Dunes Elevation: 3-20 meters Blooms: March-July Lifeform: Perennial herb	**Unlikely.** While suitable sandy soils are present on the site, habitats of the site are not suitable for this species due to agricultural and other human disturbance.
Antioch Dunes evening-primrose *Oenothera deltoides* ssp. *howellii*	FE, CE, CRPR 1B.1	Habitat: Inland dunes. Elevation: 0-30 meters. Blooms: March-September. Lifeform: Perennial herb.	**Unlikely.** An occurrence of this species (Occurrence #3) was documented in 1978 immediately north of the site; however, follow-up surveys in 2011 determined the population was extirpated (CDFW 2025). While this species has been known to occur on sandy soils in ruderal habitats, the project site has formerly been in agricultural production, and long-term agricultural disturbance would have made the site unsuitable. Additionally, surrounding land uses would make it unlikely that this species would have colonized on the site from known extant populations. The closest extant populations occur approximately one-mile north and one-mile northeast of the site near Suisun Marsh.

TABLE 1: SPECIAL STATUS SPECIES THAT COULD OCCUR IN THE PROJECT VICINITY.

PLANTS (adapted from CDFW 2025 and CNPS 2025)
Other plant species listed by CNPS

Common and scientific names	Status	General habitat description	*Occurrence in the study area
Big tarplant *Blepharizonia plumosa*	CRPR 1B.1	Habitats: Valley and foothill grassland, usually on clay soil. Elevation: 30-505 meters. Blooms: July-October. Lifeform: Annual herb.	**Unlikely.** Suitable clay soils are absent. Habitats of the site are marginal for this species due to agricultural and other human disturbance. Additionally, all occurrences in the project region date back to the late 1800's and early 1900's (CDFW 2025).
Mt. Diablo fairy lantern *Calochortus pulchellus*	CRPR 1B.2	Habitat: Chaparral, cismontane woodland, riparian woodland, and valley and foothill grasslands.	**Absent.** Habitats of the site are not suitable for this species due to agricultural and other human disturbance, the site is well below the elevation range for this species, and there are no known occurrences within

TABLE 1: SPECIAL STATUS SPECIES THAT COULD OCCUR IN THE PROJECT VICINITY.

PLANTS (adapted from CDFW 2025 and CNPS 2025)
Other plant species listed by CNPS

Common and scientific names	Status	General habitat description	*Occurrence in the study area
		Elevation: 30-840 meters. Blooms: April- June Lifeform: Perennial herb	a three-mile radius of the site (CDFW 2025).
Hoover's cryptantha *Cryptantha hooveri*	CRPR 1A	Habitat: Inland dunes; sandy soils in valley and foothill grasslands. Elevation: 9-150 meters. Blooms: April-May. Lifeform: Annual herb.	**Unlikely.** Presumed extinct and last observed in 1939. While suitable sandy soil is present, habitats of the site are marginal for this species due to agricultural and other human disturbance. There is only one occurrence of this species known within a three-mile radius (Occurrence #4) which dates back to the early 1900s in an area of Antioch which is now developed (CDFW 2025).
Recurved larkspur *Delphinium recurvatum*	CRPR 1B.2	Habitat: Chenopod scrub, cismontane woodland, and valley and foothill grasslands. Elevation: 3-750 meters. Blooms: March - June. Lifeform: Perennial herb	**Absent.** Habitats of the site are not suitable for this species due to agricultural and other human disturbance, and there are no known occurrences within a three-mile radius of the site (CDFW 2025).
Antioch Dunes buckwheat *Eriogonum nudum var. psychicola*	CRPR 1B.1	Habitats: Inland dunes Elevation: 0-20 meters Blooms: July-October Lifeform: Perennial Herb	**Unlikely.** This species is only known from one occurrence in Antioch Dunes National Wildlife Refuge. While suitable sandy soils are present, habitats of the site are highly impacted by agricultural and other human disturbances (CDFW 2025).
Mt. Diablo buckwheat *Eriogonum truncatum*	CRPR 1B.1	Habitat: Occurs in chaparral, coastal scrub, and valley and foothill grasslands. Elevation: 3-350 meters. Blooms: April-December Lifeform: Annual herb	**Absent.** Habitats of the site are not suitable for this species due to agricultural and other human disturbance, and there are no known occurrences of this species within a three-mile radius of the site. It is only known from one extant occurrence, and the only observance of this species in the Antioch area was last observed in the late 1800s (Occurrence #4) in an area which is now developed (CDFW 2025).
Diamond-petaled California poppy (Eschscholzia rhombipetala)	CRPR 1B.1	Habitat: Typically occurs on alkaline clay soils in chenopod scrub, meadows and seeps, playas, valley and foothill grasslands, and vernal pools. Elevation: 1-320 meters. Blooms: Annual herb; April-October.	**Unlikely.** While this species typically occurs in clay or alkaline soils, there is a nearby record from Antioch Dunes National Wildlife Refuge that is presumed extirpated. There are no longer extant records in Contra Costa County (CDFW 2025).
San Joaquin spearscale *Extriplex joaquinana*	CRPR 1B.2	Habitat: Occurs in chenopod scrub, meadows and seeps,	**Absent.** Although this species has been known to occur in disturbed habitats

TABLE 1: SPECIAL STATUS SPECIES THAT COULD OCCUR IN THE PROJECT VICINITY.

PLANTS (adapted from CDFW 2025 and CNPS 2025)
Other plant species listed by CNPS

Common and scientific names	Status	General habitat description	*Occurrence in the study area
		playas, and valley and foothill grasslands on alkaline soils. Elevation: 1-835 meters. Blooms: April-October. Lifeform: Annual herb.	such as the ruderal habitats of the site, the soils of the site are not alkaline and there are no known occurrences of this species within a three-mile radius of the site (CDFW 2025).
Showy golden madia *Madia radiata*	CRPR 1B.1	Habitat: Cismontane woodland; valley and foothill grassland. Elevation: 25-1215 meters Blooms: March-May Lifeform: Annual herb	**Absent.** Habitats of the site are not suitable for this species due to agricultural and other human disturbance.
Shining navarretia *Navarretia nigelliformis ssp. radians*	CRPR 1B.2	Habitat: Cismontane woodlands, valley and foothill grasslands, and vernal pools. Elevation: 76-1000 meters. Blooms: April-July. Lifeform: Annual herb.	**Absent.** Habitats of the site are not suitable for this species due to agricultural and other human disturbance.
Mt. Diablo jewelflower Streptanthus hispidus	CRPR 1B.3	Habitat: Occurs in rocky soils in chaparral and valley and foothill grasslands. Elevation: 365-1200 meters. Blooms: March-June. Lifeform: Annual herb.	**Absent.** Suitable rocky substrates are absent from the site.

TABLE 1: SPECIAL STATUS SPECIES THAT COULD OCCUR IN THE PROJECT VICINITY.

ANIMALS (adapted from CDFW 2025 and USFWS 2025)
Species Listed as Threatened or Endangered under the State and/or Federal Endangered Species Acts

Common and scientific names	Status	General habitat description	*Occurrence in the study area
Crotch bumble bee *Bombus crotchii*	CCE	In California, inhabits open grassland and scrub habitats of the southern 2/3 of California. Historically in, but largely extirpated from the Central Valley. Flight period for queens is late February to late October peaking in April and July; flight period for males and workers is March through September peaking in early July. Constructs nests underground in animal burrows. Overwintering sites are likely in soft soils or in debris or leaf litter.	**Absent.** There are no recent records from the region (CDFW 2025).

TABLE 1: SPECIAL STATUS SPECIES THAT COULD OCCUR IN THE PROJECT VICINITY.

ANIMALS (adapted from CDFW 2025 and USFWS 2025)

Species Listed as Threatened or Endangered under the State and/or Federal Endangered Species Acts

Common and scientific names	Status	General habitat description	*Occurrence in the study area
Western bumble bee *Bombus occidentalis*	CCE	In California, mainly occurring within the coastal and Sierra Nevada ranges within meadows and grasslands and some natural areas within urban environments. Indication of recent population potentially being restricted to high elevation and coastal areas. Historically occurred from the Channel Islands to the northern California border. Flight period is February to late November, peaking in late June and late September. Tends to construct nest underground in animal burrows on west and south-west facing slopes. Overwintering sites are likely in friable soils or in debris or leaf litter.	**Absent.** There are no recent records from the region (CDFW 2025).
Lange's metalmark butterfly *Apodemia mormo langei*	FE	Occurs in riverbank sand dunes supporting its host plant *Eriogonum latifolium* ssp. *auriculatum*.	**Absent.** Although the CDFW noted a 2008 record at the Antioch Dunes and said suitable habitat extends from the dunes to include the project site, suitable habitat is absent from the site. The host plant, perennial naked stemmed buckwheat would have been observable during the 2025 site visit, and this species was not observed. In addition, according to the 5-Year Review for this species (USFWS 2020), the Lange's metalmark butterfly is geographically restricted to the Antioch Dune habitat; the document states "Currently, Lange's metalmark can only be found within the Antioch Dunes National Wildlife Refuge…". Therefore, this butterfly species is absent from the site.
Longhorn fairy shrimp *Branchinecta longiantenna*	FE	Occurs in ephemeral wetlands and vernal pools of California.	**Absent.** Suitable habitat is absent from the site.
Vernal pool fairy shrimp *Branchinecta lynchi*	FT	Occurs in vernal pools of California.	**Absent.** Suitable habitat is absent from the site.

TABLE 1: SPECIAL STATUS SPECIES THAT COULD OCCUR IN THE PROJECT VICINITY.

ANIMALS (adapted from CDFW 2025 and USFWS 2025)

Species Listed as Threatened or Endangered under the State and/or Federal Endangered Species Acts

Common and scientific names	Status	General habitat description	*Occurrence in the study area
Conservancy fairy shrimp *Branchinecta conservatio*	FE	Occurs in large, deep vernal pools and lakes of California with water into June at elevations from 5 to 145 meters.	**Absent.** Suitable habitat is absent from the site.
Vernal pool tadpole shrimp *Lepidurus packardi*	FE	Occurs in vernal pools of California. Vernal pools and swales in the Sacramento Valley containing clear to highly turbid water.	**Absent.** Suitable habitat is absent from the site.
California tiger salamander *Ambystoma californiense*	FT, CT	Breeds in vernal pools and stock ponds of central California. Adults estivate in grassland habitats adjacent to the breeding sites.	**Absent.** Suitable habitat is absent from the site, as the stormwater basin does not appear to hold water long enough to support this species.
California red-legged frog *Rana draytonii*	FT, CSC	Rivers, creeks and stock ponds of the Sierra foothills and coast range, preferring pools with overhanging vegetation.	**Absent.** Suitable habitat is absent from the site, as the stormwater basin does not appear to hold water long enough to support this species.
Foothill yellow-legged frog *Rana boylii*	FT, CE	Frequents partly shaded, shallow, swiftly flowing streams and riffles with rocky substrate in a variety of habitats.	**Absent.** Suitable habitat is absent from the site.
Northwestern pond turtle *Actinemys marmorata*	FC, CSC	An aquatic turtle of ponds, marshes, slow-moving rivers, streams and irrigation ditches with aquatic vegetation. Needs basking sites and sandy banks or grassy open fields for egg laying.	**Absent.** Suitable habitat is absent from the site.
Alameda Whipsnake *Masticophis lateralis euryxanthus*	FT, CT	Occurs in chaparral foothills, shrublands with scattered grass patches, rocky canyons, and watercourses. Occurs in the San Francisco Bay area including Alameda, Contra Costa, Santa Clara and San Joaquin Counties, CA.	**Absent.** Suitable habitat is absent from the site.

TABLE 1: SPECIAL STATUS SPECIES THAT COULD OCCUR IN THE PROJECT VICINITY.

ANIMALS (adapted from CDFW 2025 and USFWS 2025)

Species Listed as Threatened or Endangered under the State and/or Federal Endangered Species Acts

Common and scientific names	Status	General habitat description	*Occurrence in the study area
Giant garter snake *Thamnophis gigas*	FT, CT	Habitat requirements consist of (1) adequate water during the snake's active season (early-spring through mid-fall) to provide food and cover; (2) emergent, herbaceous wetland vegetation, such as cattails and bulrushes, for escape cover and foraging habitat during the active season; (3) grassy banks and openings in waterside vegetation for basking; and (4) higher elevation uplands for cover and refuge from flood waters during the snake's dormant season in the winter.	**Absent.** Suitable habitat is absent from the site.
California least tern *Sterna antillarum browni*	FE, CE, CP	Occurs in central to southern California April to November. Found in and near coastal habitat including coasts, beaches, bays, estuaries, lagoons, lakes, and rivers.	**Absent.** Breeding and foraging habitat is absent from the site.
Western snowy plover (*Charadrius alexandrines nivosus*)	FT, CSC	Uses man-made agricultural wastewater ponds and reservoir margins. Breeds on barren to sparsely vegetated ground at alkaline or saline lakes, reservoirs, ponds, and riverine sand bar.	**Absent.** Breeding and foraging habitat is absent from the site.
Burrowing owl *Athene cunicularia*	CC, CSC	Open, dry grasslands, deserts and ruderal areas. Requires suitable burrows. Often associated with California ground squirrels.	**Possible.** Although the site does not support suitable burrows such as ground squirrel burrows, the property to the south of the site supports more suitable habitat and has record of burrowing owls onsite (CDFW 2025); should ground squirrels move onto the site, burrowing owls may move onto the site. Additionally, should burrowing owls occur on the lands south of the site, a construction-free buffer may become necessary on the site.
White-tailed kite *Elanus leucurus*	CP	Nests in trees; forages in a variety of habitats such as open grasslands and agricultural areas throughout central California.	**Unlikely.** Trees within the project site are not suitable to support nesting white-tailed kites and the site supports poor foraging habitat for this species. This species could fly over the site or forage on the site from time to time.

TABLE 1: SPECIAL STATUS SPECIES THAT COULD OCCUR IN THE PROJECT VICINITY.

ANIMALS (adapted from CDFW 2025 and USFWS 2025)

Species Listed as Threatened or Endangered under the State and/or Federal Endangered Species Acts

Common and scientific names	Status	General habitat description	*Occurrence in the study area
Swainson's hawk *Buteo swainsoni*	CT	Breeds in stands with few trees in juniper-sage flats, riparian areas, and in oak savannah. Requires adjacent suitable foraging areas such as grasslands or alfalfa fields supporting rodent populations.	**Possible.** Although the site does not support suitable nesting habitat and supports poor foraging habitat for this species, trees in the vicinity of the project site may support active nests within a half-mile.
Golden eagle *Aquila chrysaetos*	CP	Typically frequents rolling foothills, mountain areas, sage-juniper flats and desert.	**Unlikely.** Although breeding habitat is absent from the site, golden eagles may forage on or fly over the site.
Bank Swallow *Riparia riparia*	CT	Occurs in open areas near flowing water, nests in steep banks along inland water or coast. State-wide.	**Absent.** Suitable habitat for this species is absent from the site.
Tricolored blackbird *Agelaius tricolor*	CT, CSC	Breeds near fresh water, primarily emergent wetlands, with tall thickets. Forages in grassland and cropland habitats.	**Unlikely.** Although breeding habitat is absent from the site; this species may occasionally forage onsite during migration.
San Joaquin kit fox *Vulpes macrotis mutica*	FE, CT	Frequents desert alkali scrub and annual grasslands and may forage in adjacent agricultural habitats. Utilizes enlarged (4 to 10 inches in diameter) ground squirrel burrows as denning habitat.	**Absent.** The site is separated from more natural habitat southwest of the City of Antioch by urban development. Additionally, the last recorded occurrences of this species in the areas south and southwest of the City was 27 years ago in 1995 (CDFW 2025).

TABLE 1: SPECIAL STATUS SPECIES THAT COULD OCCUR IN THE PROJECT VICINITY.

ANIMALS (adapted from CDFW 2025 and USFWS 2025)

Species Listed as Species of Special Concern

Common and scientific names	Status	General habitat description	*Occurrence in the study area
Northern California legless lizard *Anniella pulchra*	CSC	The NCLL (previously called silvery legless lizard) occurs mostly underground in warm moist areas with loose soil and substrate. The NCLL occurs in habitats including sparsely vegetated areas of beach dunes, chaparral, pine-oak woodlands, desert scrub, sandy washes, and stream terraces with sycamores, cottonwoods, or oaks.	**Possible.** Potentially suitable habitat for this species is present onsite due to the sandy soils, detritus on the surface and ant mounds as a possible food source.

TABLE 1: SPECIAL STATUS SPECIES THAT COULD OCCUR IN THE PROJECT VICINITY.

ANIMALS (adapted from CDFW 2025 and USFWS 2025)
Species Listed as Species of Special Concern

Common and scientific names	Status	General habitat description	*Occurrence in the study area
Coast horned lizard *Phrynosoma blainvillii*	CSC	Occur in grasslands, scrublands, oak woodlands, etc. of central California. Common in sandy washes with scattered shrubs.	**Possible.** Potentially suitable habitat for this species is present onsite due to the sandy soils and active ant mounds.
San Joaquin whipsnake *(Masticophis flagellum ruddocki)*	CSC	Open, dry habitats with little or no tree cover. Found in valley grasslands and saltbush scrub in the San Joaquin Valley.	**Unlikely.** The site does not support suitable habitat for this species.
California glossy snake *Arizona elegans occidentalis*	CSC	Occurs in arid areas with grassland, scrub, chaparral, and rocky washes. This species is nocturnal and spends the day in burrows.	**Unlikely.** This site supports marginal habitat for this species.
Northern harrier *Circus cyaneus*	CSC	Frequents meadows, grasslands, open rangelands, freshwater emergent wetlands; uncommon in wooded habitats.	**Possible.** Although potentially suitable breeding habitat is absent from the site, potentially suitable foraging habitat is present on the site.
Short-eared owl *Asio flammeus*	CSC	Occur in wide open spaces including marshes, open shrublands, grassland, prairie, and agricultural field habitats, and need dense ground cover to conceal nests.	**Absent.** The site does not support suitable habitat for this species.
Loggerhead Shrike *Lanius ludovicianus*	CSC	Frequents open habitats with sparse shrubs and trees, other suitable perches, bare ground, and low herbaceous cover. Nests in tall shrubs and dense trees. Forages in grasslands, marshes, and ruderal habitats. Can often be found in cropland.	**Possible.** The site provides potentially suitable foraging habitat for this species, although nesting habitat in the form of shrubs are absent from the site.
Song Sparrow ("Modesto" population) *Melospiza melodia*	CSC	Nests in riparian and dense vegetation fairly near water and along sparsely vegetated irrigation canals.	**Absent.** Suitable habitat for this species is absent from the site.
Suisun song sparrow *Melospiza melodia maxillaris*	CSC	Occurs in tidal salt marsh habitat in Suisun Marsh along Suisun Bay and nests in dense vegetation.	**Absent.** Suitable habitat for this species is absent from the site.
Grasshopper sparrow (*Ammodramus savannarum*)	CSC	Occurs in California during spring and summer in open grasslands with scattered shrubs.	**Absent.** Suitable habitat for this species is absent from the site.
Saltmarsh common yellowthroat *Geolypis trichas sinuosa*	CSC	Dense low growing vegetation associated with marshes and other wet habitats.	**Absent.** Suitable habitat for this species is absent from the site.

TABLE 1: SPECIAL STATUS SPECIES THAT COULD OCCUR IN THE PROJECT VICINITY.

ANIMALS (adapted from CDFW 2025 and USFWS 2025)
Species Listed as Species of Special Concern

Common and scientific names	Status	General habitat description	*Occurrence in the study area
Pallid bat *Antrozous pallidus*	CSC	Grasslands, chaparral, woodlands, and forests of California; most common in dry rocky open areas that provide roosting opportunities.	**Possible.** Although breeding habitat is absent from the site, foraging habitat is present.
Western red bat *Lasiurus blossevillii*	CSC	Roosts in tree or shrub foliage, although will occasionally use caves.	**Possible.** Although breeding habitat is absent from the site, foraging habitat is present.
Townsend's big-eared bat *Corynorhinus townsendii*	CSC	Roosts in caves and structures; forages in a variety of habitats.	**Possible.** Although breeding habitat is absent from the site, foraging habitat is present.
San Francisco dusky-footed Woodrat *Neotoma fuscipes annectens*	CSC	Found in hardwood forests, oak riparian and shrub habitats.	**Absent.** Suitable habitat for this species is absent from the site, additionally, woodrat nests were not observed during the site visit to the site.
American badger *Taxidea taxus*	CSC	Found in drier open stages of most shrub, forest and herbaceous habitats with friable soils.	**Unlikely.** Potentially suitable habitat occurs on the margins of the site, however, the connectivity to more suitable habitat is limited. Therefore, while not impossible a badger may occur on the project site, it is unlikely.

*Explanation of Occurrence Designations and Status Codes
Present: Species observed on the site at time of field surveys or during recent past.
Likely: Species not observed on the site, but it may reasonably be expected to occur there on a regular basis.
Possible: Species not observed on the site, but it could occur there from time to time.
Unlikely: Species not observed on the site, and would not be expected to occur there except, perhaps, as a transient.
Absent: Species not observed on the site and precluded from occurring there because habitat requirements not met.

STATUS CODES

FE	Federally Endangered
FT	Federally Threatened
FPE	Federally Endangered (Proposed)
FC	Federal Candidate
CSC	California Species of Special Concern
CRPR	California Native Plant Society Listing
1A	Plants Presumed Extinct in California
1B	Plants Rare, Threatened, or Endangered in California and elsewhere
2	Plants Rare, Threatened, or Endangered in California, but more common elsewhere
CE	California Endangered
CT	California Threatened
CR	California Rare
CP	California Protected
CCE	California Candidate Endangered
3	Plants about which we need more information – a review list
4	Plants of limited distribution – a watch list

2.4 JURISDICTIONAL WATERS

Jurisdictional waters include rivers, creeks, and drainages that have a defined bed and bank and which, at the very least, carry ephemeral flows. Jurisdictional waters also include lakes, ponds, reservoirs, and wetlands. Such waters may be subject to the regulatory authority of the U.S. Army

Corps of Engineers (USACE), CDFW, and the Regional Water Quality Control Board (RWQCB). A stormwater basin occurs in the southeastern portion of the site. This is not regulated by any of the above agencies. See Section 3.2.5 of this report for additional information.

Jurisdictional waters of the U.S. and state are absent from the site.

3 IMPACTS AND MITIGATIONS

3.1 SIGNIFICANCE CRITERIA

General plans, area plans, and specific projects are subject to the provisions of the California Environmental Quality Act. The purpose of CEQA is to assess the impacts of proposed projects on the environment before they are constructed. For example, site development may require the removal of some or all of its existing vegetation. Animals associated with this vegetation could be destroyed or displaced. Animals adapted to humans, roads, buildings, pets, etc., may replace those species formerly occurring on a site. Plants and animals that are state and/or federally listed as threatened or endangered may be destroyed or displaced. Sensitive habitats such as wetlands and riparian woodlands may be altered or destroyed. These impacts may be considered significant. According to *2025 CEQA Status and Guidelines* (2025), "Significant effect on the environment" means a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic interest. Specific project impacts to biological resources may be considered "significant" if they will:

- 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;
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service;
- Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;

- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; and
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

3.2 RELEVANT GOALS, POLICIES, AND LAWS

3.2.1 Threatened and Endangered Species

State and federal "endangered species" legislation has provided the CDFW and USFWS with a mechanism for conserving and protecting plant and animal species of limited distribution and/or low or declining populations. Species listed as threatened or endangered under provisions of the state and federal Endangered Species Acts, candidate species for such listing, state species of special concern, and some plants listed as endangered by the California Native Plant Society are collectively referred to as "species of special status." Permits may be required from both the CDFW and USFWS if activities associated with a proposed project will result in the take of a listed species. To "take" a listed species, as defined by the state of California, is "to hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture or kill" said species (California Fish and Game Code, Section 86). "Take" is more broadly defined by the federal Endangered Species Act to include "harm" of a listed species (16 USC, Section 1532(19), 50 CFR, Section 17.3). Furthermore, the CDFW and the USFWS are responding agencies under CEQA. Both agencies review CEQA documents in order to determine the adequacy of their treatment of endangered species issues and to make project-specific recommendations for their conservation.

3.2.2 Migratory Birds

State and federal laws also protect most bird species. The State of California signed Assembly Bill 454 into law in 2019, which clarifies native bird protection and increases protections where California law previously deferred to Federal law. The Federal Migratory Bird Treaty Act (FMBTA: 16 U.S.C., scc. 703, Supp. I, 1989) prohibits killing, possessing, or trading in migratory birds, except in accordance with regulations prescribed by the Secretary of the Interior. This act encompasses whole birds, parts of birds, and bird nests and eggs.

3.2.3 Birds of Prey

Birds of prey are protected in California under provisions of the State Fish and Game Code, Section 3503.5, which states that it is "unlawful to take, possess, or destroy any birds in the order Falconiformes or Strigiformes (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto." Construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings, or otherwise lead to nest abandonment. Disturbance that causes nest abandonment and/or loss of reproductive effort is considered "taking" by the CDFW.

Additionally, the Bald and Golden Eagle Protection Act (16 U.S.C., scc. 668-668c) prohibits anyone from taking bald or golden eagles, including their parts, nests, or eggs, unless authorized under a federal permit. The act prohibits any disturbance that directly affects an eagle or an active eagle nest as well as any disturbance caused by humans around a previously used nest site during a time when eagles are not present such that it agitates or bothers an eagle to a degree that interferes with or interrupts normal breeding, feeding, or sheltering habits, and causes injury, death or nest abandonment.

3.2.4 Bats

Section 2000 and 4150 of the California Fish and Game Code states that it is unlawful to take or possess a number of species, including bats, without a license or permit, as required by Section 3007. Additionally, Title 14 of the California Code of Regulations states it is unlawful to harass, herd, or drive a number of species, including bats. To harass is defined as "an intentional act which disrupts an animal's normal behavior patterns, which includes, but is not limited to, breeding, feeding or sheltering." For these reasons, bat colonies in particular are considered to be sensitive and therefore, disturbances that cause harm to bat colonies are unlawful.

3.2.5 Wetlands and Other "Jurisdictional Waters"

Section 404 of the federal Clean Water Act (CWA) regulates the discharge of dredged or fill material into "navigable waters" (33 U.S.C. §1344), defined in the CWA as "the waters of the United States, including the territorial seas" (33 U.S.C. §1362(7)). The CWA does not supply a definition for waters of the U.S., and that has been the subject of considerable debate since the CWA's passage in 1972. A variety of regulatory definitions have been promulgated by the two

federal agencies responsible for implementing the CWA, the Environmental Protection Agency (EPA) and USACE. These definitions have been interpreted, and in some cases, invalidated, by federal courts.

Waters of the U.S. are presently defined by the EPA and USACE's joint 2023 Revised Definition of 'Waters of the U.S.' Rule (2023 WOTUS Rule), with certain interpretive modifications imposed by the U.S. Supreme Court's May 25, 2023, decision in the case of Sackett v. Environmental Protection Agency. These waters include:

- Waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide.
- The territorial seas.
- Interstate waters, including interstate wetlands.
- Impoundments of waters otherwise defined as waters of the United States under the definition.
- Tributaries to other waters of the U.S. that are relatively permanent, standing or continuously flowing bodies of water.
- Wetlands adjacent to other waters of the U.S. that have a continuous surface connection to those waters.

The 2023 WOTUS Rule also defines a number of exclusions from the definition of waters of the U.S., many of which are longstanding exclusions from earlier regulatory regimes. These generally include:

- Waste treatment systems.
- Prior converted cropland.
- Ditches excavated wholly in and draining only dry land that do not carry a relatively permanent flow of water.
- Certain artificial features, e.g., irrigation basins, swimming pools, borrow pits, and artificially irrigated areas.
- Swales and erosional features characterized by low volume, infrequent, or short duration flow.

All activities that involve the discharge of dredge or fill material into waters of the U.S. are subject to the permit requirements of the USACE. Such permits are typically issued on the condition that

the applicant agrees to provide mitigation that results in no net loss of wetland functions or values.

Under the Porter-Cologne Water Quality Control Act of 1969, the State Water Resources Control Board has regulatory authority to protect the water quality of all surface water and groundwater in the State of California ("waters of the State"). Nine RWQCBs oversee water quality at the local and regional level. The RWQCB for a given region regulates discharges of fill or pollutants into waters of the State through the issuance of various permits and orders. Discharges into waters of the State that are also waters of the U.S. require a Section 401 Water Quality Certification from the RWQCB as a prerequisite to obtaining a Section 404 Clean Water Act permit. Discharges into waters of the State that are not also waters of the U.S. require Waste Discharge Requirements (WDRs), or waivers of WDRs, from the RWQCB.

The RWQCB also administers the Construction Storm Water Program and the federal National Pollution Discharge Elimination System (NPDES) program. Projects that disturb one or more acres of soil must obtain a Construction General Permit under the Construction Storm Water Program. A prerequisite for this permit is the development of a Storm Water Pollution Prevention Plan (SWPPP) by a certified Qualified SWPPP Developer. Projects that discharge wastewater, storm water, or other pollutants into a water of the U.S. may require a NPDES permit.

CDFW has jurisdiction over the bed and bank of natural drainages and lakes according to provisions of Section 1601 and 1602 of the California Fish and Game Code. Activities that may substantially modify such waters through the diversion or obstruction of their natural flow, change or use of any material from their bed or bank, or the deposition of debris require a Notification of Lake or Streambed Alteration. If CDFW determines that the activity may adversely affect fish and wildlife resources, a Lake or Streambed Alteration Agreement will be prepared. Such an agreement typically stipulates that certain measures will be implemented to protect the habitat values of the lake or drainage in question.

3.2.6 City of Antioch Oak Tree Preservation Ordinance

The City of Antioch has a tree ordinance (Chapter 5, Article 12, Section 9-5.12.05 of the City's Zoning Ordinance "Tree Preservation and Regulation"), which stipulates that tree removal is

evaluated as part of the development application process for proposed projects. The ordinance breaks down trees that are proposed for removal into six different categories for purposes of determining the appropriate number of replacement trees that will be required:

- An "established" tree is any tree that is at least ten inches in diameter at breast height (DBH), measured 4.5 feet above natural or finished grade.
- An "indigenous tree" is a naturally growing tree of the following species: Blue Oak (*Quercus douglasii*), Valley Oak (*Quercus lobata*), Coast Live Oak (*Quercus agrifolia*), Canyon Live Oak (*Quercus chrysolepis*), Interior Live Oak (*Quercus wislizenii*), California Buckeye (*Aesculus californica*), and California Bay *(Umbellularia californica*)
- A "landmark tree" is any tree that is at least 48 inches in DBH and/or is over 40 feet in height.
- A mature tree is any tree that is at least 26 inches in DBH.
- A street tree is any tree planted within a public right-of-way and/or a tree planting easement.
- A "protected tree" is any tree required to be preserved as a condition of an approval from a regular development application.

The tree ordinance requires that any tree approved for removal will be replaced. Requirements for replacement trees includes two 24-inch box trees for each "established" tree, two 48-inch box trees for each "mature" tree, and the City Council has discretion in determining the appropriate ratio of box tree replacements for any "landmark" or "indigenous" trees.

Several trees occur on the site that would be considered "established" and/or "indigenous" trees including blue and valley oaks.

3.3 IMPACTS SPECIFIC TO THE PROJECT

The proposed project will include development of the entire parcels with residential lots with associated infrastructure and landscaping. As discussed above, activities resulting in impacts to biotic resources may be regulated by local, state, and federal laws. The natural resource issues specific to this project are discussed in detail below.

3.3.1 Potential Project Impacts to Special Status Plants

Potential Impact. All special status plant species known to occur, or to once have occurred, in the project region are considered absent from, or unlikely to occur on, the site (Table 1). This is

because suitable habitat is absent, there are no known occurrences in the project vicinity; and/or the species has not been observed in many decades in the project region. Therefore, the project is expected to have a less than significant impact on special status plants.

Mitigation. No mitigation is warranted.

3.3.2 Loss of Habitat for Special Status Animals

Potential Impact. Thirty-six special status animal species have been documented by the CNDDB to occur, or to once have occurred, in the project region (see Table 1). These species and their likelihood of occurrence on the site are discussed below.

- ***Species Absent from or Unlikely to Occur on the Site***. Twenty-nine of the thirty-six special status wildlife species that have previously been documented in the project region are considered absent from the site because the site provides no suitable habitat for them. These latter species include Crotch bumble bee, western bumble bee, Lange's metalmark butterfly, Conservancy fairy shrimp, vernal pool fairy shrimp, longhorn fairy shrimp, vernal pool tadpole shrimp, California tiger salamanders, foothill yellow-legged frog, California red-legged frog, San Joaquin whipsnake, Alameda whipsnake, giant garter snake, glossy snake, northwestern pond turtle, California least tern, western snowy plover, white-tailed kite, golden eagle, short-eared owl, bank swallow, song sparrow ("Modesto population"), Suisun song sparrow, grasshopper sparrow, tricolored blackbird, saltmarsh common yellowthroat, San Francisco dusky-footed woodrat, American badger, and San Joaquin kit fox. Therefore, development of the site is expected to have a less than significant impact on the aforementioned species.
- ***Special Status Animals That May Forage on the Site.*** The site provides potential foraging habitat, but no roosting or breeding habitat, for three special status bat species including the Townsend's big-eared bat, western red bat, and pallid bat. The loss of foraging habitat for special status birds and loss of foraging habitat for bats would be considered less-than-significant as such foraging habitat is abundant in the project region and therefore no mitigation is warranted.
- ***Special Status Migratory Birds.*** The project site provides potentially suitable breeding and foraging habitat for several special status migratory birds. A simple preconstruction nesting

bird survey would be conducted for the northern harrier and loggerhead shrike, and more in-depth surveys would occur for the Swainson's hawk and burrowing owl, for which marginally suitable habitat exists onsite; surveys for these species are detailed in Sections 3.3.6 and 3.3.7. Although the habitat is marginal for the Swainson's hawk and burrowing owl, and the probability of breeding on the site is low, Sections 3.3.6 and 3.3.7 below provide mitigation measures accounting for the possibility they may breed onsite or adjacent to the site.

- ***Other Special Status Animals That Have Potential to Breed on the Site.*** The project site provides potentially suitable breeding and foraging habitat for two special status reptiles, including the northern California legless lizard and coast horned lizard.

3.3.3 Loss of Habitat for Native Wildlife

Potential Impact. The habitats of the site comprise only a small portion of the regionally available habitat for plant and animal species that are expected to use the habitat. The proposed project would result in the loss of vineyard, a stormwater basin, and developed habitat that is highly disturbed from prior activities. This is not expected to result in a significant loss of habitat for local wildlife. Therefore, impacts due to the loss of habitats for native wildlife resulting from the proposed project are considered less-than-significant.

Mitigation. No mitigation warranted except as noted in the below sections.

3.3.4 Interference with the Movement of Native Wildlife

Potential Impact. The site occurs within the already developed environs of the City of Antioch, with the City of Oakley occurring not far to the east of the site. Although open land occurs to the south of the project site, this is surrounded by the developed areas within the Cities of Antioch and Oakley, which would provide a significant barrier to dispersal of native wildlife travelling to and from the site. Most current animal movements on the site would likely be local movements within the site and its immediate vicinity rather than regional movements. Significant areas of open space lands, including other agricultural and ruderal lands would continue to provide local and regional movement habitat even after project development.

Mitigation. No mitigation warranted.

3.3.5 Potential Impacts to Nesting Migratory Birds Including Nesting Raptors and Protected Birds

Potential Impacts. Trees, grape vines, the ground, and adjacent habiats may provide nesting habitat for tree-nesting raptors and migratory birds. Buildout of the project during the nesting period for migratory birds (i.e., typically February 1st through August 31st), including initial site grading, soil excavation, and/or tree and vegetation removal, poses a risk of nest abandonment and death of any live eggs or young that may be present in nests within or near the site and this would be considered a significant impact. To ensure any active nests will not be disturbed, and individual birds will not be harmed by construction activities, the following measures should be followed.

Mitigation. If initial site disturbance activities, including tree, shrub, or vegetation removal, are to occur during the breeding season (typically February 1 to August 31), a qualified biologist would conduct pre-construction surveys for nesting migratory birds and raptors. The survey for nesting migratory birds would cover the project site itself, and the survey for nesting raptors would encompass the site and surrounding lands within 250 feet, where accessible. The survey should occur within seven days prior to the onset of ground disturbance. If a nesting migratory bird were to be detected, an appropriate construction-free buffer would be established. Actual size of buffer, which would be determined by the project biologist (generally between 150-250 feet for raptors and 25-50 feet for smaller birds), would depend on species, topography, and type of activity that would occur in the vicinity of the nest. The project buffer would be monitored periodically by the project biologist to ensure compliance. After the nesting is completed, as determined by the biologist, the buffer would no longer be required.

All workers on the project site shall attend a tailgate training that includes a description of the species, a brief summary of its biology, and minimization measures and instructions on what to do if an active bird nest is observed.

3.3.6 Potential Impacts to Nesting Swainson's Hawks and Swainson's Hawk Nesting and Foraging Habitat

Potential Impacts. There are numerous occurrences of nesting Swainson's hawks documented in the CNDDB within a 10-mile radius of the site, and a few trees onsite support suitable nesting

habitat and potential nesting habitat occurs in the project vicinity. Development of the site will result in the loss of poor foraging habitat and a few trees with some potential to become a nest tree. Nest trees and foraging habitat are readily available in the local vicinity, therefore, potential impacts to Swainson's hawk habitat is less-than-significant. However, should disturbance to active Swainson's hawk nests in the vicinity of the project occur, it may be considered a significant impact of the project.

Mitigation. The following measures shall be implemented:

- ***Pre-construction Surveys.*** During the nesting season prior to demolition or construction activities on the project site, preconstruction surveys shall be conducted within the construction zones and adjacent lands within a half-mile to identify any nesting pairs of Swainson's hawks. These surveys will conform to the guidelines of CDFW as presented in *Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley,* Swainson's Hawk Technical Advisory Committee, May 31, 2000.
- ***Establish Buffers.*** Should any active nests be discovered in or near proposed construction zones, the qualified biologist shall establish a suitable construction-free buffer around the nest (depending on type and amount of activity, topographic position, and existing disturbances, this buffer could be between 600 feet and 0.5-mile). This buffer shall be identified on the ground with flagging or fencing and shall be maintained until the biologist has determined that the young have fledged.
- ***Compensation.*** Should a nest tree be removed, it shall be compensated in kind.
    - ***Option 1:*** Mitigation credits can be purchased at a mitigation or conservation bank for Swainson's hawk nest trees. This consists of paying for credits which exist for Swainson's hawk nest trees at a mitigation or conservation bank (e.g., Mountain House Conservation Bank). Once the fee is paid, the mitigation or conservation bank will maintain the nest tree and all requirements that go with that maintenance as a suitable nest tree for Swainson's hawks.
    - ***Option 2:*** Known or potential nest trees can be preserved. A 5:1 ratio is recommended (See for example Solano County Water Agency 2015). These nest tree areas must be

under a conservation easement or other suitable protection. These trees would be monitored annually for a minimum of five years with at least 50% survivorship. Replacement for preserved trees would be a planting at a 3:1 ratio for each tree lost, which would then be monitored for three years. Once the original trees are monitored for 5 years with no loss or the plantings are monitored for three consecutive years with no additional loss, this mitigation would be considered successful.

- ***Option 3:*** New trees that have the potential to support Swainson's hawks within 10 to 40 years can be planted. A 20:1 ratio is recommended (See for example Solano County Water Agency 2015). Tree species would be native trees that are known to support nesting Swainson's hawks. These planted trees would be monitored annually for a minimum of five years with at least 50% survivorship. Replacement for planted trees would be a re-planting at a 3:1 ratio for each tree lost, which would then be monitored for three years. Once the original plantings are monitored for five years with a 50% survival ratio or the replacement plantings are monitored for three consecutive years with no additional loss, this mitigation would be considered successful. One option with this measure would be to do a turn-key mitigation project. The applicant would pay an organization or company a fee and that organization or company would be responsible for any monitoring and replacement.

Tailgate Training. All workers on the project site shall attend tailgate training that includes a description of the species, a brief summary of its biology, and minimization measures and instructions on what to do if a Swainson's hawk is observed on or near the construction zone.

3.3.7 Potential Impacts to Individual Western Burrowing Owls and their Habitat

Potential Impacts. Although the site supports poor habitat for this species, the margins of the site may be colonized by ground squirrels from lands to the south of the project site where burrowing owls have previously been documented, and potentially suitable roosting and breeding habitat for burrowing owls occurs on the property to the south of the site. So while the potential for them to occur onsite is low, preconstruction surveys are still recommended to reduce impacts to burrowing owls who may move onto the margins of the site or who occur within 250 feet of the

site on adjacent lands. Should burrowing owls occur on the site, project grading activities that occur during the nesting season for this species (February 1st through August 31st), nests and nestlings that may be present would likely be destroyed. Overwintering burrowing owls may also be buried in their roost burrows outside of the nesting season (September 1st through January 31st). Any actions related to site development that result in the mortality of burrowing owls would constitute a violation of the federal Migratory Bird Treaty Act and provisions of the California Fish and Game Code and would constitute a significant impact under CEQA.

Mitigation. The project will be required to follow the avoidance and minimization measures below for burrowing owls:

- ***Pre-construction surveys.*** Pre-construction surveys of the margins of the site and within 250 feet of the site as public accessibility allowed shall be conducted for burrowing owls by a qualified biologist no more than 14 days and again within 24 hours in advance of the on-set of ground-disturbing activity. These surveys shall be conducted according to methods described in the *Staff Report on Burrowing Owl Mitigation* (CDFG 2012) or the most recent CDFW guidelines. The surveys shall cover all areas of suitable burrowing owl habitat within the construction zones. If burrowing owls are not observed during preconstruction surveys, no further mitigation is warranted.
- ***Avoidance of occupied burrows during non-breeding season, and passive relocation of resident owls.*** During the non-breeding season (September through January), any burrows occupied by resident owls in areas planned for construction shall be protected by a construction-free buffer with a radius of 250 feet around each active burrow. Passive relocation of burrowing owls is no longer allowed, as this species is currently a candidate species and that would be considered take.
- ***Avoidance of active nests during breeding season.*** If pre-construction surveys are undertaken during the breeding season (February through August) and active nest burrows are located within or near construction zones, a construction-free buffer of 250 feet shall be established around all active owl nests. The onsite buffer areas shall be enclosed with temporary fencing, and construction equipment and workers shall not be allowed to enter the enclosed setback areas. Buffers shall remain in place for the duration of the breeding season.

Compliance with the above mitigation measures would reduce impacts to burrowing owls to a less-than-significant level.

Tailgate Training. All construction workers shall attend tailgate training that includes a description of the species, a summary of their biology, and minimization measures and instructions on what to do if a burrowing owl is observed within or near a construction zone.

3.3.8 Potential Impacts to Individual northern California legless lizards and coast horned lizards

Potential Impacts. The site supports potentially suitable habitat for the northern California legless lizard and coast horned lizard as well as ant hills as an appropriate food source for these species. Although these species were not observed on the site during the 2025 survey, a focused survey was not conducted for these species, and they could be potentially present or could occupy the site prior to project construction. Any actions related to site development that result in the mortality of these species would be significant under CEQA.

Mitigation. The project will be required to follow the avoidance and minimization measures below for California legless lizard and coast horned lizard.

Preconstruction Survey. A pre-construction survey for northern California legless lizard and coast horned lizard shall be conducted within 48 hours prior to start of construction activities.

Monitoring. Should any of these species be observed during pre-construction surveys, an exclusion fence shall be installed around the boundary of the work area and a qualified biologist shall survey the site each day prior to start of daily construction until the qualified biologist has determined that none of these species are present onsite, after which construction can continue without a qualified biologist present.

3.3.9 Potential Impacts to Riparian Habitat and Other Sensitive Natural Communities, Including Federally and State Protected Wetlands

Potential Impacts. An existing stormwater basin occurs in the southeast corner of the site. This basin is approximately 100 feet in diameter at the widest point, did not hold water and did not support riparian habitat at the time of LOA's 2025 site visit. The USACE, CDFW, and RWQCB do

not regulate these type of features. Therefore, the project will not impact any wetland, Water of the US or State, or riparian habitat.

Mitigation. None warranted.

3.3.10 Degradation of Water Quality in Seasonal Drainages, Stock Ponds and Downstream Waters

Potential Impact. Eventual site development and construction may require grading that leaves the soil of construction zones barren of vegetation and, therefore, vulnerable to sheet, rill, or gully erosion. Eroded soil is generally carried as sediment in surface runoff to be deposited in natural creek beds, canals, and adjacent wetlands. Furthermore, urban runoff is often polluted with grease, oil, pesticide and herbicide residues, heavy metals, etc. These pollutants may eventually be carried to sensitive wetland habitats used by a diversity of native wildlife species. The deposition of pollutants and sediments in sensitive riparian and wetland habitats would be considered a potentially significant adverse environmental impact. The project would comply with the City of Antioch grading requirements. Therefore, the project buildout would result in a less-than-significant impact to water quality.

Mitigation. No mitigation is warranted.

3.3.11 Conflict with City of Antioch Tree Ordinance

The project site does not support trees.

Mitigation. None warranted.

3.3.12 Conflict with Habitat Conservation Plans

The project is not within an HCP/NCCP area.

Mitigation. None warranted.

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APPENDIX D

GEOTECHNICAL INVESTIGATION

GEOTECHNICAL INVESTIGATION

On

PROPOSED RESIDENTIAL DEVELOPMENT

At

3001 Oakley Road
Antioch, California

For

BrightSky Residential, LLC

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By
Quantum Geotechnical, Inc.

Project No. J072.G
January 16,2023

QUANTUM GEOTECHNICAL, INC.

Project No. J072.G
January 16, 2023

Ms. Sondra Harris
Senior Vice President Entitlement and Forward Planning
BrightSky Residential
9160 Irvine Center Drive, Suite 100
Irvine, California, 92618

Subject: Proposed Residential Development
3001 Oakley Road
Antioch, California
GEOTECHNICAL INVESTIGATION

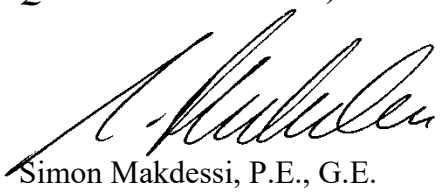
Dear Ms. Harris,

In accordance with your authorization, ***Quantum Geotechnical, Inc.,*** has investigated the geotechnical conditions at the subject site located in Antioch, California

The accompanying report presents the results of our field investigation. Our findings indicate that development of the site for the proposed development is feasible and we have provided design level recommendations for design and construction of the project.

Should you have any questions relating to the contents of this report or should additional information be required, please contact our office at your convenience.

Sincerely,
Quantum Geotechnical, Inc.





Simon Makdessi, P.E., G.E.
President

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GEOTECHNICAL INVESTIGATION

PURPOSE AND SCOPE

The purpose of this geotechnical investigation for the proposed new residential subdivision development located at 3001 Oakley Road in Antioch, California, was to evaluate the general subsurface soil conditions at the subject site. Based on the results of the investigation, criteria were established for the grading of the site, the design of foundations for the proposed development, and the construction of other related facilities on the property.

Our investigation included the following:

a. Field reconnaissance by the Soil Engineer;
b. Determine the general seismicity of the site in accordance with the 2022 CBC;
c. Advancing a total of five borings
d. Laboratory testing of soil samples
e. Analysis of the data and formulation of conclusions and recommendations; and
f. Preparation of this written report.

PROPOSED DEVELOPMENT

The preliminary site plan indicates the property will be developed for 108 single family homes, divided into a western parcel with 62 lots and an eastern parcel with 46 lots. These lots would be separated by a 250-ft wide easement owned by PG&E. The development includes utility and street improvements, parking, landscaping, bio-retention basins, and a recreational facility. At this time no grading plans have been developed, however, due to the slight rolling terrain, moderate grading of cuts and fills of the order of 5 feet can be expected. An existing residence in the center of the site will remain.

SITE LOCATION AND DESCRIPTION

The site is located in the north eastern part of Antioch, north of Highway 4 and west of Highway 160. Topographically it is located in gently rolling terrain, with surface drainage flows generally toward the south. The property is bounded by Phillips Lane to the east, Oakley Road to the south, an established residential subdivision to the north and the Goldcrest subdivision to the west, which currently under development. High voltage electrical lines associated with the PGE easement exist

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along the northern property line and a north-south trending PGE easement traverses through the near center of the site.

In the south center of the property, there exists a single-story residence and adjacent shed structure, along with a gravel driveway connected to Honey Lane. The remainder of the property is planted as a vineyard with 9-foot-wide rows, including irrigation and trellises running east-west across most of the property. Along the north edge of the site is an existing asphalt-paved path/access roadway. Apart from the vineyard, ground cover onsite consists of low lying to one-foot tall, sparse, weeds and vegetation, and a few scattered mature trees. Probing of the soil surface revealed the upper 4 inches to 8 inches to be loose sandy soil.

The site is elevated several feet above Oakley Road and up to 8 feet above the Goldcrest development to the west. The Goldcrest development is lower in elevation to the site by up to approximately 8 feet. Along the west property line, there exists graded slopes and combination of short retaining walls and slopes to accommodate this elevation difference. The graded slopes are inclined at 2:1 (horizontal to vertical), however, it appears that the lower levels of the taller slopes are inclined at 2.5:1 due to some minor erosion and siltation. The material exposed on the slopes was a silty sand.

GENERAL GEOLOGIC CONDITIONS

The site is located within the Great Valley Geomorphic Province of California. The Great Valley Geomorphic Province consists of an elongated, north to south oriented trough between the Sierra Range to the east and the Coastal Ranges to the west. Since the Jurassic period (~145 mya) and up to present time, the Great Valley trough has accumulated thick alluvial sediments which have eroded off of each of these ranges. The sediments and their depositional context are varied, and include alluvial fan, stream channel, and estuarine deposits.

The CGS Seismic Hazard Zones Map for the Antioch South, 2019, indicates the site resides within an area of potential liquefaction hazards. According to this report, historically high groundwater is generally between 20 to 30 feet below ground surface.

Geological maps of the area (Dibblee, 2006; Helley and Graymer, 1997) show the site covered by Quaternary Dune Sand deposits (Qd) of Holocene to Late Pleistocene-age, part of the San Joaquin Delta Formation. The Dibblee map shows an undifferentiated Quaternary Alluvium (Qa) covering the westerly portion of the site that includes alluvial pebble gravel, clay and sand. Our observation

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is the younger Dune Sands seem to have covered these older alluvial deposits. Underlying these soils at depth is likely Oro Lomo Formation of Pliocene to Early Pleistocene-age consisting of interbedded pebble conglomerate, sandstone and claystone. These deposits are separated by erosional unconformities that developed during the Pleistocene.

We reviewed a geotechnical investigation report performed for the County Crossings property immediately south of the site (RMA, 2010). The nearest borings to the site from that investigation, indicate the subsurface conditions to consist of medium dense, sandy soil to depths of 20 to 30 feet, overlying older alluvial soils consisting of stiff silts and clays and dense sands and gravels. The depth to groundwater from the two nearest deep borings in the lower flat lying areas south of Oakley Road, revealed the absence of groundwater with the depth explored of 51 feet.

The site is not located within an Alquist-Priolo Earthquake Fault Rupture Hazard Zone. The site is subject to periodic very strong to violent ground shaking with the nearest potentially active fault, the Antioch fault, located about 1.1 km west of the site and the active Concord-Green Valley Fault located 23 km to the west, while the major active San Andreas and Hayward-Rodgers Creek faults are from 42 to 73 km away, respectively.

INVESTIGATION

The field investigation was performed on December 28, 2022, and consisted of drilling a total of five (5) borings to depths ranging from 21.5 to 41.5 feet below the ground surface. The drilling was performed with a track-mounted CME 55 drill rig utilizing 8 inch diameter hollow stem augers. Visual classifications were made from cuttings and the samples in the field. As the drilling proceeded, disturbed soil samples were obtained by means of a 3.0 inch O.D. Modified California and 2.0 inch O.D. split-spoon sampler. The sampler was driven into the in-situ soil under the impact of a 140-pound hammer undergoing a free fall of 30 inches. The number of blows required to advance the sampler 12 inches into the soil is reported on the boring logs. The samples were sealed and returned to the laboratory for testing. Classifications made in the field were verified in the laboratory after further examination and testing. The stratification of the soils, descriptions, location of undisturbed soil samples and blow counts are shown on the respective "Logs of Test Borings" contained within Appendix A.

The borings were backfilled with grout, and overseen by a County inspector.

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Laboratory testing was conducted for moisture content, dry density, sieve analysis, and corrosivity. The laboratory test results are presented on the boring logs.

The stratification of the soils, and descriptions are presented on the boring logs contained within Appendix A.

SUBSURFACE CONDITIONS

In general, the soil conditions encountered in the 5 borings was consistent and consisted of medium dense and dense silty sand and sand to the maximum depths explored of 21 to 41.5 feet.

No groundwater was encountered in the deep boring B-1, within the depth explored of 41.5 feet. Geotechnical data (RMA 2010), from the County Crossings site immediately south of Oakley Road, which is lower in elevation than the subject site and close to a stream, did not encounter groundwater within the depth explored of 51.5 feet.

A more thorough description and stratification of the soil conditions are presented on the respective, “Boring Logs” and “Cone Penetrometer Logs” in Appendix A.

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EVALUATION OF GEOTECHNICAL CONDITIONS

LIQUEFACTION POTENTIAL EVALUATION

Liquefaction occurs primarily in relatively loose, saturated, cohesionless soils. Under earthquake stresses, these soils become "quick", lose their strength and become incapable of supporting the weight of the overlying soils or structures. The data used for evaluating liquefaction potential of the subsurface soils consisted of the penetration resistance, the soil gradation, the relative density of the materials, and the groundwater level.

Loose to medium dense cohesionless soil such as sands and some soft to firm silts and low plasticity clays are potentially liquefiable, while dense and very dense cohesionless sands and gravels are considered to have a very low potential for liquefaction.

Based on the lack of groundwater in the upper 40 feet, it is our opinion, that the potential for liquefaction at this site is nil.

DYNAMIC COMPACTION/SETTLEMENT EVALUATION

Strong earthquake shaking can cause densification of loose to medium dense cohesionless soils above the groundwater table. The cohesionless soil above the groundwater table was generally medium dense and has the potential for dynamic settlement. Dynamic settlements of up to 0.5 inches may occur. A differential settlement of 0.25 inches over 50 feet is recommended.

2022 CBC SEISMIC DESIGN CRITERIA

The potential damaging effects of regional earthquake activity should be considered in the design of structures. As a minimum, seismic design should be in accordance with Chapter 16 of the 2022 California Building Code (CBC). The 2022 CBC utilizes the design procedures outlined in the ASCE 7-16 Standard.

Using the criteria in Chapter 20 of ASCE 7-16, in its current condition, the site is classified as Site Class D. The seismic design parameters have been developed using the online "Seismic Design Maps" tool by the Structural Engineering Association (SEA) and Office of Statewide Health Planning and Development (OSHPD) and a site location based on longitude and latitude. The site covers a

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large area, and we have selected the south west corner of the site that provides the higher criteria. The seismic design parameters generated for the subject site for a latitude of 37.99874° N, and longitude of 121.76255° W, are presented in Table I:

According to Section 11.4.8 of ASCE 7-16, a ground motion hazard analysis shall be performed when the coefficient S_1 has a value greater than or equal to 0.2 for Site Class D and E sites. A ground motion hazard analysis is excepted if the C_s value is determined by equation 12.8-2 of ASCE 7-16. This is to be determined by the structural engineer. In the event that the calculated C_s values do not trigger a ground motion hazard analysis, the following parameters may be used.

Table I
2022 CBC Seismic Design Criteria

Seismic Parameter	Coefficient	Value
Site Class – Stiff Soil		D
Peak Ground Acceleration (Site Modified)	PGA_M	0.65
Mapped MCE Spectral Acceleration at Short-Period 0.2 secs	S_s	1.439
Mapped MCE Spectral Acceleration at a Period of 1.0s	S_1	0.496
Adjusted MCE, 5% Damped Spectral Response Acceleration at Short Period of 0.2s	S_{MS}	1.439
Adjusted MCE, 5% Damped Spectral Response Acceleration at Period of 1.0s	S_{M1}	0.893
Design 5% Damped Spectral Response Acceleration at Short Period of 0.2s for Occupancy Category I/II/III	S_{DS}	0.960
Design 5% Damped Spectral Response Acceleration at Period of 1.0s for Occupancy Category I/II/III	S_{D1}	0.595

SOIL CORROSIVITY

In order to evaluate the corrosion potential of the near surface soil toward concrete and buried metal pipe, a bulk sample of soil within the upper 4 feet of boring B-1, was collected and tested for 100% saturated resistivity, soluble chloride, soluble sulfate, and pH. The actual test results are presented in Appendix B, and the results of the testing are summarized as follows;

Resistivity	xxxx Ohm-cm
Chloride	none detected mg/Kg
Sulfate	none detected mg/Kg
pH	xxx

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Many factors contribute to the corrosion potential. The most important factor with respect to corrosion potential toward buried metal pipes and fittings is soil resistivity, and the most important factor with respect to corrosion potential toward concrete is the sulfate content.

Based on the above results, the near surface soil is xxxx corrosive to buried metal pipe and fittings. We recommend that a corrosion engineer be consulted to provide specific corrosion protection measures for buried metal pipe. Further, the sulfate exposure to concrete is negligible, and no special cements are required for the foundation concrete mix design.

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DISCUSSIONS, CONCLUSIONS AND RECOMMENDATIONS

GENERAL

1. From a geotechnical point of view, the site is suitable for the construction of the proposed residential development provided the recommendations presented in this report are incorporated into the project plans and specifications.

2. The most prominent geotechnical features of this site are;
   a) The presence of non-expansive near surface sandy soil
   b) and the potential for significant disturbance of the near surface soil due to removal of the vineyard and the system of irrigation lines.

SITE PREPARATION AND GRUBBING

3. Prior to any grading, demolition/removal of any existing subsurface structures on the site should be completed. Demolition should include the complete removal of all surface and subsurface structures, including any leach fields or septic tanks, irrigation lines. In addition, all known underground structures must be located on the grading plans so that proper removal may be carried out, and all excavations are left open for proper backfilling. It is vital that Quantum Geotechnical Inc., intermittently observe the removal of subsurface structures and excavations, and be notified in ample time to ensure that no subsurface structures or excavations are covered. If Quantum Geotechnical Inc., is not contacted to observe the demolition and removal of subsurface structures, further backhoe exploratory investigation will need to be performed prior to the commencement of grading.

4. Excavations made by the removal of any subsurface structures, vines and trees may create disturbed/loose areas, and where this occurs the loose material should be excavated and replaced as engineered fill, or if it is less than 1 foot in thickness, can be compacted in place, prior to placing fill. We recommend that excavations greater than 1 foot deep be left open by the contractor for backfill in accordance with the requirements for engineered fill. The removal of subsurface structures should be done under the observation of the Soil Engineer to verify adequacy of the removal and that subsoils are left in proper condition for placement as engineered fills. Any soil exposed by the removal operations which are deemed soft or unsuitable by the Soil Engineer, shall be excavated as uncompacted fill and be removed as required by the Soil Engineer during grading. Any resulting

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excavations should be properly backfilled with engineered fill under the observation of the Soil Engineer. It is important that Quantum Geotechnical Inc., be present during removal activities to verify that all excavations created by removal of subsurface structures are left open and located on a grading plan. If any excavations are loosely backfilled without our knowledge and these excavations are not located and backfilled during grading, future settlement of these loosely filled excavations could occur and may cause damage to structures and improvements.

GRADING

5. The grading requirements presented herein are an integral part of the grading specifications presented in Appendix C of this report and should be considered as such.

6. Grading activities during the rainy season will be hampered by excessive moisture. Grading activities may be performed during the rainy season, however, achieving proper compaction may be difficult due to excessive moisture; and delays may occur. In addition, measures to control potential erosion may need to be provided. Grading performed during the dry months will minimize the occurrence of the above problems.

7. Demolition/removal of the existing subsurface structures such as irrigation lines, and grubbing of vines and trees may create disturbed/loose areas, and where this occurs the loose material should be excavated and replaced as engineered fill, or if it is less than 1 foot in thickness, can be compacted in place, prior to placing fill. Any old fill or loose soil must be removed exposing non-yielding native soil.

8. In general, the upper 4 to 8 inches of soil was loose and this zone of material may shrink in volume from 15% to 20%. Given the size of the site, this could be critical in evaluating earthwork quantities. We recommend that a topographic survey be performed prior to removal of the vineyard and then after removal of the vineyard and irrigation lines to compare and adjust grading quantities for mass grading. For preliminary design purposes we estimate that material in the upper 1 foot deep will shrink by 15%, and material excavated below 1 foot will shrink 7% to 10%.

9. Currently, the site contains short grass and dispersed trees. Vegetation conditions may be different at the time of grading, and the extent of any stripping, mowing or discing as part of site preparation, will be revaluated at the time of grading. Any strippings should be stockpiled in an

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approved area that is unaffected by grading operations until their future use. Organically contaminated soil material may be utilized in landscape areas located outside the building footprint.

10. After removal of any loose surface soil, and prior to the placement of any fill, the top 8 inches of exposed native ground for fill areas should be scarified and compacted to a degree of relative compaction of 90% at 2 to 3 percent above optimum moisture content as determined by ASTM D1557-12 Laboratory Test Procedure.

11. The site may be brought to the desired finished grades by placing engineered fill in lifts of 8 inches in uncompacted thickness and compacting to a minimum relative compaction of 90% at 2 to 3 percent above optimum moisture content as determined by ASTM D1557-12 Laboratory Test Procedure.

12. Where fills are to be constructed on existing slopes inclined at 6:1 (horizontal to vertical) or steeper, keyways should be provided at the base of the fill and should be a minimum of 10 feet in width (or 1.5 times the equipment width), cut at least 2 feet in depth into firm, natural ground, and sloped into the hillside at a gradient of no less than 5%. For existing slopes inclined flatter than 6:1, keyways are not needed, however, a flat bench should be provided at the base of the fill. Keying and benching into the upslope ground surface should be performed as the filling progresses. The fill slope could then be constructed by placing engineered fill as previously specified in this section. At this time, subsurface drains at the back base of the key and within the keyed benches are not considered necessary; however, this will be evaluated by the Soil Engineer during grading.

13. All soils encountered during our investigation are suitable for use as engineered fill when placed and compacted at the recommended moisture content and provided it does not contain any debris or excessive vegetation.

14. If import soil is needed, it should preferably be similar to the on-site, non-expansive sandy soil material. Import soil should be free of organic matter, contain no rocks or lumps larger than three inches in greatest dimension, have a plasticity index less than 12, and similar corrosion results to the on site material. The import fill material must be approved by the geotechnical engineer prior to use at the site. The grading contractor should provide samples of the proposed import fill material should

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be submitted to the geotechnical engineer for compliance testing at least one week prior to delivering to the site, or provide suitable documentation from the source site. In addition, the grading contractor should provide analytical test results or other suitable environmental documentation indicating the imported fill is free of hazardous materials.

CUT AND FILL SLOPES

15. In general, cut and fill slopes are planned throughout the site between lots or for construction of the bio-basins. The vertical slope heights are currently unknown, and preliminarily, we recommend the following slope inclinations;

i) slopes less than 5 feet in vertical height, 2:1
ii) slopes greater than 5 feet in vertical height, 2.5:1
iii) bio-basin side slopes 3:1

16. The grade of the surface soil behind the slopes should be designed to slope away from the top of the slope. Fill slopes must be constructed by over-constructing the fill slopes by a minimum of 12-inches and cutting back the looser surface soils to a firm and adequately compacted design slope grade. Track-walking of slope surfaces does not provide adequate soil densities and is an unacceptable method of slope compaction.

SURFACE AND SUBSURFACE DRAINAGE

17. All finish grades should be provided with a positive gradient to an adequate discharge point in order to provide rapid removal of surface water runoff away from all foundations and improvements. No ponding of water should be allowed on the pad or adjacent to the foundations. Surface drainage must be designed by the project Civil Engineer and maintained by the property owners at all times. The individual lot pads should be graded in a manner that surface flow is to a controlled discharge system.

18. Lot slopes and drainage must be provided by the project Civil Engineer to remove all storm water from the pad and to minimize storm and/or irrigation water from seeping beneath the structures. Should surface water be allowed to seep under the structure, foundation movement resulting in structural cracking and damage could occur. In addition, surface water seeping under the structure may cause vapor transmission issues affecting floor coverings near the building perimeter.

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19. Section 1804.4 of the 2019 CBC, provides guidance on the required site grading immediately adjacent a building foundation. In general, this section of the code indicates that the ground must be sloped away from the building at a minimum slope of 5% over a distance of 10 feet, and if lot lines prohibit the 10 feet of horizontal distance, swales may be used sloped not less than 2 percent. In addition, impervious surfaces within 10 feet of the building foundation shall be sloped not less than 2% away from the building.

20. It is expected that residence side yards will generally be 5 feet or greater, and contain swales sloped at 2% with area drains to collect and discharge surface water from around the residence and pad. These surface drainage requirements are commonly employed and acceptable given the relatively flat grades for the development and narrow side yards. The surface drainage features constructed by the builder should be maintained during landscaping and maintained by the homeowner. In particular, the creation of planter areas confined on all sides by concrete walkways or decks and the residence foundation is not desirable since any surface water due to rain or irrigation becomes trapped in the planter area with no outlet. If such a landscape feature is necessary, surface area drains in the planter area or a subdrain along the foundation perimeter must be installed.

BIO-RETENTION FACILITIES

21. Based on a review of the tentative map, a large bio-retention basin is planned in the center of the site behind and close to several lot property lines. Details of the basin type and construction are unknown, however, we will provide preliminary design recommendations and considerations. It is anticipated that no bio-retention basins will be located closer than 5 feet of any building, and therefore no special foundation requirements such as thickened edges to provide lateral capacity are needed. However, if a rear wood fences for the lots will be constructed at the top of or very close to a basin side slope, fence post footings, special footings would be needed for the sandy material. The fence post footings typically extend to a depth of 2 feet, and this depth of post footing has insufficient depth to provide lateral resistance from a sandy slope, and should be deepened. Where this occurs, we recommend the fence post footings extend at least 4 feet below pad grade. If at least 2 feet of flat area is present between the fence post and basin side slopes, no deepening of fence post footings is required.

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22. If any pavements such as interior roads, sidewalks or walkways are planned adjacent the basin supplemental recommendations will be provided.

FOUNDATIONS

23. Provided the site is prepared as recommended in the "Grading" section, a post-tensioned slab foundation may be satisfactorily used.

Post Tensioned Slab-on-Grade

24. Post-tensioned slabs should be a minimum 10 inches in thickness and are typically designed using the design method presented in the Post-Tensioning Institute, Standard Requirements for Design and Analysis of Shallow Post-Tensioned Concrete Foundations on Expansive Soils (PTI DC10.5-12), 2012. This design method pertains mainly to clayey soil sites, however, post-tensioned slabs on sandy soil could be designed assuming very low plasticity soil properties. Using the relevant climatic parameters and assumed low plasticity soil properties, the recommended geotechnical criteria for use in the design of the post-tensioned slabs is as follows;

	Swelling Mode	
	Center Lift	Edge Lift
Edge Moisture Variation Distance (e_m)	9.0 feet	5.2 feet
Differential Soil Movement (y_m)	0.45 inches	0.85 inches

The maximum allowable bearing pressure at the base of the post-tensioned slab and for localized thickened footings should not exceed 2,000 p.s.f. for dead plus sustained live loads.

General Construction Requirements for Post Tensioned Slab-on-Grade

25. Prior to construction of the post-tensioned slab, the slab subgrade should be observed by the Soil Engineer to verify that all under-slab utility trenches greater than 18 inches in width have been properly backfilled and compacted, and that no loose or soft soils are present on the slab subgrade.

26. The near surface soils is mainly sand. Slabs founded on sandy soil do not require pre-saturation.

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27. The four (4) inch (minimum thickness) layer of gravel typically placed to provide a capillary break beneath concrete slab-on-grade floors may be omitted beneath the monolithically poured post-tensioned slab foundations provided that the slabs are at least 10 inches thick as recommended above. If it is desired to use a 4 inch layer or thinner of gravel section, the gravel should consist of broken stone, crushed or uncrushed gravel, quarry waste, or a combination thereof. The aggregate shall be free from deleterious substances. It shall be of such quality that the absorption of water in a saturated dry condition does not exceed 3% of the oven dry weight of the sample. The material shall be ¾" minus material with no more than 3% passing the #200 sieve, as specified in Appendix C.

28. A moisture vapor retarder/barrier is recommended beneath all slabs-on-grade that will be covered by moisture-sensitive flooring materials such as vinyl, linoleum, wood, carpet, rubber, rubber-backed carpet, tile, impermeable floor coatings, adhesives, or where moisture-sensitive equipment, products, or environments will exist. We recommend that design and construction of the moisture vapor retarder/barrier conform to Section 1805 of the 2013 CBC and relevant sections of American Concrete Institute (ACI) guidance documents 302.1R-04, 302.2R-06 and 360R-10.

29. The moisture vapor retarder/barrier can be placed above the 4 inches of gravel or directly on the soil subgrade and should consist of a minimum 15 mils Class A vapor retarder membrane, such as Stego® Wrap, and have a maximum perm rating of 0.3 in accordance with ASTM E 1745. Seams in the moisture vapor retarder/barrier should be overlapped no less than 6 inches or in accordance with the manufacturer's recommendations. Joints and penetrations should be sealed with the manufacturer's recommended adhesives, pressure-sensitive tape, or both. The contractor must avoid damaging or puncturing the moisture vapor retarder/barrier and repair any punctures with additional polyethylene properly lapped and sealed. The installation of the vapor retarder membrane must be in conformance with ASTM E1643.

30. It is our understanding that the preferred post-tensioned slab section is to consist of a post-tensioned slab with concrete having a water/cement ratio of no greater than 0.45, over a 15 mil vapor retarder membrane underlain by soil subgrade. This is acceptable from a geotechnical point of view.

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MISCELLANEOUS CONCRETE FLATWORK

31. Miscellaneous flatwork, driveways, and walkways may be designed with a minimum thickness of 4.0 inches. Any exterior concrete flatwork such as driveways, steps, patios, or walkways should be designed independently of the slab, and expansion joints should be provided between the flatwork and the structural unit. Control joints should be constructed to create squares or rectangles with a maximum spacing of 15 feet on large slab areas. Control joints for walkways should be constructed at a maximum of 5 feet spacing.

RETAINING WALLS

32. Retaining walls should be designed to resist lateral pressures exerted from a media having an equivalent fluid weight as follows:

Active Condition	=	45 p.c.f. for horizontal backslope
At-rest Condition	=	65 p.c.f.
Passive Condition	=	250 p.c.f.
Seismic Condition	=	35 p.c.f. (regular triangle in addition to static pressure) for site walls greater than 6 feet high
Coefficient of Friction	=	0.30

33. For a non-horizontal backslope, the active condition equivalent fluid weight can be increased by 1.5 p.c.f. for each 2 degree rise in slope from the horizontal.

34. Active conditions occur when the top of the wall is free to move outward. At-rest conditions apply when the top of wall is restrained from any movement.

35. It should be noted that the effects of any surcharge, traffic or compaction loads behind the walls must be accounted for in the design of the walls.

36. The above criteria are based on fully drained conditions. If drained conditions are not possible, then the hydrostatic pressure must be included in the design of the wall. An additional linear distribution of hydrostatic pressure of 63 p.c.f. should be adopted, in this case.

37. In order to achieve fully-drained conditions, a drainage filter blanket should be placed behind the wall. The blanket should be a minimum of 12 inches thick and should extend the full height of the wall to within 12 inches of the surface. If the excavated area behind the wall exceeds

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12 inches, the entire excavated space behind the 12-inch blanket should consist of compacted engineered fill or blanket material. The drainage blanket material may consist of either granular crushed rock and drain pipe fully encapsulated in geotextile filter fabric or Class II permeable material that meets CalTrans Specification, Section 68, with drainage pipe but without fabric. A 4-inch perforated drain pipe should be installed in the bottom of the drainage blanket and should be underlain by at least 4 inches of filter type material. A 12-inch cap of clayey soil material should be placed over the drainage blanket. All back drains should be outlet to suitable drainage devices. Retaining wall less than 3 feet in height may be provided with backdrains or weep holes.

38. As an alternate to the 12-inch drainage blanket, a pre-fabricated strip drain (such as Miradrain) may be used between the wall and retained soil. In this case, the wall must be designed to resist an additional lateral hydrostatic pressure of 30 p.c.f.

39. Piping with adequate gradient shall be provided to discharge water that collects behind the walls to an adequately controlled discharge system away from the structure foundation.

40. Site retaining walls planned for the site will be less than 5 feet high and may be founded on a spread footing foundations. Spread footing and pier design criteria are given below.

RETAINING WALL FOUNDATION - SPREAD FOOTINGS

41. Spread footings should have a minimum depth of eighteen (18) inches below lowest adjacent pad grade (i.e., trenching depth) for soil subgrade. At this depth, the recommended design bearing pressure for continuous footings should not exceed 2,500 p.s.f. due to dead plus sustained live loads and 3,300 p.s.f. due to all loads which include wind and seismic.

42. To accommodate lateral loads, the passive resistance of the foundation soil can be utilized. The passive soil pressures can be assumed to act against the front face of the footing below a depth of one foot below the ground surface. It is recommended that a passive pressure equivalent to that of a fluid weighing 250 p.c.f. be used. The weight of the soil above the footing can be used in the frictional calculations. For design purposes, an allowable friction coefficient of 0.30 can be assumed at the base of the spread footing.

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PAVEMENT AREAS

43. R-value tests were not performed as part of this investigation, as the soil expected at subgrade level is not known and depends on the planned grading. Assuming the subgrade material will consist of the sandy and silty material, we will assume an R-value of 20 for preliminary design.

44. The City of Antioch minimum asphaltic concrete (AC) section is 4 inches. Based on an R-Value of 20, the following flexible pavement sections are recommended.

Traffic Index	AC (inches)	Class II[1] AB (inches)
4.5	4.0	6.0
5.0	4.0	6.0
5.5	4.0	7.0
6.0	4.0	8.5
7.0	4.0	12.0

Notes: [1]Minimum R-Value = 78
R-Value = Resistance Value
All Layers in compacted thickness to Cal-Trans Standard Specifications

45. After underground facilities have been placed in the areas to receive pavement and removal of excess material has been completed, the upper 6 inches of the sub-grade soil shall be scarified, moisture conditioned, and compacted to a minimum relative compaction of 95% in accordance with the grading recommendations specified in this report.

46. All aggregate base material placed subsequently should be compacted to a minimum relative compaction of 95% based on the ASTM Test Procedure of D1557-12 (latest edition). The construction of the pavement areas should conform to the requirements set forth by the latest Standard Specifications of the Department of Transportations of the State of California and/or City of Antioch, Department of Public Works.

47. If planter areas are provided within or immediately adjacent to the pavement areas, provisions should be made to control irrigation water from entering the pavement subgrade. Water

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entering the pavement section at subgrade level, which does not have a means for discharge, could cause softening of this zone.

UTILITY TRENCHES

48. Applicable safety standards require that trenches in excess of 5 feet must be properly shored or that the walls of the trench slope back to provide safety for installation of lines. If trench wall sloping is performed, the inclination should vary with the soil type. The underground contractor should request an opinion from the Soil Engineer as to the type of soil and the resulting inclination.

49. With respect to state-of-the-art construction or local requirements, utility lines are generally bedded with granular materials. These materials can convey surface or subsurface water beneath the structures. It is, therefore, recommended that all utility trenches which possess the potential to transport water be sealed with a compacted impervious cohesive soil material or lean concrete where the trench enters/exits the building perimeter.

50. Utility trenches extending underneath all traffic areas must be backfilled with native or approved import material and compacted to a relative compaction of 90% to within 6 inches of the subgrade. The upper 6 inches should be compacted to 95% relative compaction in accordance with Laboratory Test Procedure ASTM D1557 (latest edition). Backfilling and compaction of these trenches must meet the requirements set forth by the City of Antioch, Department of Public Works. Utility trenches within landscape areas may be compacted to a relative compaction of 85%.

PROJECT REVIEW AND CONSTRUCTION MONITORING

51. All grading and foundation plans for the development must be reviewed by the Soil Engineer prior to contract bidding or submitted to governmental agencies so that plans are reconciled with soil conditions and sufficient time is allowed for suitable mitigative measures to be incorporated into the final grading specifications.

52. ***Quantum Geotechnical, Inc.*** should be notified at least two working days prior to site clearing, grading, and/or foundation operations on the property. This will give the Soil Engineer ample time

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to discuss the problems that may be encountered in the field and coordinate the work with the contractor.

53. Field observation and testing during the demolition and/or foundation operations must be provided by representatives of ***Quantum Geotechnical, Inc.*** to enable them to form an opinion regarding the adequacy of the site preparation, the acceptability of fill materials, and the extent to which the earthwork construction and the degree of compaction comply with the specification requirements. Any work related to the grading and/or foundation operations performed without the full knowledge and under the direct observation of the Soil Engineer will render the recommendations of this report invalid. This does not imply full-time observation. The degree of observation and frequency of testing services would depend on the construction methods and schedule, and the item of work.

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LIMITATIONS AND UNIFORMITY OF CONDITIONS

1. It should be noted that it is the responsibility of the owner or his representative to notify ***Quantum Geotechnical, Inc.,*** in writing, a minimum of two working days before any clearing, grading, or foundation excavations can commence at the site.

2. The recommendations of this report are based upon the assumption that the soil conditions do not deviate from those disclosed in the borings and from a reconnaissance of the site. Should any variations or undesirable conditions be encountered during the development of the site, ***Quantum Geotechnical,*** will provide supplemental recommendations as dictated by the field conditions.

3. This report is issued with the understanding that it is the responsibility of the owner, or his representative, to ensure that the information and recommendations contained herein are brought to the attention of the Architect and Engineer for the project and incorporated into the plans and the necessary steps are taken to see that the Contractor and Subcontractors carry out such recommendations in the field.

4. At the present date, the findings of this report are valid for the property investigated. With the passage of time, significant changes in the conditions of a property can occur due to natural processes or works of man on this or adjacent properties. In addition, legislation or the broadening of knowledge may result in changes in applicable standards. Changes outside of our control may render this report invalid, wholly or partially. Therefore, this report should not be considered valid after a period of two (2) years without our review, nor should it be used, or is it applicable, for any properties other than those investigated.

5. Not withstanding all the foregoing, applicable codes must be adhered to at all times.

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APPENDIX A

Figure 1 - Site Vicinity and Fault Map

Figure 2 Regional Geologic Map

Figure 3 - Site Plan

Boring Logs

Key to Log of Boring

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Appendix C

The Grading Specification

Guide Specifications for Rock Under Floor Slabs

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THE GRADING SPECIFICATIONS
on
Proposed Residential Subdivision
3001 Oakley Road
Antioch, California

1. General Description

1.1 These specifications have been prepared for the grading and site development of the subject residential development. ***Quantum Geotechnical Inc.***, hereinafter described as the Soil Engineer, should be consulted prior to any site work connected with site development to ensure compliance with these specifications.

1.2 The Soil Engineer should be notified at least two working days prior to any site clearing or grading operations on the property in order to observe the stripping of organically contaminated material and to coordinate the work with the grading contractor in the field.

1.3 This item shall consist of all clearing or grubbing, preparation of land to be filled, filling of the land, spreading, compaction and control of fill, and all subsidiary work necessary to complete the grading of the filled areas to conform with the lines, grades, and slopes as shown on the accepted plans. The Soil Engineer is not responsible for determining line, grade elevations, or slope gradients. The property owner, or his representative, shall designate the person or organizations who will be responsible for these items of work.

1.4 The contents of these specifications shall be integrated with the soil report of which they are a part; therefore, they shall not be used as a self-contained document.

2. Tests

The standard test used to define maximum densities of all compaction work shall be the ASTM D1557-12 Laboratory Test Procedure. All densities shall be expressed as a relative compaction in terms of the maximum dry density obtained in the laboratory by the foregoing standard procedure.

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3. Clearing, Grubbing, and Preparing Areas To Be Filled

3.1 If encountered, all vegetable matter, trees, root systems, shrubs, debris, and organic topsoil shall be removed from all structural areas and areas to receive fill.

3.2 If encountered, any soil deemed soft or unsuitable by the Soil Engineer shall be removed. Any existing debris or excessively wet soils shall be excavated and removed as required by the Soil Engineer during grading.

3.3 All underground structures shall be removed from the site such as old foundations, abandoned pipe lines, septic tanks, and leach fields.

3.4 The final stripped excavation shall be approved by the Soil Engineer during construction and before further grading is started.

3.5 After the site has been cleared, stripped, excavated to the surface designated to receive fill, and scarified, it shall be disked or bladed until it is uniform and free from large clods. The native subgrade soils shall be moisture conditioned and compacted to the requirements as specified in the grading section of this report. Fill can then be placed to provide the desired finished grades. The contractor shall obtain the Soil Engineer's approval of subgrade compaction before any fill is placed.

4. Materials

4.1 All fill material shall be approved by the Soil Engineer. The material shall be a soil or soil-rock mixture which is free from organic matter or other deleterious substances. The fill material shall not contain rocks or lumps over 6 inches in greatest dimension and not more than 15% larger than 2-1/2 inches. Materials from the site below the stripping depth are suitable for use in fills provided the above requirements are met.

4.2 Materials existing on the site are suitable for use as compacted engineered fill after the removal of all debris and organic material. All fill soils shall be approved by the Soil Engineer in the field.

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4.3 Should import material be required, it should be approved by the soil Engineer before it is brought to the site.

5. Placing, Spreading, and Compacting Fill Material

5.1 The fill materials shall be placed in uniform lifts of not more than 8 inches in uncompacted thickness. Each layer shall be spread evenly and shall be thoroughly blade mixed during the spreading to obtain uniformity of material in each layer. Before compaction begins, the fill shall be brought to a water content that will permit proper compaction by either (a) aerating the material if it is too wet, or (b) spraying the material with water if it is too dry.

5.2 After each layer has been placed, mixed, and spread evenly, either import material or native material shall be compacted to a relative compaction designated for engineered fill.

5.3 Compaction shall be by footed rollers or other types of acceptable compacting rollers. Rollers shall be of such design that they will be able to compact the fill to the specified density. Rolling shall be accomplished while the fill material is within the specified moisture content range. Rolling of each layer shall be continuous over its entire area and the roller shall make sufficient trips to ensure that the required density has been obtained. No ponding or jetting shall be permitted.

5.4 Field density tests shall be made in each compacted layer by the Soil Engineer in accordance with Laboratory Test Procedure ASTM D1556-15 or D6938-10. When footed rollers are used for compaction, the density tests shall be taken in the compacted material below the surface disturbed by the roller. When these tests indicate that the compaction requirements on any layer of fill, or portion thereof, has not been met, the particular layer, or portion thereof, shall be reworked until the compaction requirements have been met.

5.5 No soil shall be placed or compacted during periods of rain nor on ground which contains free water. Soil which has been soaked and wetted by rain or any other cause shall not be compacted until completely drained and until the moisture content is within the limits hereinbefore described or approved by the Soil Engineer. Approval by the Soil Engineer shall be obtained prior to continuing the grading operations.

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6. Pavement

6.1 The proposed subgrade under pavement sections, native soil, and/or fill shall be compacted to a minimum relative compaction of 95% at 2% above optimum moisture content for a depth of 6 inches.

6.2 All aggregate base material placed subsequently should also be compacted to a minimum relative compaction of 95% based on the ASTM Test Procedure D1557-12. The construction of the pavement in the parking and traffic areas should conform to the requirements set forth by the latest Standard Specifications of the Department of Transportation of the State of California and/or City of Antioch, Department of Public Works.

6.3 It is recommended that soils at the proposed subgrade level be tested for a pavement design after the preliminary grading is completed and the soils at the site design subgrade levels are known.

7. Utility Trench Backfill

7.1 The utility trenches extending under concrete slabs-on-grade shall be backfilled with native on-site soils or approved import materials and compacted to the requirements pertaining to the adjacent soil. No ponding or jetting will be permitted.

7.2 Utility trenches extending under all pavement areas shall be backfilled with native or approved import material and properly compacted to meet the requirements set forth by the City of Antioch, Department of Public Works.*

7.3 Where any opening is made under or through the perimeter foundations for such items as utility lines and trenches, the openings must be resealed so that they are watertight to prevent the possible entrance of outside irrigation or rain water into the underneath portion of the structures.

8. Subsurface Line Removal

8.1 The methods of removal will be designated by the Soil Engineer in the field depending on the depth and location of the line. One of the following methods will be used.

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8.2 Remove the pipe and fill and compact the soil in the trench according to the applicable portions of sections pertaining to compaction and utility backfill.

8.3 The pipe shall be crushed in the trench. The trench shall then be filled and compacted according to the applicable portions of Section 5.

8.4 Cap the ends of the line with concrete to prevent entrance of water. The length of the cap shall not be less than 5 feet. The concrete mix shall have a minimum shrinkage.

9. Unusual Conditions

9.1 In the event that any unusual conditions not covered by the special provisions are encountered during the grading operations, the Soil Engineer shall be immediately notified for additional recommendations.

10. General Requirements

Dust Control

10.1 The contractor shall conduct all grading operations in such a manner as to preclude windblown dirt and dust and related damage to neighboring properties. The means of dust control shall be left to the discretion of the contractor and he shall assume liability for claims related to windblown material.

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GUIDE SPECIFICATIONS FOR ROCK UNDER FLOOR SLABS

Definition

Graded gravel or crushed rock for use under slabs-on-grade shall consist of a minimum thickness of mineral aggregate placed in accordance with these specifications and in conformance with the dimensions shown on the plans. The minimum thickness is specified in the accompanying report.

Material

The mineral aggregate shall consist of broken stone, crushed or uncrushed gravel, quarry waste, or a combination thereof. The aggregate shall be free from deleterious substances. It shall be of such quality that the absorption of water in a saturated dry condition does not exceed 3% of the oven dry weight of the sample.

Gradation

The mineral aggregate shall be of such size that the percentage composition by dry weight, as determined by laboratory sieves (U.S. Sieves) will conform to the following gradation:

Sieve Size	Percentage Passing
¾''	90-100
No. 4	0-10
No. 8	0-5
No. 200	0-3

Placing

Subgrade, upon which gravel or crushed rock is to be placed, shall be prepared as outlined in the accompanying soil report.

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APPENDIX E

PHASE I ENVIRONMENTAL SITE ASSESSMENT

PHASE I ENVIRONMENTAL SITE ASSESSMENT

conducted on

BrightSky Development
3001 Oakley Road
Antioch, California 94509

Apex Project No. RES012-0313063-22012535

e ruary 20, 2025

Prepared for:

Resmark E uity Partners
12396 World Trade Drive, Suite 308
San Diego, California 92128

Prepared by:

Apex Companies, LLC
1962 reeman Avenue
Signal Hill, California 90755

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EXECUTIVE SUMMARY

Apex Companies, LLC Apex prepared a Phase I Environmental Site Assessment Phase I ESA of the BrightSky Development property located at 3001 Oakley Road in Antioch, Contra Costa County, California su ject property . This assessment was completed in accordance with Apex Proposal No. 33357923893 to Resmark E uity Partners dated e ruary 11, 2025. The scope of services was to prepare a Phase I ESA in a manner generally consistent with the ASTM International ASTM Standard Designation: E1527-21 Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process the .S. Environmental Protection Agency s Standards and Practices for All Appropriate In uiries AAI , 40 Code of ederal Regulations C R , Part 312 and, any exceptions, deletions, or non-scope considerations identified in the proposal. Apex notes that as of the date of this report, SEPA has not formally approved E1527-21. While this Phase I ESA was conducted in a manner consistent with ASTM E1527-21, the scope of services outlined herein is also consistent with ASTM E1527-13.

The approximately 14.88 acre su ject property is in a residential setting. The su ject property currently consists of two noncontiguous parcels that are developed as agricultural land with no structures. A stormwater pond is located in the southeast corner of the property. Access can e gained from Oakley Road to the south.

In summary, the su ject property has een developed for agricultural use since at least 1939. By 1993, a pond was added on the southeast corner of the su ject property and dirt roads were added. By 2003, the dirt roads were removed.

By 1896, Oakley Road was present to the south of the su ject property. By 1898, an unnamed road was added on the north adjoining property. By 1916, the road on the north adjoining property was removed and the existing residences were added to the east and south adjoining properties. By 1939, adjoining properties were developed for agricultural use. By 1949, a gravel mine was present to the southeast of the su ject property. By 1981, residences were added to the east and west adjoining properties and Phillips Lane was added to the east of the su ject property. By 1988, residences were added to the east adjoining property, construction of a residential su division egan on the north adjoining property, and the south adjoining property was graded. By 1993, the residential su division on the north adjoining property was completed, residential-type structures were added to the east adjoining property, and roads were added to the south adjoining property. By 2003, the west adjoining property was graded, and mining activities were no longer o served to the southeast of the su ject property. By 2018, dirt roads were added to the south adjoining property. By 2021, construction activities were o served on the west adjoining property. Adjoining properties listed in city directories have een occupied y private residents since at least 1995.

This assessment has revealed no evidence of recognized environmental conditions RECs , controlled recognized environmental conditions CRECs , historical recognized environmental conditions HRECs , or *de minimis* conditions in connection with the su ject property, except as follows:

Type of Concern	Conclusions
Recognized Environmental Condition REC	Apex did not identify RECs associated with the su ject property.
Controlled Recognized Environmental Condition CREC	Apex did not identify CRECs associated with the su ject property.
Institutional Controls ICs and/ or Engineering Controls ECs	Apex did not identify ICs/ECs associated with the su ject property.
Historical Recognized Environmental Conditions HRECs	Apex did not identify HRECs associated with the su ject property.
De Minimis Conditions	Apex did not identify de minimis conditions associated with the su ject property.
Vapor Encroachment Condition VEC	Apex did not identify a vapor encroachment condition associated with the su ject property.
Business Environmental Risk BER	Apex identified the following BERs associated with the su ject property: **Onsite Groundwater Monitoring Well**
Non-ASTM Considerations	Non-ASTM considerations were not included in this assessment s scope of services.
Significant data gaps	Apex did not identify significant data gaps associated with the su ject property.
Recommendations	Based on the results of this Assessment, no further action is necessary. The well onsite may have to e properly a andoned and/or relocated during redevelopment activities on the su ject property.

1.0 INTRODUCTION

1.1 Purpose

Apex Companies, LLC Apex has prepared this Phase I Environmental Site Assessment Phase I ESA of the BrightSky Development property located at 3001 Oakley Road, Antioch, California su ject property at the re uest of Resmark E uity Partners. The purpose of this Phase I ESA is to perform all appropriate in uiries into the previous ownership and uses of the Site consistent with good commercial or customary practices for a possi le property transaction involving the su ject property and to permit Resmark E uity Partners ser to ualify for one of the landowner lia ility protections as identified y the Comprehensive Environmental Response, Compensation and Lia ility Act CERCLA .

1.2 Scope of Services

This project was completed in accordance with Apex Proposal No. 33357923893 to Resmark E uity Partners dated e ruary 11, 2025. The scope of services was to prepare a Phase I ESA in a manner generally consistent with the ASTM International ASTM Standard Designation: E1527-21 Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process, and the .S. Environmental Protection Agency s Standards and Practices for All Appropriate In uiries AAI , 40 Code of ederal Regulations C R , Part 312. Apex notes that as of the date of this report, SEPA has not formally approved E1527-21. While this Phase I ESA was conducted in a manner consistent with ASTM E1527-21, the scope of services outlined herein is also consistent with ASTM E1527-13.

The scope of services comprising this Phase I ESA was conducted to provide a reasona le level of investigation to identify recognized environmental conditions RECs . As defined y ASTM E1527-21 Section 3.2.73:

"recognized environmental conditions", n - (1) the presence of hazardous substances or petroleum products in, on, or at the subject property due to a release to the environment; (2) the likely presence of hazardous substances or petroleum products in, on, or at the subject property due to a release or likely release to the environment; or (3) the presence of hazardous substances or petroleum products in, on, or at the subject property under conditions that pose a material threat of a future release to the environment.

The term is not intended to include de minimis conditions that generally do not present a threat to human health or the environment, and that generally would not e the su ject of an enforcement action if rought to the attention of the appropriate government agencies. Any controlled RECs CRECs or historical RECs HRECs as defined y ASTM E1527-21 that were identified during the assessment are discussed in this report, as applica le.

Apex completed a Tier 1 Vapor Encroachment Screening in accordance with ASTM E2600-15 in order to identify potential presence of hazardous vapors in the su surface of the su ject property caused y contaminated soil or groundwater on or near the Site.

An environmental lien and/or A L search was not included as a part of the scope of services for this assessment. As such, Apex assumes that the ser of this report is evaluating this ser re uirement independently and will report any findings to the environmental professional.

The approved scope of services did not include any non-ASTM considerations.

1.3 Significant Assumptions

Apex has completed historical and environmental record searches in accordance with current ASTM standards and industry practices. The data, findings, and conclusions presented in this Phase I ESA are ased upon a detailed search, review, and analysis of documents o tained, interviews performed, and o servations made during the reconnaissance.

Phase I ESAs, such as the one performed at the su ject property, are of limited scope, are non-invasive, and cannot eliminate the potential that hazardous, toxic, or petroleum su stances are present or have een released at the su ject property eyond what is identified y the limited scope of this Phase I ESA. In conducting the limited scope of services descri ed herein, certain sources of information and pu lic records were not reviewed. It should e recognized that environmental concerns may e documented in pu lic records that were not reviewed. No Phase I ESA can wholly eliminate uncertainty regarding the potential for RECs in connection with a property. Performance of this practice is intended to reduce, ut not eliminate, uncertainty regarding the potential for RECs. No warranties, express or implied, are intended or made. The limitations herein must e considered when the user of this report formulates opinions as to risks associated with the su ject property or otherwise uses the report for any other purpose. These risks may e further evaluated ut not eliminated through additional research or assessment. We will, upon re uest, advise you of additional research or assessment options that may e availa le and associated costs.

1.4 Limitations and Exceptions

This report was prepared as a result of a contractual agreement that defined the approach and scope of services to e employed during the course of the investigation. The opinions and conclusions expressed in this study have een ased strictly on the results of these contracted services. The scope of this Phase I ESA is intended to aid in the evaluation of RECs. The services provided y Apex should not e construed as a warranty or guarantee that no RECs exist at the su ject property or that all RECs have een uncovered. No conclusions are stated or implied concerning the suita ility of the su ject property for its eventual use. This document is not intended for purposes other than those expressly set forth herein or for use y parties other than for whom it has een prepared.

As limited y the ASTM Standard for Phase I ESAs and the scope of work provided y Apex, aside from the sampling and testing of suspect as estos-containing materials ACMs , if applica le, this project was non-intrusive in nature and did not include any sampling or testing of soils, groundwater, surface water, or other materials. Additionally, unless specifically descri ed in this report, the scope of work completed y Apex explicitly excluded issues that are outside the scope of ASTM E1527-21 and may constitute a usiness environmental risk as defined y ASTM.

ASTM Standard Practice E1527-21 recognizes inherent limitations for Phase I ESAs, including, ut not limited to:

Uncertainty Not Eliminated - No ESA can wholly eliminate uncertainty regarding the potential for RECs in connection with a Site. Performance of this practice is intended to reduce, ut not eliminate, uncertainty regarding the potential for RECs, and this practice recognizes reasona le limits of time and cost.

Not Exhaustive - All Appropriate In uiry does not mean an exhaustive assessment of a property. There is a point at which the cost of information o tained, or the time re uired to gather it outweighs the usefulness of the information and, in fact, may e a material detriment to the orderly completion of transactions.

Level of Inquiry Is Variable - Not every property will warrant the same level of assessment. Consistent with good commercial or customary practice, the appropriate level of environmental site assessment will e guided y the type of property, the expertise and risk tolerance of the ser, and the information developed in the course of the in uiry.

Comparison with Subsequent Inquiry - It should not e concluded or assumed that an in uiry was not All Appropriate In uiries merely ecause the in uiry did not identify RECs in connection with a property. Phase I ESAs must e evaluated ased on the reasona leness of judgments made at the time and under the circumstances in which they were made. Su se uent Phase I ESAs should not e considered valid standards to judge the appropriateness of any prior assessment ased on hindsight, new information, use of developing technology or analytical techni ues, or other factors.

Point in Time - The Phase I ESA is ased upon conditions at the time of completion of the individual Phase I ESA elements: ser s Responsi ilities, Physical Setting Resources, overnment Records, Historical Records, Site Reconnaissance, Owner/Operator/Occupant Interviews, Local overnment Officials Interviews, and Evaluation/Reporting.

1.5 User Reliance

This report documents the Phase I ESA of the su ject property performed y Apex at the explicit re uest and direction of Resmark E uity Partners and in general accordance with ASTM E1527-21 and the S EPA Standards and Practices for All Appropriate In uiries, 40 C R 312. The findings, opinions, and conclusions of this Phase I ESA are for the confidential and exclusive use of BrightSky Residential, LLC and Resmark E uity Partners, its affiliates, employees, agents, successors, and assigns. Reliance on this report for any use or y parties other than specifically stated is prohi ited without the expressed written consent of Apex and Resmark E uity Partners, and such use is at the sole risk of the user.

Continued via ility of this report is su ject to ASTM E1527-21 Section 4.6 and Section 4.8. If the Phase I ESA will e used y a different user third party than the user for whom the Phase I ESA was originally prepared, the third party must also satisfy the user s responsi ilities in Section 6 of ASTM E1527-21.

1.6 Critical Dates

A Phase I ESA meeting or exceeding this practice and completed less than 180 days prior to the date of ac uisition of the property or for transactions not involving an ac uisition the date of the intended transaction, is presumed to e valid. A Phase I ESA meeting or exceeding this practice and for which the

information was collected or updated within one year prior to the date of the intended transaction may e used provided that the following components of the ESA were conducted or updated within 180 days of the date of purchase or the date of the intended transaction:

Interviews with owners, operators, and occupants

Searches for recorded environmental cleanup liens

Reviews of federal, tri al, state, and local government records

Visual inspections of the property and of adjoining properties and,

The declaration y the Environmental Professional responsi le for the assessment or update.

The date of this report generally may not represent the date the individual components of All Appropriate Inquiries were completed and should not be used when evaluating compliance with the 180-day or 1-year all appropriate inquiries requirements.

Critical Dates

Item	Date
Earliest date of interviews with owners, operators, and/or occupants	N/A
Searches for recorded environmental cleanup liens	N/A
Reviews of federal, tri al, state, and local government records	e ruary 12, 2025
Visual inspections of the property and of adjoining properties	e ruary 14, 2025
The declaration y the Environmental Professional responsi le for the Phase I ESA or update	e ruary 20, 2025
The effective date of this report (earliest of the above-listed dates) is February 12, 2025; therefore, per ASTM E1527-21 the expiration date of this report is August 11, 2025 *(effective date plus 180 calendar days).*	

2.0 SUBJECT PROPERTY DESCRIPTION AND ADJOINING PROPERTIES

2.1 Subject Property Description

A summary of the su ject property and near y properties is included in the following ta le. A Site Location Map is provided as **Figure 1** and a Site and Vicinity Plan is included as **Figure 2**. Photographs of the su ject property and adjoining properties are included in the Photographs Appendix.

Property Summary	
Subject Property Address:	3001 Oakley Road, Antioch, California 94509
Current Property Use:	Agricultural
Subject Property Improvements:	No improvements were o served. Access can e gained from Oakley Road to the south.
Subject Property Operations:	The su ject property is currently developed for agricultural use.
Subject Property Contacts:	Charles Mc eag with Seven West Capital
Subject Property Acreage:	14.88 acres
Number of Parcels:	Portion of two parcels
Tax ID/Parcel Number(s):	051-190-028-4 and 051-190-033-4
Current Property Owner(s):	rank and udy Machado City of Antioch

Utility Providers

A description of the current utility providers at the su ject property is presented in the following ta le:

Utility	**Providers**
Electric	Not provided.
Natural as	Not provided.
Pota le Water	City of Antioch.
Sanitary Sewer	Not provided.

Utility	Providers
Solid Waste	Not provided.

2.2 Current Uses of Adjoining/ Nearby Properties

The area surrounding the su ject property consists of residential development and vacant land. Adjoining and near y properties were o served from the su ject property or from pu lic access areas for evidence of potential *recognized environmental conditions* and their potential to pose an environmental concern to the su ject property and are depicted on the Site and Vicinity Plan in the Appendices. The uses and features of adjoining properties are descri ed elow y relative compass direction and across adjoining roadways :

Direction	Site Name/Address
North	Private residences 2951 Hickorynut Street, 3000-3140 il ert Street, 3024-3028 Beechnut Court
East	Private residences 2237-2435 Phillips Lane
South	Private residence 3001 Oakley Road and vacant land No addresses found
West	Private residences 3033-3037 Honeycom Court

Apex s review of adjoining properties did not identify uses that are considered to e a recognized environmental condition with respect to the su ject property.

3.0 USER PROVIDED INFORMATION

ASTM E1527-21 Section 3.2.94 defines ser as the party seeking to use Practice E1527-21 to complete a Phase I ESA of a property. Apex understands that Resmark E uity Partners is the ser as defined y ASTM E1527-21. ASTM E1527-21 specifies that certain tasks associated with identifying potential RECs at the Site should e performed y the ser and provided to the Environmental Professional i.e., ser Responsi ilities . Accordingly, Apex provided a ser uestionnaire to Resmark E uity Partners re uesting the a ove information.

Resmark E uity Partners returned the ser uestionnaire along with the signed proposal. A copy of the uestionnaire is included in the ser uestionnaire Appendix.

Based on Apex s review of the *User* provided information, the following information was found:

User Provided Information	Issue Identified	Comments
Title Records	No	No information was provided.
Environmental Liens or Activity and se Limitations	No	The ser indicated they do not have any commonly known or reasona ly ascertaina le information regarding the su ject property.
Commonly nown or Reasona ly Ascertaina le Information	No	The ser indicated they do not have any commonly known or reasona ly ascertaina le information regarding the su ject property.
Valuation Reduction for Environmental Issues	No	The ser was not aware of any valuation reduction as a result of environmental issues.
Previous Reports	No	No information was provided.

4.0 SITE RECONNAISSANCE

The reconnaissance was conducted on e ruary 14, 2025 y Apex representative Dan Hisey and consisted of a walk through of exterior areas of the su ject property, as applica le. Apex was unaccompanied during the site reconnaissance.

Apex was provided access to all areas of the su ject property.

The following site conditions were o served:

Observation	Observed	Comments
Petroleum and Hazardous Substance Storage		
Hazardous Su stances and/or Petroleum Products	No	Apex did not o serve any hazardous su stances and/or petroleum products.
Hazardous Waste Storage/Disposal	No	Apex did not o serve any hazardous waste disposal areas.
A oveground Storage Tanks ASTs	No	Apex did not o serve any o vious indications of ASTs during the course of this Phase I ESA.
nderground Storage Tanks STs	No	Apex did not o serve any o vious indications of STs during the course of this Phase I ESA.
Leaks, Spills, or Releases around ASTs, STs, and/or Chemical Storage Areas	No	Apex did not o serve any significant leaks, spills, or releases.
Drums, Totes, and Intermediate Bulk Containers	No	Apex did not o serve any drums or other containers.
Polychlorinated Biphenyls PCBs	No	Apex did not o serve any potential sources of PCBs.
Transformers	No	Apex did not o serve any pad-mounted, pole-mounted, or dry-type transformers.
Hydraulic E uipment	No	Apex did not o serve any hydraulic e uipment.
Water/Wastewater		

Observation	Observed	Comments
Wastewater Treatment, Septic Systems, and/or Cesspools	No	Apex did not o serve any wastewater treatment or septic systems.
loor Drains or Sumps	No	Apex did not o serve any floor drains or sumps.
Oil-Water Separators OWS or rease Traps	No	Apex did not o serve any oil-water separators OWS or grease traps.
Pits, Ponds, or Lagoons	es	A current storm water pond was o served in the southeast corner of the su ject property.
Catch Basins and Stormwater Drainage	es	Storm water is directed via the following conveyance systems: Sheet flow Stormwater pond Storm water is released to onsite storm water pond or percolates naturally into the ground.
Wells including dry wells, irrigation wells, injection wells, monitoring wells, a andoned wells, or other wells	es	One groundwater monitoring well associated with an adjoining release is located on the east side of the su ject property. urther information regarding the adjoining release and the well can e found in Section 7.1.2.
Standing Surface Water	No	Apex did not o serve any standing water or other li uids.
Other Observations		
Stressed Vegetation or Stained Soil/ Pavement	No	Apex did not o serve any stressed vegetation or stained soil.
Stains or Corrosion on loors, Walls, or Ceilings	No	Apex did not o serve any significantly stained or corroded floors, walls, or drains.
Strong, Pungent, or Noxious Odors	No	Apex did not o serve any unusual odors.

Observation	Observed	Comments
Pipes of nknown Origin or se	No	Apex did not o serve any pipes of unknown origin or use.
ill Material	No	Apex did not o serve any fill material.
REC Summary		
Based on the site reconnaissance, Apex did not identify any items of environmental concern indicative of RECs, CREC, HRECs, or *de minimis* conditions at the su ject property.		

5.0 PHYSICAL RECORDS REVIEW

Sources consulted to characterize the physical setting of the su ject property are referenced in the following ta le.

Data Type	Data Source	Comments
Topography/ Slope	.S. eological Survey S S 7.5-minute Topographic Map	According to the Antioch North-Antioch South-Brentwood- ersey Island, California S S topographic map dated 2015, the su ject property is situated at an elevation of approximately 68 feet a ove mean sea level and the topography at the su ject property is relatively level. Regional topography slopes to the West.
Presumed roundwater low Direction	www.geotracker.water oards.ca.gov	West.
Estimated Depth to roundwater	www.geotracker.water oards.ca.gov	roundwater was found to e approximately 27 to 69 feet elow ground surface gs in the vicinity of the su ject property.
Soils	ERIS Physical Setting Report PSR	Delhi sand, 2 to 9 percent slopes, which is somewhat excessively drained with low runoff potential.
eology	ERIS Physical Setting Report PSR	uaternary alluvium and marine deposits, Pliocene to Holocene, alluvium and terrace.

6.0 HISTORICAL REVIEW

Apex retained ERIS - Environmental Risk Information Services to provide readily availa le historical sources including aerial photographs, fire insurance maps, topographic maps, and city directories for the su ject property, adjoining, and surrounding properties. Copies of these historical sources are provided in the appendices and are further discussed in the ta les elow.

ASTM E1527-21 Section 8.3.1 re uires the Environmental Professional to evaluate historical property information and developing a history of the previous uses of the su ject property, adjoining properties, and surrounding area is to help identify the likelihood of past uses having led to RECs in connection with the su ject property. urther, ASTM re uires that all o vious uses of the su ject property shall e identified from the present, ack to the su ject property s first developed use, or ack to 1940, whichever is earlier. The term developed use includes agricultural uses and placement of fill dirt, and other uses that may not involve structures.

6.1 Summary of Historical Review

The historical research presented in this Assessment has esta lished the *obvious* uses of the su ject property since 1896. A chronological summary of the historic use of the su ject and adjoining/surrounding properties is presented elow. Please refer to the Data aps Section for a summary of significant data gaps if any .

In summary, the su ject property has een developed for agricultural use since at least 1939. By 1993, a pond was added on the southeast corner of the su ject property and dirt roads were added. By 2003, the dirt roads were removed.

By 1896, Oakley Road was present to the south of the su ject property. By 1898, an unnamed road was added on the north adjoining property. By 1916, the road on the north adjoining property was removed and the existing residences were added to the east and south adjoining properties. By 1939, adjoining properties were developed for agricultural use. By 1949, a gravel mine was present to the southeast of the su ject property. By 1981, residences were added to the east and west adjoining properties and Phillips Lane was added to the east of the su ject property. By 1988, residences were added to the east adjoining property, construction of a residential su division egan on the north adjoining property, and the south adjoining property was graded. By 1993, the residential su division on the north adjoining property was completed, residential-type structures were added to the east adjoining property, and roads were added to the south adjoining property. By 2003, the west adjoining property was graded, and mining activities were no longer o served to the southeast of the su ject property. By 2018, dirt roads were added to the south adjoining property. By 2021, construction activities were o served on the west adjoining property. Adjoining properties listed in city directories have een occupied y private residents since at least 1995.

6.2 Aerial Photographs

Aerial photographs, including the su ject, adjoining, and surrounding properties, were o tained from ERIS - Environmental Risk Information Services for the years 1939 to 2021. Copies of aerial photographs are included in the Aerial Photographs Appendices. Aerial photographs are summarized as follows:

Date	Comments
1939	The su ject and adjoining properties were developed for agricultural use with residential-type structures on the south adjoining property. The surrounding properties were developed for agricultural use with scattered residential-type structures. Oakley Road was to the south of the su ject property.
1949	No changes were o served to the su ject, adjoining, or surrounding properties, except that a gravel mine was added to the southeast adjoining property.
1958	No significant changes were o served since the 1949 aerial photograph.
1968	No changes were o served to the su ject, adjoining, or surrounding properties, except that commercial uildings were added to the south surrounding properties.
1974	No significant changes were o served since the 1968 aerial photograph.
1981	No changes were o served to the su ject, adjoining, or surrounding properties, except that construction activities were o served on the northeast adjoining property, residential-type structures were added to the east and west adjoining properties, and Phillips Lane was added to the east of the su ject property.
1988	No changes were o served to the su ject, adjoining, or surrounding properties, except that residential-type structures were added to the east adjoining property, construction of a residential su division egan on the north adjoining property, and the south adjoining property was graded.
1993	No changes were o served to the su ject, adjoining, or surrounding properties, except that a pond was added on the southeast corner of the su ject property, dirt roads were added through the su ject property, the residential su division on the north adjoining property was completed, residential-type structures were added to the east adjoining property and to the west surrounding properties, and roads were added to the south adjoining property.
2003	No changes were o served to the su ject, adjoining, or surrounding properties, except that the dirt roads were removed from the su ject property, the west adjoining property was graded, and mining activities were no longer o served to the southeast of the su ject property.
2004 2005 2006 2009 2010 2012	No significant changes were o served since the 2003 aerial photograph.

Date	Comments
2014	No changes were o served to the su ject, adjoining, or surrounding properties, except that construction of a residential su division egan on the northeast surrounding property.
2016	No changes were o served to the su ject, adjoining, or surrounding properties, except that construction of a residential su division continued on the northeast surrounding property.
2018	No changes were o served to the su ject, adjoining, or surrounding properties, except that dirt roads were added to the south adjoining property and construction of a residential su division was completed on the northeast surrounding property.
2020	No significant changes were o served since the 2018 aerial photograph.
2021	No changes were o served to the su ject, adjoining, or surrounding properties, except that construction activities were o served on the west adjoining property.

6.3 Topographic Maps

Topographic maps, including the su ject, adjoining, and surrounding properties, were o tained from ERIS - Environmental Risk Information Services for the years 1896 to 2021. Copies of topographic maps are included in the Topographic Maps Appendices. Topographic maps are summarized as follows:

Date	Comments
1896	The su ject property, adjoining properties, and surrounding properties appeared undeveloped. Oakley Road was to the south of the su ject property.
1898	No changes were o served to the su ject, adjoining, or surrounding properties, except that an unnamed road was added through the su ject property and an unnamed road was added on the north adjoining property.
1916	No changes were o served to the su ject, adjoining, or surrounding properties, except that the road through the su ject property and road on the north adjoining property were no longer depicted and residential-type structures were added to the east adjoining, south adjoining, and east surrounding properties.
1943	No changes were o served to the su ject, adjoining, or surrounding properties, except that Oakley Road to the south was widened.

Date	Comments
1953	No changes were o served to the su ject, adjoining, or surrounding properties, except that structures were added to the east, south, and west adjoining properties and to the west surrounding property. Additionally, the area to the southeast of the su ject property was la eled as a sand pit.
1968	No changes were o served to the su ject, adjoining, or surrounding properties, except that structures on the east and west adjoining properties were no longer depicted.
1973	No significant changes were o served since the 1968 topographic map.
1980	No changes were o served to the su ject, adjoining, or surrounding properties, except that structures on the east and west adjoining properties were o served.
2015	No changes were o served to the su ject, adjoining, or surrounding properties, except that residential roads were added on the north adjoining and north surrounding properties and Phillips Lane was added to the east. Individual structures and la els were no longer depicted.
2018	No changes were o served to the su ject, adjoining, or surrounding properties, except that an unnamed road was added to the west of the su ject property.
2021	No further changes were o served.

6.4 Fire Insurance Maps

San orn fire insurance maps were not availa le for the area of the su ject property, according to ERIS. A copy of the No Coverage letter is included in the ire Insurance Maps Appendices.

6.5 City Directories

City directories covering the su ject property and adjoining properties were o tained from ERIS - Environmental Risk Information Services for the period etween 1931 and 2022. Copies of city directories are included in the City Directory Appendices. City directories were not availa le for the su ject property.

City directories for the adjoining properties are summarized as follows:

Address	Year	Occupant Listing
Adjoining Properties		

Address	Year	Occupant Listing
3001 Oakley Road S	1931 1937 1947 1952 1956 1960 1970 1976 1981 1985 1990 1995-1996	No listings were found.
	2001-2002	Private residence
	2008	No listings were found.
	2012 2016 2020 2022	Private residence
2237-2425 Phillips Lane E	1931 1937 1947 1952 1956 1960 1970 1976 1981 1985 1990	No listings were found.
	1995-1996 2001-2002	Private residence.
	2003	No listings were found.

Address	Year	Occupant Listing
	2008 2012 2016 2020 2022	Private residences.
2435 Phillips Lane E	1931 1937 1947 1952 1956 1960 1970 1976 1981 1985 1990	No listings were found.
	1995-1996 2001-2002 2003 2008	Private residence.
	2012	Cole Recovery Inc.
	2016 2020 2022	No listings were found.

6.6 Agency Contacts

Per ASTM E1527-21, if the su ject property or any of the adjoining properties are identified on one or more of the standard environmental record sources then reasona ly ascertaina le pertinent regulatory files and/or records associated with the listing should e reviewed in order to o tain sufficient information to assist in determining if a REC, CREC, HREC, or de minimis condition exists in connection with the su ject property. If, in the Environmental Professional s opinion, such a review is not warranted, the justification for not conducting the regulatory file review must e provided. As an alternative, information from other sources for example, online regulatory data ases, onsite records, ser provided records, records from local government agencies, interviews with regulatory officials, or interviews with other individuals knowledgea le a out the su ject property may e reviewed .

Apex contacted agencies as summarized in the ta le elow for pu lic information re uests including open records and reedom of Information Act OIA . Copies of pertinent open record and OIA responses and records of communication are provided in the Agency Documents Appendix.

Permits and records on file for the su ject property are summarized as follows:

Agency Name	Date Responded	Records Available	Comments
City of Antioch	02/19/25	No	No records were on file for the su ject property.
Contra Costa County Environmental Health Department	02/19/25	No	No records were on file for the su ject property.
Bay Area Air uality Management District BAA MD			Apex has not received a response as of the date of this report.
Regional Water uality Control Board RW CB			Apex has not received a response as of the date of this report.
Department of Toxic Su stances Control DTSC			Apex has not received a response as of the date of this report.

6.7 Previous Environmental Reports or Other Documents

Apex made re uests to the client and the current property owner/site contact regarding the presence of previous environmental reports or other relevant documents for the su ject property e.g., previous Phase I or Phase II ESA, geotechnical report, MSDS, etc. . Copies of any previous reports or relevant documents are included in the Previous Reports Appendices.

The following previous environmental reports or other relevant documents were availa le for review during this Assessment:

***Limited Phase II Environmental Site Assessment, Brightsky Development, 3001 Oakley Road, Antioch, California;* dated April 11, 2023; prepared by Apex; prepared for Resmark Equity Partners.**

In 2023, Apex conducted a soil vapor survey on the eastern portion of the su ject property to investigate if the contaminated groundwater from an adjoining P &E cleanup site would adversely impact future development activities. The investigation involved advancing eight orings onsite and installing soil vapor pro es at five feet gs. Several VOCs were detected in the soil vapor samples collected however, no concentrations were found a ove their respective S RW CB ESLs. No further investigation was considered warranted.

7.0 STANDARD ENVIRONMENTAL RECORDS SOURCES: FEDERAL, STATE, AND TRIBAL

7.1 Environmental Records

Consistent with ASTM E1527-21, customary and usual practices, specific scope of work terms and conditions see **Section 1.2** , and contractual terms and conditions, Apex o tained and reviewed environmental data ases and records to characterize the o vious and apparent uses of the su ject property and near y properties. Apex retained ERIS - Environmental Risk Information Services to provide a data ase and record search report, provided in the **Regulatory Database Report** Appendix. Apex has reviewed the listings pertaining to the su ject property and near y properties and evaluated whether these listings should e considered RECs, CRECs, HRECs, vapor conditions, and/or *de minimis* conditions. RECs, CRECs, HRECs, vapor conditions, and/or *de minimis* conditions are also specifically listed in the **Executive Summary** and **Section 11.0**.

Based on the Environmental Professional s review of the data ases and resulting opinion, only the following significant and relevant data ase and record search findings are included for discussion elow.

Due to the volume of listings for the surrounding properties only listings which, in the opinion of the Environmental Professional, warrant discussion. The remaining listings are included in the appended data ase report.

7.1.1 Subject Property Listings

The su ject property was not listed on any significant or relevant data ases.

7.1.2 Adjoining/Surrounding Properties Listings

Several properties surrounding the su ject property were identified in relevant or significant data ases. Apex has reviewed the listings to evaluate their potential to impact the su ject property. Pertinent listings are summarized elow.

Listing Discussion

Listing Name: Oakley Road Metering Site, Pacific as & Electric Company
Listing Address: 3302 Oakley Road, Intersection of Oakley Road and Phillips Lane
Distance/Orientation: Southeast adjoining, upgradient
Databases: INDS/ RS, RCRA Non en, CalSites, CHMIRS, Emissions, Envirostor, Haz en, Hist Manifest, C PA ContraCo, Delisted Haz

The southeast adjoining upgradient property, located at 3302 Oakley Road, is currently in operation as a Pacific as & Electric Company facility and was formerly in operation as The Oakley Road Metering Site. The facility was utilized for routine operations that involved handling of natural gas well li uids containing water and petroleum hydrocar ons until the mid-1970s. The facility has een used for natural gas pipeline e uipment storage y the Pacific as and Electric Company since 1992. According to the CalSites and Envirostor data ases, the site is currently undergoing monitoring y the Contra Costa County

Health Services Department CCCHSD and Regional Water uality Control Board RW CB to determine the extent of a groundwater contamination plume. In 1991, a soil and groundwater investigation found elevated levels of enzene, toluene, ethyl enzene, and xylenes BTE and total petroleum hydrocar ons TPH onsite. Additionally, floating products were o served in one monitoring well and were found to contain polychlorinated iphenyls PCBs during that investigation. Since then, various site investigations, groundwater extraction events, and air sparging AS /soil vapor extraction SVE remediation activities have een conducted onsite. It was determined that the AS/SVE system had reached its maximum removal potential in 2018 and its use was discontinued. Soil vapor samples from 2018 were reviewed and were determined to e elow applica le screening levels with the highest levels eing approximately 215 feet away from the su ject property.

The most recent groundwater sampling event was conducted in Octo er 2024. BTE constituents were not detected in any groundwater samples collected from onsite and offsite. asoline, diesel, and oil were detected in the majority of groundwater samples collected. Based on figures provided, the highest concentrations appeared to e limited to the site with minor concentrations migrating offsite towards to the north-northwest. According to the groundwater monitoring reports, one groundwater monitoring well MW-9 is located on the eastern portion of the su ject property in association with this site. The last time this well was sampled was in uly 2022. At that time, no constituents were detected with the exception of diesel at 88 micrograms per liter g/L which is elow the Tier 1 ESL of 100 g/L. Historically, low levels of diesel, oil, gasoline, and xylenes have een detected in this well however, no concentrations have ever een over the applica le screening levels.

In 2023, Apex conducted a soil vapor survey on the eastern portion of the su ject property to investigate if the contaminated groundwater from this cleanup site would adversely impact future development activities. Several VOCs were detected in the soil vapor samples collected however, no concentrations were found a ove their respective S RW CB ESLs. Since contaminant concentrations in groundwater on the su ject property is elow current screening levels and soil vapor onsite was not found to e adversely affected, this is not considered a REC.

Listing Discussion

Listing Name: Henry . aiser Company
Listing Address: Contra Costa County
Distance/Orientation: Southeast adjoining, upgradient
Databases: MRDS

The southeast adjoining, upgradient property was formerly in operation as Henry . aiser Company. According to the MRDS data ase, the facility was a sand and gravel construction mine and was active from 1937 to 1951 and inactive in 1958. Evidence of a release was not identified therefore, this does not represent a *recognized environmental condition*.

Orphan Facilities

Orphan facilities are those facilities that could not e mapped due to incomplete or incorrect address/ geocoding information.

The environmental data ase report identified a total of two orphan facilities.

These facilities were reviewed and determined to not e within the vicinity of the su ject property.

7.2 Environmental Liens and Activity and Use Limitations Search

Environmental liens and Activity and se Limitations A Ls can commonly e found within recorded land title records e.g., County Recorder/Registry of Deeds . The types of title reports that may disclose environmental liens and A Ls include Preliminary Title Reports, Title Commitments, Condition of Title, and Title A stracts. Chain-of-title reports will not normally disclose environmental liens or A Ls that are imposed y judicial authorities may e recorded or filed in judicial records only.

Reviewing land title records for A Ls and environmental liens or judicial records where applica le is a user responsi ility and includes engineering and institutional controls. Apex notes the following:

Were the results of the ser s search for environmental liens and A Ls received	es.
Were environmental liens and A Ls noted in the ser-provided search results	The ser did not identify any environmental liens or A Ls.
Was Apex contracted to order an environmental lien/ A L search If yes, were environmental liens or A Ls identified	An environmental lien and/or A L search was not included as a part of the scope of services for this assessment. As such, Apex assumes that the ser of this report is evaluating this ser re uirement independently and will report any findings to the environmental professional.

8.0 TIER 1 VAPOR ENCROACHMENT SCREEN (VES)

Apex conducted a Tier 1 VES during the Phase I ESA. The VES was conducted in accordance with ASTM E2600-15, *Standard Guide for Vapor Encroachment Screening on Property Involved in Real Estate Transactions*. The methods and terms are as defined in the ASTM standard.

The goal of a VES is to identify a vapor encroachment condition VEC at a su ject property. A VEC is defined as the presence or likely presence of chemicals of concern COC vapors in the su surface of a su ject property caused y the release of vapors from contaminated soil or groundwater either on or near the su ject property.

Information was o tained with respect to the following: planned additional structures and significant natural or man-made preferential pathways of potential vapor migration. This information is summarized elow:

No information was provided on plans for the construction of additional uildings. The planned use for the su ject property is residential development.
The su ject property is not connected to utilities.
Based on availa le information soil was found to e Delhi sand and groundwater was found to e approximately 27 to 69 feet gs in the vicinity of the su ject property.

8.1 Tier 1 Screen Evaluation

An evaluation of that information includes two tests: 1 a search distance test to evaluate the proximity of the target property to known or suspected *contaminated properties* , and 2 a chemicals of concern test to determine the likely presence of COCs at the su ject or properties within the area of concern AOC . In evaluating the data, the distance and proximity to potentially contaminated offsite properties must e evaluated, including whether they are up-, cross-, or down-gradient relative to the su ject property. A rief summary of relevant information considered for the Tier 1 screening follows:

Location of Suspect Contaminated Properties	Type of COC	Orientation from Subject Property	Comments	Does VEC exist?
Oakley Road Metering Site, Pacific as & Electric Company 3302 Oakley Road, Intersecti on of Oakley Road and Phillips Lane	Petroleum hydrocar ons	Southeast adjoining, upgradient property	It was determined that the AS/ SVE system had reached its maximum removal potential in 2018 and its use was discontinued. In 2023, Apex conducted a soil vapor survey on the eastern portion of the su ject property to investigate if the contaminated groundwater from this cleanup site would adversely impact future	No

Location of Suspect Contaminated Properties	Type of COC	Orientation from Subject Property	Comments	Does VEC exist?
			development activities. Several VOCs were detected in the soil vapor samples collected however, no concentrations were found a ove their respective S RW CB ESLs.	

8.2 Tier 1 Screening Findings

The *vapor encroachment screen* process has een completed in accordance with the Standard. Based on Apex s evaluation a *VEC* does not exist at the su ject property.

9.0 INTERVIEWS

Apex interviewed selected individuals associated with the su ject property. The purpose of the interview s was to o tain additional information related to 1 the current and past operations at the su ject and/ or adjoining properties that may result in *recognized environmental conditions*, and 2 the presence of *Proceedings Involving the Property* e.g., litigation, regulatory agency rulings, violations, etc. .

9.1 Interview with Owner or Manager

A completed uestionnaire has not een received as of the date of this report.

9.2 Interviews with Others

Previous owners were not interviewed during this assessment, ecause ade uate information was o tained from other sources during this assessment.

10.0 DATA GAPS

The ASTM Standard re uires that the report identify the following: 1 o vious uses of the Site since 1940 or first development, whichever is earlier and 2 significant data gaps which affect the a ility of the Environmental Professional to identify RECs. A data gap y itself is not inherently significant. Apex identified the following data gaps in this assessment:

Data Gaps	Significance
Availa le historical information did not ena le Apex to identify the first developed use of the Site and/or at approximate 5-year intervals to the present. Apex interprets this as a data gap. Based on the current and/or historical use of the Site and findings of this report, Apex does not consider this a significant data gap.	Not Significant
An environmental lien and A L search was not provided y the ser to Apex for review during this assessment and was not performed y Apex as part of the scope of services for this assessment. Based on the ASTM Standard re uirements, Apex interprets the lack of environmental lien and A L search as a data gap for this Phase I ESA. Based on the current and/or historical use of the Site and findings of this report, Apex does not consider this a significant data gap.	Not Significant
Apex has not received a response ack from all government agencies and considers this a data gap. Based on the current and/or historical use of the Site and findings of this report, Apex does not consider this a significant data gap.	Not Significant
Apex was una le to complete an interview with the Site owner or a key site manager. This is not considered a significant data gap.	Not Significant

11.0 FINDINGS, OPINIONS, CONCLUSIONS AND RECOMMENDATIONS

Apex has performed a Phase I Environmental Site Assessment in conformance with the scope and limitations of ASTM Practice E1527-21 of the BrightSky Development property located at 3001 Oakley Road in Antioch, California the su ject property . Any exceptions to, or deletions from, this practice are descri ed in Section 1.4 of this report. This section presents a summary of availa le information on known or suspected recognized environmental conditions, historical recognized environmental conditions and de minimis conditions if any at the su ject property. It also includes Apex s opinion and rationale for concluding that a condition is, or is not, currently a recognized environmental condition. Based on a review of the information presented in this Assessment, Apex presents the following relevant findings and opinions:

Onsite Groundwater Monitoring Well - One groundwater monitoring well MW-9 is located on the eastern portion of the su ject property in association with the adjoining cleanup site. No constituents were detected in the most recent 2022 monitoring event with the exception of diesel at 88 g/L which is elow the Tier 1 ESL of 100 g/L. Historically, low levels of diesel, oil, gasoline, and xylenes have een detected in this well however, no concentrations have ever een over the applica le screening levels. The well may have to e properly a andoned and/or relocated during redevelopment activities on the su ject property therefore, this is considered a usiness environmental risk.

Tier 1 Vapor Encroachment Screen Apex has conducted a Tier 1 Vapor Encroachment Screen, in accordance with ASTM Standard E2600-15. Based on Apex s review of availa le information, a *vapor encroachment condition* at the su ject property does not exist.

Former Agricultural Use - Based on the review of historical aerial photographs, the su ject property was o served in agricultural use historically. iven this usage, it is possi le that pesticides and/or her icides were once used onsite and residual amounts may remain. Based on Apex s experience in sampling soils for residual pesticides and/or fertilizers that have een applied in conjunction with normal agricultural activities and the length of time since agricultural activity occurred onsite, the likelihood that residual chemicals will e found a ove cleanup levels is low. Based on this evaluation, it is Apex s opinion that the potential past use of pesticides and/or fertilizers does not present a *recognized environmental condition* to the su ject property.

Additional Facilities in General Area of Subject Property - acilities in the general area of the su ject property were identified on the data ases reviewed for this report i.e., within ASTM-specified distances . However, it is Apex s opinion these facilities do not represent a significant threat of impact to the su ject property. This opinion is supported y one or more of the following: intervening distance and/or orientation relative to the su ject property surface topography known or suspected groundwater flow direction regulatory status e.g., only hold an operating permit which does not imply a release , have een issued *No Further Action* status y the appropriate regulatory agency and/or other availa le information. Accordingly, ased on availa le information, it is Apex s opinion these facilities do not represent a *recognized environmental condition*, as defined y ASTM, with respect to the su ject property.

This assessment has revealed no evidence of recognized environmental conditions RECs , controlled recognized environmental conditions CRECs , historical recognized environmental conditions HRECs , or *de minimis* conditions in connection with the su ject property, except for the following:

Type of Concern	Conclusions
Recognized Environmental Condition REC	Apex did not identify RECs associated with the su ject property.
Controlled Recognized Environmental Condition CREC	Apex did not identify CRECs associated with the su ject property.
Institutional Controls ICs and/ or Engineering Controls ECs	Apex did not identify ICs/ECs associated with the su ject property.
Historical Recognized Environmental Conditions HRECs	Apex did not identify HRECs associated with the su ject property.
De Minimis Conditions	Apex did not identify de minimis conditions associated with the su ject property.
Vapor Encroachment Condition VEC	Apex did not identify a vapor encroachment condition associated with the su ject property.
Business Environmental Risk BER	Apex identified the following BERs associated with the su ject property: **Onsite Groundwater Monitoring Well**
Non-ASTM Considerations	Non-ASTM considerations were not included in this assessment s scope of services.
Significant data gaps	Apex did not identify significant data gaps associated with the su ject property.
Recommendations	Based on the results of this Assessment, no further action is necessary. The well onsite may have to e properly a andoned and/or relocated during redevelopment activities on the su ject property.

12.0 SIGNATURES

This report was prepared, y the following:



ennifer Woods
Project Manager
Health, Safety and Environmental Services
Signal Hill Regional Office
Apex Companies, LLC

This report was prepared, under the responsi le charge of the Environmental Professional noted elow:

Environmental Professional's Certification:

I declare that, to the est of my professional knowledge and elief, I meet the definition of Environmental Professional as defined in 312.10 of 40 C R 312. I have the specific ualifications ased on education, training, and experience to assess a property of the nature, history, and setting of the su ject property. I have developed and performed the all appropriate in uiries in conformance with the standards and practices set forth in 40 C R Part 312.



Shannon illespie
Program Manager
Health, Safety and Environmental Services
Signal Hill Regional Office
Apex Companies, LLC

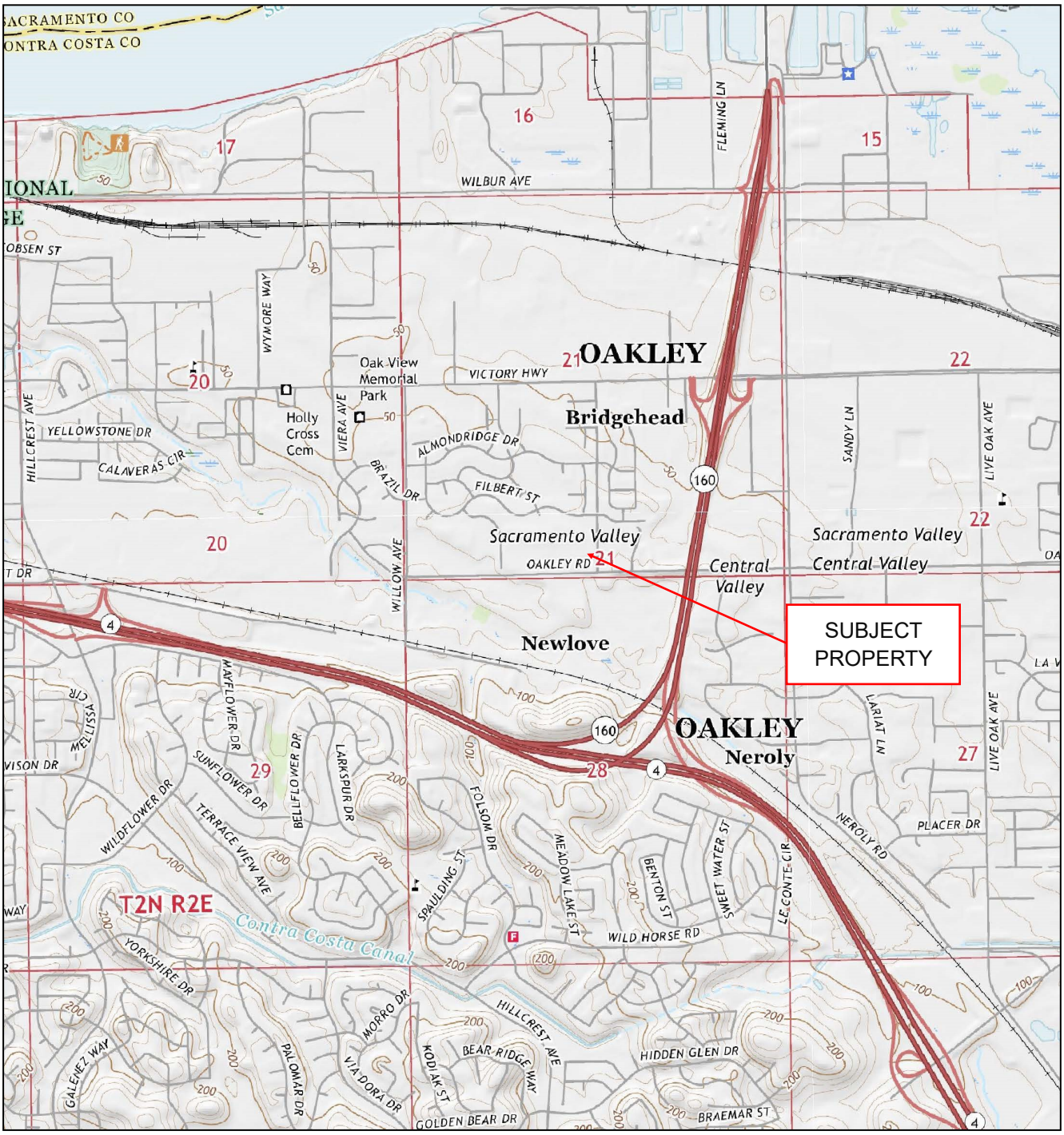
e ruary 20, 2025
Phase I Environmental Site Assessment
BrightSky Development
3001 Oakley Road
Antioch, California
Project No. RES012-0313063-22012535

13.0 SOURCES AND REFERENCES

Documents and Previous Reports Reviewed

ASTM International, Standard uide for Vapor Encroachment Screening on Property Involved in Real Estate Transaction, ASTM Designation E2600-15
ASTM International, Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process, ASTM Designation E1527-21
Radius Map Report, ERIS, Inc. and Physical Setting Report
City Directories, o tained from ERIS: 1931 through 2022
Aerial photographs, o tained from ERIS: 1939 through 2021
Historic topographic maps, o tained from ERIS: 1896 through 2021
ire insurance maps, not availa le from ERIS
Limited Phase II Environmental Site Assessment, Brightsky Development, 3001 Oakley Road, Antioch, California dated April 11, 2023 prepared y Apex prepared for Resmark E uity Partners.
www.geotracker.water oards.ca.gov

Site Plan



PORTION OF 7.5-MINUTE
(TOPOGRAPHIC) MAP
UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

ANTIOCH SOUTH-BRENTWOOD-ANTIOCH NORTH,
JERSEY ISLAND, CA QUADRANGLE (2021)

N

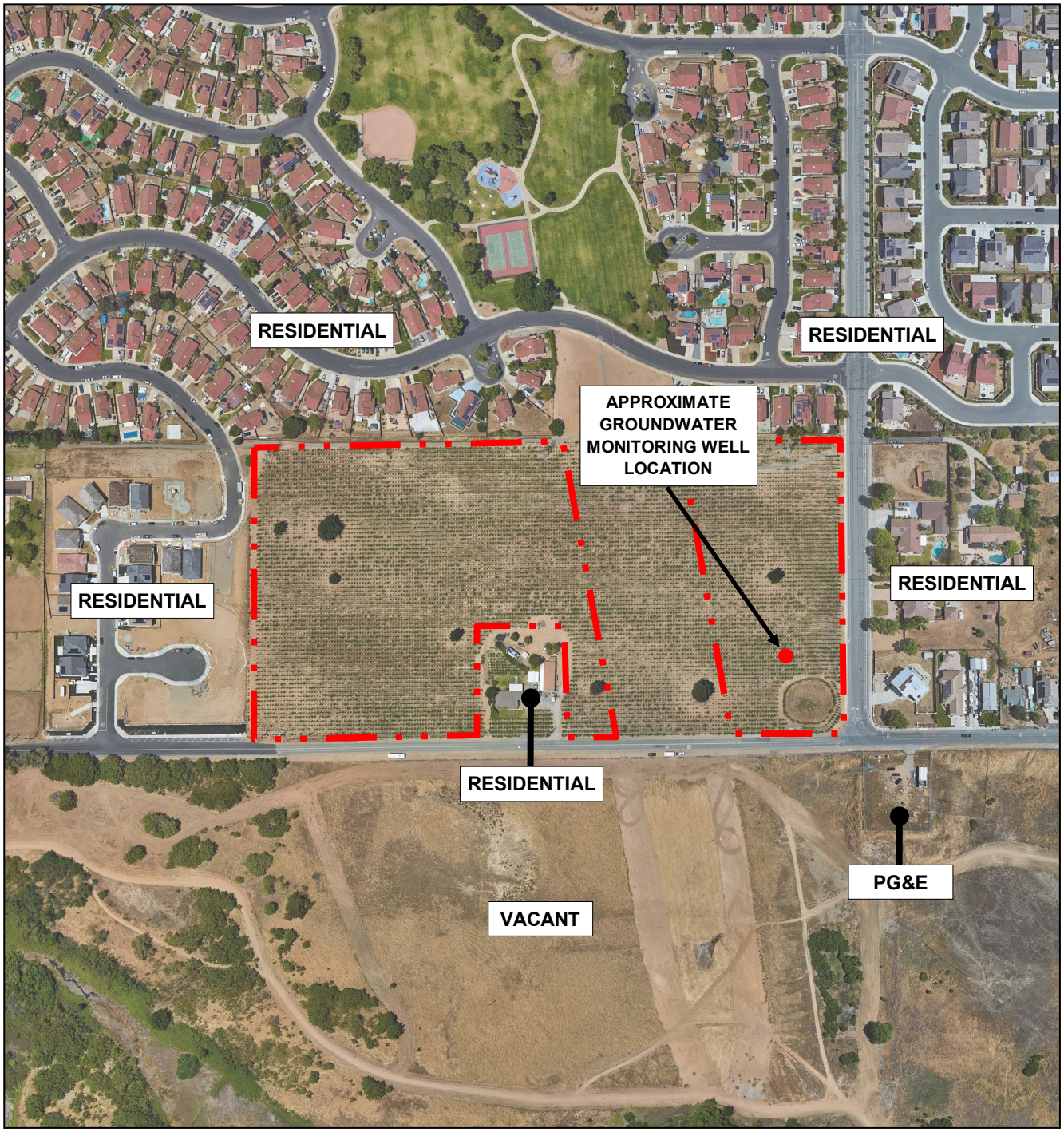
SCALE	NOT TO SCALE
DATE	FEB. 18, 2025
PRJ NO.	RES012-0313063-22012535

SITE LOCATION
BRIGHTSKY DEVELOPMENT
3001 OAKLEY ROAD
ANTIOCH, CA 94509

APEX

FIGURE
1

Site and Vicinity Plan



LEGEND

SUBJECT PROPERTY BOUNDARY

N

SCALE	NOT TO SCALE
DATE	FEB. 18, 2025
PRJ NO.	RES012-0313063-22012535

SITE VICINITY & SURROUNDING PROPERTIES
BRIGHTSKY DEVELOPMENT
3001 OAKLEY ROAD
ANTIOCH, CA 94509

APEX

FIGURE
2

Photographs



1 - Storm water pond located in the southeastern corner of the Site.



2 - Another view of the storm water pond located in the southeastern corner of the Site.



3 - Eastern edge of Site from the south facing north along Phillips Lane.



4 - View of the Site from the east facing west.



5 - Northern edge of the Site from the east facing west.



6 - View of the eastern portion of the Site from the northeast facing southwest.



7 - Western portion of the Site from the southeast facing northwest.



8 - View of the Site from the southwestern corner facing northeast.



9 - Western edge of the Site from the south facing north.



10 - Southern edge of Site from the west facing east.



11 - View of the Site from the southwest facing northeast.



12 - View of the Site from the west facing east.



13 - Northern edge of the Site from the west facing east.



14 - Western edge of the Site from the north facing south.



15 - Central portion of the Site.



16 - Another view of the central portion of the Site.



17 - Northeastern portion of the Site.



18 - Southeastern portion of the Site.



19 - Residential properties located eyond Phillips Lane to the east.



20 - Residential properties located to the north of the Site.



21 - Residence located at 3001 Oakley Road located adjacent to the south of the Site.



22 - ndeveloped land located eyond Oakley Road to the south.



23 - Residential properties located adjacent to the west.



24 - Residential properties located to the northwest of the Site.



25 - Almondridge Park and power line easement located to the north of the Site.



26 - Power line easement located in the center of the Site.



27 - Parking area located eyond Phillips Lane to the east-northeast of the Site.



28 - Storm water pond located eyond Oakley Road to the south-southeast.



29 - P &E property located eyond Oakley Road to the southeast.

Resumes

Shannon Gillespie

DUE DILIGENCE PROGRAM MANAGER

Ms. Gillespie has over 30 years of technical experience in conducting environmental assessments and currently works on a national basis to maintain quality and consistency between offices. Ms. Gillespie supervises staff responsible for conducting Phase I Environmental Site Assessments (ESAs) and subsequent subsurface investigations, as well as asbestos and lead assessments, and has final review of project deliverables. She interacts with clients and is responsible for assuring report timeliness and maintaining project budgets. She prepares Phase I and subsurface investigation proposals and conducts business development.

She has coordinated, managed, and conducted Phase I Environmental Assessments of residential, commercial, and industrial properties as part of real estate transactions for due diligence investigations. Ms. Gillespie also reviews environmental assessment reports for many diverse clients to assess business risk and assists clients in the preparation of Materials Management Plans. Additionally, she conducts Phase II and Phase III assessments to locate and determine the extent of soil and groundwater contamination. Her responsibilities include soil boring installation, developing site-specific work plans and health and safety plans, interpreting analytical results, estimating volumes of impacted soil and groundwater, estimating remediation costs and report preparation.

Project Experience

Due Diligence Work • Self Storage Facility Company • Nationwide Locations

Managed the completion of hundreds of assessments, including large portfolios, for a national self-storage facility company since 2019 to satisfy due diligence. Completion of the project, which included Phase I ESAs, subsurface investigations, No Action Determinations, and asbestos and lead surveys, required the coordination of staff from Apex offices across the nation. All fieldwork and written reports had to be completed within a quick turnaround and within a tight budget. She solely maintained client contact and reviewed all deliverables prior to submittal to client.

CERCLA Preliminary Assessment – State of California Real Estate Division • Los Alamitos, CA

Prepared a CERCLA preliminary assessment for a 1,300-acre Department of Defense and California Army National Guard installation (Los Alamitos Armed Forces Reserve Center). The assessment included: a review of available files, personnel interviews, onsite and offsite reconnaissance, historical aerial photograph review and survey of potential sources of past and current contamination and contaminant sources. The preliminary assessment indicated that past and present operations at the installation had involved in use, storage, treatment, spillage, leakage, and disposal of materials and/or wastes that are now considered hazardous. These materials and wastes were used in a variety of aircraft and vehicle maintenance, fuel storage, landfilling, aircraft-washing, and other facility activities and operations. Based on this information, potential areas of concern at the installation requiring site investigation activities were identified. The Preliminary Assessment was conducted using guidelines developed by the U.S. Environmental Protection Agency (EPA), Waste Management Division, Region IX and California Department of Toxic Substances (DTSC).

APEX

The Site Investigation included twelve potential areas of concern identified in the Preliminary Assessment. The areas included two landfills, a flight line area, revetments, fuel tank farms, former rifle ranges, clarifiers, munitions bunkers, agricultural areas and a wastewater treatment plant. Investigation included the collection of air, surface water, groundwater, soil and soil vapor samples to assess the presence of various contaminants that were identified in the previous assessments. Integral member of the team in the evaluation of data collected during the SI and generation of the remedial investigation work plan, health and safety plan, quality assurance project plan, and field sampling plan.

Phase I Environmental Site Assessment (ESAs) • Lending Institute • CA, TX, AZ

Supervised the completion of a 45-site portfolio, as well as many other Phase Is, for a major lending institute to satisfy due diligence. The sites were located in California, Texas, and Arizona and required the coordination of staff from three other offices. All field work and written reports had to be completed within a four-week period of time and within a tight budget. She solely maintained client contact and reviewed all deliverables prior to submittal to client. Some of the projects required subsequent Phase II investigations based on findings during the Phase I.

Phase I Environmental Site Assessment /Due Diligence Work • Cellular Communications Company • CA, HI, CO, MT, NV

Managed the completion of over 1,000 assessments for a cellular communications company since 2001 to satisfy due diligence. Completion of the project, which included Phase I ESAs, NEPA work, subsurface investigations, materials management plans, oversight of ground disturbance and asbestos and lead surveys, required the coordination of staff from five other offices. All fieldwork and written reports had to be completed within a quick turnaround and within a tight budget. She solely maintained client contact and reviewed all deliverables prior to submittal to client.

Education

- BS, Chemistry, Arizona State University (1986)

Professional Registrations/Certification/Training

- Registered Environmental Property Assessor
- Certified Environmental Specialist (13564)
- OSHA 40-Hour HAZWOPER (with annual 8-hour refresher)

Jennifer Woods

ASSISTANT PROJECT MANAGER

Ms. Woods conducts Phase I Environmental Site Assessments (ESAs) for various financial, real estate, industrial, and commercial clients. Using American Society for Testing Materials (ASTM) standard practices as a guideline, Ms. Woods has conducted Phase I ESAs of industrials sites, commercial buildings, and undeveloped land throughout California, Arizona, Washington, Oregon, Nevada, Idaho, Montana, Colorado, Hawaii, and Texas. These have included performing historical research, interviewing owners, occupants, and local government officials, and generating reports. Ms. Woods also has participating in all phases of asbestos and lead projects. In addition, to assessing potential environmental conditions, Ms. Woods participates in Phase II investigative activities, including soil sampling, groundwater sampling, and soil vapor sampling.

Education

BS, Environmental Science, University of California, San Diego (2015)

Professional Registrations/Certification/Training

- Asbestos Hazard Emergency Response Act (AHERA) Building Inspector (6N10515)
- Asbestos Contractor/Supervisor (5N12392)
- Asbestos Certified Site Surveillance Technician (17-6101)
- Certified Lead Sampling Technician (28050)
- 40-Hour OSHA Hazwoper Trained

General Experience

2021-Present	Assistant Project Manager
2019 – 2021	Consultant III • Apex Companies, LLC
2015 – 2019	Consultant III • Bureau Veritas North America, Inc.

Project Experience

Due Diligence Work • Self Storage Facility Company • Nationwide Locations

Assisted in managing the completion of hundreds of assessments, including large portfolios, for a national self-storage facility company since 2019 to satisfy due diligence. Completion of the project, which included Phase I ESAs, subsurface investigations, No Action Determinations, and asbestos and lead surveys, required the coordination of staff from Apex offices across the nation. All fieldwork and written reports had to be completed within a quick turnaround and within a tight budget.

Phase I Environmental Site Assessment (ESAs) – Resmark Equity Partners/Comerica Bank Contracts

Ms. Woods has conducted various Phase I ESAs throughout California, Arizona, Nevada, Oregon, Washington, Colorado, Hawaii, and Texas to satisfy due diligence investigations for real estate transactions, banks, real estate investment companies, developers, and property owners. Ms. Woods has conducted site inspections and investigated surrounding property usage; reviewed relevant regulatory files for investigations at the site or in the immediate area; and surveyed past site and surrounding property uses using aerial photographs, city directories, fire insurance maps, and government records.

Phase II Subsurface Investigations – Bridgestone/Goodyear Tires Contracts

Conducted a variety of activities associated with Phase II Subsurface Investigations. This includes hand augering and overseeing direct push drillers to collect soil, groundwater, and soil vapor samples to be analyzed for contaminants of concern such as petroleum products, volatile organic compounds (VOCs), heavy metals, pesticides, and polychlorinated biphenyls (PCBs). These investigations include keeping detailed logs of the lithology description, data quality control, and generating reports.

Asbestos and Lead Surveys – Verizon Wireless/Bank of America Contracts

Conducted a variety of asbestos- and lead-related services. Asbestos services include collecting bulk samples for the demolition of structures to limited surveys for future renovations and pipeline abatement. Additionally, Ms. Woods conducts area and personal air monitoring as well as oversight for asbestos abatement work. Lead services include surveys for suspect lead paints by paint chip collection and XRF analyzer for direct readings of lead content. Work mentioned within this section commonly includes keeping detailed daily activity and sampling logs, attending daily construction meetings, and writing final report submittals for the client.

Daniel Hisey, CAC

SENIOR SCIENTIST

Dan Hisey is a senior scientist for Apex's Northern California office. Mr. Hisey has over 20 years of relevant environmental assessment experience and has conducted numerous environmental site assessments (ESAs) and all appropriate Inquiry assessments for commercial and industrial properties. Dan also conducts comprehensive building evaluations for asbestos-containing building materials (ACBMs), mold, and hazardous materials, and manages asbestos abatement projects. He has performed numerous Property Condition Assessments (PCAs) for commercial and multiple-family residential properties. He also has performed numerous Phase II investigations for the collection of soil, groundwater, sub-slab vapor and soil gas vapor samples.

Project Experience

Lead Abatement Oversight and Air Sampling • Pepsico • Oakland, CA
Lead Inspector/Assessor

Performed perimeter lead in air sampling during abatement activities of lead-based paint (LBP) in the warehouse of the Pepsico Gatorade Oakland facility. Apex's project monitoring services included assessing lead abatement progress, monitoring lead abatement activities to maintain conformance with the applicable regulations, tracking the project schedule, and conducting lead air monitoring. Perimeter and clearance air samples were collected in the warehouse and submitted to a certified laboratory for analysis. In addition, surface wipe samples were collected in the warehouse to determine if lead-containing dust remained in the warehouse.

Indoor Air Quality Sampling • Amazon • Several Locations in Colorado
Project Scientist

Performed indoor air quality sampling utilizing a TSI DustTrak to evaluate air quality in Amazon warehouses outside of Denver, Colorado during wildfire season. Sampling procedures included collecting four interior air samples with the TSI DustTrak and comparing the interior air samples results to two exterior sample results. Site observations were also noted, and recommendations were provided to limit poor air quality in the warehouses.

Pre-Demolition Survey of Large Industrial Building • Duke Realty • Hayward, CA
Certified Site Surveillance Technician (CSST) and Lead Inspector/Assessor

Performed a pre-demolition survey consisting of a visual inspection and sampling of suspect ACBMs and lead-based paint (LBP) for laboratory analysis. Identified and collected samples of all suspect materials that could potentially contain asbestos and submitted the samples to a National Voluntary Laboratory Accreditation Program (NVLAP) certified and California Department of Public Health (CDPH) certified laboratory for analysis. Utilized an X-ray fluorescence analyzer to determine lead content on painted surfaces. Collected paint chip samples for analysis of lead via atomic absorption spectrometry to verify the results of the XRF spectrum analyzer. Completed a report containing onsite observations, hazardous material summary table, sampling/analytical data, a site plan, and a photolog.

Pre-Demolition Survey of a Marina Launch Ramp Restroom • City of Pittsburg • Pittsburg, CA
Certified Site Surveillance Technician (CSST) and Lead Inspector/Assessor

Performed a pre-demolition survey consisting of a visual inspection and sampling of suspect ACBMs and lead-based paint (LBP) for laboratory analysis. Identified and collected samples of all suspect materials that could potentially contain asbestos and submitted the samples to a National Voluntary Laboratory Accreditation Program (NVLAP) certified and California Department of Public Health (CDPH) certified laboratory for analysis. Utilized an X-ray fluorescence analyzer to determine lead content on painted surfaces. Collected paint chip samples for analysis of lead via atomic absorption spectrometry to verify the results of the XRF spectrum analyzer. Completed a report containing onsite observations, hazardous material summary table, sampling/analytical data, a site plan, and a photolog.

Daniel Hisey, CAC

SENIOR SCIENTIST

Mold and Water Loss Claims • Chubb North America • Multiple Locations across CA
Project Scientist

Performed mold and water loss claim investigations in the State of California for Chubb-insured properties including commercial buildings and medical centers. The most recent claim for John Muir Behavioral Health Center included a focused investigation of 25 patient rooms for the presence of mold impact and differentiating actual mold growth versus simple water damage. All findings were utilized for the overall quantity of coverage and very well received by the client.

Mold Investigation and Abatement, Commercial Retail Stores • Combined Properties, Incorporated • MD and VA
Project Manager

Managed mold abatement projects of commercial retail shopping center tenant spaces in Maryland and Virginia. These projects included visually inspecting the tenant spaces for visible mold and managing the removal of the impacted materials.

Asbestos Surveys • Big Lots, Retail Stores • NV
Project Scientist

Inspected approximately 20,000-square-foot retail tenant spaces and sampled for suspect asbestos-containing materials (ACM) for a national client at multiple locations around the Las Vegas, Nevada area. Completed a photolog and site plan for each site.

Phase I ESA and Limited Site Investigation, Automobile Repair Facilities • Bridgestone • CA
Project Manager

Conducted and managed multiple Phase I ESAs and Limited Site Investigations (LSI) of automobile repair facilities in Northern and Southern California for a national client. Activities included completing Phase I ESAs in accordance with the ASTM Standard Practice for ESAs and conducting soil sampling utilizing a hydraulic direct push method. Management activities included client communication, scheduling subcontractors, communication with local offices to perform the site work, and utilizing Quire for report deliverables.

Indoor Air Quality (IAQ) Assessments • JP Morgan Chase • Northern CA
Project Scientist

Conducted indoor air quality assessments following forest fires, employee complaints, and water intrusion issues in commercial buildings in Northern California. These assessments included utilizing a Q-TRAK IAQ meter to measure temperature, relative humidity, carbon monoxide, and carbon dioxide; DustTrak Aerosol Monitor to measure particulate matter; and/or collecting air samples for mold analysis.

IAQ Evaluation Services, Commercial Building • JLL, UnitedHealth Group • Chico, CA
Project Scientist

Conducted an initial IAQ and moisture/mold assessment that included a visual inspection of all affected area for water damage and/or suspect visible mold growth, bioaerosol sampling (ambient spore trap), bulk sample collection of suspect building materials to be disturbed for analysis of potential asbestos content, moisture mapping of the affected areas, documentation of indoor ambient conditions, photographs, and evaluating sample data to support conclusions in a written report. Conducted oversight during removal of the mold-impacted building materials, which included a visual inspection of the affected areas and collection of ambient bioaerosol samples to verify the remediation activities.

APEX

Daniel Hisey, CAC

SENIOR SCIENTIST

Visible Mold Investigations and Abatements, Large Commercial Buildings • Louis Dreyfus Property Group• District of Columbia
Environmental Scientist

Conducted visible mold investigations throughout three newly developed 11-story commercial buildings in northeast Washington, DC totaling about 1,567,000 square feet of space. Three days after a rain event, a visual inspection was conducted along with utilizing a moisture meter to determine water-impacted building materials. All water-impacted building materials were marked and then removed by an abatement contractor.

Phase I ESA, Multiple Shopping Center Properties • Various Shopping Center Property Managers and Owners • East Coast
Environmental Scientist/Project Manager

Performed and managed numerous Phase I ESAs of commercial office buildings and shopping centers in support of real estate financing and redevelopment. Assessment activities include a review of historic and regulation records, site inspections, environmental database review, and report preparation. Project experience includes sites in the District of Columbia, Pennsylvania, Maryland, Virginia, Delaware, Georgia, Florida, Tennessee, and New York. Issues evaluated included the impact of current and/or historic onsite dry cleaning activities, the impact of former onsite service stations and automobile repair facilities, and UST issues.

Property Condition Assessments (PCAs) • Philips Edison & Company • MD, VI, CT, FL, CA, and PA
Project Scientist

Conducted numerous PCAs of retail shopping centers, commercial office buildings, and multiple-family apartment buildings in support of real estate transactions. PCAs were conducted in accordance with the ASTM Standard Guide for PCAs: Baseline Property Condition Assessment Process, which included site inspections, document reviews, local agency and site engineer interviews, and report preparation. Project experience includes sites in Maryland, Virginia, Connecticut, Florida, California, and Pennsylvania.

Phase I ESA, UST Compliance Review, and Asbestos Survey • Confidential Client • Washington DC
Environmental Scientist

Conducted a Phase I ESA, UST compliance review, and asbestos survey of office buildings, retail promenade, two parking garages, and luxury hotel totaling 885,174 square feet in Washington DC. Activities included a review of prior documentation, historic review, regulatory review, and site reconnaissance.

Subsurface Investigations • Various Shopping Center Property Managers and Owners • MD, VA, and GA
Project Manager

Assisted on subsurface investigations of active and inactive dry cleaners in shopping centers in Maryland, Virginia, and Georgia. Utilized a truck-mounted direct-push method to collect soil samples and set temporary 1-inch polyvinyl chloride wells for groundwater sampling. The wells were developed using dedicated disposable bailers. Groundwater samples were collected using dedicated polyethylene tubing and a peristaltic pump. Collected soil gas samples from 3/8" sub-slab polyethylene tubing connected to stainless steel Summa canisters. Soil and groundwater samples are typically analyzed for volatile organic compounds. Numerous projects have been conducted to meet application submittal requirements for the Maryland and Virginia Voluntary Cleanup Programs.

Subsurface Investigation • Confidential Client • Arlington, VA
Project Manager

Conducted a subsurface investigation of a former commercial site in Arlington, Virginia. Utilized hydraulic direct-push methods to collect soil samples and set temporary 1-inch polyvinyl chloride wells for groundwater sampling.

APEX

Groundwater samples were collected using a peristaltic pump with dedicated tubing. Soil and groundwater samples were analyzed for total petroleum hydrocarbons (TPHs) and volatile organic compounds (VOCs).

Phase I ESA, National Environmental Policy Act (NEPA) Screenings, and State Historic Preservation Organization (SHPO) Submittals Spring PCS • MD, VA, and District of Columbia
Environmental Scientist

Types of sites evaluated have included raw land sites, rooftop co-location sites, and co-location of telecommunications antennae on existing towers/structures. SHPO submittals have included surveys of historic properties within a prescribed area of potential effect surrounding the proposed site, weather balloon tests and crane tests to determine visibility of a proposed tower from historic resources within the area of potential effect, photograph simulations, archeological surveys, and architectural surveys.

Phase I ESA and Hazardous Materials (HazMat) Surveys • Confidential Client • MD and VA
Project Manager

Conducted Phase I ESAs and hazmat surveys of commercial buildings, retail shopping centers, and county government buildings in Maryland and Virginia. Activities included a review of prior documentation, historic review, regulatory review, and site reconnaissance, as well as conducting an asbestos survey, and inspecting light fixtures, ballasts, switches, and other onsite hazardous materials. Also provided cost estimates for removal of onsite hazardous materials following completion of the surveys.

Mold Inspections • Lennar • District of Columbia, MD, VA, and DE
Environmental Scientist

Performed mold inspections of newly developed homes and office buildings in the District of Columbia, Maryland, Virginia, and Delaware. Tasked with performing mold/moisture inspections of newly developed single-family dwellings. The first step included thoroughly visually inspecting each house following complaints from occupants, including the entire interior and all openings. Ambient indoor air samples were collected and analyzed, and areas of elevated mold levels were remediated.

Asbestos and Lead-based Paint Surveys • Residential and Commercial Properties • Confidential Client • NY, DE, GA, FL, CO, District of Columbia, IL, DE, NC, SC, MD, and VA
Project Scientist

Performed an ACM data review and limited sampling survey of four buildings totaling 417,300 square feet located on a 22-acre site in Garden City, New York. Activities included review of a previous asbestos and hazardous materials report, conducting a site inspection of all safely accessible areas of the subject property buildings for suspect ACM, comparing the existing asbestos survey to current site conditions, and evaluating the condition and the quantities of ACM and other hazardous materials identified in the previous report.

Managed and performed limited asbestos surveys of shopping centers in Delaware, Georgia, Florida, and Colorado and performed and assisted on comprehensive asbestos and lead-based paint surveys of numerous residential and commercial properties in the District of Columbia, Illinois, Delaware, Georgia, North Carolina, South Carolina, Maryland, and Virginia.

Asbestos Abatements • Combined Properties, Incorporated and Albertsons • MD and VA
Project Manager

Managed asbestos abatement projects of commercial retail shopping center tenant spaces in Maryland and Virginia, a former Safeway store located in Upper Marlboro, Maryland, and a former Super Fresh grocery store in Maryland.

Daniel Hisey, CAC

SENIOR SCIENTIST

Initial Insurance Claim Investigations • Zurich Insurance • DE, MD, and NJ
Project Manager

Performed initial insurance claim investigations of suspected releases from services stations in Delaware, Maryland, and New Jersey.

Remediation/Excavation Oversight • Large Scale Development Project • Confidential Client • Arlington, VA
Environmental Scientist

Operated and maintained an activated carbon water-treatment system capable of treating up to 200 gallons per minute during construction dewatering activities. Field-screened potentially petroleum contaminated soils for proper disposal during massive excavation in Arlington, Virginia.

Carbon Water-Treatment System • Louis Dreyfus Property Group • Washington, DC
Environmental Scientist

Operated and maintained an activated carbon water-treatment system capable of treating up to 1,000 gallons per minute during construction dewatering activities. Field-screened potentially petroleum contaminated soils for proper disposal during massive excavation in Washington, DC.

Education

- BS, Environmental Science/Chemical Studies, Juniata College, Pennsylvania

Professional Registrations/Certification/Training

- Environmental Professional as defined in § 312.10 of 40 CFR Part 312
- ASTM Training: Property Condition Assessments – 2014
- EPA AHERA Inspector Training, No. MD-114467
- EPA AHERA Contractor/Supervisor Training, No. 44179 CS
- EPA AHERA Management Planner, No.160084
- California Certified Asbestos Consultant (CAC), No.23-7289
- Nevada Asbestos Abatement Consultant, No. I-2118
- CDPH Lead-Related Construction Certificate, Lead Inspector/Assessor, No. LRC-00000416
- 40-Hour OSHA HAZWOPER Safety Training
- 8-Hour OSHA HAZWOPER Safety Training Refresher

APEX

User Questionnaire

USER/CLIENT QUESTIONNAIRE
To be returned to Apex with the authorized proposal

This Questionnaire is required to be completed by **the User/Client.**

GENERAL INFORMATION

User/Client Name(s):	TBD
Property Name and Address (Include known current and former address[es] and parcel no.):	3001 Oakley Road Antioch, CA
Property Acreage:	approx 14.88
Current Property Type (Designate property type and list current tenants [business name and type of operation]):	Residential: __ Commercial: __ Industrial: __ Other: X vacant land
Type of Property Transaction with respect to User (Designate one):	Purchase: x Lease: __ Other (provide further information): __
Reason Phase I is Required (Check all that apply):	*Landowner Liability Protections* (e.g. Innocent Landowner Defense): x Evaluation of Business Risk: __ Other (list): __ (Note: If no reason is given it is assumed that this assessment is being performed to satisfy one of the requirements for *Landowner Liability Protections* to *CERCLA* liability.
Site Owner/ Contact(s) (Name and phone number):	Sondi Harris sharris@brightskyresidential.com (619) 985-4814

Please provide the above information as well as a site plan (ALTA Survey, if available) which clearly designates the boundaries of the subject property for purposes of this Phase I ESA. A list of other Helpful Documents is included with the proposal.

Providing the following information (if available) to the *environmental professional* (Apex) is one of the requirements to qualify for one of the *Landowner Liability Protections (LLPs)* offered under CERCLA. Missing or incomplete information could result in a determination that "*all appropriate inquiry*" is not complete. If further information is desired regarding these issues, Apex recommends you consult with an Environmental Attorney.

REQUIRED INFORMATION

The citation at the end of each item (e.g., 40 CFR 312.XX) is the section of EPA's November 1, 2005 AAI Final Rule which discusses that item. The ASTM Standard requires that reasonably ascertainable recorded land title records that are filed under federal, tribal, state and local law should be reviewed to determine the presence of Environmental Liens and Activity and Use Limitations (AULs) that are currently recorded against the property. This should also include a review of Environmental Liens and AULs that are imposed by judicial authorities and recorded/filed in judicial records. The Standard recommends that the User retain a title company or title professional to undertake a review of recorded land title records. Furthermore, the User is to provide any actual knowledge on Environmental Liens and AULs, as well as other selected information regarding *recognized environmental conditions,* to the *environmental professional.*

1. Environmental cleanup liens that are filed or recorded against the site (40 CFR 312.25). Given the above requirement, are you aware of any environmental cleanup liens against the *property* that are filed or recorded under federal, tribal, state or local law? (Check One)
No: x Yes (If "Yes" provide further information): __
(Note: If you desire that Apex retain a title company/title professional on your behalf to review reasonably ascertainable recorded land title records for the presence of environmental cleanup liens and AULs currently recorded against the property please designate such on the Proposal Acceptance Agreement)

2. Activity and land use limitations (AULs) that are in place on the site or that have been filed or recorded in a registry (40 CFR 312.26). Given the above requirement, are you aware of any AULs, such as *engineering controls*, land use restrictions or *institutional controls* that are in place at the site and/or have been filed or recorded in a registry under federal, tribal, state or local law? (Check One)
No: x Yes (If "Yes" provide further information): __

3. Specialized knowledge or experience of the person seeking to qualify for the LLP (40 CFR 312.28).
As the *user* of this *ESA* do you have any specialized knowledge or experience related to the *property* or nearby properties? For example, are you involved in the same line of business as the current or former *occupants* of the *property* or an adjoining *property* so that you would have specialized knowledge of the chemicals and processes used by this type of business? (Check One)

No: x

Yes (If "Yes" provide further information): __

4. Relationship of the purchase price to the fair market value of the *property* if it were not contaminated (40 CFR 312.29).
Does the purchase price being paid for this *property* reasonably reflect the fair market value of the *property*? If you conclude that there is a difference, have you considered whether the lower purchase price is because contamination is known or believed to be present at the *property*?

Yes: x

No (If "No" provide further information): __

Not Applicable (e.g., transaction is a lease): __

5. Commonly known or *reasonably ascertainable* information about the *property* (40 CFR 312.30).
Are you aware of commonly known or *reasonably ascertainable* information about the *property* that would help the *environmental professional* to identify conditions indicative of releases or threatened releases?

No: x

Yes (If "Yes" provide further information): __

For example, as *user*,
(a.) Do you know the past uses of the *property*?

No: x

Yes (If "Yes" provide further information): __

(b.) Do you know of specific chemicals that are present or once were present at the *property*?

No: x

Yes (If "Yes" provide further information): __

(c.) Do you know of spills or other chemical releases that have taken place at the *property*?

No: x

Yes (If "Yes" provide further information): __

(d.) Do you know of any environmental cleanups that have taken place at the *property*?

No: x

Yes (If "Yes" provide further information): __

6. The degree of obviousness of the presence or likely presence of contamination at the *property* and the ability to detect the contamination by appropriate investigation (40 CFR 312.31).
As the *user* of this *ESA*, based on your knowledge and experience related to the *property* are there any *obvious* indicators that point to the presence or likely presence of contamination at the *property*?

No: x

Yes (If "Yes" provide further information): __

7. Proceedings involving the *property* (ASTM E 1527-13 § 10.9).
Are you aware of any of the following:

(a.) Any pending, threatened, or past litigation relevant to hazardous substances or petroleum products in, on, or from the property?

No: x

Yes (If "Yes" provide further information): __

(b.) Any pending, threatened, or past administrative proceedings relevant to hazardous substances or petroleum products in, on, or from the property?

No: x

Yes (If "Yes" provide further information): __

(c.) Any notices from any governmental entity regarding any possible violation of environmental laws or possible liability relating to hazardous substances or petroleum products?

No: x

Yes (If "Yes" provide further information): __

SIGNATURE

It is understood that the information presented in this form is an integral part of the Phase I ESA process and that Apex will evaluate and rely on this information in the development of the final Phase I ESA report.
Questionnaire Prepared By: P. Wilson
Print/Type Name: Pam Wilson
Title: VP Investment Underwriting
Company: Resmark Equity Partners
Date: 2/11/2025

Aerial Photographs

HISTORICAL AERIALS

Project Property: Resmark - Antioch, CA
3001 Oakley Road
Antioch CA 94509

Project No: RES012-0313063-22012535

Requested By: Apex Companies, LLC

Order No: 22120601432

Date Completed: December 07,2022

Aerial Maps included in this report are produced by the sources listed above and are to be used for research purposes including a phase I report. Maps are not to be resold as commercial property. ERIS provides no warranty of accuracy or liability. The information contained in this report has been produced using aerial photos listed in above sources by ERIS Information Inc. (in the US) and ERIS Information Limited Partnership (in Canada), both doing business as 'ERIS'. The maps contained in this report do not purport to be and do not constitute a guarantee of the accuracy of the information contained herein. Although ERIS has endeavored to present information that is accurate, ERIS disclaims, any and all liability for any errors, omissions, or inaccuracies in such information and data, whether attributable to inadvertence, negligence or otherwise, and for any consequences arising therefrom. Liability on the part of ERIS is limited to the monetary value paid for this report.

Environmental Risk Information Services
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1.866.517.5204 | info@erisinfo.com | erisinfo.com

Date	Source	Scale	Comments
2020	United States Department of Agriculture	1" = 500'	
2018	United States Department of Agriculture	1" = 500'	
2016	United States Department of Agriculture	1" = 500'	
2014	United States Department of Agriculture	1" = 500'	
2012	United States Department of Agriculture	1" = 500'	
2010	United States Department of Agriculture	1" = 500'	
2009	United States Department of Agriculture	1" = 500'	
2006	United States Department of Agriculture	1" = 500'	
2005	United States Department of Agriculture	1" = 500'	
2004	United States Department of Agriculture	1" = 500'	
2003	United States Department of Agriculture	1" = 500'	
1993	United States Geological Survey	1" = 500'	
1988	United States Geological Survey	1" = 500'	
1981	United States Geological Survey	1" = 500'	
1974	United States Geological Survey	1" = 500'	
1968	United States Geological Survey	1" = 500'	
1958	Agricultural Stabilization & Conserv. Service	1" = 500'	
1949	United States Geological Survey	1" = 500'	
1939	Agricultural Stabilization & Conserv. Service	1" = 500'	



Year: 2020
Source: USDA
Scale: 1" = 500'
Comment:

Address: 3001 Oakley Road, Antioch, CA
Approx Center: -121.7633309,37.99869314

Order No: 22120601432

ERIS



Year: 2018
Source: USDA
Scale: 1" = 500'
Comment:

Address: 3001 Oakley Road, Antioch, CA
Approx Center: -121.7633309,37.99869314

Order No: 22120601432

ERIS



Year: 2016
Source: USDA
Scale: 1" = 500'
Comment:

Address: 3001 Oakley Road, Antioch, CA
Approx Center: -121.7633309,37.99869314

Order No: 22120601432

ERIS



Year: 2014
Source: USDA
Scale: 1" = 500'
Comment:

Address: 3001 Oakley Road, Antioch, CA
Approx Center: -121.7633309,37.99869314

Order No: 22120601432

ERIS



Year: 2012
Source: USDA
Scale: 1" = 500'
Comment:

Address: 3001 Oakley Road, Antioch, CA
Approx Center: -121.7633309,37.99869314

Order No: 22120601432

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Year: 2010
Source: USDA
Scale: 1" = 500'
Comment:

Address: 3001 Oakley Road, Antioch, CA
Approx Center: -121.7633309,37.99869314

Order No: 22120601432

ERIS



Year: 2009
Source: USDA
Scale: 1" = 500'
Comment:

Address: 3001 Oakley Road, Antioch, CA
Approx Center: -121.7633309,37.99869314

Order No: 22120601432

ERIS



Year: 2006
Source: USDA
Scale: 1" = 500'
Comment:

Address: 3001 Oakley Road, Antioch, CA
Approx Center: -121.7633309,37.99869314

Order No: 22120601432

ERIS



Year: 2005
Source: USDA
Scale: 1" = 500'
Comment:

Address: 3001 Oakley Road, Antioch, CA
Approx Center: -121.7633309,37.99869314

Order No: 22120601432

ERIS



Year: 2004
Source: USDA
Scale: 1" = 500'
Comment:

Address: 3001 Oakley Road, Antioch, CA
Approx Center: -121.7633309,37.99869314

Order No: 22120601432

ERIS



Year: 2003
Source: USDA
Scale: 1" = 500'
Comment:

Address: 3001 Oakley Road, Antioch, CA
Approx Center: -121.7633309,37.99869314

Order No: 22120601432

ERIS



Year: 1993
Source: USGS
Scale: 1" = 500'
Comment:

Address: 3001 Oakley Road, Antioch, CA
Approx Center: -121.7633309,37.99869314

Order No: 22120601432

ERIS



Year: 1988
Source: USGS
Scale: 1" = 500'
Comment:

Address: 3001 Oakley Road, Antioch, CA
Approx Center: -121.7633309,37.99869314

Order No: 22120601432

ERIS



Year: 1981
Source: USGS
Scale: 1" = 500'
Comment:

Address: 3001 Oakley Road, Antioch, CA
Approx Center: -121.7633309,37.99869314

Order No: 22120601432

ERIS



Year: 1974
Source: USGS
Scale: 1" = 500'
Comment:

Address: 3001 Oakley Road, Antioch, CA
Approx Center: -121.7633309,37.99869314

Order No: 22120601432

ERIS



Year: 1968
Source: USGS
Scale: 1" = 500'
Comment:

Address: 3001 Oakley Road, Antioch, CA
Approx Center: -121.7633309,37.99869314

Order No: 22120601432

ERIS



Year: 1958
Source: ASCS
Scale: 1" = 500'
Comment:

Address: 3001 Oakley Road, Antioch, CA
Approx Center: -121.7633309,37.99869314

Order No: 22120601432

ERIS



Year: 1949
Source: USGS
Scale: 1" = 500'
Comment:

Address: 3001 Oakley Road, Antioch, CA
Approx Center: -121.7633309,37.99869314

Order No: 22120601432

ERIS



Year: 1939
Source: ASCS
Scale: 1" = 500'
Comment:

Address: 3001 Oakley Road, Antioch, CA
Approx Center: -121.7633309,37.99869314

Order No: 22120601432

ERIS

Topographic Maps

TOPOGRAPHIC MAPS

Project Property:	Resmark - Antioch, CA 3001 Oakley Road Antioch CA 94509
Project No:	RES012-0313063-22012535
Requested By:	Apex Companies, LLC
Order No:	22120601432
Date Completed:	December 06, 2022

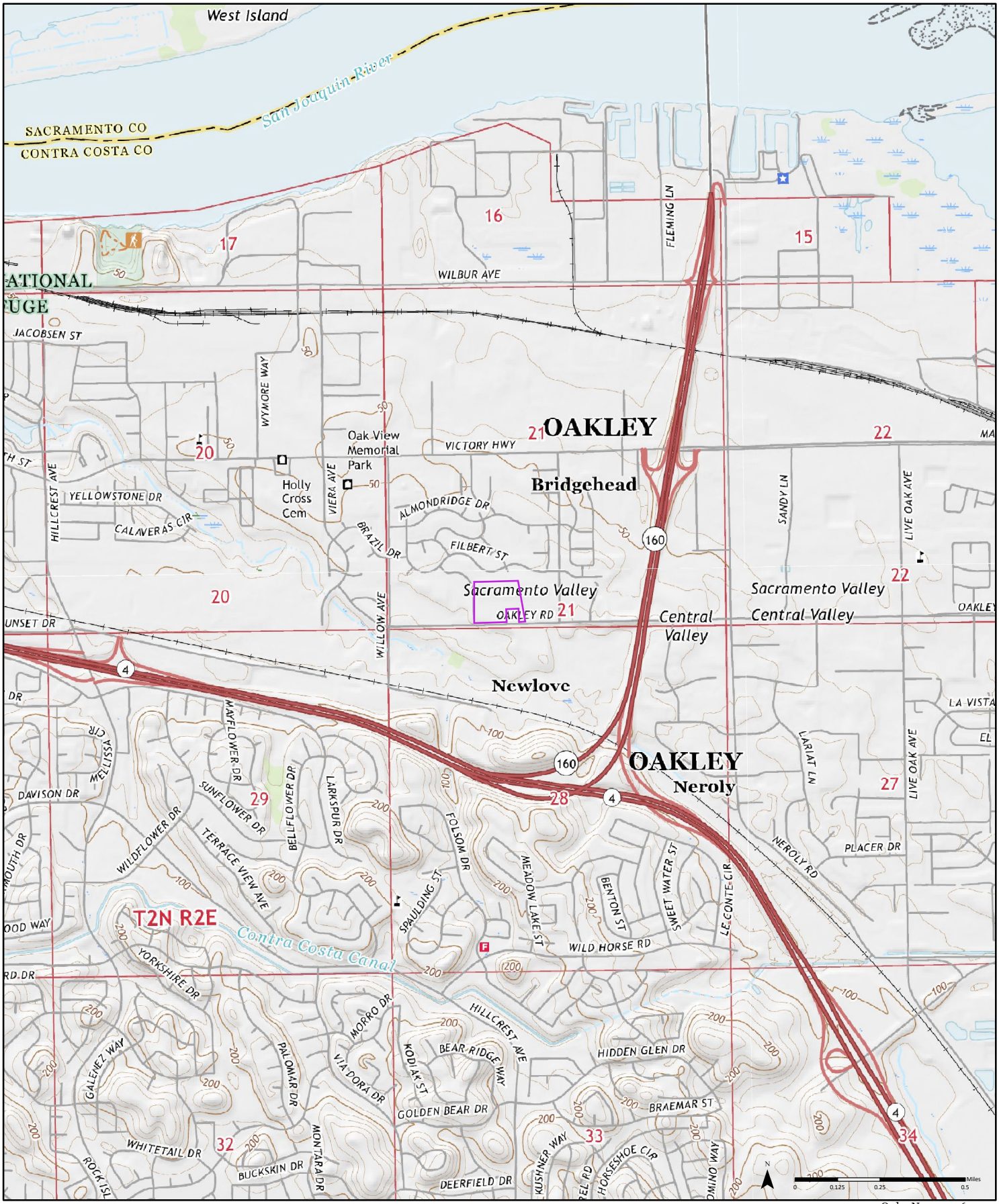
Environmental Risk Information Services
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1.866.517.5204 | info@erisinfo.com | erisinfo.com

We have searched USGS collections of current topographic maps and historical topographic maps for the project property. Below is a list of maps found for the project property and adjacent area. Maps are from 7.5 and 15 minute topographic map series, if available.

Year	Map Series
2021	7.5
2018	7.5
2015	7.5
1980	7.5
1973	7.5
1968	7.5
1953	7.5
1916	7.5
1943	15
1898	15
1896	15

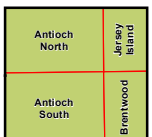
Topographic Map Symbology for the maps may be available in the following documents:
Pre-1947
Page 223 of 1918 Topographic Instructions
Page 130 of 1928 Topographic Instructions
1947-2009
Topographic Map Symbols
2009-present
US Topo Map Symbols

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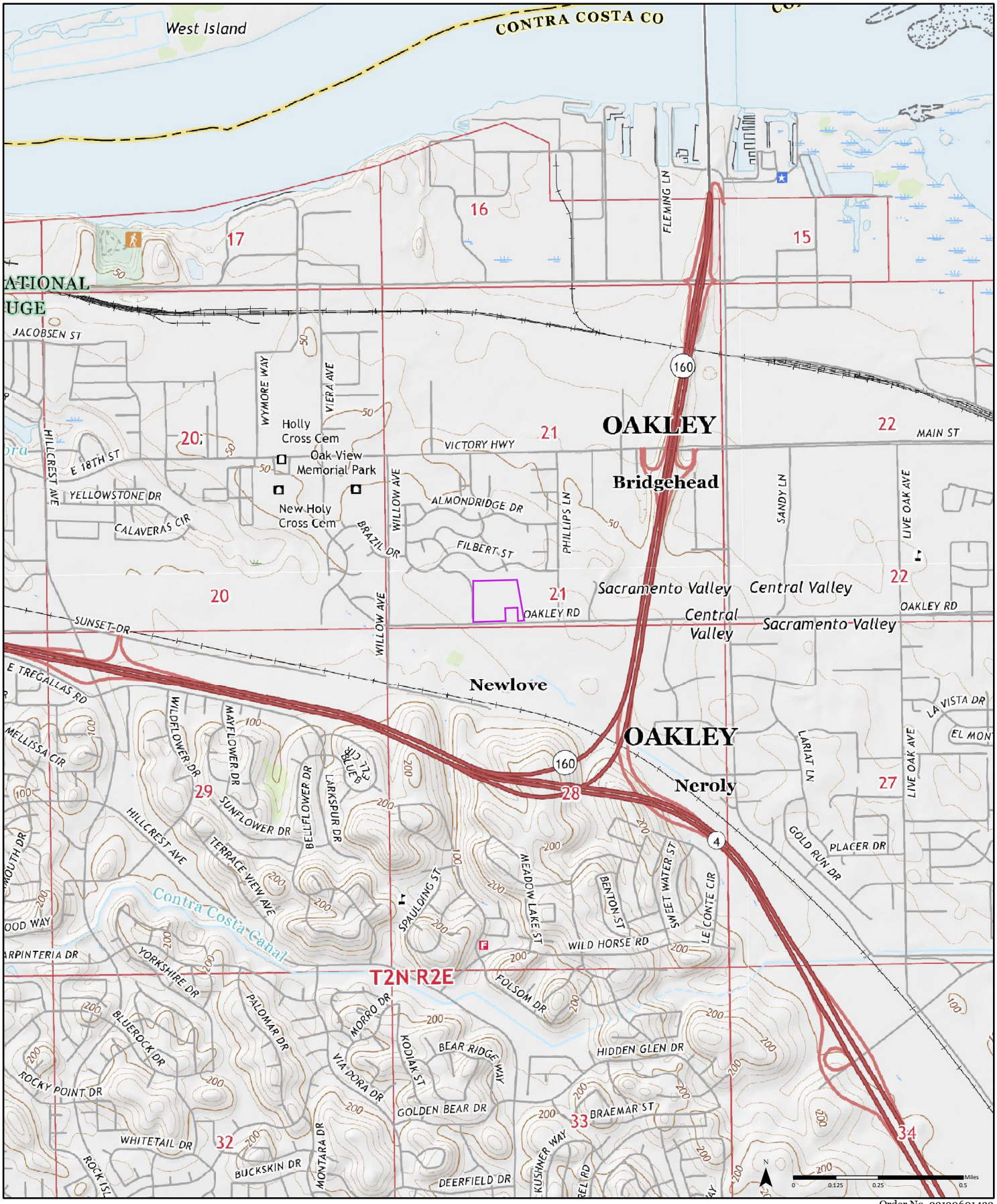
Order No. 22120601432

2021



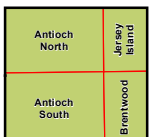
Available Quadrangle(s): Antioch South, CA
Brentwood, CA
Antioch North, CA
Jersey Island, CA

Source: USGS 7.5 Minute Topographic Map



Order No. 22120601432

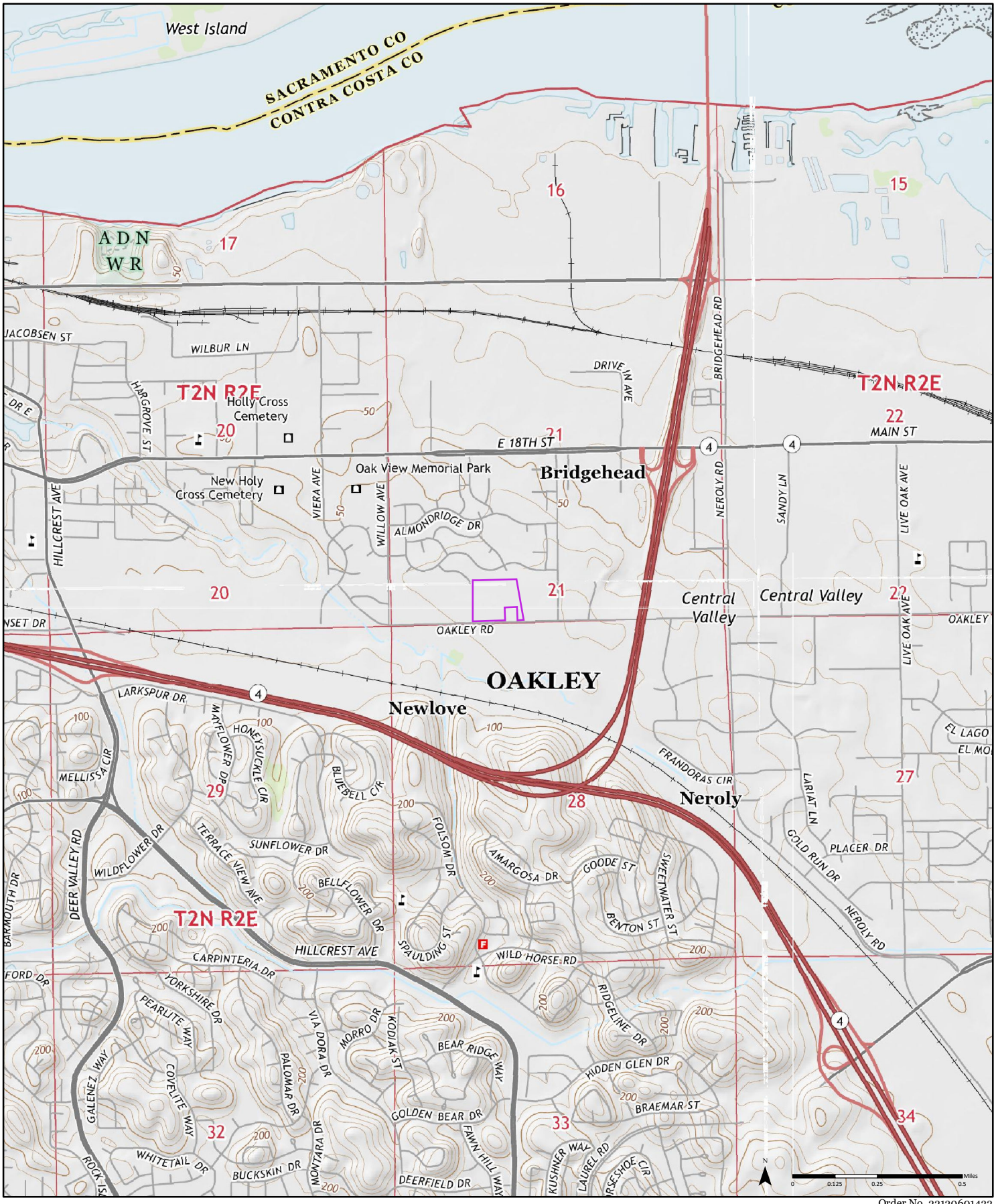
2018



Available Quadrangle(s): Antioch South, CA
Antioch North, CA
Jersey Island, CA
Brentwood, CA

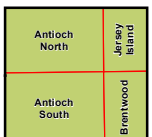
Source: USGS 7.5 Minute Topographic Map

ERIS



Order No. 22120601432

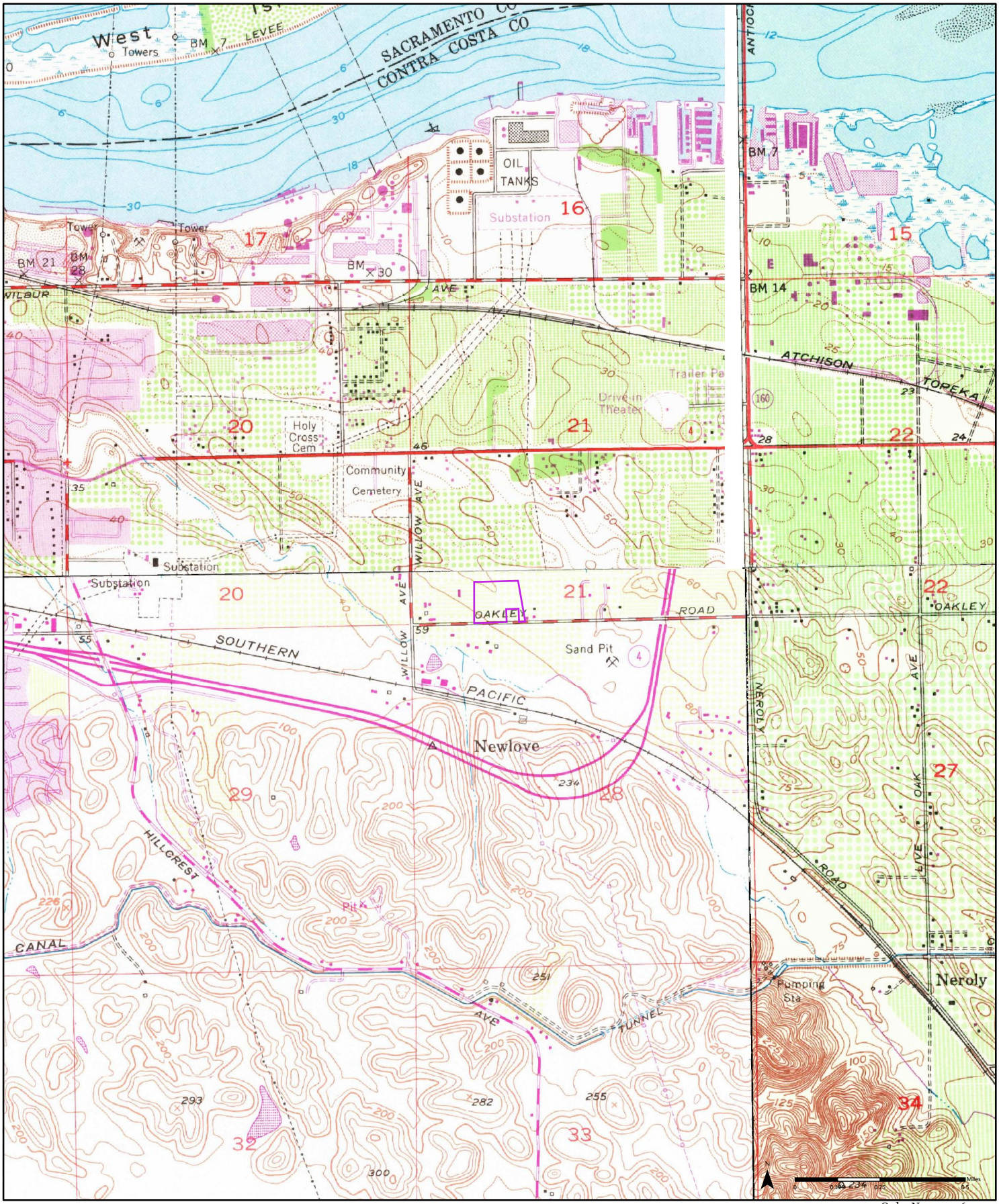
2015



Available Quadrangle(s): Antioch South, CA
Jersey Island, CA
Antioch North, CA
Brentwood, CA

Source: USGS 7.5 Minute Topographic Map

ERIS



1980

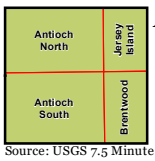
(1-1980) *Aerial Photo Year: 1978* *Photo Revision Year: 1980*

(2-1968) *Aerial Photo Year: 1968* *Photo Revision Year: 1968*

(3-1968) *Aerial Photo Year: 1968* *Photo Revision Year: 1968*

(4-1968) *Aerial Photo Year: 1968* *Photo Revision Year: 1968*

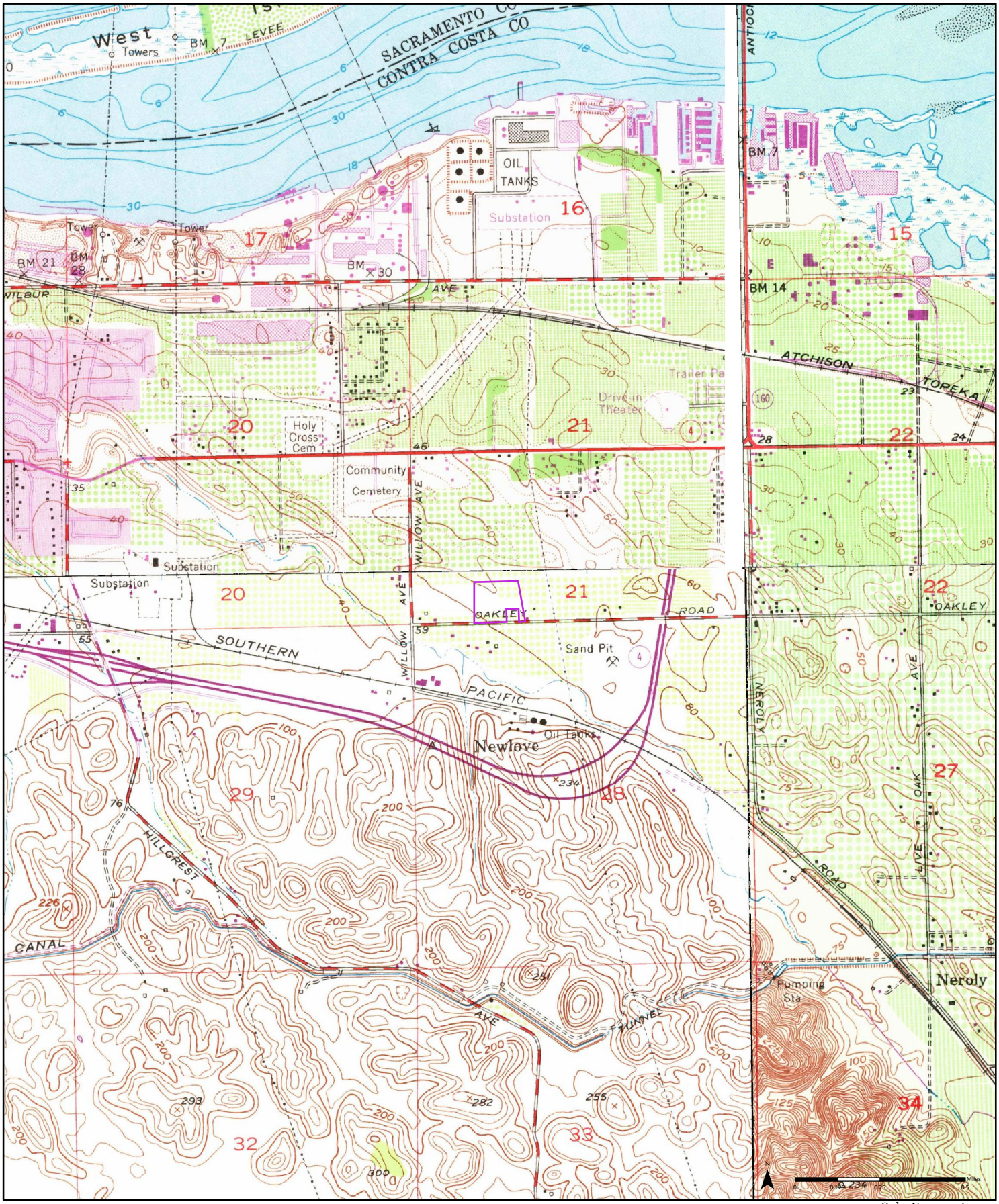
Order No. 22120601432



Available Quadrangle(s): Antioch South, CA(1-1980)
Jersey Island, CA(2-1968)
Brentwood, CA(3-1968)
Antioch North, CA(4-1968)

Source: USGS 7.5 Minute Topographic Map

ERIS



1973

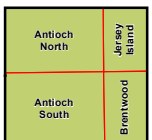
(1-1968) *Aerial Photo Year: 1968* *Photo Revision Year: 1968*

(2-1968) *Aerial Photo Year: 1968* *Photo Revision Year: 1968*

(3-1973) *Aerial Photo Year: 1973* *Photo Revision Year: 1973*

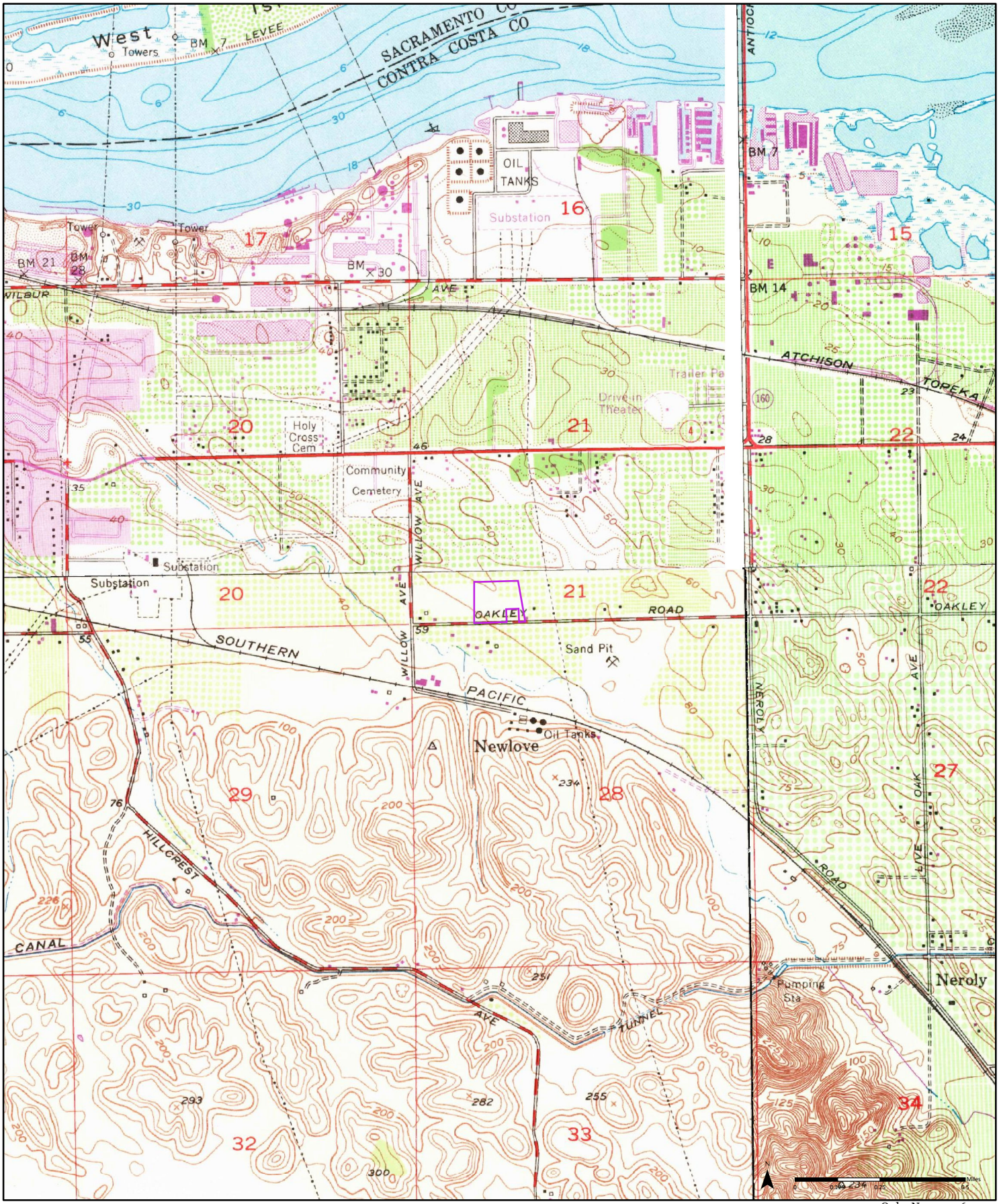
(4-1968) *Aerial Photo Year: 1968* *Photo Revision Year: 1968*

Order No. 22120601432



Available Quadrangle(s): Antioch South, CA(3-1973)
Jersey Island, CA(1-1968)
Brentwood, CA(2-1968)
Antioch North, CA(4-1968)

Source: USGS 7.5 Minute Topographic Map



1968

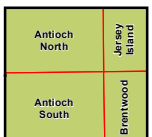
(1-1968) *Aerial Photo Year: 1968*
Photo Revision Year: 1968

(2-1968) *Aerial Photo Year: 1968*
Photo Revision Year: 1968

(3-1968) *Aerial Photo Year: 1968*
Photo Revision Year: 1968

(4-1968) *Aerial Photo Year: 1968*
Photo Revision Year: 1968

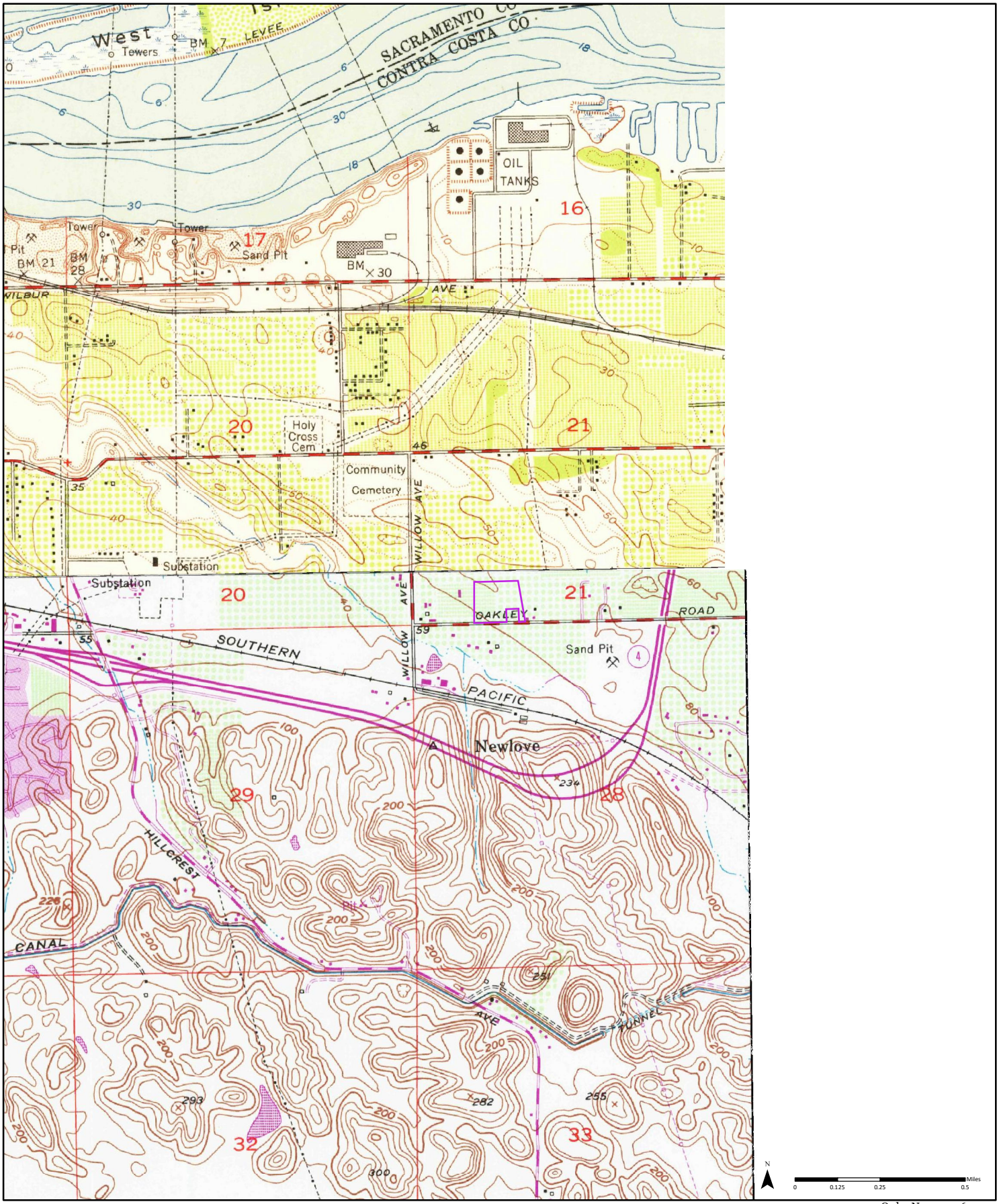
Order No. 22120601432



Available Quadrangle(s): Antioch South, CA(4-1968)
Jersey Island, CA(1-1968)
Brentwood, CA(2-1968)
Antioch North, CA(3-1968)

Source: USGS 7.5 Minute Topographic Map

ERIS

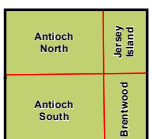


1953

(1-1953) *Aerial Photo Year: 1949*

(2-1953) *Aerial Photo Year: 1949*

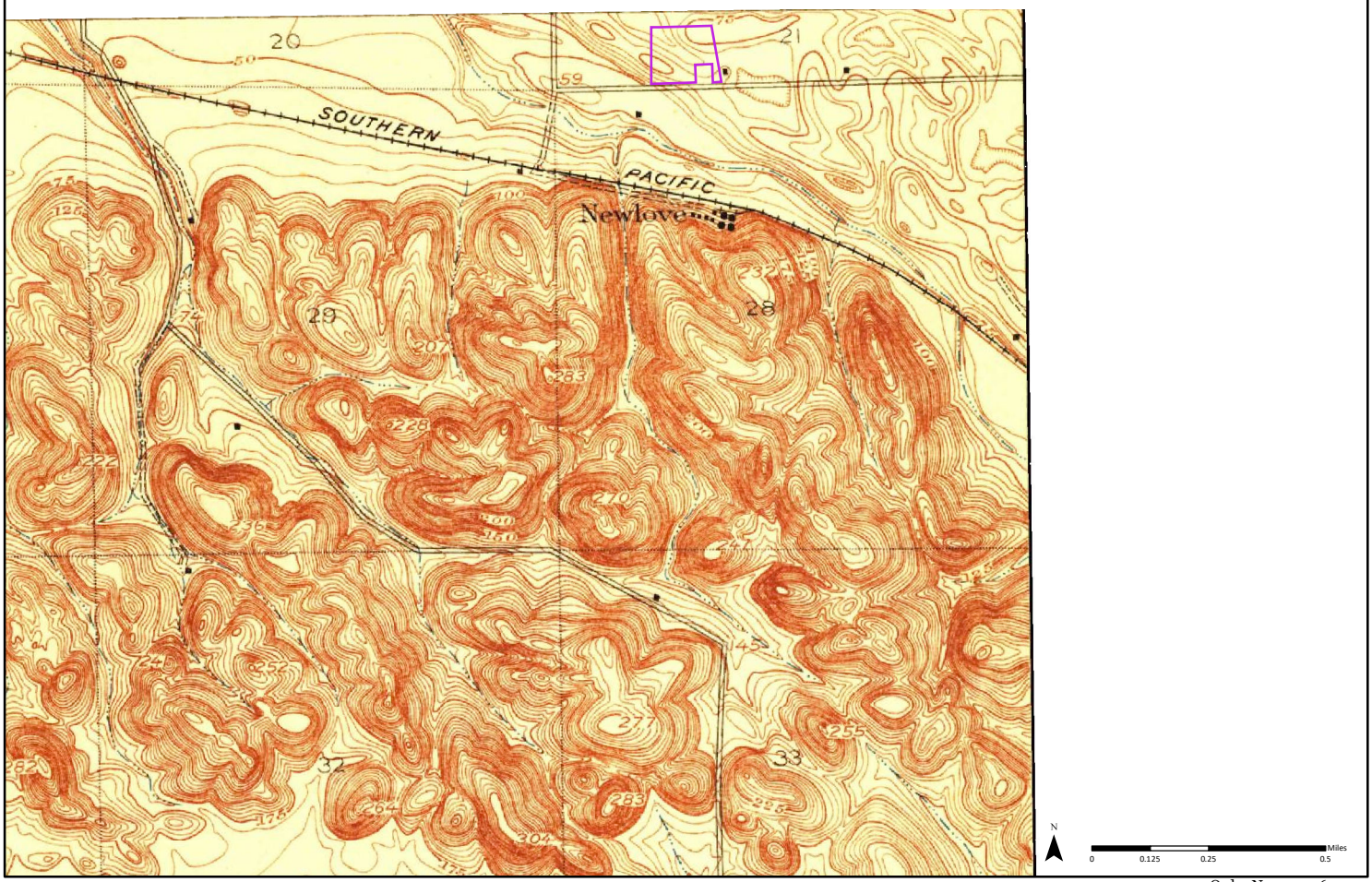
Order No. 22120601432



Available Quadrangle(s): Antioch South, CA(1-1953)
Antioch North, CA(2-1953)

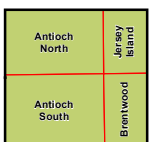
Source: USGS 7.5 Minute Topographic Map

ERIS



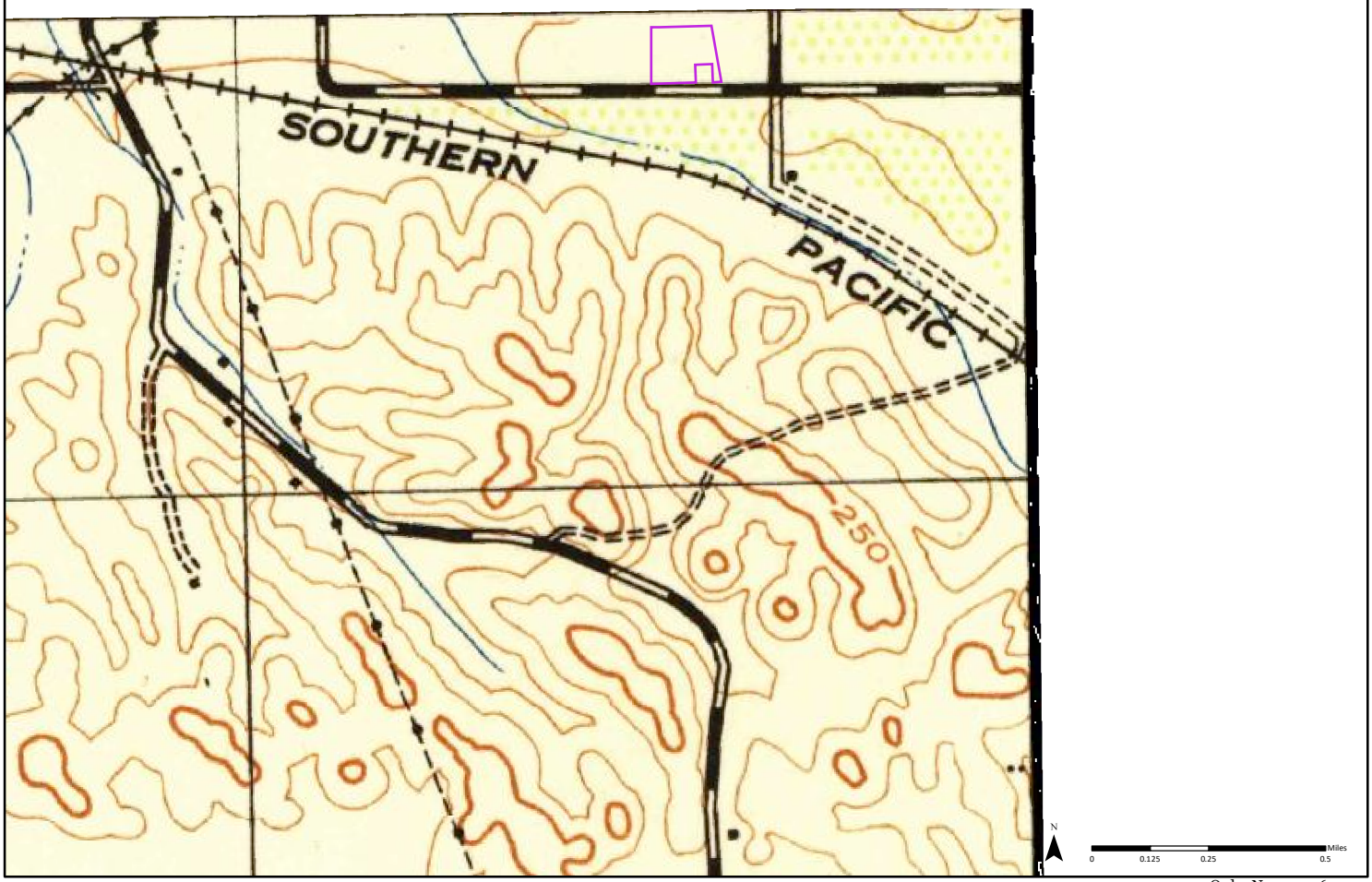
1916

Order No. 22120601432



Available Quadrangle(s): Lone Tree Valley, CA

Source: USGS 7.5 Minute Topographic Map



1943

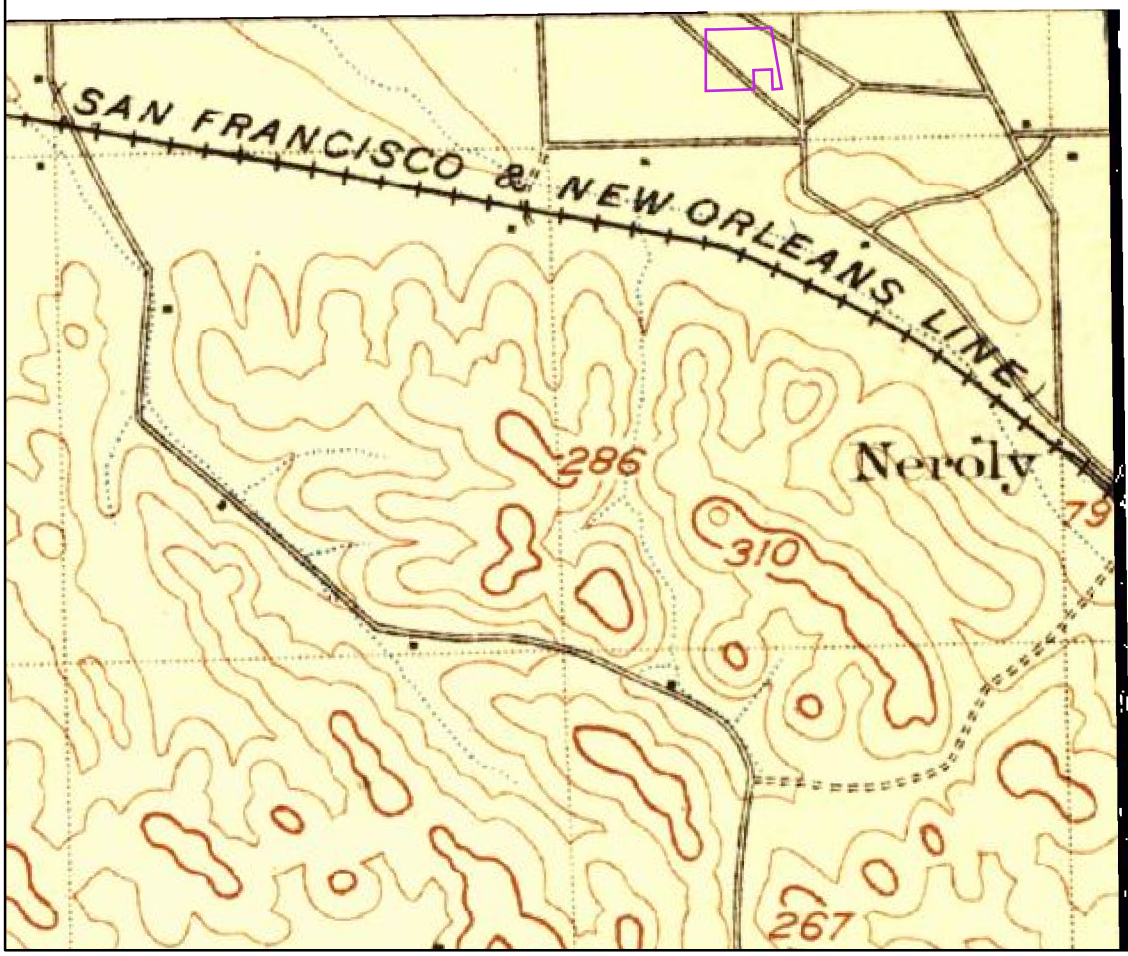
(1-1943)
Aerial Photo Year: 1937

Order No. 22120601432

Available Quadrangle(s): Mt Diablo, CA(1-1943)



Source: USGS 15 Minute Topographic Map



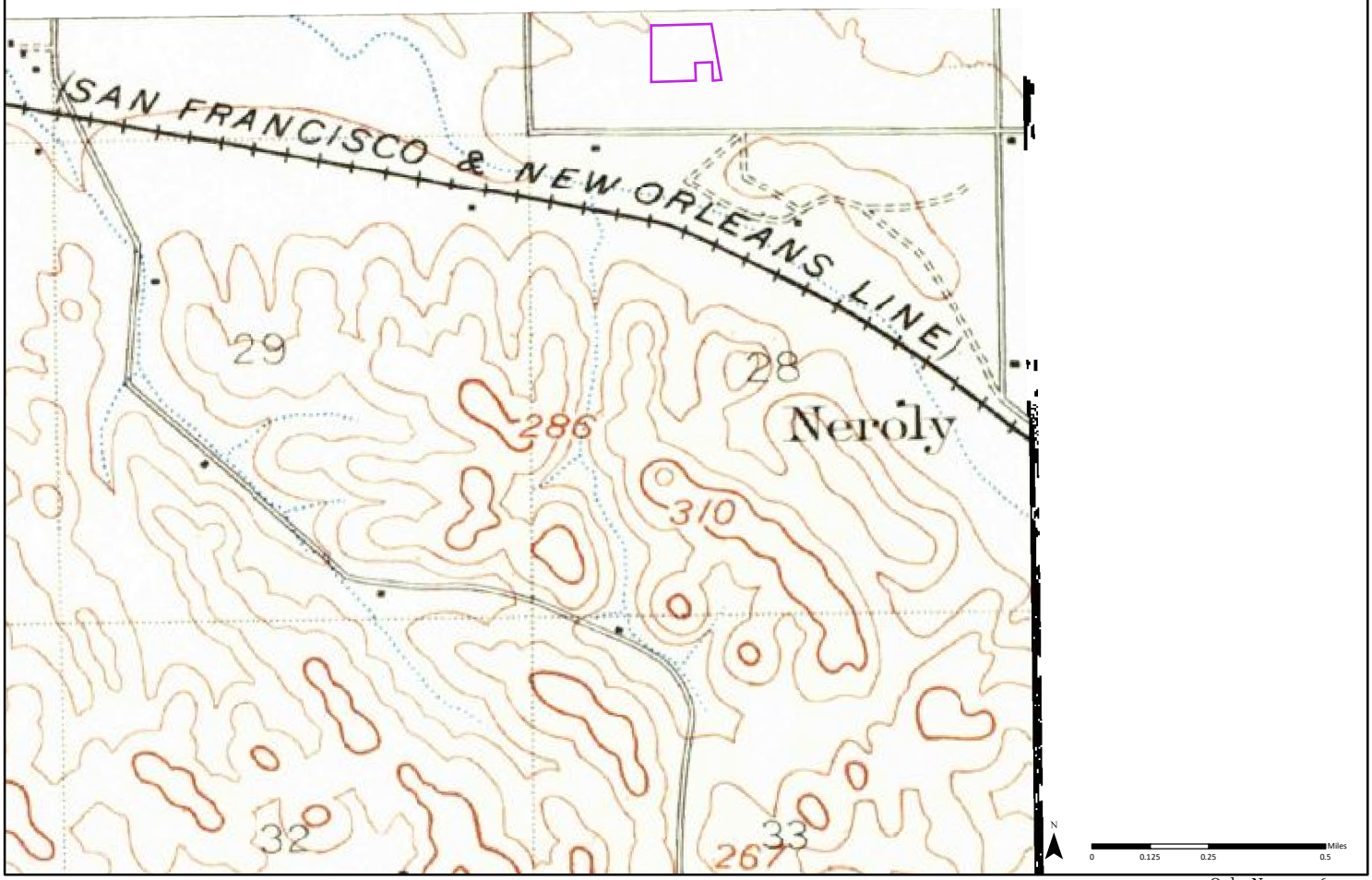
1898

Order No. 22120601432



Available Quadrangle(s): Mt Diablo, CA

Source: USGS 15 Minute Topographic Map



Order No. 22120601432

1896



Available Quadrangle(s): Mt Diablo, CA

Source: USGS 15 Minute Topographic Map

Fire Insurance Maps

FIRE INSURANCE MAPS

Project Property:	Resmark - Antioch, CA 3001 Oakley Road Antioch CA 94509
Project No:	RES012-0313063-22012535
Requested By:	Apex Companies, LLC
Order No:	22120601432
Date Completed:	December 06, 2022

Please note that no information was found for your site or adjacent properties.

Environmental Risk Information Services
A division of Glacier Media Inc.
1.866.517.5204 | info@erisinfo.com | erisinfo.com

City Directories

CITY DIRECTORY

Project Property:	*Resmark - Antioch, CA* *3001 Oakley Road* *Antioch,CA 94509*
Project No:	*RES012-0313063-22012535*
Requested By:	*Apex Companies, LLC*
Order No:	*22120601432*
Date Completed:	*December 09, 2022*

Environmental Risk Information Services
A division of Glacier Media Inc.
1.866.517.5204 | info@erisinfo.com | erisinfo.com

December 09, 2022
RE: CITY DIRECTORY RESEARCH
3001 Oakley Road
Antioch,CA 94509

Thank you for contacting ERIS for an City Directory Search for the site described above. Our staff has conducted a reverse listing City Directory search to determine prior occupants of the subject site and adjacent properties. We have provided the nearest addresses(s) when adjacent addresses are not listed. If we have searched a range of addresses, all addresses in that range found in the Directory are included.

Note: Reverse Listing Directories generally are focused on more highly developed areas. Newly developed areas may be covered in the more recent years, but the older directories will tend to cover only the "central" parts of the city. To complete the search, we have either utilized the ACPL, Library of Congress, State Archives, and/or a regional library or history center as well as multiple digitized directories. These do not claim to be a complete collection of all reverse listing city directories produced.

ERIS has made every effort to provide accurate and complete information but shall not be held liable for missing, incomplete or inaccurate information. To complete this search we used the general range(s) below to search for relevant findings. If you believe there are additional addresses or streets that require searching please contact us at 866-517-5204.

Search Criteria:
ALL of Oakley Rd
ALL of Phillips Ln
Search Notes:

Search Results Summary

Date	Source	Comment
2022	DIGITAL BUSINESS DIRECTORY	
2020	DIGITAL BUSINESS DIRECTORY	
2016	DIGITAL BUSINESS DIRECTORY	
2012	DIGITAL BUSINESS DIRECTORY	
2008	DIGITAL BUSINESS DIRECTORY	
2003	DIGITAL BUSINESS DIRECTORY	
2001-2002	HAINES	
1995-1996	HAINES	
1990	HAINES	
1985	HAINES	
1981	HAINES	
1976	HAINES	
1970	PACIFIC TELEPHONE	
1960	PACIFIC TELEPHONE	
1956	PACIFIC TELEPHONE	
1952	POLKS	
1947	POLKS	
1937	POLKS	
1931	POLKS	

2022 OAKLEY RD

SOURCE: DIGITAL BUSINESS DIRECTORY

2237 **CATARINO TOPETE**...*RESIDENTIAL*
2409 **DENNIS RIDGWAY**...*RESIDENTIAL*
2409 **NEIL RIDGWAY**...*RESIDENTIAL*
2417 **PEDRO MARTINEZ**...*RESIDENTIAL*
2421 **GABY'S CAKES**...*BAKERS-CAKE & PIE*
2425 **ARTHUR SANDERS**...*RESIDENTIAL*
2501 **SHARRON JONES**...*RESIDENTIAL*
2505 **JASON BUCHANAN**...*RESIDENTIAL*
2505 **SHARMAINE BUCHANNON**...*RESIDENTIAL*
2517 **JEANNINE GIRARD**...*RESIDENTIAL*
2517 **SUZANNE MARTIN**...*RESIDENTIAL*
3001 **ALBERT MORALES**...*RESIDENTIAL*
3001 **GARY MORALES**...*RESIDENTIAL*
3335 **JOSEPH BALTZLEY**...*RESIDENTIAL*
3341 **MANUEL SIDRIAN**...*RESIDENTIAL*
3401 **GRACE HOUSE**...*NONCLASSIFIED ESTABLISHMENTS*
3870 **DUANNE SHOEMAKE**...*RESIDENTIAL*

2022 PHILLIPS LN

SOURCE: DIGITAL BUSINESS DIRECTORY

1820 **TIMOTHY BARTON**...*RESIDENTIAL*
1830 **STROER & GRAFF INC**...*EXCAVATING CONTRACTORS*
1830 **STROER & GRAFF INC**...*PILE DRIVING*
1830 **STROER & GRAFF INC**...*TRUCKINGDUMP*
1830 **STROER & GRAFF INC**...*MARINE CONTRACTORS & DESIGNERS*
1912 **LAURA BORJA**...*RESIDENTIAL*
2273 **MICHAEL HARGUTH**...*RESIDENTIAL*
2401 **JOHN DEBENE**...*RESIDENTIAL*
2425 **EUGENE TAFITO**...*RESIDENTIAL*
2425 **THERESA ARZATE**...*RESIDENTIAL*

2020 OAKLEY RD

SOURCE: DIGITAL BUSINESS DIRECTORY

2237 **CATARINO TOPETE**...*RESIDENTIAL*
2409 **DENNIS RIDGWAY**...*RESIDENTIAL*
2417 **DALE MARTINEZ**...*RESIDENTIAL*
2417 **PEDRO MARTINEZ**...*RESIDENTIAL*
2421 **GABY'S CAKES**...*BAKERS-CAKE & PIE*
2425 **ARTHUR SANDERS**...*RESIDENTIAL*
2501 **SHARRON JONES**...*RESIDENTIAL*
2505 **JASON BUCHANAN**...*RESIDENTIAL*
2505 **SHARMAINE BUCHANNON**...*RESIDENTIAL*
2517 **JEANNINE GIRARD**...*RESIDENTIAL*
3001 **ALBERT MORALES**...*RESIDENTIAL*
3335 **JOSEPH BALTZLEY**...*RESIDENTIAL*
3341 **MANUEL SIDRIAN**...*RESIDENTIAL*
3415 **GRACE BIBLE FELLOWSHIP-ANTIOCH**...*CHURCHES*
3870 **BRIAN SHOEMAKE**...*RESIDENTIAL*

2020 PHILLIPS LN

SOURCE: DIGITAL BUSINESS DIRECTORY

1820 **JOANNE BARTON**...*RESIDENTIAL*
1830 **STROER & GRAFF INC**...*EXCAVATING CONTRACTORS*
1830 **STROER & GRAFF INC**...*MARINE CONTRACTORS & DESIGNERS*
1830 **STROER & GRAFF INC**...*PILE DRIVING*
1830 **STROER & GRAFF INC**...*TRUCKINGDUMP*
1912 **LAURA BORJA**...*RESIDENTIAL*
2273 **CAROL HARGUTH**...*RESIDENTIAL*
2401 **JOHN DEBENE**...*RESIDENTIAL*
2425 **EUGENE TAFITO**...*RESIDENTIAL*
2425 **MARTIN ARZATE**...*RESIDENTIAL*

2016 OAKLEY RD

SOURCE: DIGITAL BUSINESS DIRECTORY

2409 **NEIL RIDGWAY**...*RESIDENTIAL*
2409 **STEVE RIDGWAY**...*RESIDENTIAL*
2409 **STONEY RIDGWAY**...*RESIDENTIAL*
2409 **VICKI RIDGWAY**...*RESIDENTIAL*
2417 **DALE MARTINEZ**...*RESIDENTIAL*
2417 **PEDRO MARTINEZ**...*RESIDENTIAL*
2425 **ARTHUR SANDERS**...*RESIDENTIAL*
2425 **VERONICA SANDERS**...*RESIDENTIAL*
2505 **JASON BUCHANAN**...*RESIDENTIAL*
2505 **SHARMAINE BUCHANNON**...*RESIDENTIAL*
2505 **SHARMIN BUCHANAN**...*RESIDENTIAL*
2513 **SCOTT LEE**...*RESIDENTIAL*
3001 **ALBERT MORALES**...*RESIDENTIAL*
3001 **GARY MORALES**...*RESIDENTIAL*
3001 **MARY MORALES**...*RESIDENTIAL*
3335 **JOSEPH BALTZLEY**...*RESIDENTIAL*
3335 **RICHARD BALTZLEY**...*RESIDENTIAL*
3341 **MANUEL SIDRIAN**...*RESIDENTIAL*
3415 **BRIDGEWAY PRESCHOOL**...*SCHOOLS-NURSERY & KINDERGARTEN ACADEMIC*
3415 **BRIDGEWAY PRESCHOOL**...*CHILD CARE SERVICE*
3415 **GRACE BIBLE FELLOWSHIP-ANTIOCH**...*CHURCHES*
3415 **GRACE BIBLE FELLOWSHIP-ANTIOCH**...*RELIGIOUS ORGANIZATIONS*
3870 **BRIAN SHOEMAKE**...*RESIDENTIAL*
3870 **DELTA CONSTRUCTION-ENGINEERING**...*EXCAVATING CONTRACTORS*
3870 **DUANNE SHOEMAKE**...*RESIDENTIAL*
3870 **KATHRIN SHOEMAKE**...*RESIDENTIAL*

2016 PHILLIPS LN

SOURCE: DIGITAL BUSINESS DIRECTORY

1820 **JOANNE BARTON**...*RESIDENTIAL*
1820 **TIMOTHY BARTON**...*RESIDENTIAL*
1830 **STROER & GRAFF INC**...*EXCAVATING CONTRACTORS*
1830 **STROER & GRAFF INC**...*PILE DRIVING*
1912 **LAURA BORJA**...*RESIDENTIAL*
2273 **CAROL HARGUTH**...*RESIDENTIAL*
2273 **JACOB HARGUTH**...*RESIDENTIAL*
2273 **MICHAEL HARGUTH**...*RESIDENTIAL*
2401 **JOHN DEBENE**...*RESIDENTIAL*
2401 **LYNN DEBENE**...*RESIDENTIAL*
2401 **TALIA DEBENE**...*RESIDENTIAL*
2425 **MARTIN ARZATE**...*RESIDENTIAL*
2425 **THERESA ARZATE**...*RESIDENTIAL*

2012 OAKLEY RD

SOURCE: DIGITAL BUSINESS DIRECTORY

2401 **SANDRA WILLS**...*RESIDENTIAL*
2417 **DALE MARTINEZ**...*RESIDENTIAL*
2421 **CYRIL KARUNARATNE**...*RESIDENTIAL*
2421 **DEEPAL KARUNARATNE**...*RESIDENTIAL*
2421 **KANISHKA KARUNARATNE**...*RESIDENTIAL*
2421 **NIRMALA KARUNARATNE**...*RESIDENTIAL*
2425 **TIMOTHY GLASPER**...*RESIDENTIAL*
2425 **VERONICA SANDERS**...*RESIDENTIAL*
2501 **GEORGE VALLIS**...*RESIDENTIAL*
2501 **MARIANN STOTTS**...*RESIDENTIAL*
2505 **JASON BUCHANAN**...*RESIDENTIAL*
2505 **SHARMIN BUCHANAN**...*RESIDENTIAL*
2513 **KRISTIN BUSH**...*RESIDENTIAL*
2513 **ROBERT BUSH**...*RESIDENTIAL*
3001 **ALBERT MORALES**...*RESIDENTIAL*
3001 **GARY MORALES**...*RESIDENTIAL*
3001 **GEMMA MORALES**...*RESIDENTIAL*
3001 **MARY MORALES**...*RESIDENTIAL*
3335 **LORENZO TORRES**...*RESIDENTIAL*
3335 **LORENZO VENEGAS**...*RESIDENTIAL*
3335 **MICHELLE TORRES**...*RESIDENTIAL*
3335 **TORRES LORENZO**...*RESIDENTIAL*
3341 **CYNTHIA SIDRIAN**...*RESIDENTIAL*
3341 **MICHELLE SIDRIAN**...*RESIDENTIAL*
3415 **FIRST FAMILY CHURCH**...*CHURCHES*
3870 **DELTA CONSTRUCTION-ENGINEERING**...*REAL ESTATE INSPECTION*

2012 PHILLIPS LN

SOURCE: DIGITAL BUSINESS DIRECTORY

1820 **COLLEEN MAESTAZ**...*RESIDENTIAL*
1820 **JOANNE BARTON**...*RESIDENTIAL*
1820 **TIMOTHY BARTON**...*RESIDENTIAL*
1820 **VICKIE BARTON**...*RESIDENTIAL*
1830 **GRAFF STROER**...*RESIDENTIAL*
1830 **STROER & GRAFF INC**...*EXCAVATING CONTRACTORS*
2273 **CAROL HARGUTH**...*RESIDENTIAL*
2401 **JOHN DE BENE**...*RESIDENTIAL*
2401 **JOHN DEBENE**...*RESIDENTIAL*
2401 **LYNN DE BENE**...*RESIDENTIAL*
2401 **LYNN DEBENE**...*RESIDENTIAL*
2401 **TALIA DE BENE**...*RESIDENTIAL*
2401 **TALIA DEBENE**...*RESIDENTIAL*
2425 **THERESA ARZATE**...*RESIDENTIAL*
2435 **J COLE RECOVERY INC**...*DRUG ABUSE & ADDICTION INFO & TREATMENT*

2008 OAKLEY RD

SOURCE: DIGITAL BUSINESS DIRECTORY

0	**ALBERT MORALES**...*RESIDENTIAL*
0	**THERMAN E RICH**...*RESIDENTIAL*
2421	**DEEPAL KARUNARATNE**...*RESIDENTIAL*
2425	**THOMAS H JOHNSEN**...*RESIDENTIAL*
2501	**ANTHONY SCHMULT**...*RESIDENTIAL*
3415	**BRIDGEWAY CHURCH**...*CHURCHES*
3415	**BRIDGEWAY CHURCH**...*RELIGIOUS ORGANIZ*
3415	**BRIDGEWAY PRESCHOOL**...*CHILD DAY CARE SVS*
3870	**BRIAN K SHOEMAKE**...*RESIDENTIAL*
3870	**DELTA CONSTRUCTION**...*EXCAVATING CONTRACTORS*
3870	**DELTA CONSTRUCTION & ENGNRNG**...*EXCAVATION WORK*

2008 PHILLIPS LN

SOURCE: DIGITAL BUSINESS DIRECTORY

0	**LEONARD & MYRTLE JOHNSON**...*RESIDENTIAL*
1830	**STROER & GRAFF INC**...*HEAVY CONSTRUCTION*
1830	**STROER & GRAFF INC**...*PILE DRIVING*
1886	**RONALD RICHMAN**...*RESIDENTIAL*
1923	**CHARLES MARTINOVICH**...*RESIDENTIAL*
2425	**RAMON ARZATE**...*RESIDENTIAL*

2003 OAKLEY RD

SOURCE: DIGITAL BUSINESS DIRECTORY

0	**ALBERT MORALES**...*RESIDENTIAL*
0	**THERMAN E RICH**...*RESIDENTIAL*
107	**B R WORTHINGTON**...*RESIDENTIAL*
2237	**BRIAN KAMANA**...*RESIDENTIAL*
2401	**STEVE SLOAN**...*RESIDENTIAL*
2409	**NEIL RIDGWAY**...*RESIDENTIAL*
2421	**JEROLD HAM**...*RESIDENTIAL*
2425	**THOMAS H JOHNSEN**...*RESIDENTIAL*
2880	**MARLEANN TRIGG**...*RESIDENTIAL*

2003 PHILLIPS LN

SOURCE: DIGITAL BUSINESS DIRECTORY

0	**LEONARD & MARYTLE JOHNSON**...*RESIDENTIAL*
1830	**STROER & GRAFF INC**...*DAMS, WATERWAYS, DOCKS, AND OTHER MARINE CONSTRUCTION*
1886	**RONALD RICHMAN**...*RESIDENTIAL*
1900	**SOLARES HOUSE MOVERS**
1923	**CHARLES MARTINOVICH**...*RESIDENTIAL*
2435	**PATRICK NAUGHTON**...*RESIDENTIAL*

2001-2002 OAKLEY RD

SOURCE: HAINES

0	RICH THERMAN E
2401	WILLS SANDRA
2409	RIDGWAY NED
2417	MARTINEZ PEDRO
2421	KARUNARATNE DEEPAL
2421	PATEL SANGAY
2425	JOHNSEN THOMAS H
2501	SCHMULT ANTHONY
2501	SWIECH MADHW
2505	EACRET GENE
2513	BUSH ROBERT
2517	GIRARD JEANNINE
2900	XXXX
2970	TRIHEY JUDY
3001	MORALES ALBERT
3339	SEXTON WILLIAM
3341	SEXTON W
3401	SEXTON WAM
3870	DELTA CONSTRUCTION
3870	SHOEMAKE BRAN K

2001-2002 PHILLIPS LN

SOURCE: HAINES

0	JOHNSON LEONARD
0	JOHNSON MYRTLE
1820	BARTON TIMOTHY
1830	STROER & GRAFF INC
1840	JOHNSON LEONARD
1870	STROER CON
1880	SANTINI ANDREW
1886	RICHMAN RONALD
1894	DYER PAYTON
1900	RUBIO JOSE
1912	SCOTT STROZER
1920	MARTINOVICH C
1923	MARTINOVICH CHARLES
2273	FELIX JEFFREY
2345	NAUGHTON PATRICK
2401	DEBENE JOHN
2425	ARZATE RAMON
2435	XXXX

1995-1996 OAKLEY RD

SOURCE: HAINES

0	MORALES ALBERT
0	RICH THERMAN E
0	WORTHINGTON B A
2237	KAMANA BRIAN
2401	SLOAN STEVE
2409	RIDGWAY NEIL
2421	HAM JEROLD
2425	JOHNSEN THOMAS H
2505	XXXX

1995-1996 PHILLIPS LN

SOURCE: HAINES

0	DUNCAN BARBARA T
0	JOHNSON LEONARD
0	JOHNSON MYRTLE
886	RICHMAN RONALD
1830	STROER & GRAFF INC
1923	MARTINOVICH CHARLES
2425	ARZATE RAMON
2435	NAUGHTON PATRICK

1990 OAKLEY RD

SOURCE: HAINES

0	CONFETTI T
0	RICH THERMAN E
0	SHELTON DAVID H
0	STJOHN MARSHAL JR
0	WINTERS IDA MAO
0	WINTERS JAB E
0	WORTHINGTON BR
0	WRIGHTS ELECTRIC
2237	BARNES FRA W
2237	BARNES WANDA
2401	PACK ROY L
2409	RIDGWAY NELL
2425	JOHNSEN THOMAS H
2501	EDWARDS JAMES L
2505	EACRET GENE
2505	EACRET MICHAELE

1990 PHILLIPS LN

SOURCE: HAINES

0	JOHNSON LEONARD
0	JOHNSON MYRTLE
0	JOHNSON STEVEN L
0	MARTINOVICH CHAS
0	MELTON CATHY
0	PHILLIPS EDGAR E
0	RICHMAN RONALD
0	ROMAN WEST CONSTR
1830	STROER & GRAFF INC

1985 OAKLEY RD

SOURCE: HAINES

0	CONFETTI T
0	FOUST NORMAN
0	GARCIA RALPH G
0	HANSEN MARCIA
0	MORALES ALBERT
0	RICH THERMAN E
0	SHELTON DAVID H
0	WINTERS IDA MAE
0	WINTERS JAS E
107	WORTHINGTON B R

1985 PHILLIPS LN

SOURCE: HAINES

0	BARTON TIMOTHY
0	JOHNSON STEVEN L
0	LITTLEFIELD JOHN H
0	MARTINOVICH CHAS
0	PHILLIPS EDGAR E
0	RICHMAN RONALD
0	STEIGER CLAUDIA

1981 OAKLEY RD

SOURCE: HAINES

0	BARNARD NORMAN H
0	BELDIN EDITH A
0	BOYD FLOYD W
0	CROSS CARL
0	DUNCAN KAREN
0	FREITAS ROGER
0	GEORGE LAWRENCE
0	GRIFFIN ROY
0	KIRBY STEVE
0	KNABE LYNN D
0	PERES JOS
0	REID ALFONSUS H
0	ROMANO FRANK
0	ROMITI BEN
0	SALVADOR ROLAND
0	SILVEIRA WES JA
0	STERUD NEIL M
104	PHILLIPS LAWRENCE

1981 PHILLIPS LN

SOURCE: HAINES

0	BARTON AMOS B
0	GILMORE WILLARD A
0	JOHNSON LEONARD D
0	LITTLEFIELD JOHN H
0	MARTINOVICH CHAS
0	NAVARRO JESSIE
0	NAVARRO PAUL
0	PHILLIPS EDGAR E
0	RICHMAN RONALD

1976 OAKLEY RD

SOURCE: HAINES

0	CONFETTI T
0	HARGIS A L
0	MORALES ALBERT
0	MORI JOHN P
0	MORI RALPH
0	RICH THERMAN E
0	SHELTON DAVID H
0	STERUD WAYNE
0	WINTERS IDA MAE
0	WINTERS JAS E
107	WORTHINGTON BETTE

1976 PHILLIPS LN

SOURCE: HAINES

0	BARTON AMOS B
0	NAVARRO JESSIE
0	NAVARRO PAUL
0	PHILLIPS EDGAR E
0	RIOS DIANE L
0	RIOS TONY S
0	SLOAN JOHN I
0	SLOAN SUSIE

1970 OAKLEY RD

SOURCE: PACIFIC TELEPHONE

0	ALEXANDER M S
0	CONFETTI T
0	HARGIS A L
0	MORALES ALBERT
0	MORI FRANK
0	MORI JOHN P
0	MORI RALPH
0	PERINI CORP
0	PETERSON DONALD
0	RICH THERMAN E
0	SHELTON DAVID H
0	TAMAYO RICHARD
0	WINTERS JAS E
0	WRIGHT ARNOLD L
107	WORTHINGTON BETTE R

1970 PHILLIPS LN

SOURCE: PACIFIC TELEPHONE

0	BARTON AMOS B
0	GONZALES MAX
0	MCCLURE WALTER C SR
0	NAVARRO PAUL
0	PARKER BUD
0	PHILLIPS EDGAR E
0	SLOAN JOHN I
0	SPERRY ROGER
0	WALKER LUCILLE MRS
441	BOOKOUT LG

1960 OAKLEY RD

SOURCE: PACIFIC TELEPHONE

0	**ALEXANDER M S**
0	**CECCHINI C**
0	**CONFETTI T**
0	**HOLLIDAY H**
0	**KRASNERO**
0	**MORI F**
107	**MORGAN J**

1960 PHILLIPS LN

SOURCE: PACIFIC TELEPHONE

0	**ANDERSON S O**
0	**BENSON GE**
0	**CARR H F**
0	**HEAPY C R**
0	**JENKINS A**
0	**PARKER B**
0	**PHILLIPSE E**

1956 OAKLEY RD

SOURCE: PACIFIC TELEPHONE

STREET NOT LISTED

1956 PHILLIPS LN

SOURCE: PACIFIC TELEPHONE

0 **CARR H F**
0 **HEAPY CR**

1952 OAKLEY RD

SOURCE: POLKS

STREET NOT LISTED

1952 PHILLIPS LN

SOURCE: POLKS

STREET NOT LISTED

1947 OAKLEY RD

SOURCE: POLKS

STREET NOT LISTED

1947 PHILLIPS LN

SOURCE: POLKS

STREET NOT LISTED

1937 OAKLEY RD

SOURCE: POLKS

STREET NOT LISTED

1937 PHILLIPS LN

SOURCE: POLKS

STREET NOT LISTED

1931 OAKLEY RD

SOURCE: POLKS

STREET NOT LISTED

1931 PHILLIPS LN

SOURCE: POLKS

STREET NOT LISTED

Agency Documents

Outlook

Records Request - Antioch

From Jennifer Woods <Jennifer.Woods@apexcos.com>
Date Tue 2/18/2025 10:29 AM
To r5s-pra@waterboards.ca.gov <r5s-pra@waterboards.ca.gov>

Hello,

I would like to request any records you may have for 3001 Oakley Road in Antioch, CA.

Thank you!

Jennifer Woods
Project Manager
Apex Companies, LLC
949-354-6362
714-642-0405
ENR Top 30 All-Environmental Firm
Water • Environmental • Health & Safety •
Compliance & Assurance • Infrastructure

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CONTRA COSTA HEALTH

2120 Diamond Blvd., Suite 100 | Concord, CA 94520 | Phone: (925) 608-5500 | Fax: (925) 608-5502
www.cchealth.org/eh

PUBLIC RECORDS ACT REQUEST FORM

To best serve you please complete the Public Records Act Request form below.

Email your completed form to cocoeh@cchealth.org, mail, or hand deliver to Contra Costa Health, Environmental Health Division at 2120 Diamond Boulevard, Suite 100, Concord, CA 94520; or fax to (925) 608-5502.

PLEASE NOTE:

- This form is for requests submitted to the Environmental Health office only.
- Fees apply for hard copies: $0.10 per single sided page and $0.20 for a double-sided page.
- The Public Records Act is not designed to respond to general questions. Identifiable records must be described.
- Pursuant to the Public Records Act, certain records are not subject to disclosure. If you have not received a response to your request from Environmental Health within 10 days (if you provided an email address) or 14 days (if you only left a mailing address) and you would like an update concerning the status of your request, please contact us at (925) 608-5500.

1. Person Requesting Records

Send request by: ☒ Email ☐ Mail or ☐ Will Pick Up

Name: Jennifer Woods | Date: 2/18/2025

Mailing Address: 21516 Lake Forest Drive, Unit B | Phone: 714-642-0405

City: Lake Forest | State: CA | Zip: 92630 | Email: jennifer.woods@apexcos.com

2. Records Request

Date Range of Records Requested: All -

Include as much information as possible about the records you are requesting.

Property or Site Address: 3001 Oakley Road

City: Antioch | State: CA | Zip: 94509 | Assessor's Parcel #: 051-190-028-4 and

Any records for hazardous materials, septic tanks, wells, USTs, or ASTs

STAFF

Date completed: SR# AR# XR#

Approved by: Completed by

Please allow 10 days for a response, as some requests may require extensive research. Thank you.

Updated: 08/23/2024

Outlook

Records Request - Antioch

From Jennifer Woods <Jennifer.Woods@apexcos.com>
Date Tue 2/18/2025 10:31 AM
To pubregact@dtsc.ca.gov <pubregact@dtsc.ca.gov>

Hello,

I would like to request any records you may have for 3001 Oakley Road in Antioch, CA.

Thank you!

Jennifer Woods
Project Manager
Apex Companies, LLC
949-354-6362
714-642-0405
ENR Top 30 All-Environmental Firm
Water • Environmental • Health & Safety •
Compliance & Assurance • Infrastructure

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Outlook

[EXT] RECORDS REQUEST FOR 3001 OAKLEY RD, ANTIOCH

From ehlu <ehlu@cchealth.org>
Date Wed 2/19/2025 4:27 PM
To Jennifer Woods <jennifer.woods@apexcos.com>

You don't often get email from ehlu@cchealth.org. Learn why this is important

CAUTION

No records for either APNs regarding wells or septic.

LELA JONES, CLERK SPECIALIST
LEAD FOR LAND USE & PLAN REVIEW PROGRAMS
2120 DIAMOND BLVD, STE 100
CONCORD, CA 94520

OPEN MONDAY THRU THURSDAY
7:30A TO 4:30P (EXCEPT HOLIDAYS)
OPEN FRIDAY
9:00A TO 4:30P (EXCEPT HOLIDAYS)
OFFICE CLOSES FOR LUNCH FROM 12:00P TO 1:00P

CONTRA COSTA HEALTH

This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Previous Reports/Miscellaneous Documents

LIMITED PHASE II ENVIRONMENTAL SITE ASSESSMENT

Property:

BrightSky Development
3001 Oakley Road, Antioch, California

Original Preparation Date:
April 11, 2023

Prepared for:

Resmark Equity Partners
12396 World Trade Drive, Suite 308
San Diego, California 92128

Prepared By:

APEX COMPANIES, LLC
1962 Freeman Avenue
Signal Hill, California 90755

Apex Project No: RES012-0313063-22012535

Jennifer Woods
Assistant Project Manager

Shannon Gillespie
Program Manager

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3 – Sample Location Map

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1 - Laboratory Data Report and Chain-of-Custody Documentation

1.0 - INTRODUCTION

1.1 - Site Description and Background

At the request of Resmark Equity Partners, Apex Companies, LLC (Apex) completed a Limited Phase II Environmental Site Assessment (Phase II ESA) on a property hereinafter referred to as the "Site." The Site is located at 3001 Oakley Road, Antioch, Contra Costa County, California. A Topographic Map inclusive of the Site is presented as **Figure 1** and a Site Vicinity Map is provided as **Figure 2**.

Apex completed a Draft Phase I ESA at the Site dated December 27, 2022. The Phase I ESA identified the following recognized environmental conditions (RECs) that were included in this investigation:

Adjoining Cleanup Site -The southeast adjoining, upgradient property located at 3302 Oakley Road is currently in operation as a Pacific Gas & Electric Company facility and was formerly in operation as The Oakley Road Metering Site. The facility was utilized for routine operations that involved handling of natural gas well liquids containing water and petroleum hydrocarbons until the mid-1970s. The facility has been used for natural gas pipeline equipment storage by the Pacific Gas and Electric Company since 1992. The site is currently undergoing remediation under the oversight of the Contra Costa County Health Services Department and Regional Water Quality Control Board. In 1991, a soil and groundwater investigation found elevated levels of BTEX and TPH onsite. Since then, various site investigations, groundwater extraction events, and AS/SVE remediation activities have been conducted onsite. It was determined that the AS/SVE system had reached its maximum removal potential in 2018 and its use was discontinued. Soil vapor samples from 2018 were reviewed and were determined to be below applicable screening levels with the highest levels being approximately 215 feet away from the subject property.

The most recent groundwater sampling event was conducted in July 2022. BTEX constituents were not detected in any groundwater samples collected from onsite and offsite. Gasoline, diesel, and oil were detected in the majority of groundwater samples collected. Based on figures provided, the highest concentrations appeared to be limited to the site with minor concentrations migrating offsite towards to the north-northwest. One groundwater monitoring well (MW-9) is located on the eastern portion of the subject property in association with this site. No constituents were detected in the most recent monitoring event with the exception of diesel at 88 µg/L which is below the Tier 1 ESL of 100 µg/L. Historically, low levels of diesel, oil, gasoline, and xylenes have been detected in this well; however, no concentrations have ever been over the applicable screening levels.

Since contaminated groundwater is migrating onto the subject property, this is considered a recognized environmental condition.

The REC described above represent potential contaminants and/or pathways to the subsurface.

1.2 - Scope of Services

The objective of Apex's Limited Phase II ESA was to evaluate the potential presence of chemicals of concern (COCs) including volatile organic compounds (VOCs) in soil vapor. Soil vapor samples were collected from the southeast portion of the Site nearest to the adjoining property.

1.3 - Standard of Care and Limitations

Apex's services were performed in accordance with standards customarily provided by a firm rendering the same or similar services in the area during the same period. Apex makes no warranties, expressed or implied, as to the services performed hereunder. Additionally, Apex does not warrant the work of third parties supplying information used in the report (e.g., laboratories, regulatory agencies, or other third parties). This scope of services was performed in accordance with the scope of work agreed upon with the client, as detailed in Apex's cost proposal.

Findings, conclusions, and recommendations resulting from these services are based on information derived from the on-site activities and other services performed under this scope of work, and it should be noted that this information is subject to change over time. Certain indicators of the presence of hazardous substances, petroleum products, or other constituents may have been latent, inaccessible, unobservable, or not present during these services, and Apex cannot represent that the Site contains no hazardous substances, toxic materials, petroleum products, or other latent conditions beyond those identified during these activities. Environmental conditions at other areas or portions of the Site may vary from those encountered at actual sample locations. Apex's findings and recommendations are based solely upon data available to Apex at the time of these services. The scope of services was not intended to identify every chemical possibly associated with the Site. Similarly, the proposed scope was not intended to determine the extent or magnitude of any existing contamination.

2.0 - FIELD ACTIVITIES

2.1 - Soil Vapor Investigation

A total of eight (8) soil borings, SVP-1 through SVP-8, were advanced on-site on March 2, 2023, by Mr. Gabe Villanueva, an Apex environmental scientist, via hand auger drilling methods. Due to the proximity of, and the potential for, subsurface pipelines and storm drains, a ground-penetrating radar (GPR) survey of the proposed soil boring locations was completed prior to soil boring advancement on March 2, 2023.

The borings were advanced to a depth of five (5) feet below ground surface (bgs). Soil was screened approximately every foot. Soil was observed continuously for visual and olfactory observations, for recordation of VOCs field screening results, and for the examination and notation of soil lithology. The head space of the soil samples was field- screened using a calibrated photoionization detector (PID) to detect VOCs, if present. PID readings were non-detect (0.0 parts per million).

A Sample Location Map that indicates the approximate locations of the eight (8) soil borings in relation to pertinent structures and general site boundaries is included as **Figure 3**.

2.2 - Soil Vapor Sampling

Temporary soil vapor sampling probes were installed in each of the eight (8) borings at a depth of approximately 5 feet bgs. The sample locations are depicted on **Figure 3**.

Each sample location was advanced using a hand auger. Soil vapor samples were collected on March 9, 2023 by Harlow Newton, an Apex environmental scientist, using Summa canisters. Soil vapor samples were analyzed for VOCs utilizing TO-15. Three purge volumes were used (a default of three purge volumes was used as recommended by July 2015 Department of Toxic Substances Control [DTSC]/Regional Water Quality Control Board [RWQCB] guidance documents).

Prior to purging and sampling of soil vapor at each point, a shut-in test was conducted to check for leaks in the aboveground fittings. The shut-in test was performed on the aboveground apparatus by evacuating the line to a vacuum of 100 inches of water, sealing the entire system and watching the vacuum for some length of time. A vacuum gauge attached in parallel to the apparatus measured the vacuum. If there was any observable loss of vacuum, the fittings were adjusted as needed until the vacuum did not change noticeably. The soil vapor samples were then collected.

Upon completion of the sampling, the vapor probes were removed and the borings were backfilled with bentonite grout/hydrated chips and capped to match the existing surface.

3.0 – SOIL VAPOR RESULTS

All soil vapor samples were analyzed for VOCS by TO-15 analysis.

All laboratory-reported analytical results are provided in **Appendix 1**.

Table 1 lists the analytical results for the soil vapor investigated during the Limited Phase II ESA in comparison to the following regulatory levels:

- California Department of Toxic Substance Control (DTSC) Human and Ecological Risk Office (HERO) Human Health Risk Assessment (HHRA) Note Number 3 Screening Levels for Commercial/Industrial Air. The soil vapor screening levels (SLs) are calculated by dividing the commercial/industrial air screening levels by the USEPA default attenuation factor of 0.03.
- USEPA Vapor Intrusion Screening Levels (VISL) for a Commercial/Industrial Scenario – Target Sub-Slab and Near Source Soil Gas Concentrations.
- San Francisco Regional Water Quality Control Board (SFRWQCB) Tier 1 Environmental Screening Levels (ESLs).

Several VOCs were detected in all of the soil vapor samples collected. Based on the comparison with the RSLs, ESLs, and SLs, no compound concentrations were found above their respective RSLs, ESLs, and/or SLs.

4.0 - CONCLUSIONS

Several VOCs were detected in all of the soil vapor samples collected. Based on the comparison with the RSLs, ESLs, and SLs, no compound concentrations were found above their respective RSLs, ESLs, and/or SLs.

5.0 - RECOMMENDATIONS

Based on the findings of this Limited Phase II ESA and in response to the project objective, no further action is considered necessary.

6.0 - RELIANCE

This report documents the findings of the services performed by Apex in accordance with our contractual agreement with Resmark Equity Partners. The findings, opinions, and conclusions of this report are for the exclusive use of Resmark Equity Partners and its successors and assigns. This report shall not be provided to any other person, entity, or public or governmental agency (unless otherwise mandated by law) without the written consent of Resmark Equity Partners. Reliance on this report for any use or by parties other than specifically stated herein is prohibited without the expressed written consent of Apex or Resmark Equity Partners. This document is not intended for any purposes other than those expressly set forth herein or as described in Apex's proposal or for use by parties other than for whom it has been prepared and reliance provided for as described herein.

TABLE

TABLE 1
Soil Vapor Analytical Results
BrightSky Development
3001 Oakley Road
Antioch, California
Project No. RES012-0313063-22012535

COMPOUNDS	SFRWQCB Tier 1 Enviornmental Screening Level (µg/m3)	USEPA Residential Soil Vapor Screening Level (µg/m3)	DTSC Residential Soil Vapor Screening Level [1] (µg/m3)	SAMPLE LOCATION DEPTH (feet) DATE (m/d/yy) RESULT (µg/m^3)							
				SV-1 5 feet 3/9/23	SV-2 5 feet 3/9/23	SV-3 5 feet 3/9/23	SV-4 5 feet 3/9/23	SV-5 5 feet 3/9/23	SV-6 5 feet 3/9/23	SV-7 5 feet 3/9/23	SV-8 5 feet 3/9/23
VOCs											
Acetone	1,000,000	-	-	**12**	**14**	**9.6**	**10**	**22**	**29**	**180**	**28**
2-Butanone	170,000	174,000	-	ND	ND	ND	ND	ND	ND	**13**	ND
Carbon disulfide	-	24,300	-	**7.3**	ND	ND	ND	**2.1**	**1.0**	**2.4**	**1.5**
1,3-Dichlorobenzene	-	-	-	**18**	**34**	**26**	**22**	ND	ND	ND	ND
1,1-Dichloroethene	58	6,950	2,433	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	280	1,390	277	ND	ND	ND	ND	ND	ND	ND	ND
Freon 12	-	3,480	-	**1.9**	**1.7**	**1.7**	**1.7**	**1.8**	**1.7**	ND	**1.6**
n-Hexane	-	24,300	-	ND	ND	ND	ND	ND	ND	ND	ND
Isopropanol (IPA)	-	6,950	-	**40**	**49**	**17**	**26**	**4.0**	**7.4**	**11**	ND
Methylene chloride	34	3,380	33	ND	ND	**1.2**	ND	**1.2**	**1.1**	**1.4**	**1.1**
4-Methyl-2-Pentanone	14,000	104,000	-	ND	**2.0**	ND	ND	ND	ND	ND	ND
Tetrachloroethene	15	360	15	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	10,000	174,000	10,333	**4.6**	**1.5**	**1.6**	**1.6**	**2.3**	**3**	**3.1**	**3.1**
Trichloroethene	16	15.9	-	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes (total)	3,500	3,480	-	ND	**4.2**	ND	ND	ND	ND	**6.2**	**4.8**
m,p-Xylene	3,500	3,480	-	ND	**2.9**	ND	ND	ND	ND	**4.3**	**3.2**
o-Xylene	3,500	3,480	-	ND	**1.3**	ND	ND	ND	ND	**1.9**	**1.6**

NOTES:

ug/m3 =micrograms per cubic meter

VOCs =Volatile Organic Compounds via Method 8260B

- = Screening level not established

Only detected compounds are shown. See laboratory report for a complete list of VOCs.

Value exceeds residential soil vapor screening levels

ND = Not detected

[1]The soil vapor screening level is calculated by dividing the residential air screening levels by the United States Enivronmental Protection Agency (USEPA) default attenuation factor and California Environmental Protection Agency (CalEPA) proposed attenuation factor of 0.03.

EPA =Environmental Protection Agency

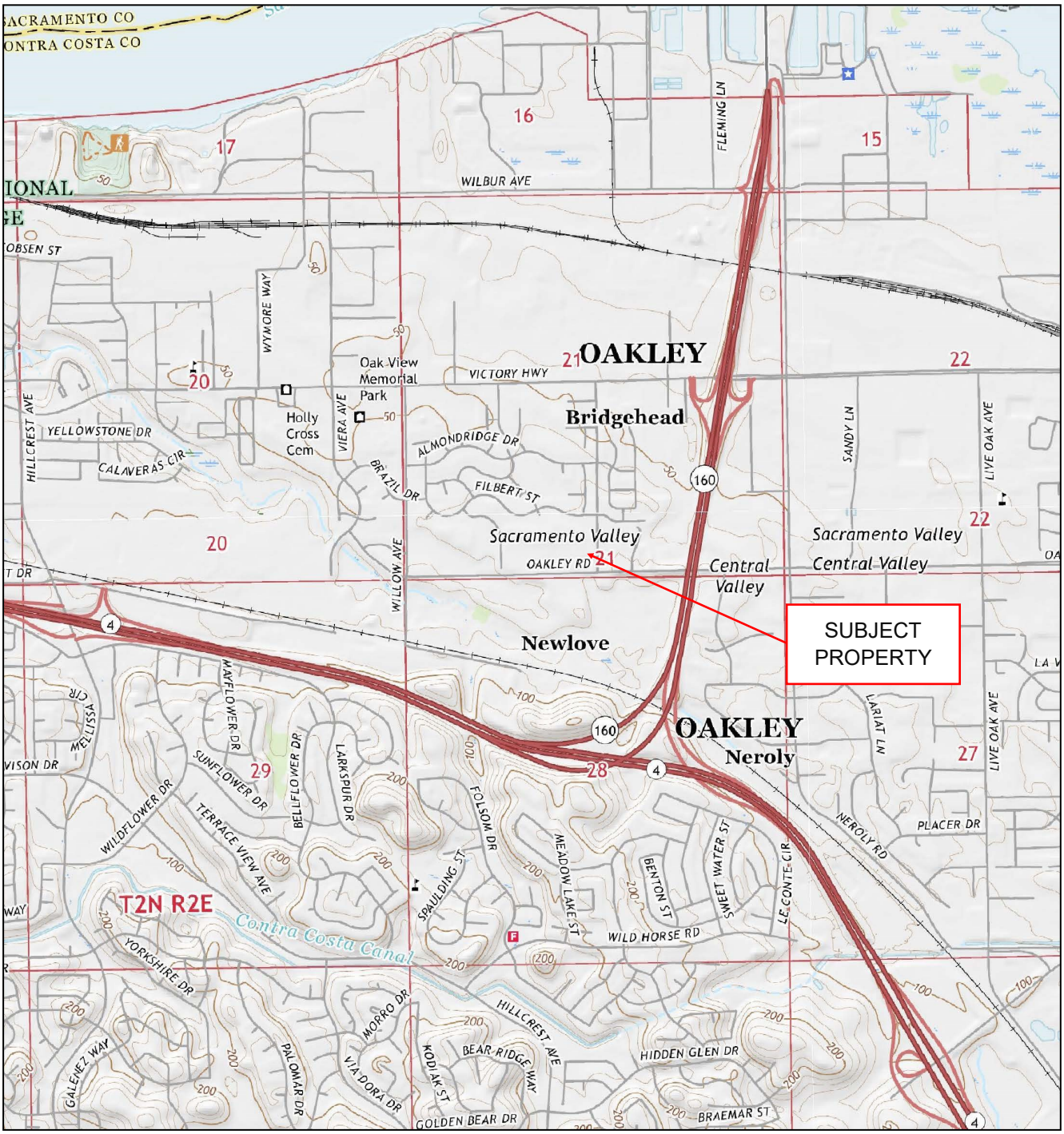
References:

San Francisco Regional Water Quality Control Board (SFRWQCB) Tier 1 Environmental Screening Levels (ESLs), 2019 (Rev. 2)

DTSC, Human and Ecological Risk Office (HERO) Human Health Risk Assessment (HHRA) Note Number 3, Screening Levels for Residential Air, Cancer Endpoint (Noncancer Endpoint used when Cancer Endpoint not available), June 2021

USEPA Vapor Intrusion Screening Levels (VISL) Calculator for Residential Scenario, Target Sub-Slab and Near-source Soil Gas Concentration (Target Risk [TR] = 1E-06, Hazard Quotient [HQ] = 1), May 2022

FIGURES



PORTION OF 7.5-MINUTE
(TOPOGRAPHIC) MAP
UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

ANTIOCH SOUTH-BRENTWOOD-ANTIOCH NORTH,
JERSEY ISLAND, CA QUADRANGLE (2021)

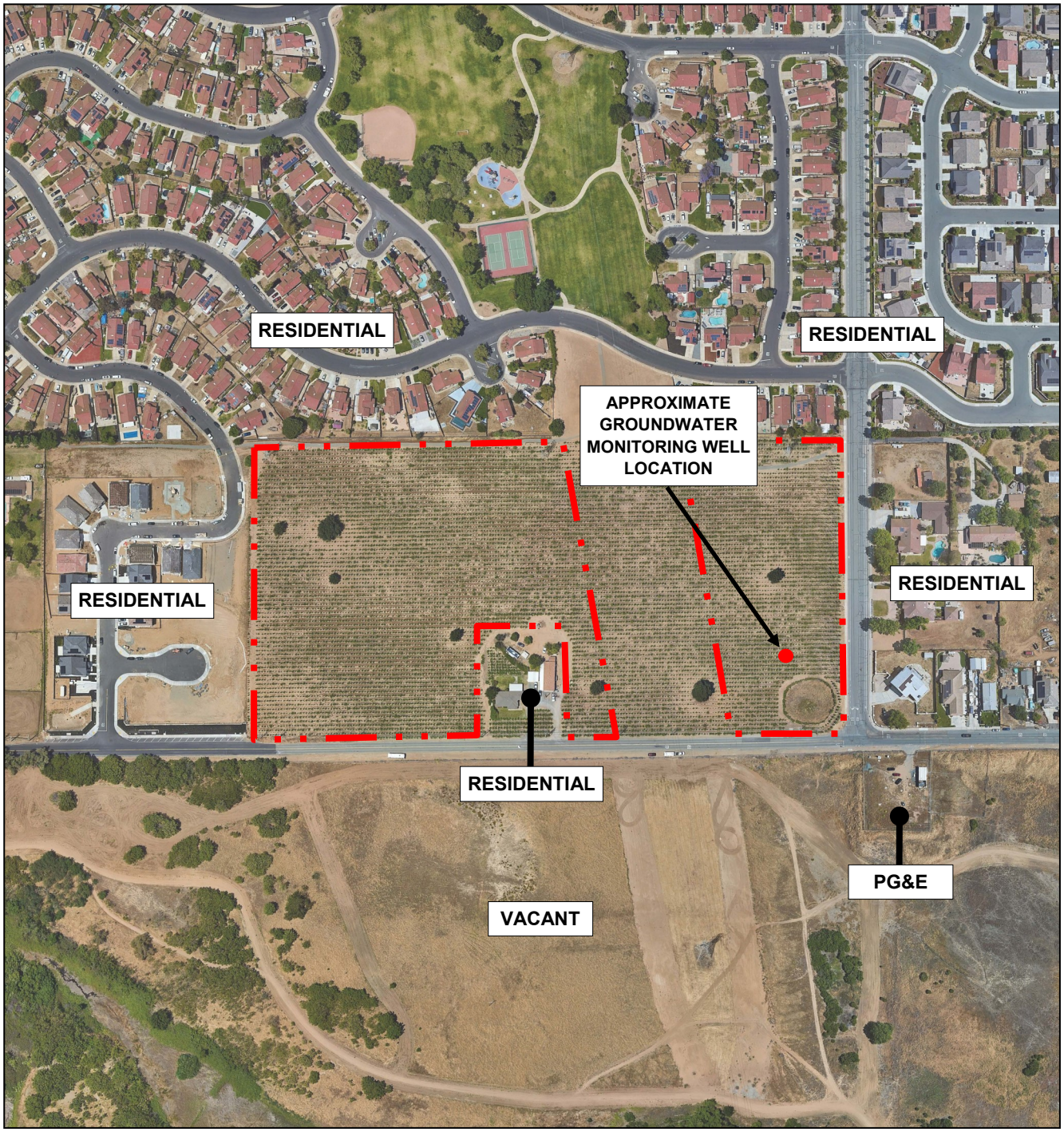
N

SCALE	NOT TO SCALE
DATE	DEC. 14, 2022
PRJ NO.	RES012-0313063-22012535

SITE LOCATION
BRIGHTSKY DEVELOPMENT
3001 OAKLEY ROAD
ANTIOCH, CA 94509

APEX

FIGURE
1



LEGEND

SUBJECT PROPERTY BOUNDARY

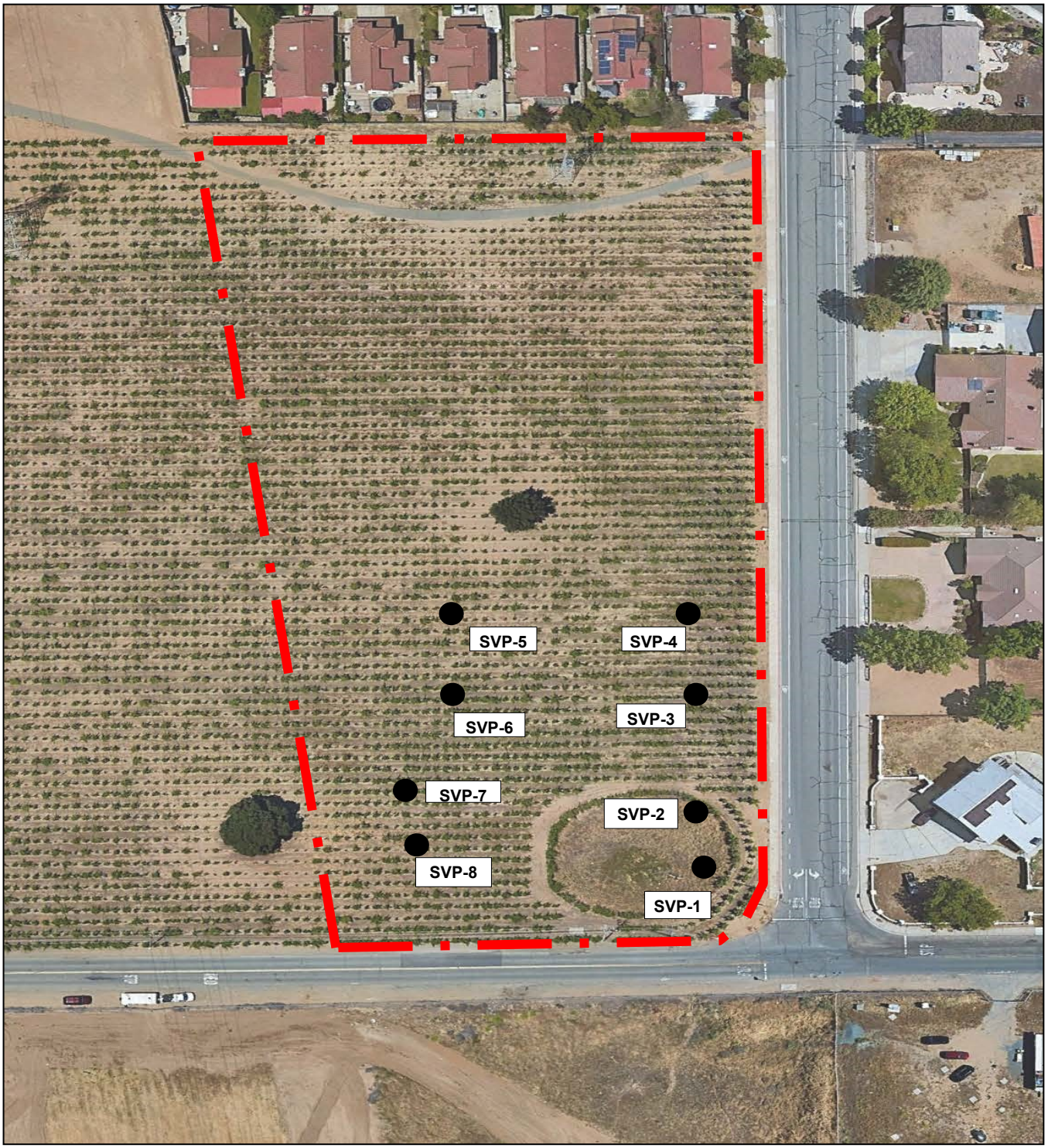
N

SCALE	NOT TO SCALE
DATE	DEC. 15, 2022
PRJ NO.	RES012-0313063-22012535

SITE VICINITY & SURROUNDING PROPERTIES
BRIGHTSKY DEVELOPMENT
3001 OAKLEY ROAD
ANTIOCH, CA 94509

APEX

FIGURE
2



LEGEND

SUBJECT PROPERTY BOUNDARY

SOIL VAPOR SAMPLING LOCATIONS

N

SCALE	NOT TO SCALE
DATE	MARCH 14, 2023
PRJ NO.	RES012-0313063-22012535

SOIL VAPOR SAMPLING LOCATIONS
BRIGHTSKY DEVELOPMENT
3001 OAKLEY ROAD
ANTIOCH, CA 94509

APEX

FIGURE
3

LABORATORY DATA REPORT

Enthalpy Analytical
931 West Barkley Ave
Orange, CA 92868
(714) 771-6900

enthalpy.com

Lab Job Number: 481201
Report Level: II
Report Date: 03/28/2023

Analytical Report *prepared for:*

Gabe Villanueva
Apex Companies, LLC
3480 Buskirk Ave
Suite 210
Pleasant Hill, CA 94523

Location: Resmark Antioch

Authorized for release by:



Diane Galvan, Project Manager
714-771-9928
diane.galvan@enthalpy.com

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the above signature which applies to this PDF file as well as any associated electronic data deliverable files. The results contained in this report meet all requirements of NELAP and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

CA ELAP# 1338, NELAP# 4038, SCAQMD LAP# 18LA0518, LACSD ID# 10105

ENTHALPY ANALYTICAL

Sample Summary

Gabe Villanueva
Apex Companies, LLC
3480 Buskirk Ave
Suite 210
Pleasant Hill, CA 94523

Lab Job #: 481201
Location: Resmark Antioch
Date Received: 03/10/23

Sample ID	Lab ID	Collected	Matrix
SV-5	481201-001	03/09/23 07:32	Air
SV-6	481201-002	03/09/23 07:32	Air
SV-7	481201-003	03/09/23 07:53	Air
SV-8	481201-004	03/09/23 07:55	Air
SV-1	481201-005	03/09/23 08:24	Air
SV-2	481201-006	03/09/23 08:27	Air
SV-3	481201-007	03/09/23 08:50	Air
SV-4	481201-008	03/09/23 08:50	Air

481201

931 W. Barkley Ave., Orange, CA 92868
Phone: (714) 771-6900 Fax: (714) 538-1209

ENTHALPY ANALYTICAL

Air Chain of Custody Record

Lab Job No. _____

Page 1 of 1

CUSTOMER INFORMATION		PROJECT INFORMATION		PO Number:
Company:	Apex	Name:	Resmark Antioch	RES012-0313063-22012535
Report To:	Gabe Villanueva	Number:		Lab Quote Number:
Email:	gabe.villanueva@apexcos.com	Address:	30001 Oakley Road	
Address:	3480 Buskirk Ave		Antioch, CA	
	Pleasant Hill, CA	Global ID:		
Phone:	Fax:	Sampled By:	Harlow Newton	

Special Instructions:

Analysis Request: VOCs TO-15

Required Turnaround Time: Standard ☒ | 5 Day ☐ | 3 Day ☐ | 2 Day ☐ | 1 Day ☐ | Custom TAT: ____

	Sample ID	Air Type (I) Indoor (A) Ambient (SV) Soil Vapor	Equipment Information: Canister ID	Canister Size (6L or 1L)	Flow Controller ID	Start Sampling Information: Date	Time	Canister Pressure (in. Hg)	Stop Sampling Information: Date	Time	Canister Pressure (in. Hg)	Comments
1	SV-5	SV	C11481	1L	A10118	3-9-23	0724	-30	3-9-23	0732	-6	
2	SV-6	"	C11485	"	A10612	"	0725	-28	"	0732	-6	
3	SV-7	"	C11145	"	A10841	"	0746	-26	"	0753	-6	
4	SV-8	"	C11380	"	A10271	"	0748	-28	"	0755	-6	
5	SV-1	"	C11002	"	A10685	"	0817	-30	"	0824	-6	
6	SV-2	"	C11023	"	A10669	"	0820	-28	"	0827	-6	
7	SV-3	"	C11524	"	A10403	"	0843	-28	"	0850	-6	
8	SV-4	"	C11351	"	A10568	"	0843	-28	"	0850	-6	
9												
10												

	SIGNATURE	PRINT NAME	COMPANY/TITLE	DATE / TIME
RELINQUISHED BY:		Harlow Newton	Apex	3/10/23 10:20
RECEIVED BY:	Audrey Hudson	AUDREY HUDSON	ENTHALPY	3/10/23 10:20
RELINQUISHED BY:	Audrey Hudson	"	"	3/10/23 15:00
RECEIVED BY		Marcus Li & P	EA	3/10/23 15:00
RELINQUISHED BY:		Lisa Fong	EA	3/10/23 15:41
RECEIVED BY		Annaleja Smallcomb	EA	3/14/23 0953

ENTHALPY ANALYTICAL

SAMPLE ACCEPTANCE CHECKLIST

Section 1

Client: Apex Project: Resmark Antioch

Date Received: 3/14/23 Sampler's Name Present: [X] Yes [ ] No

Section 2

Sample(s) received in a cooler? [ ] Yes, How many? _____ [X] No (skip section 2) Sample Temp (°C) (No Cooler): Amb

Sample Temp (°C), One from each cooler: #1: _____ #2: _____ #3: _____ #4: _____

(Acceptance range is < 6°C but not frozen (for Microbiology samples, acceptance range is < 10°C but not frozen). It is acceptable for samples collected the same day as sample receipt to have a higher temperature as long as there is evidence that cooling has begun.)

Shipping Information: _____

Section 3

Was the cooler packed with: [ ] Ice [ ] Ice Packs [ ] Bubble Wrap [ ] Styrofoam [ ] Paper [ ] None [ ] Other _____

Cooler Temp (°C): #1: _____ #2: _____ #3: _____ #4: _____

Section 4	YES	NO	N/A	
Was a COC received?	X			
Are sample IDs present?	X			
Are sampling dates & times present?	X			
Is a relinquished signature present?	X			
Are the tests required clearly indicated on the COC?	X			
Are custody seals present?	X	X		AS 3/14/23
If custody seals are present, were they intact?	X		X	AS 3/14/23
Are all samples sealed in plastic bags? (Recommended for Microbiology samples)			X	
Did all samples arrive intact? If no, indicate in Section 4 below.	X			
Did all bottle labels agree with COC? (ID, dates and times)	X			
Were the samples collected in the correct containers for the required tests?	X			
Are the containers labeled with the correct preservatives?			X	
Is there headspace in the VOA vials greater than 5-6 mm in diameter?			X	
Was a sufficient amount of sample submitted for the requested tests?	X			

Section 5 Explanations/Comments

Section 6

For discrepancies, how was the Project Manager notified? [ ] Verbal PM Initials: _____ Date/Time _____

[ ] Email (email sent to/on): _____ / _____

Project Manager's response:

Completed By: _____ Date: 3/14/23

953

526 | OAK | 85556483

526 - 85556483

Shipper's Name and Address	Shipper's Account Number
ENTHALPY ANALYTICAL, LLC 931 W BARKLEY AVE ORANGE, CA 92868 US +1 (714) 771-6900	103977 - 1

Not Negotiable / Issued by

52685556483

Southwest Cargo

swacargo.com (800) 533-1222

Consignee's Name and Address	Consignee's Account Number
ENTHALPY ANALYTICAL, LLC 931 W BARKLEY AVE ORANGE, CA 92868 US +1 (714) 771-6900	103977 - 1

Copies 1, 2 and 3 of this Air Waybill are originals and have the same validity.

It is agreed that the goods described herein are accepted in apparent good order and condition (except as noted) for carriage **subject to Southwest Airlines' Contract of Carriage which is www.swacargo.com and any location where air waybills are available. Shipper's attention is drawn to the terms of the contract which includes, among other things; (1) Limits on Carriers' liability for loss, damage, or delay of goods, including fragile or perishable goods; (2) Claim restrictions, including time within which shippers or consignees must file a claim or bring an action against the carrier for its acts or omissions or those of its agents; (3) Right of the carrier to change the terms of the contract; (4) Rules about refusal to carry; and (5) Rights of the carrier and limitations, concerning delay or failure to perform service, including schedule changes, rerouting, substitution of an alternate carrier or aircraft, or means of carriage including road unless specific contrary instructions are given hereon by shipper, and shipper agrees the shipment may be carried via intermediate stopping places the carrier deems appropriate.** Shipper may increase liability limits by declaring a higher value for carriage and paying a supplemental charge if required.

Issuing Carrier's Agent Name and City

Accounting Information

Billed on 03/13/2023 18:00 PDT SWA ACCOUNT 103977

Agent's IATA Code	Account No.

Airport of Departure (Addr. of First Carrier) and Requested Routing

OAKLAND

Service Level - S

To	By First Carrier	To	By	To	By	Currency	CHGS Code	WT.VAL PPD	WT.VAL COLL	Other PPD	Other COLL	Declared Value for Carriage	Declared Value for Customs
SNA	SOUTHWEST AIRLINES					USD	PP	X		X		NVD	

Airport of Destination	Flight Date (For Carrier Use Only)	Flight Date	Amount of Insurance	INSURANCE - If carrier offers insurance, and such insurance is requested in accordance with the conditions thereof, indicate amount to be insured in figures in box marked "Amount of Insurance".
SNA	WN1582 / 13MAR			

HANDLING INFORMATION -

SCI

No. of Pieces RCP	Gross Weight	kg lb	Rate Class	Commodity Item No.	Chargeable Weight	Rate / Charge	Total	Nature and Quantity of Goods (Inc. Dimensions or Volume)
2	75	L	N	0000	75	As Agreed	*******	SOIL/WATER/AIR SAMPLES DIMS IN INCHES: 1 = 24 X 15 X 14 1 = 19 X 19 X 13
2	75						*******	

Prepaid	Weight Charge	Collect	Other Charges and Description
			MYC 0.00 SCC 0.00

Valuation Charge	

Tax	

Total Other Charges Due Agent	

Total Other Charges Due Carrier	

Shipper certifies that the particulars on the face hereof are correct and that **insofar as any part of the consignment contains dangerous goods, such part is properly described by name and is in proper condition for carriage by air according to the applicable Dangerous Goods Regulations.** I consent that this shipment shall be subject to search by the Carrier.

AUDREY HUDSON

Signature of Shipper or his Agent

Total Prepaid	Total Collect
*******	

Currency Conversion Rates	CC Charges in Dest.Currency	Executed on (date and time)	At (place)	Signature of Issuing Carrier or its Agent
		03/13/2023 18:01 PDT	OAK	E35693

For Carriers Use only at Destination	Charges at Destination	Total Collect Charges

526 - 85556483

ORIGINAL 2 (FOR CONSIGNEE)

ENTHALPY ANALYTICAL

Analysis Results for 481201

Gabe Villanueva
Apex Companies, LLC
3480 Buskirk Ave
Suite 210
Pleasant Hill, CA 94523

Lab Job #: 481201
Location: Resmark Antioch
Date Received: 03/10/23

Sample ID: SV-5 **Lab ID: 481201-001** **Collected: 03/09/23 07:32**
Matrix: Air

481201-001 Analyte	Result	Qual	Units	RL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA TO-15 Prep Method: METHOD									
1,1-Difluoroethane	ND		ppbv	1.5	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
1,1-Difluoroethane	ND		ug/m3	4.1	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
Freon 12	**0.35**		ppbv	0.30	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
Freon 12	**1.8**		ug/m3	1.5	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
Freon 114	ND		ppbv	0.30	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
Freon 114	ND		ug/m3	2.1	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
Chloromethane	ND		ppbv	0.30	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
Chloromethane	ND		ug/m3	0.62	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
Vinyl Chloride	ND		ppbv	0.30	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
Vinyl Chloride	ND		ug/m3	0.77	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
Bromomethane	ND		ppbv	0.30	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
Bromomethane	ND		ug/m3	1.2	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
Chloroethane	ND		ppbv	0.30	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
Chloroethane	ND		ug/m3	0.79	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
Trichlorofluoromethane	ND		ppbv	0.30	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
Trichlorofluoromethane	ND		ug/m3	1.7	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
1,1-Dichloroethene	ND		ppbv	0.30	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
1,1-Dichloroethene	ND		ug/m3	1.2	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
Freon 113	ND		ppbv	0.30	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
Freon 113	ND		ug/m3	2.3	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
Acetone	**9.2**		ppbv	1.5	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
Acetone	**22**		ug/m3	3.6	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
Carbon Disulfide	**0.67**		ppbv	0.30	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
Carbon Disulfide	**2.1**		ug/m3	0.93	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
Isopropanol (IPA)	**1.6**		ppbv	1.5	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
Isopropanol (IPA)	**4.0**		ug/m3	3.7	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
Methylene Chloride	**0.35**		ppbv	0.30	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
Methylene Chloride	**1.2**		ug/m3	1.0	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
trans-1,2-Dichloroethene	ND		ppbv	0.30	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
trans-1,2-Dichloroethene	ND		ug/m3	1.2	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
MTBE	ND		ppbv	0.30	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
MTBE	ND		ug/m3	1.1	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
n-Hexane	ND		ppbv	0.30	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
n-Hexane	ND		ug/m3	1.1	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ

Results for any subcontracted analyses are not included in this section.

ENTHALPY ANALYTICAL

Analysis Results for 481201

481201-001 Analyte	Result	Qual	Units	RL	DF	Batch	Prepared	Analyzed	Chemist
1,1-Dichloroethane	ND		ppbv	0.30	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
1,1-Dichloroethane	ND		ug/m3	1.2	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
Vinyl Acetate	ND		ppbv	1.5	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
Vinyl Acetate	ND		ug/m3	5.3	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
cis-1,2-Dichloroethene	ND		ppbv	0.30	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
cis-1,2-Dichloroethene	ND		ug/m3	1.2	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
2-Butanone	ND		ppbv	1.5	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
2-Butanone	ND		ug/m3	4.4	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
Chloroform	ND		ppbv	0.30	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
Chloroform	ND		ug/m3	1.5	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
1,1,1-Trichloroethane	ND		ppbv	0.30	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
1,1,1-Trichloroethane	ND		ug/m3	1.6	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
Carbon Tetrachloride	ND		ppbv	0.30	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
Carbon Tetrachloride	ND		ug/m3	1.9	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
Benzene	ND		ppbv	0.30	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
Benzene	ND		ug/m3	0.96	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
1,2-Dichloroethane	ND		ppbv	0.30	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
1,2-Dichloroethane	ND		ug/m3	1.2	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
Trichloroethene	ND		ppbv	0.30	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
Trichloroethene	ND		ug/m3	1.6	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
1,2-Dichloropropane	ND		ppbv	0.30	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
1,2-Dichloropropane	ND		ug/m3	1.4	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
Bromodichloromethane	ND		ppbv	0.30	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
Bromodichloromethane	ND		ug/m3	2.0	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
cis-1,3-Dichloropropene	ND		ppbv	0.30	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
cis-1,3-Dichloropropene	ND		ug/m3	1.4	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
4-Methyl-2-Pentanone	ND		ppbv	0.30	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
4-Methyl-2-Pentanone	ND		ug/m3	1.2	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
Toluene	**0.60**		ppbv	0.30	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
Toluene	**2.3**		ug/m3	1.1	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
trans-1,3-Dichloropropene	ND		ppbv	0.30	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
trans-1,3-Dichloropropene	ND		ug/m3	1.4	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
1,1,2-Trichloroethane	ND		ppbv	0.30	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
1,1,2-Trichloroethane	ND		ug/m3	1.6	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
Tetrachloroethene	ND		ppbv	0.30	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
Tetrachloroethene	ND		ug/m3	2.0	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
2-Hexanone	ND		ppbv	0.75	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
2-Hexanone	ND		ug/m3	3.1	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
Dibromochloromethane	ND		ppbv	0.30	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
Dibromochloromethane	ND		ug/m3	2.6	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
1,2-Dibromoethane	ND		ppbv	0.30	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
1,2-Dibromoethane	ND		ug/m3	2.3	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
Chlorobenzene	ND		ppbv	0.30	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
Chlorobenzene	ND		ug/m3	1.4	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
Ethylbenzene	ND		ppbv	0.30	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
Ethylbenzene	ND		ug/m3	1.3	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ

Results for any subcontracted analyses are not included in this section.

ENTHALPY ANALYTICAL

Analysis Results for 481201

481201-001 Analyte	Result	Qual	Units	RL	DF	Batch	Prepared	Analyzed	Chemist
m,p-Xylenes	ND		ppbv	0.60	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
m,p-Xylenes	ND		ug/m3	2.6	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
o-Xylene	ND		ppbv	0.30	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
o-Xylene	ND		ug/m3	1.3	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
Styrene	ND		ppbv	0.30	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
Styrene	ND		ug/m3	1.3	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
Bromoform	ND		ppbv	0.30	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
Bromoform	ND		ug/m3	3.1	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
1,1,2,2-Tetrachloroethane	ND		ppbv	0.30	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
1,1,2,2-Tetrachloroethane	ND		ug/m3	2.1	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
1,1,1,2-Tetrachloroethane	ND		ppbv	0.30	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
1,1,1,2-Tetrachloroethane	ND		ug/m3	2.1	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
4-Ethyltoluene	ND		ppbv	0.30	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
4-Ethyltoluene	ND		ug/m3	1.5	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
1,3,5-Trimethylbenzene	ND		ppbv	0.30	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
1,3,5-Trimethylbenzene	ND		ug/m3	1.5	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
1,2,4-Trimethylbenzene	ND		ppbv	0.30	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
1,2,4-Trimethylbenzene	ND		ug/m3	1.5	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
1,3-Dichlorobenzene	ND		ppbv	0.30	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
1,3-Dichlorobenzene	ND		ug/m3	1.8	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
1,4-Dichlorobenzene	ND		ppbv	0.30	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
1,4-Dichlorobenzene	ND		ug/m3	1.8	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
Benzyl chloride	ND		ppbv	0.30	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
Benzyl chloride	ND		ug/m3	1.6	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
1,2-Dichlorobenzene	ND		ppbv	0.30	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
1,2-Dichlorobenzene	ND		ug/m3	1.8	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
1,2,4-Trichlorobenzene	ND		ppbv	0.30	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
1,2,4-Trichlorobenzene	ND		ug/m3	2.2	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
Hexachlorobutadiene	ND		ppbv	0.30	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
Hexachlorobutadiene	ND		ug/m3	3.2	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
Xylene (total)	ND		ppbv	0.30	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
Xylene (total)	ND		ug/m3	1.3	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
Surrogates				**Limits**					
Bromofluorobenzene	100%		%REC	60-140	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ

Results for any subcontracted analyses are not included in this section.

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Analysis Results for 481201

Sample ID: SV-6	Lab ID: 481201-002	Collected: 03/09/23 07:32
	Matrix: Air	

481201-002 Analyte	Result	Qual	Units	RL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA TO-15 Prep Method: METHOD									
1,1-Difluoroethane	ND		ppbv	1.5	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
1,1-Difluoroethane	ND		ug/m3	4.1	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
Freon 12	**0.33**		ppbv	0.30	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
Freon 12	**1.7**		ug/m3	1.5	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
Freon 114	ND		ppbv	0.30	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
Freon 114	ND		ug/m3	2.1	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
Chloromethane	ND		ppbv	0.30	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
Chloromethane	ND		ug/m3	0.62	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
Vinyl Chloride	ND		ppbv	0.30	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
Vinyl Chloride	ND		ug/m3	0.77	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
Bromomethane	ND		ppbv	0.30	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
Bromomethane	ND		ug/m3	1.2	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
Chloroethane	ND		ppbv	0.30	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
Chloroethane	ND		ug/m3	0.79	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
Trichlorofluoromethane	ND		ppbv	0.30	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
Trichlorofluoromethane	ND		ug/m3	1.7	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
1,1-Dichloroethene	ND		ppbv	0.30	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
1,1-Dichloroethene	ND		ug/m3	1.2	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
Freon 113	ND		ppbv	0.30	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
Freon 113	ND		ug/m3	2.3	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
Acetone	**12**		ppbv	1.5	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
Acetone	**29**		ug/m3	3.6	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
Carbon Disulfide	**0.33**		ppbv	0.30	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
Carbon Disulfide	**1.0**		ug/m3	0.93	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
Isopropanol (IPA)	**3.0**		ppbv	1.5	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
Isopropanol (IPA)	**7.4**		ug/m3	3.7	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
Methylene Chloride	**0.31**		ppbv	0.30	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
Methylene Chloride	**1.1**		ug/m3	1.0	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
trans-1,2-Dichloroethene	ND		ppbv	0.30	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
trans-1,2-Dichloroethene	ND		ug/m3	1.2	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
MTBE	ND		ppbv	0.30	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
MTBE	ND		ug/m3	1.1	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
n-Hexane	ND		ppbv	0.30	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
n-Hexane	ND		ug/m3	1.1	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
1,1-Dichloroethane	ND		ppbv	0.30	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
1,1-Dichloroethane	ND		ug/m3	1.2	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
Vinyl Acetate	ND		ppbv	1.5	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
Vinyl Acetate	ND		ug/m3	5.3	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
cis-1,2-Dichloroethene	ND		ppbv	0.30	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
cis-1,2-Dichloroethene	ND		ug/m3	1.2	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ

Results for any subcontracted analyses are not included in this section.

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Analysis Results for 481201

481201-002 Analyte	Result	Qual	Units	RL	DF	Batch	Prepared	Analyzed	Chemist
2-Butanone	ND		ppbv	1.5	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
2-Butanone	ND		ug/m3	4.4	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
Chloroform	ND		ppbv	0.30	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
Chloroform	ND		ug/m3	1.5	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
1,1,1-Trichloroethane	ND		ppbv	0.30	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
1,1,1-Trichloroethane	ND		ug/m3	1.6	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
Carbon Tetrachloride	ND		ppbv	0.30	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
Carbon Tetrachloride	ND		ug/m3	1.9	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
Benzene	ND		ppbv	0.30	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
Benzene	ND		ug/m3	0.96	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
1,2-Dichloroethane	ND		ppbv	0.30	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
1,2-Dichloroethane	ND		ug/m3	1.2	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
Trichloroethene	ND		ppbv	0.30	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
Trichloroethene	ND		ug/m3	1.6	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
1,2-Dichloropropane	ND		ppbv	0.30	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
1,2-Dichloropropane	ND		ug/m3	1.4	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
Bromodichloromethane	ND		ppbv	0.30	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
Bromodichloromethane	ND		ug/m3	2.0	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
cis-1,3-Dichloropropene	ND		ppbv	0.30	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
cis-1,3-Dichloropropene	ND		ug/m3	1.4	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
4-Methyl-2-Pentanone	ND		ppbv	0.30	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
4-Methyl-2-Pentanone	ND		ug/m3	1.2	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
Toluene	**0.77**		ppbv	0.30	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
Toluene	**2.9**		ug/m3	1.1	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
trans-1,3-Dichloropropene	ND		ppbv	0.30	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
trans-1,3-Dichloropropene	ND		ug/m3	1.4	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
1,1,2-Trichloroethane	ND		ppbv	0.30	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
1,1,2-Trichloroethane	ND		ug/m3	1.6	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
Tetrachloroethene	ND		ppbv	0.30	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
Tetrachloroethene	ND		ug/m3	2.0	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
2-Hexanone	ND		ppbv	0.75	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
2-Hexanone	ND		ug/m3	3.1	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
Dibromochloromethane	ND		ppbv	0.30	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
Dibromochloromethane	ND		ug/m3	2.6	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
1,2-Dibromoethane	ND		ppbv	0.30	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
1,2-Dibromoethane	ND		ug/m3	2.3	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
Chlorobenzene	ND		ppbv	0.30	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
Chlorobenzene	ND		ug/m3	1.4	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
Ethylbenzene	ND		ppbv	0.30	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
Ethylbenzene	ND		ug/m3	1.3	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
m,p-Xylenes	ND		ppbv	0.60	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
m,p-Xylenes	ND		ug/m3	2.6	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
o-Xylene	ND		ppbv	0.30	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
o-Xylene	ND		ug/m3	1.3	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
Styrene	ND		ppbv	0.30	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
Styrene	ND		ug/m3	1.3	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ

Results for any subcontracted analyses are not included in this section.

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Analysis Results for 481201

481201-002 Analyte	Result	Qual	Units	RL	DF	Batch	Prepared	Analyzed	Chemist
Bromoform	ND		ppbv	0.30	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
Bromoform	ND		ug/m3	3.1	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
1,1,2,2-Tetrachloroethane	ND		ppbv	0.30	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
1,1,2,2-Tetrachloroethane	ND		ug/m3	2.1	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
1,1,1,2-Tetrachloroethane	ND		ppbv	0.30	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
1,1,1,2-Tetrachloroethane	ND		ug/m3	2.1	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
4-Ethyltoluene	ND		ppbv	0.30	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
4-Ethyltoluene	ND		ug/m3	1.5	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
1,3,5-Trimethylbenzene	ND		ppbv	0.30	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
1,3,5-Trimethylbenzene	ND		ug/m3	1.5	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
1,2,4-Trimethylbenzene	ND		ppbv	0.30	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
1,2,4-Trimethylbenzene	ND		ug/m3	1.5	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
1,3-Dichlorobenzene	ND		ppbv	0.30	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
1,3-Dichlorobenzene	ND		ug/m3	1.8	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
1,4-Dichlorobenzene	ND		ppbv	0.30	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
1,4-Dichlorobenzene	ND		ug/m3	1.8	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
Benzyl chloride	ND		ppbv	0.30	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
Benzyl chloride	ND		ug/m3	1.6	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
1,2-Dichlorobenzene	ND		ppbv	0.30	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
1,2-Dichlorobenzene	ND		ug/m3	1.8	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
1,2,4-Trichlorobenzene	ND		ppbv	0.30	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
1,2,4-Trichlorobenzene	ND		ug/m3	2.2	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
Hexachlorobutadiene	ND		ppbv	0.30	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
Hexachlorobutadiene	ND		ug/m3	3.2	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
Xylene (total)	ND		ppbv	0.30	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
Xylene (total)	ND		ug/m3	1.3	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
Surrogates				**Limits**					
Bromofluorobenzene	98%		%REC	60-140	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ

Results for any subcontracted analyses are not included in this section.

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Analysis Results for 481201

Sample ID: SV-7	Lab ID: 481201-003	Collected: 03/09/23 07:53
	Matrix: Air	

481201-003 Analyte	Result	Qual	Units	RL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA TO-15 Prep Method: METHOD									
1,1-Difluoroethane	ND		ppbv	1.9	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
1,1-Difluoroethane	ND		ug/m3	5.1	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
Freon 12	ND		ppbv	0.38	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
Freon 12	ND		ug/m3	1.9	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
Freon 114	ND		ppbv	0.38	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
Freon 114	ND		ug/m3	2.6	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
Chloromethane	ND		ppbv	0.38	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
Chloromethane	ND		ug/m3	0.77	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
Vinyl Chloride	ND		ppbv	0.38	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
Vinyl Chloride	ND		ug/m3	0.96	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
Bromomethane	ND		ppbv	0.38	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
Bromomethane	ND		ug/m3	1.5	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
Chloroethane	ND		ppbv	0.38	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
Chloroethane	ND		ug/m3	0.99	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
Trichlorofluoromethane	ND		ppbv	0.38	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
Trichlorofluoromethane	ND		ug/m3	2.1	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
1,1-Dichloroethene	ND		ppbv	0.38	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
1,1-Dichloroethene	ND		ug/m3	1.5	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
Freon 113	ND		ppbv	0.38	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
Freon 113	ND		ug/m3	2.9	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
Acetone	**75**		ppbv	1.9	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
Acetone	**180**		ug/m3	4.5	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
Carbon Disulfide	**0.78**		ppbv	0.38	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
Carbon Disulfide	**2.4**		ug/m3	1.2	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
Isopropanol (IPA)	**4.3**		ppbv	1.9	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
Isopropanol (IPA)	**11**		ug/m3	4.6	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
Methylene Chloride	**0.41**		ppbv	0.38	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
Methylene Chloride	**1.4**		ug/m3	1.3	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
trans-1,2-Dichloroethene	ND		ppbv	0.38	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
trans-1,2-Dichloroethene	ND		ug/m3	1.5	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
MTBE	ND		ppbv	0.38	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
MTBE	ND		ug/m3	1.4	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
n-Hexane	ND		ppbv	0.38	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
n-Hexane	ND		ug/m3	1.3	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
1,1-Dichloroethane	ND		ppbv	0.38	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
1,1-Dichloroethane	ND		ug/m3	1.5	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
Vinyl Acetate	ND		ppbv	1.9	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
Vinyl Acetate	ND		ug/m3	6.6	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
cis-1,2-Dichloroethene	ND		ppbv	0.38	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
cis-1,2-Dichloroethene	ND		ug/m3	1.5	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ

Results for any subcontracted analyses are not included in this section.

ENTHALPY ANALYTICAL

Analysis Results for 481201

481201-003 Analyte	Result	Qual	Units	RL	DF	Batch	Prepared	Analyzed	Chemist
2-Butanone	**4.3**		ppbv	1.9	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
2-Butanone	**13**		ug/m3	5.5	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
Chloroform	ND		ppbv	0.38	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
Chloroform	ND		ug/m3	1.8	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
1,1,1-Trichloroethane	ND		ppbv	0.38	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
1,1,1-Trichloroethane	ND		ug/m3	2.0	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
Carbon Tetrachloride	ND		ppbv	0.38	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
Carbon Tetrachloride	ND		ug/m3	2.4	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
Benzene	ND		ppbv	0.38	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
Benzene	ND		ug/m3	1.2	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
1,2-Dichloroethane	ND		ppbv	0.38	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
1,2-Dichloroethane	ND		ug/m3	1.5	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
Trichloroethene	ND		ppbv	0.38	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
Trichloroethene	ND		ug/m3	2.0	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
1,2-Dichloropropane	ND		ppbv	0.38	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
1,2-Dichloropropane	ND		ug/m3	1.7	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
Bromodichloromethane	ND		ppbv	0.38	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
Bromodichloromethane	ND		ug/m3	2.5	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
cis-1,3-Dichloropropene	ND		ppbv	0.38	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
cis-1,3-Dichloropropene	ND		ug/m3	1.7	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
4-Methyl-2-Pentanone	ND		ppbv	0.38	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
4-Methyl-2-Pentanone	ND		ug/m3	1.5	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
Toluene	**0.83**		ppbv	0.38	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
Toluene	**3.1**		ug/m3	1.4	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
trans-1,3-Dichloropropene	ND		ppbv	0.38	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
trans-1,3-Dichloropropene	ND		ug/m3	1.7	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
1,1,2-Trichloroethane	ND		ppbv	0.38	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
1,1,2-Trichloroethane	ND		ug/m3	2.0	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
Tetrachloroethene	ND		ppbv	0.38	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
Tetrachloroethene	ND		ug/m3	2.5	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
2-Hexanone	ND		ppbv	0.94	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
2-Hexanone	ND		ug/m3	3.8	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
Dibromochloromethane	ND		ppbv	0.38	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
Dibromochloromethane	ND		ug/m3	3.2	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
1,2-Dibromoethane	ND		ppbv	0.38	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
1,2-Dibromoethane	ND		ug/m3	2.9	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
Chlorobenzene	ND		ppbv	0.38	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
Chlorobenzene	ND		ug/m3	1.7	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
Ethylbenzene	ND		ppbv	0.38	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
Ethylbenzene	ND		ug/m3	1.6	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
m,p-Xylenes	**0.99**		ppbv	0.75	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
m,p-Xylenes	**4.3**		ug/m3	3.3	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
o-Xylene	**0.44**		ppbv	0.38	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
o-Xylene	**1.9**		ug/m3	1.6	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
Styrene	ND		ppbv	0.38	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
Styrene	ND		ug/m3	1.6	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ

Results for any subcontracted analyses are not included in this section.

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Analysis Results for 481201

481201-003 Analyte	Result	Qual	Units	RL	DF	Batch	Prepared	Analyzed	Chemist
Bromoform	ND		ppbv	0.38	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
Bromoform	ND		ug/m3	3.9	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
1,1,2,2-Tetrachloroethane	ND		ppbv	0.38	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
1,1,2,2-Tetrachloroethane	ND		ug/m3	2.6	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
1,1,1,2-Tetrachloroethane	ND		ppbv	0.38	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
1,1,1,2-Tetrachloroethane	ND		ug/m3	2.6	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
4-Ethyltoluene	ND		ppbv	0.38	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
4-Ethyltoluene	ND		ug/m3	1.8	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
1,3,5-Trimethylbenzene	ND		ppbv	0.38	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
1,3,5-Trimethylbenzene	ND		ug/m3	1.8	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
1,2,4-Trimethylbenzene	ND		ppbv	0.38	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
1,2,4-Trimethylbenzene	ND		ug/m3	1.8	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
1,3-Dichlorobenzene	ND		ppbv	0.38	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
1,3-Dichlorobenzene	ND		ug/m3	2.3	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
1,4-Dichlorobenzene	ND		ppbv	0.38	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
1,4-Dichlorobenzene	ND		ug/m3	2.3	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
Benzyl chloride	ND		ppbv	0.38	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
Benzyl chloride	ND		ug/m3	1.9	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
1,2-Dichlorobenzene	ND		ppbv	0.38	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
1,2-Dichlorobenzene	ND		ug/m3	2.3	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
1,2,4-Trichlorobenzene	ND		ppbv	0.38	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
1,2,4-Trichlorobenzene	ND		ug/m3	2.8	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
Hexachlorobutadiene	ND		ppbv	0.38	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
Hexachlorobutadiene	ND		ug/m3	4.0	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
Xylene (total)	**1.4**		ppbv	0.38	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
Xylene (total)	**6.2**		ug/m3	1.6	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
Surrogates				**Limits**					
Bromofluorobenzene	99%		%REC	60-140	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ

Results for any subcontracted analyses are not included in this section.

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Analysis Results for 481201

Sample ID: SV-8	Lab ID: 481201-004	Collected: 03/09/23 07:55
	Matrix: Air	

481201-004 Analyte	Result	Qual	Units	RL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA TO-15 Prep Method: METHOD									
1,1-Difluoroethane	ND		ppbv	1.5	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
1,1-Difluoroethane	ND		ug/m3	4.1	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
Freon 12	**0.33**		ppbv	0.30	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
Freon 12	**1.6**		ug/m3	1.5	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
Freon 114	ND		ppbv	0.30	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
Freon 114	ND		ug/m3	2.1	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
Chloromethane	ND		ppbv	0.30	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
Chloromethane	ND		ug/m3	0.62	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
Vinyl Chloride	ND		ppbv	0.30	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
Vinyl Chloride	ND		ug/m3	0.77	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
Bromomethane	ND		ppbv	0.30	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
Bromomethane	ND		ug/m3	1.2	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
Chloroethane	ND		ppbv	0.30	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
Chloroethane	ND		ug/m3	0.79	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
Trichlorofluoromethane	ND		ppbv	0.30	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
Trichlorofluoromethane	ND		ug/m3	1.7	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
1,1-Dichloroethene	ND		ppbv	0.30	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
1,1-Dichloroethene	ND		ug/m3	1.2	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
Freon 113	ND		ppbv	0.30	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
Freon 113	ND		ug/m3	2.3	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
Acetone	**12**		ppbv	1.5	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
Acetone	**28**		ug/m3	3.6	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
Carbon Disulfide	**0.47**		ppbv	0.30	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
Carbon Disulfide	**1.5**		ug/m3	0.93	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
Isopropanol (IPA)	ND		ppbv	1.5	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
Isopropanol (IPA)	ND		ug/m3	3.7	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
Methylene Chloride	**0.32**		ppbv	0.30	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
Methylene Chloride	**1.1**		ug/m3	1.0	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
trans-1,2-Dichloroethene	ND		ppbv	0.30	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
trans-1,2-Dichloroethene	ND		ug/m3	1.2	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
MTBE	ND		ppbv	0.30	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
MTBE	ND		ug/m3	1.1	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
n-Hexane	ND		ppbv	0.30	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
n-Hexane	ND		ug/m3	1.1	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
1,1-Dichloroethane	ND		ppbv	0.30	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
1,1-Dichloroethane	ND		ug/m3	1.2	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
Vinyl Acetate	ND		ppbv	1.5	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
Vinyl Acetate	ND		ug/m3	5.3	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
cis-1,2-Dichloroethene	ND		ppbv	0.30	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
cis-1,2-Dichloroethene	ND		ug/m3	1.2	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ

Results for any subcontracted analyses are not included in this section.

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Analysis Results for 481201

481201-004 Analyte	Result	Qual	Units	RL	DF	Batch	Prepared	Analyzed	Chemist
2-Butanone	ND		ppbv	1.5	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
2-Butanone	ND		ug/m3	4.4	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
Chloroform	ND		ppbv	0.30	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
Chloroform	ND		ug/m3	1.5	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
1,1,1-Trichloroethane	ND		ppbv	0.30	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
1,1,1-Trichloroethane	ND		ug/m3	1.6	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
Carbon Tetrachloride	ND		ppbv	0.30	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
Carbon Tetrachloride	ND		ug/m3	1.9	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
Benzene	ND		ppbv	0.30	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
Benzene	ND		ug/m3	0.96	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
1,2-Dichloroethane	ND		ppbv	0.30	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
1,2-Dichloroethane	ND		ug/m3	1.2	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
Trichloroethene	ND		ppbv	0.30	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
Trichloroethene	ND		ug/m3	1.6	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
1,2-Dichloropropane	ND		ppbv	0.30	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
1,2-Dichloropropane	ND		ug/m3	1.4	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
Bromodichloromethane	ND		ppbv	0.30	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
Bromodichloromethane	ND		ug/m3	2.0	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
cis-1,3-Dichloropropene	ND		ppbv	0.30	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
cis-1,3-Dichloropropene	ND		ug/m3	1.4	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
4-Methyl-2-Pentanone	ND		ppbv	0.30	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
4-Methyl-2-Pentanone	ND		ug/m3	1.2	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
Toluene	**0.82**		ppbv	0.30	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
Toluene	**3.1**		ug/m3	1.1	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
trans-1,3-Dichloropropene	ND		ppbv	0.30	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
trans-1,3-Dichloropropene	ND		ug/m3	1.4	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
1,1,2-Trichloroethane	ND		ppbv	0.30	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
1,1,2-Trichloroethane	ND		ug/m3	1.6	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
Tetrachloroethene	ND		ppbv	0.30	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
Tetrachloroethene	ND		ug/m3	2.0	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
2-Hexanone	ND		ppbv	0.75	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
2-Hexanone	ND		ug/m3	3.1	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
Dibromochloromethane	ND		ppbv	0.30	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
Dibromochloromethane	ND		ug/m3	2.6	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
1,2-Dibromoethane	ND		ppbv	0.30	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
1,2-Dibromoethane	ND		ug/m3	2.3	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
Chlorobenzene	ND		ppbv	0.30	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
Chlorobenzene	ND		ug/m3	1.4	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
Ethylbenzene	ND		ppbv	0.30	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
Ethylbenzene	ND		ug/m3	1.3	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
m,p-Xylenes	**0.73**		ppbv	0.60	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
m,p-Xylenes	**3.2**		ug/m3	2.6	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
o-Xylene	**0.38**		ppbv	0.30	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
o-Xylene	**1.6**		ug/m3	1.3	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
Styrene	ND		ppbv	0.30	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
Styrene	ND		ug/m3	1.3	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ

Results for any subcontracted analyses are not included in this section.

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Analysis Results for 481201

481201-004 Analyte	Result	Qual	Units	RL	DF	Batch	Prepared	Analyzed	Chemist
Bromoform	ND		ppbv	0.30	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
Bromoform	ND		ug/m3	3.1	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
1,1,2,2-Tetrachloroethane	ND		ppbv	0.30	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
1,1,2,2-Tetrachloroethane	ND		ug/m3	2.1	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
1,1,1,2-Tetrachloroethane	ND		ppbv	0.30	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
1,1,1,2-Tetrachloroethane	ND		ug/m3	2.1	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
4-Ethyltoluene	ND		ppbv	0.30	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
4-Ethyltoluene	ND		ug/m3	1.5	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
1,3,5-Trimethylbenzene	ND		ppbv	0.30	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
1,3,5-Trimethylbenzene	ND		ug/m3	1.5	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
1,2,4-Trimethylbenzene	ND		ppbv	0.30	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
1,2,4-Trimethylbenzene	ND		ug/m3	1.5	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
1,3-Dichlorobenzene	ND		ppbv	0.30	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
1,3-Dichlorobenzene	ND		ug/m3	1.8	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
1,4-Dichlorobenzene	ND		ppbv	0.30	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
1,4-Dichlorobenzene	ND		ug/m3	1.8	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
Benzyl chloride	ND		ppbv	0.30	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
Benzyl chloride	ND		ug/m3	1.6	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
1,2-Dichlorobenzene	ND		ppbv	0.30	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
1,2-Dichlorobenzene	ND		ug/m3	1.8	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
1,2,4-Trichlorobenzene	ND		ppbv	0.30	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
1,2,4-Trichlorobenzene	ND		ug/m3	2.2	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
Hexachlorobutadiene	ND		ppbv	0.30	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
Hexachlorobutadiene	ND		ug/m3	3.2	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
Xylene (total)	**1.1**		ppbv	0.30	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
Xylene (total)	**4.8**		ug/m3	1.3	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
Surrogates				**Limits**					
Bromofluorobenzene	98%		%REC	60-140	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ

Results for any subcontracted analyses are not included in this section.

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Analysis Results for 481201

Sample ID: SV-1	Lab ID: 481201-005	Collected: 03/09/23 08:24
	Matrix: Air	

481201-005 Analyte	Result	Qual	Units	RL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA TO-15 Prep Method: METHOD									
1,1-Difluoroethane	ND		ppbv	1.5	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
1,1-Difluoroethane	ND		ug/m3	4.1	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
Freon 12	**0.38**		ppbv	0.30	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
Freon 12	**1.9**		ug/m3	1.5	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
Freon 114	ND		ppbv	0.30	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
Freon 114	ND		ug/m3	2.1	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
Chloromethane	ND		ppbv	0.30	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
Chloromethane	ND		ug/m3	0.62	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
Vinyl Chloride	ND		ppbv	0.30	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
Vinyl Chloride	ND		ug/m3	0.77	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
Bromomethane	ND		ppbv	0.30	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
Bromomethane	ND		ug/m3	1.2	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
Chloroethane	ND		ppbv	0.30	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
Chloroethane	ND		ug/m3	0.79	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
Trichlorofluoromethane	ND		ppbv	0.30	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
Trichlorofluoromethane	ND		ug/m3	1.7	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
1,1-Dichloroethene	ND		ppbv	0.30	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
1,1-Dichloroethene	ND		ug/m3	1.2	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
Freon 113	ND		ppbv	0.30	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
Freon 113	ND		ug/m3	2.3	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
Acetone	**5.1**		ppbv	1.5	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
Acetone	**12**		ug/m3	3.6	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
Carbon Disulfide	**2.3**		ppbv	0.30	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
Carbon Disulfide	**7.3**		ug/m3	0.93	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
Isopropanol (IPA)	**16**		ppbv	1.5	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
Isopropanol (IPA)	**40**		ug/m3	3.7	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
Methylene Chloride	ND		ppbv	0.30	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
Methylene Chloride	ND		ug/m3	1.0	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
trans-1,2-Dichloroethene	ND		ppbv	0.30	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
trans-1,2-Dichloroethene	ND		ug/m3	1.2	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
MTBE	ND		ppbv	0.30	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
MTBE	ND		ug/m3	1.1	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
n-Hexane	ND		ppbv	0.30	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
n-Hexane	ND		ug/m3	1.1	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
1,1-Dichloroethane	ND		ppbv	0.30	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
1,1-Dichloroethane	ND		ug/m3	1.2	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
Vinyl Acetate	ND		ppbv	1.5	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
Vinyl Acetate	ND		ug/m3	5.3	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
cis-1,2-Dichloroethene	ND		ppbv	0.30	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
cis-1,2-Dichloroethene	ND		ug/m3	1.2	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ

Results for any subcontracted analyses are not included in this section.

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Analysis Results for 481201

481201-005 Analyte	Result	Qual	Units	RL	DF	Batch	Prepared	Analyzed	Chemist
2-Butanone	ND		ppbv	1.5	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
2-Butanone	ND		ug/m3	4.4	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
Chloroform	ND		ppbv	0.30	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
Chloroform	ND		ug/m3	1.5	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
1,1,1-Trichloroethane	ND		ppbv	0.30	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
1,1,1-Trichloroethane	ND		ug/m3	1.6	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
Carbon Tetrachloride	ND		ppbv	0.30	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
Carbon Tetrachloride	ND		ug/m3	1.9	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
Benzene	ND		ppbv	0.30	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
Benzene	ND		ug/m3	0.96	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
1,2-Dichloroethane	ND		ppbv	0.30	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
1,2-Dichloroethane	ND		ug/m3	1.2	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
Trichloroethene	ND		ppbv	0.30	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
Trichloroethene	ND		ug/m3	1.6	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
1,2-Dichloropropane	ND		ppbv	0.30	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
1,2-Dichloropropane	ND		ug/m3	1.4	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
Bromodichloromethane	ND		ppbv	0.30	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
Bromodichloromethane	ND		ug/m3	2.0	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
cis-1,3-Dichloropropene	ND		ppbv	0.30	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
cis-1,3-Dichloropropene	ND		ug/m3	1.4	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
4-Methyl-2-Pentanone	ND		ppbv	0.30	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
4-Methyl-2-Pentanone	ND		ug/m3	1.2	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
Toluene	**1.2**		ppbv	0.30	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
Toluene	**4.6**		ug/m3	1.1	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
trans-1,3-Dichloropropene	ND		ppbv	0.30	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
trans-1,3-Dichloropropene	ND		ug/m3	1.4	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
1,1,2-Trichloroethane	ND		ppbv	0.30	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
1,1,2-Trichloroethane	ND		ug/m3	1.6	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
Tetrachloroethene	ND		ppbv	0.30	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
Tetrachloroethene	ND		ug/m3	2.0	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
2-Hexanone	ND		ppbv	0.75	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
2-Hexanone	ND		ug/m3	3.1	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
Dibromochloromethane	ND		ppbv	0.30	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
Dibromochloromethane	ND		ug/m3	2.6	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
1,2-Dibromoethane	ND		ppbv	0.30	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
1,2-Dibromoethane	ND		ug/m3	2.3	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
Chlorobenzene	ND		ppbv	0.30	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
Chlorobenzene	ND		ug/m3	1.4	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
Ethylbenzene	ND		ppbv	0.30	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
Ethylbenzene	ND		ug/m3	1.3	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
m,p-Xylenes	ND		ppbv	0.60	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
m,p-Xylenes	ND		ug/m3	2.6	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
o-Xylene	ND		ppbv	0.30	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
o-Xylene	ND		ug/m3	1.3	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
Styrene	ND		ppbv	0.30	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
Styrene	ND		ug/m3	1.3	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ

Results for any subcontracted analyses are not included in this section.

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Analysis Results for 481201

481201-005 Analyte	Result	Qual	Units	RL	DF	Batch	Prepared	Analyzed	Chemist
Bromoform	ND		ppbv	0.30	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
Bromoform	ND		ug/m3	3.1	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
1,1,2,2-Tetrachloroethane	ND		ppbv	0.30	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
1,1,2,2-Tetrachloroethane	ND		ug/m3	2.1	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
1,1,1,2-Tetrachloroethane	ND		ppbv	0.30	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
1,1,1,2-Tetrachloroethane	ND		ug/m3	2.1	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
4-Ethyltoluene	ND		ppbv	0.30	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
4-Ethyltoluene	ND		ug/m3	1.5	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
1,3,5-Trimethylbenzene	ND		ppbv	0.30	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
1,3,5-Trimethylbenzene	ND		ug/m3	1.5	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
1,2,4-Trimethylbenzene	ND		ppbv	0.30	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
1,2,4-Trimethylbenzene	ND		ug/m3	1.5	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
1,3-Dichlorobenzene	**2.9**		ppbv	0.30	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
1,3-Dichlorobenzene	**18**		ug/m3	1.8	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
1,4-Dichlorobenzene	ND		ppbv	0.30	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
1,4-Dichlorobenzene	ND		ug/m3	1.8	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
Benzyl chloride	ND		ppbv	0.30	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
Benzyl chloride	ND		ug/m3	1.6	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
1,2-Dichlorobenzene	ND		ppbv	0.30	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
1,2-Dichlorobenzene	ND		ug/m3	1.8	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
1,2,4-Trichlorobenzene	ND		ppbv	0.30	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
1,2,4-Trichlorobenzene	ND		ug/m3	2.2	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
Hexachlorobutadiene	ND		ppbv	0.30	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
Hexachlorobutadiene	ND		ug/m3	3.2	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
Xylene (total)	ND		ppbv	0.30	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
Xylene (total)	ND		ug/m3	1.3	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
Surrogates				**Limits**					
Bromofluorobenzene	99%		%REC	60-140	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ

Results for any subcontracted analyses are not included in this section.

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Analysis Results for 481201

Sample ID: SV-2	Lab ID: 481201-006	Collected: 03/09/23 08:27
	Matrix: Air	

481201-006 Analyte	Result	Qual	Units	RL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA TO-15 Prep Method: METHOD									
1,1-Difluoroethane	ND		ppbv	1.5	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
1,1-Difluoroethane	ND		ug/m3	4.1	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
Freon 12	**0.35**		ppbv	0.30	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
Freon 12	**1.7**		ug/m3	1.5	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
Freon 114	ND		ppbv	0.30	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
Freon 114	ND		ug/m3	2.1	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
Chloromethane	ND		ppbv	0.30	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
Chloromethane	ND		ug/m3	0.62	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
Vinyl Chloride	ND		ppbv	0.30	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
Vinyl Chloride	ND		ug/m3	0.77	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
Bromomethane	ND		ppbv	0.30	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
Bromomethane	ND		ug/m3	1.2	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
Chloroethane	ND		ppbv	0.30	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
Chloroethane	ND		ug/m3	0.79	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
Trichlorofluoromethane	ND		ppbv	0.30	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
Trichlorofluoromethane	ND		ug/m3	1.7	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
1,1-Dichloroethene	ND		ppbv	0.30	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
1,1-Dichloroethene	ND		ug/m3	1.2	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
Freon 113	ND		ppbv	0.30	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
Freon 113	ND		ug/m3	2.3	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
Acetone	**5.9**		ppbv	1.5	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
Acetone	**14**		ug/m3	3.6	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
Carbon Disulfide	ND		ppbv	0.30	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
Carbon Disulfide	ND		ug/m3	0.93	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
Isopropanol (IPA)	**20**		ppbv	1.5	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
Isopropanol (IPA)	**49**		ug/m3	3.7	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
Methylene Chloride	ND		ppbv	0.30	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
Methylene Chloride	ND		ug/m3	1.0	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
trans-1,2-Dichloroethene	ND		ppbv	0.30	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
trans-1,2-Dichloroethene	ND		ug/m3	1.2	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
MTBE	ND		ppbv	0.30	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
MTBE	ND		ug/m3	1.1	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
n-Hexane	ND		ppbv	0.30	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
n-Hexane	ND		ug/m3	1.1	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
1,1-Dichloroethane	ND		ppbv	0.30	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
1,1-Dichloroethane	ND		ug/m3	1.2	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
Vinyl Acetate	ND		ppbv	1.5	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
Vinyl Acetate	ND		ug/m3	5.3	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
cis-1,2-Dichloroethene	ND		ppbv	0.30	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
cis-1,2-Dichloroethene	ND		ug/m3	1.2	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ

Results for any subcontracted analyses are not included in this section.

ENTHALPY ANALYTICAL

Analysis Results for 481201

481201-006 Analyte	Result	Qual	Units	RL	DF	Batch	Prepared	Analyzed	Chemist
2-Butanone	ND		ppbv	1.5	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
2-Butanone	ND		ug/m3	4.4	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
Chloroform	ND		ppbv	0.30	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
Chloroform	ND		ug/m3	1.5	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
1,1,1-Trichloroethane	ND		ppbv	0.30	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
1,1,1-Trichloroethane	ND		ug/m3	1.6	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
Carbon Tetrachloride	ND		ppbv	0.30	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
Carbon Tetrachloride	ND		ug/m3	1.9	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
Benzene	ND		ppbv	0.30	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
Benzene	ND		ug/m3	0.96	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
1,2-Dichloroethane	ND		ppbv	0.30	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
1,2-Dichloroethane	ND		ug/m3	1.2	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
Trichloroethene	ND		ppbv	0.30	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
Trichloroethene	ND		ug/m3	1.6	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
1,2-Dichloropropane	ND		ppbv	0.30	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
1,2-Dichloropropane	ND		ug/m3	1.4	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
Bromodichloromethane	ND		ppbv	0.30	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
Bromodichloromethane	ND		ug/m3	2.0	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
cis-1,3-Dichloropropene	ND		ppbv	0.30	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
cis-1,3-Dichloropropene	ND		ug/m3	1.4	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
4-Methyl-2-Pentanone	**0.50**		ppbv	0.30	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
4-Methyl-2-Pentanone	**2.0**		ug/m3	1.2	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
Toluene	**0.39**		ppbv	0.30	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
Toluene	**1.5**		ug/m3	1.1	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
trans-1,3-Dichloropropene	ND		ppbv	0.30	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
trans-1,3-Dichloropropene	ND		ug/m3	1.4	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
1,1,2-Trichloroethane	ND		ppbv	0.30	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
1,1,2-Trichloroethane	ND		ug/m3	1.6	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
Tetrachloroethene	ND		ppbv	0.30	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
Tetrachloroethene	ND		ug/m3	2.0	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
2-Hexanone	ND		ppbv	0.75	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
2-Hexanone	ND		ug/m3	3.1	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
Dibromochloromethane	ND		ppbv	0.30	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
Dibromochloromethane	ND		ug/m3	2.6	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
1,2-Dibromoethane	ND		ppbv	0.30	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
1,2-Dibromoethane	ND		ug/m3	2.3	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
Chlorobenzene	ND		ppbv	0.30	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
Chlorobenzene	ND		ug/m3	1.4	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
Ethylbenzene	ND		ppbv	0.30	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
Ethylbenzene	ND		ug/m3	1.3	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
m,p-Xylenes	**0.67**		ppbv	0.60	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
m,p-Xylenes	**2.9**		ug/m3	2.6	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
o-Xylene	**0.30**		ppbv	0.30	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
o-Xylene	**1.3**		ug/m3	1.3	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
Styrene	ND		ppbv	0.30	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
Styrene	ND		ug/m3	1.3	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ

Results for any subcontracted analyses are not included in this section.

ENTHALPY ANALYTICAL

Analysis Results for 481201

481201-006 Analyte	Result	Qual	Units	RL	DF	Batch	Prepared	Analyzed	Chemist
Bromoform	ND		ppbv	0.30	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
Bromoform	ND		ug/m3	3.1	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
1,1,2,2-Tetrachloroethane	ND		ppbv	0.30	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
1,1,2,2-Tetrachloroethane	ND		ug/m3	2.1	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
1,1,1,2-Tetrachloroethane	ND		ppbv	0.30	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
1,1,1,2-Tetrachloroethane	ND		ug/m3	2.1	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
4-Ethyltoluene	ND		ppbv	0.30	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
4-Ethyltoluene	ND		ug/m3	1.5	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
1,3,5-Trimethylbenzene	ND		ppbv	0.30	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
1,3,5-Trimethylbenzene	ND		ug/m3	1.5	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
1,2,4-Trimethylbenzene	ND		ppbv	0.30	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
1,2,4-Trimethylbenzene	ND		ug/m3	1.5	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
1,3-Dichlorobenzene	**5.7**		ppbv	0.30	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
1,3-Dichlorobenzene	**34**		ug/m3	1.8	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
1,4-Dichlorobenzene	ND		ppbv	0.30	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
1,4-Dichlorobenzene	ND		ug/m3	1.8	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
Benzyl chloride	ND		ppbv	0.30	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
Benzyl chloride	ND		ug/m3	1.6	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
1,2-Dichlorobenzene	ND		ppbv	0.30	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
1,2-Dichlorobenzene	ND		ug/m3	1.8	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
1,2,4-Trichlorobenzene	ND		ppbv	0.30	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
1,2,4-Trichlorobenzene	ND		ug/m3	2.2	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
Hexachlorobutadiene	ND		ppbv	0.30	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
Hexachlorobutadiene	ND		ug/m3	3.2	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
Xylene (total)	**0.97**		ppbv	0.30	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
Xylene (total)	**4.2**		ug/m3	1.3	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
Surrogates				**Limits**					
Bromofluorobenzene	96%		%REC	60-140	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ

Results for any subcontracted analyses are not included in this section.

ENTHALPY ANALYTICAL

Analysis Results for 481201

Sample ID: SV-3	Lab ID: 481201-007	Collected: 03/09/23 08:50
	Matrix: Air	

481201-007 Analyte	Result	Qual	Units	RL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA TO-15 Prep Method: METHOD									
1,1-Difluoroethane	ND		ppbv	1.6	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
1,1-Difluoroethane	ND		ug/m3	4.3	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
Freon 12	**0.34**		ppbv	0.32	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
Freon 12	**1.7**		ug/m3	1.6	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
Freon 114	ND		ppbv	0.32	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
Freon 114	ND		ug/m3	2.2	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
Chloromethane	ND		ppbv	0.32	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
Chloromethane	ND		ug/m3	0.66	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
Vinyl Chloride	ND		ppbv	0.32	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
Vinyl Chloride	ND		ug/m3	0.82	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
Bromomethane	ND		ppbv	0.32	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
Bromomethane	ND		ug/m3	1.2	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
Chloroethane	ND		ppbv	0.32	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
Chloroethane	ND		ug/m3	0.84	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
Trichlorofluoromethane	ND		ppbv	0.32	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
Trichlorofluoromethane	ND		ug/m3	1.8	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
1,1-Dichloroethene	ND		ppbv	0.32	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
1,1-Dichloroethene	ND		ug/m3	1.3	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
Freon 113	ND		ppbv	0.32	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
Freon 113	ND		ug/m3	2.5	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
Acetone	**4.0**		ppbv	1.6	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
Acetone	**9.6**		ug/m3	3.8	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
Carbon Disulfide	ND		ppbv	0.32	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
Carbon Disulfide	ND		ug/m3	1.0	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
Isopropanol (IPA)	**6.8**		ppbv	1.6	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
Isopropanol (IPA)	**17**		ug/m3	3.9	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
Methylene Chloride	**0.33**		ppbv	0.32	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
Methylene Chloride	**1.2**		ug/m3	1.1	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
trans-1,2-Dichloroethene	ND		ppbv	0.32	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
trans-1,2-Dichloroethene	ND		ug/m3	1.3	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
MTBE	ND		ppbv	0.32	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
MTBE	ND		ug/m3	1.2	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
n-Hexane	ND		ppbv	0.32	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
n-Hexane	ND		ug/m3	1.1	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
1,1-Dichloroethane	ND		ppbv	0.32	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
1,1-Dichloroethane	ND		ug/m3	1.3	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
Vinyl Acetate	ND		ppbv	1.6	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
Vinyl Acetate	ND		ug/m3	5.6	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
cis-1,2-Dichloroethene	ND		ppbv	0.32	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
cis-1,2-Dichloroethene	ND		ug/m3	1.3	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC

Results for any subcontracted analyses are not included in this section.

ENTHALPY ANALYTICAL

Analysis Results for 481201

481201-007 Analyte	Result	Qual	Units	RL	DF	Batch	Prepared	Analyzed	Chemist
2-Butanone	ND		ppbv	1.6	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
2-Butanone	ND		ug/m3	4.7	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
Chloroform	ND		ppbv	0.32	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
Chloroform	ND		ug/m3	1.6	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
1,1,1-Trichloroethane	ND		ppbv	0.32	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
1,1,1-Trichloroethane	ND		ug/m3	1.7	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
Carbon Tetrachloride	ND		ppbv	0.32	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
Carbon Tetrachloride	ND		ug/m3	2.0	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
Benzene	ND		ppbv	0.32	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
Benzene	ND		ug/m3	1.0	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
1,2-Dichloroethane	ND		ppbv	0.32	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
1,2-Dichloroethane	ND		ug/m3	1.3	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
Trichloroethene	ND		ppbv	0.32	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
Trichloroethene	ND		ug/m3	1.7	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
1,2-Dichloropropane	ND		ppbv	0.32	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
1,2-Dichloropropane	ND		ug/m3	1.5	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
Bromodichloromethane	ND		ppbv	0.32	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
Bromodichloromethane	ND		ug/m3	2.1	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
cis-1,3-Dichloropropene	ND		ppbv	0.32	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
cis-1,3-Dichloropropene	ND		ug/m3	1.5	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
4-Methyl-2-Pentanone	ND		ppbv	0.32	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
4-Methyl-2-Pentanone	ND		ug/m3	1.3	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
Toluene	**0.43**		ppbv	0.32	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
Toluene	**1.6**		ug/m3	1.2	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
trans-1,3-Dichloropropene	ND		ppbv	0.32	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
trans-1,3-Dichloropropene	ND		ug/m3	1.5	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
1,1,2-Trichloroethane	ND		ppbv	0.32	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
1,1,2-Trichloroethane	ND		ug/m3	1.7	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
Tetrachloroethene	ND		ppbv	0.32	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
Tetrachloroethene	ND		ug/m3	2.2	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
2-Hexanone	ND		ppbv	0.80	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
2-Hexanone	ND		ug/m3	3.3	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
Dibromochloromethane	ND		ppbv	0.32	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
Dibromochloromethane	ND		ug/m3	2.7	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
1,2-Dibromoethane	ND		ppbv	0.32	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
1,2-Dibromoethane	ND		ug/m3	2.5	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
Chlorobenzene	ND		ppbv	0.32	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
Chlorobenzene	ND		ug/m3	1.5	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
Ethylbenzene	ND		ppbv	0.32	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
Ethylbenzene	ND		ug/m3	1.4	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
m,p-Xylenes	ND		ppbv	0.64	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
m,p-Xylenes	ND		ug/m3	2.8	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
o-Xylene	ND		ppbv	0.32	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
o-Xylene	ND		ug/m3	1.4	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
Styrene	ND		ppbv	0.32	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
Styrene	ND		ug/m3	1.4	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC

Results for any subcontracted analyses are not included in this section.

ENTHALPY ANALYTICAL

Analysis Results for 481201

481201-007 Analyte	Result	Qual	Units	RL	DF	Batch	Prepared	Analyzed	Chemist
Bromoform	ND		ppbv	0.32	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
Bromoform	ND		ug/m3	3.3	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
1,1,2,2-Tetrachloroethane	ND		ppbv	0.32	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
1,1,2,2-Tetrachloroethane	ND		ug/m3	2.2	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
1,1,1,2-Tetrachloroethane	ND		ppbv	0.32	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
1,1,1,2-Tetrachloroethane	ND		ug/m3	2.2	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
4-Ethyltoluene	ND		ppbv	0.32	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
4-Ethyltoluene	ND		ug/m3	1.6	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
1,3,5-Trimethylbenzene	ND		ppbv	0.32	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
1,3,5-Trimethylbenzene	ND		ug/m3	1.6	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
1,2,4-Trimethylbenzene	ND		ppbv	0.32	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
1,2,4-Trimethylbenzene	ND		ug/m3	1.6	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
1,3-Dichlorobenzene	**4.3**		ppbv	0.32	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
1,3-Dichlorobenzene	**26**		ug/m3	1.9	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
1,4-Dichlorobenzene	ND		ppbv	0.32	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
1,4-Dichlorobenzene	ND		ug/m3	1.9	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
Benzyl chloride	ND		ppbv	0.32	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
Benzyl chloride	ND		ug/m3	1.7	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
1,2-Dichlorobenzene	ND		ppbv	0.32	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
1,2-Dichlorobenzene	ND		ug/m3	1.9	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
1,2,4-Trichlorobenzene	ND		ppbv	0.32	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
1,2,4-Trichlorobenzene	ND		ug/m3	2.4	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
Hexachlorobutadiene	ND		ppbv	0.32	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
Hexachlorobutadiene	ND		ug/m3	3.4	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
Xylene (total)	ND		ppbv	0.32	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
Xylene (total)	ND		ug/m3	1.4	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
Surrogates				**Limits**					
Bromofluorobenzene	100%		%REC	60-140	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC

Results for any subcontracted analyses are not included in this section.

ENTHALPY ANALYTICAL

Analysis Results for 481201

Sample ID: SV-4	Lab ID: 481201-008	Collected: 03/09/23 08:50
	Matrix: Air	

481201-008 Analyte	Result	Qual	Units	RL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA TO-15 Prep Method: METHOD									
1,1-Difluoroethane	ND		ppbv	1.5	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
1,1-Difluoroethane	ND		ug/m3	4.1	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
Freon 12	**0.35**		ppbv	0.30	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
Freon 12	**1.7**		ug/m3	1.5	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
Freon 114	ND		ppbv	0.30	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
Freon 114	ND		ug/m3	2.1	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
Chloromethane	ND		ppbv	0.30	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
Chloromethane	ND		ug/m3	0.62	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
Vinyl Chloride	ND		ppbv	0.30	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
Vinyl Chloride	ND		ug/m3	0.77	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
Bromomethane	ND		ppbv	0.30	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
Bromomethane	ND		ug/m3	1.2	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
Chloroethane	ND		ppbv	0.30	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
Chloroethane	ND		ug/m3	0.79	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
Trichlorofluoromethane	ND		ppbv	0.30	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
Trichlorofluoromethane	ND		ug/m3	1.7	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
1,1-Dichloroethene	ND		ppbv	0.30	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
1,1-Dichloroethene	ND		ug/m3	1.2	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
Freon 113	ND		ppbv	0.30	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
Freon 113	ND		ug/m3	2.3	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
Acetone	**4.4**		ppbv	1.5	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
Acetone	**10**		ug/m3	3.6	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
Carbon Disulfide	ND		ppbv	0.30	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
Carbon Disulfide	ND		ug/m3	0.93	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
Isopropanol (IPA)	**11**		ppbv	1.5	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
Isopropanol (IPA)	**26**		ug/m3	3.7	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
Methylene Chloride	ND		ppbv	0.30	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
Methylene Chloride	ND		ug/m3	1.0	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
trans-1,2-Dichloroethene	ND		ppbv	0.30	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
trans-1,2-Dichloroethene	ND		ug/m3	1.2	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
MTBE	ND		ppbv	0.30	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
MTBE	ND		ug/m3	1.1	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
n-Hexane	ND		ppbv	0.30	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
n-Hexane	ND		ug/m3	1.1	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
1,1-Dichloroethane	ND		ppbv	0.30	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
1,1-Dichloroethane	ND		ug/m3	1.2	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
Vinyl Acetate	ND		ppbv	1.5	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
Vinyl Acetate	ND		ug/m3	5.3	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
cis-1,2-Dichloroethene	ND		ppbv	0.30	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
cis-1,2-Dichloroethene	ND		ug/m3	1.2	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ

Results for any subcontracted analyses are not included in this section.

ENTHALPY ANALYTICAL

Analysis Results for 481201

481201-008 Analyte	Result	Qual	Units	RL	DF	Batch	Prepared	Analyzed	Chemist
2-Butanone	ND		ppbv	1.5	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
2-Butanone	ND		ug/m3	4.4	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
Chloroform	ND		ppbv	0.30	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
Chloroform	ND		ug/m3	1.5	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
1,1,1-Trichloroethane	ND		ppbv	0.30	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
1,1,1-Trichloroethane	ND		ug/m3	1.6	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
Carbon Tetrachloride	ND		ppbv	0.30	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
Carbon Tetrachloride	ND		ug/m3	1.9	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
Benzene	ND		ppbv	0.30	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
Benzene	ND		ug/m3	0.96	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
1,2-Dichloroethane	ND		ppbv	0.30	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
1,2-Dichloroethane	ND		ug/m3	1.2	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
Trichloroethene	ND		ppbv	0.30	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
Trichloroethene	ND		ug/m3	1.6	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
1,2-Dichloropropane	ND		ppbv	0.30	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
1,2-Dichloropropane	ND		ug/m3	1.4	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
Bromodichloromethane	ND		ppbv	0.30	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
Bromodichloromethane	ND		ug/m3	2.0	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
cis-1,3-Dichloropropene	ND		ppbv	0.30	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
cis-1,3-Dichloropropene	ND		ug/m3	1.4	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
4-Methyl-2-Pentanone	ND		ppbv	0.30	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
4-Methyl-2-Pentanone	ND		ug/m3	1.2	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
Toluene	**0.43**		ppbv	0.30	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
Toluene	**1.6**		ug/m3	1.1	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
trans-1,3-Dichloropropene	ND		ppbv	0.30	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
trans-1,3-Dichloropropene	ND		ug/m3	1.4	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
1,1,2-Trichloroethane	ND		ppbv	0.30	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
1,1,2-Trichloroethane	ND		ug/m3	1.6	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
Tetrachloroethene	ND		ppbv	0.30	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
Tetrachloroethene	ND		ug/m3	2.0	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
2-Hexanone	ND		ppbv	0.75	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
2-Hexanone	ND		ug/m3	3.1	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
Dibromochloromethane	ND		ppbv	0.30	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
Dibromochloromethane	ND		ug/m3	2.6	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
1,2-Dibromoethane	ND		ppbv	0.30	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
1,2-Dibromoethane	ND		ug/m3	2.3	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
Chlorobenzene	ND		ppbv	0.30	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
Chlorobenzene	ND		ug/m3	1.4	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
Ethylbenzene	ND		ppbv	0.30	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
Ethylbenzene	ND		ug/m3	1.3	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
m,p-Xylenes	ND		ppbv	0.60	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
m,p-Xylenes	ND		ug/m3	2.6	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
o-Xylene	ND		ppbv	0.30	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
o-Xylene	ND		ug/m3	1.3	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
Styrene	ND		ppbv	0.30	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
Styrene	ND		ug/m3	1.3	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ

Results for any subcontracted analyses are not included in this section.

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Analysis Results for 481201

481201-008 Analyte	Result	Qual	Units	RL	DF	Batch	Prepared	Analyzed	Chemist
Bromoform	ND		ppbv	0.30	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
Bromoform	ND		ug/m3	3.1	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
1,1,2,2-Tetrachloroethane	ND		ppbv	0.30	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
1,1,2,2-Tetrachloroethane	ND		ug/m3	2.1	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
1,1,1,2-Tetrachloroethane	ND		ppbv	0.30	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
1,1,1,2-Tetrachloroethane	ND		ug/m3	2.1	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
4-Ethyltoluene	ND		ppbv	0.30	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
4-Ethyltoluene	ND		ug/m3	1.5	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
1,3,5-Trimethylbenzene	ND		ppbv	0.30	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
1,3,5-Trimethylbenzene	ND		ug/m3	1.5	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
1,2,4-Trimethylbenzene	ND		ppbv	0.30	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
1,2,4-Trimethylbenzene	ND		ug/m3	1.5	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
1,3-Dichlorobenzene	**3.7**		ppbv	0.30	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
1,3-Dichlorobenzene	**22**		ug/m3	1.8	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
1,4-Dichlorobenzene	ND		ppbv	0.30	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
1,4-Dichlorobenzene	ND		ug/m3	1.8	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
Benzyl chloride	ND		ppbv	0.30	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
Benzyl chloride	ND		ug/m3	1.6	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
1,2-Dichlorobenzene	ND		ppbv	0.30	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
1,2-Dichlorobenzene	ND		ug/m3	1.8	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
1,2,4-Trichlorobenzene	ND		ppbv	0.30	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
1,2,4-Trichlorobenzene	ND		ug/m3	2.2	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
Hexachlorobutadiene	ND		ppbv	0.30	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
Hexachlorobutadiene	ND		ug/m3	3.2	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
Xylene (total)	ND		ppbv	0.30	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
Xylene (total)	ND		ug/m3	1.3	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
Surrogates				**Limits**					
Bromofluorobenzene	99%		%REC	60-140	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ

ND Not Detected

Results for any subcontracted analyses are not included in this section.

ENTHALPY ANALYTICAL

Batch QC

Type:	**Lab Control Sample**	**Lab ID:**	**QC1051530**	**Batch:**	**309542**
Matrix:	**Air**	**Method:**	**EPA TO-15**	**Prep Method:**	**METHOD**

QC1051530 Analyte	Result	Spiked	Units	Recovery	Qual	Limits
1,1-Difluoroethane	9.953	10.00	ppbv	100%		70-130
Freon 12	9.502	10.00	ppbv	95%		70-130
Freon 114	9.325	10.00	ppbv	93%		70-130
Chloromethane	9.115	10.00	ppbv	91%		70-130
Vinyl Chloride	9.257	10.00	ppbv	93%		70-130
Bromomethane	9.299	10.00	ppbv	93%		70-130
Chloroethane	9.147	10.00	ppbv	91%		70-130
Trichlorofluoromethane	9.278	10.00	ppbv	93%		70-130
1,1-Dichloroethene	9.343	10.00	ppbv	93%		70-130
Freon 113	9.283	10.00	ppbv	93%		70-130
Acetone	9.085	10.00	ppbv	91%		70-130
Carbon Disulfide	9.155	10.00	ppbv	92%		70-130
Isopropanol (IPA)	9.403	10.00	ppbv	94%		70-130
Methylene Chloride	8.131	10.00	ppbv	81%		70-130
trans-1,2-Dichloroethene	9.317	10.00	ppbv	93%		70-130
MTBE	9.251	10.00	ppbv	93%		70-130
n-Hexane	9.905	10.00	ppbv	99%		70-130
1,1-Dichloroethane	9.204	10.00	ppbv	92%		70-130
Vinyl Acetate	9.266	10.00	ppbv	93%		70-130
cis-1,2-Dichloroethene	9.509	10.00	ppbv	95%		70-130
2-Butanone	9.532	10.00	ppbv	95%		70-130
Chloroform	9.329	10.00	ppbv	93%		70-130
1,1,1-Trichloroethane	9.392	10.00	ppbv	94%		70-130
Carbon Tetrachloride	9.363	10.00	ppbv	94%		70-130
Benzene	9.551	10.00	ppbv	96%		70-130
1,2-Dichloroethane	9.308	10.00	ppbv	93%		70-130
Trichloroethene	9.328	10.00	ppbv	93%		70-130
1,2-Dichloropropane	8.978	10.00	ppbv	90%		70-130
Bromodichloromethane	9.185	10.00	ppbv	92%		70-130
cis-1,3-Dichloropropene	9.498	10.00	ppbv	95%		70-130
4-Methyl-2-Pentanone	10.07	10.00	ppbv	101%		70-130
Toluene	9.762	10.00	ppbv	98%		70-130
trans-1,3-Dichloropropene	9.660	10.00	ppbv	97%		70-130
1,1,2-Trichloroethane	9.068	10.00	ppbv	91%		70-130
Tetrachloroethene	9.110	10.00	ppbv	91%		70-130
2-Hexanone	10.26	10.00	ppbv	103%		70-130
Dibromochloromethane	9.249	10.00	ppbv	92%		70-130
1,2-Dibromoethane	9.135	10.00	ppbv	91%		70-130
Chlorobenzene	9.106	10.00	ppbv	91%		70-130
Ethylbenzene	9.617	10.00	ppbv	96%		70-130
m,p-Xylenes	19.20	20.00	ppbv	96%		70-130
o-Xylene	9.614	10.00	ppbv	96%		70-130

ENTHALPY ANALYTICAL

Batch QC

QC1051530 Analyte	Result	Spiked	Units	Recovery	Qual	Limits
Styrene	9.828	10.00	ppbv	98%		70-130
Bromoform	8.864	10.00	ppbv	89%		70-130
1,1,2,2-Tetrachloroethane	8.410	10.00	ppbv	84%		70-130
1,1,1,2-Tetrachloroethane	8.762	10.00	ppbv	88%		70-130
4-Ethyltoluene	9.884	10.00	ppbv	99%		70-130
1,3,5-Trimethylbenzene	9.427	10.00	ppbv	94%		70-130
1,2,4-Trimethylbenzene	9.488	10.00	ppbv	95%		70-130
1,3-Dichlorobenzene	8.968	10.00	ppbv	90%		70-130
1,4-Dichlorobenzene	8.918	10.00	ppbv	89%		70-130
Benzyl chloride	8.944	10.00	ppbv	89%		70-130
1,2-Dichlorobenzene	8.889	10.00	ppbv	89%		70-130
1,2,4-Trichlorobenzene	9.341	10.00	ppbv	93%		70-130
Hexachlorobutadiene	7.561	10.00	ppbv	76%		70-130
Surrogates						
Bromofluorobenzene	9.643	10.00	ppbv	96%		60-140

ENTHALPY ANALYTICAL

Batch QC

Type:	**Lab Control Sample Duplicate**	**Lab ID:**	**QC1051531**	**Batch:**	**309542**
Matrix:	**Air**	**Method:**	**EPA TO-15**	**Prep Method:**	**METHOD**

QC1051531 Analyte	Result	Spiked	Units	Recovery	Qual	Limits	RPD	RPD Lim
1,1-Difluoroethane	9.860	10.00	ppbv	99%		70-130	1	25
Freon 12	9.448	10.00	ppbv	94%		70-130	1	25
Freon 114	9.156	10.00	ppbv	92%		70-130	2	25
Chloromethane	9.084	10.00	ppbv	91%		70-130	0	25
Vinyl Chloride	9.152	10.00	ppbv	92%		70-130	1	25
Bromomethane	9.152	10.00	ppbv	92%		70-130	2	25
Chloroethane	9.076	10.00	ppbv	91%		70-130	1	25
Trichlorofluoromethane	9.291	10.00	ppbv	93%		70-130	0	25
1,1-Dichloroethene	9.292	10.00	ppbv	93%		70-130	1	25
Freon 113	9.039	10.00	ppbv	90%		70-130	3	25
Acetone	9.134	10.00	ppbv	91%		70-130	1	25
Carbon Disulfide	8.928	10.00	ppbv	89%		70-130	3	25
Isopropanol (IPA)	9.417	10.00	ppbv	94%		70-130	0	25
Methylene Chloride	7.993	10.00	ppbv	80%		70-130	2	25
trans-1,2-Dichloroethene	9.279	10.00	ppbv	93%		70-130	0	25
MTBE	9.598	10.00	ppbv	96%		70-130	4	25
n-Hexane	9.824	10.00	ppbv	98%		70-130	1	25
1,1-Dichloroethane	9.176	10.00	ppbv	92%		70-130	0	25
Vinyl Acetate	9.237	10.00	ppbv	92%		70-130	0	25
cis-1,2-Dichloroethene	9.423	10.00	ppbv	94%		70-130	1	25
2-Butanone	9.156	10.00	ppbv	92%		70-130	4	25
Chloroform	9.211	10.00	ppbv	92%		70-130	1	25
1,1,1-Trichloroethane	9.256	10.00	ppbv	93%		70-130	1	25
Carbon Tetrachloride	9.295	10.00	ppbv	93%		70-130	1	25
Benzene	9.467	10.00	ppbv	95%		70-130	1	25
1,2-Dichloroethane	9.245	10.00	ppbv	92%		70-130	1	25
Trichloroethene	9.226	10.00	ppbv	92%		70-130	1	25
1,2-Dichloropropane	8.885	10.00	ppbv	89%		70-130	1	25
Bromodichloromethane	9.095	10.00	ppbv	91%		70-130	1	25
cis-1,3-Dichloropropene	9.599	10.00	ppbv	96%		70-130	1	25
4-Methyl-2-Pentanone	10.16	10.00	ppbv	102%		70-130	1	25
Toluene	9.675	10.00	ppbv	97%		70-130	1	25
trans-1,3-Dichloropropene	9.453	10.00	ppbv	95%		70-130	2	25
1,1,2-Trichloroethane	9.003	10.00	ppbv	90%		70-130	1	25
Tetrachloroethene	8.995	10.00	ppbv	90%		70-130	1	25
2-Hexanone	10.19	10.00	ppbv	102%		70-130	1	25
Dibromochloromethane	9.139	10.00	ppbv	91%		70-130	1	25
1,2-Dibromoethane	9.124	10.00	ppbv	91%		70-130	0	25
Chlorobenzene	8.933	10.00	ppbv	89%		70-130	2	25
Ethylbenzene	9.547	10.00	ppbv	95%		70-130	1	25
m,p-Xylenes	19.05	20.00	ppbv	95%		70-130	1	25

ENTHALPY ANALYTICAL

Batch QC

QC1051531 Analyte	Result	Spiked	Units	Recovery	Qual	Limits	RPD	RPD Lim
o-Xylene	9.505	10.00	ppbv	95%		70-130	1	25
Styrene	9.839	10.00	ppbv	98%		70-130	0	25
Bromoform	8.747	10.00	ppbv	87%		70-130	1	25
1,1,2,2-Tetrachloroethane	8.485	10.00	ppbv	85%		70-130	1	25
1,1,1,2-Tetrachloroethane	8.800	10.00	ppbv	88%		70-130	0	25
4-Ethyltoluene	9.852	10.00	ppbv	99%		70-130	0	25
1,3,5-Trimethylbenzene	9.405	10.00	ppbv	94%		70-130	0	25
1,2,4-Trimethylbenzene	9.525	10.00	ppbv	95%		70-130	0	25
1,3-Dichlorobenzene	8.906	10.00	ppbv	89%		70-130	1	25
1,4-Dichlorobenzene	8.878	10.00	ppbv	89%		70-130	0	25
Benzyl chloride	8.901	10.00	ppbv	89%		70-130	0	25
1,2-Dichlorobenzene	8.818	10.00	ppbv	88%		70-130	1	25
1,2,4-Trichlorobenzene	9.315	10.00	ppbv	93%		70-130	0	25
Hexachlorobutadiene	7.569	10.00	ppbv	76%		70-130	0	25
Surrogates								
Bromofluorobenzene	9.763	10.00	ppbv	98%		60-140		

ENTHALPY ANALYTICAL

Batch QC

Type:	**Blank**	**Lab ID:**	**QC1051532**	**Batch:**	**309542**
Matrix:	**Air**	**Method:**	**EPA TO-15**	**Prep Method:**	**METHOD**

QC1051532 Analyte	Result	Qual	Units	RL	Prepared	Analyzed
1,1-Difluoroethane	ND		ppbv	1.0	03/13/23 22:23	03/13/23 22:23
Freon 12	ND		ppbv	0.20	03/13/23 22:23	03/13/23 22:23
Freon 114	ND		ppbv	0.20	03/13/23 22:23	03/13/23 22:23
Chloromethane	ND		ppbv	0.20	03/13/23 22:23	03/13/23 22:23
Vinyl Chloride	ND		ppbv	0.20	03/13/23 22:23	03/13/23 22:23
Bromomethane	ND		ppbv	0.20	03/13/23 22:23	03/13/23 22:23
Chloroethane	ND		ppbv	0.20	03/13/23 22:23	03/13/23 22:23
Trichlorofluoromethane	ND		ppbv	0.20	03/13/23 22:23	03/13/23 22:23
1,1-Dichloroethene	ND		ppbv	0.20	03/13/23 22:23	03/13/23 22:23
Freon 113	ND		ppbv	0.20	03/13/23 22:23	03/13/23 22:23
Acetone	ND		ppbv	1.0	03/13/23 22:23	03/13/23 22:23
Carbon Disulfide	ND		ppbv	0.20	03/13/23 22:23	03/13/23 22:23
Isopropanol (IPA)	ND		ppbv	1.0	03/13/23 22:23	03/13/23 22:23
Methylene Chloride	ND		ppbv	0.20	03/13/23 22:23	03/13/23 22:23
trans-1,2-Dichloroethene	ND		ppbv	0.20	03/13/23 22:23	03/13/23 22:23
MTBE	ND		ppbv	0.20	03/13/23 22:23	03/13/23 22:23
n-Hexane	ND		ppbv	0.20	03/13/23 22:23	03/13/23 22:23
1,1-Dichloroethane	ND		ppbv	0.20	03/13/23 22:23	03/13/23 22:23
Vinyl Acetate	ND		ppbv	1.0	03/13/23 22:23	03/13/23 22:23
cis-1,2-Dichloroethene	ND		ppbv	0.20	03/13/23 22:23	03/13/23 22:23
2-Butanone	ND		ppbv	1.0	03/13/23 22:23	03/13/23 22:23
Chloroform	ND		ppbv	0.20	03/13/23 22:23	03/13/23 22:23
1,1,1-Trichloroethane	ND		ppbv	0.20	03/13/23 22:23	03/13/23 22:23
Carbon Tetrachloride	ND		ppbv	0.20	03/13/23 22:23	03/13/23 22:23
Benzene	ND		ppbv	0.20	03/13/23 22:23	03/13/23 22:23
1,2-Dichloroethane	ND		ppbv	0.20	03/13/23 22:23	03/13/23 22:23
Trichloroethene	ND		ppbv	0.20	03/13/23 22:23	03/13/23 22:23
1,2-Dichloropropane	ND		ppbv	0.20	03/13/23 22:23	03/13/23 22:23
Bromodichloromethane	ND		ppbv	0.20	03/13/23 22:23	03/13/23 22:23
cis-1,3-Dichloropropene	ND		ppbv	0.20	03/13/23 22:23	03/13/23 22:23
4-Methyl-2-Pentanone	ND		ppbv	0.20	03/13/23 22:23	03/13/23 22:23
Toluene	ND		ppbv	0.20	03/13/23 22:23	03/13/23 22:23
trans-1,3-Dichloropropene	ND		ppbv	0.20	03/13/23 22:23	03/13/23 22:23
1,1,2-Trichloroethane	ND		ppbv	0.20	03/13/23 22:23	03/13/23 22:23
Tetrachloroethene	ND		ppbv	0.20	03/13/23 22:23	03/13/23 22:23
2-Hexanone	ND		ppbv	0.50	03/13/23 22:23	03/13/23 22:23
Dibromochloromethane	ND		ppbv	0.20	03/13/23 22:23	03/13/23 22:23
1,2-Dibromoethane	ND		ppbv	0.20	03/13/23 22:23	03/13/23 22:23
Chlorobenzene	ND		ppbv	0.20	03/13/23 22:23	03/13/23 22:23
Ethylbenzene	ND		ppbv	0.20	03/13/23 22:23	03/13/23 22:23
m,p-Xylenes	ND		ppbv	0.40	03/13/23 22:23	03/13/23 22:23
o-Xylene	ND		ppbv	0.20	03/13/23 22:23	03/13/23 22:23

ENTHALPY ANALYTICAL

Batch QC

QC1051532 Analyte	Result	Qual	Units	RL	Prepared	Analyzed
Styrene	ND		ppbv	0.20	03/13/23 22:23	03/13/23 22:23
Bromoform	ND		ppbv	0.20	03/13/23 22:23	03/13/23 22:23
1,1,2,2-Tetrachloroethane	ND		ppbv	0.20	03/13/23 22:23	03/13/23 22:23
1,1,1,2-Tetrachloroethane	ND		ppbv	0.20	03/13/23 22:23	03/13/23 22:23
4-Ethyltoluene	ND		ppbv	0.20	03/13/23 22:23	03/13/23 22:23
1,3,5-Trimethylbenzene	ND		ppbv	0.20	03/13/23 22:23	03/13/23 22:23
1,2,4-Trimethylbenzene	ND		ppbv	0.20	03/13/23 22:23	03/13/23 22:23
1,3-Dichlorobenzene	ND		ppbv	0.20	03/13/23 22:23	03/13/23 22:23
1,4-Dichlorobenzene	ND		ppbv	0.20	03/13/23 22:23	03/13/23 22:23
Benzyl chloride	ND		ppbv	0.20	03/13/23 22:23	03/13/23 22:23
1,2-Dichlorobenzene	ND		ppbv	0.20	03/13/23 22:23	03/13/23 22:23
1,2,4-Trichlorobenzene	ND		ppbv	0.20	03/13/23 22:23	03/13/23 22:23
Hexachlorobutadiene	ND		ppbv	0.20	03/13/23 22:23	03/13/23 22:23
Xylene (total)	ND		ppbv	0.20	03/13/23 22:23	03/13/23 22:23
Surrogates				**Limits**		
Bromofluorobenzene	91%		%REC	60-140	03/13/23 22:23	03/13/23 22:23

ENTHALPY ANALYTICAL

Batch QC

Type:	**Lab Control Sample**	**Lab ID:**	**QC1052087**	**Batch:**	**309737**
Matrix:	**Air**	**Method:**	**EPA TO-15**	**Prep Method:**	**METHOD**

QC1052087 Analyte	Result	Spiked	Units	Recovery	Qual	Limits
1,1-Difluoroethane	10.21	10.00	ppbv	102%		70-130
Freon 12	11.11	10.00	ppbv	111%		70-130
Freon 114	9.982	10.00	ppbv	100%		70-130
Chloromethane	10.11	10.00	ppbv	101%		70-130
Vinyl Chloride	9.461	10.00	ppbv	95%		70-130
Bromomethane	9.431	10.00	ppbv	94%		70-130
Chloroethane	9.069	10.00	ppbv	91%		70-130
Trichlorofluoromethane	10.77	10.00	ppbv	108%		70-130
1,1-Dichloroethene	9.971	10.00	ppbv	100%		70-130
Freon 113	9.653	10.00	ppbv	97%		70-130
Acetone	9.384	10.00	ppbv	94%		70-130
Carbon Disulfide	8.904	10.00	ppbv	89%		70-130
Isopropanol (IPA)	10.26	10.00	ppbv	103%		70-130
Methylene Chloride	7.956	10.00	ppbv	80%		70-130
trans-1,2-Dichloroethene	9.829	10.00	ppbv	98%		70-130
MTBE	9.476	10.00	ppbv	95%		70-130
n-Hexane	9.977	10.00	ppbv	100%		70-130
1,1-Dichloroethane	9.588	10.00	ppbv	96%		70-130
Vinyl Acetate	9.928	10.00	ppbv	99%		70-130
cis-1,2-Dichloroethene	9.598	10.00	ppbv	96%		70-130
2-Butanone	8.513	10.00	ppbv	85%		70-130
Chloroform	9.837	10.00	ppbv	98%		70-130
1,1,1-Trichloroethane	10.32	10.00	ppbv	103%		70-130
Carbon Tetrachloride	10.65	10.00	ppbv	107%		70-130
Benzene	8.803	10.00	ppbv	88%		70-130
1,2-Dichloroethane	10.67	10.00	ppbv	107%		70-130
Trichloroethene	9.595	10.00	ppbv	96%		70-130
1,2-Dichloropropane	9.045	10.00	ppbv	90%		70-130
Bromodichloromethane	10.14	10.00	ppbv	101%		70-130
cis-1,3-Dichloropropene	9.685	10.00	ppbv	97%		70-130
4-Methyl-2-Pentanone	10.29	10.00	ppbv	103%		70-130
Toluene	9.614	10.00	ppbv	96%		70-130
trans-1,3-Dichloropropene	9.756	10.00	ppbv	98%		70-130
1,1,2-Trichloroethane	9.184	10.00	ppbv	92%		70-130
Tetrachloroethene	9.729	10.00	ppbv	97%		70-130
2-Hexanone	10.41	10.00	ppbv	104%		70-130
Dibromochloromethane	10.35	10.00	ppbv	104%		70-130
1,2-Dibromoethane	9.608	10.00	ppbv	96%		70-130
Chlorobenzene	9.216	10.00	ppbv	92%		70-130
Ethylbenzene	9.619	10.00	ppbv	96%		70-130
m,p-Xylenes	20.35	20.00	ppbv	102%		70-130
o-Xylene	10.36	10.00	ppbv	104%		70-130

ENTHALPY ANALYTICAL

Batch QC

QC1052087 Analyte	Result	Spiked	Units	Recovery	Qual	Limits
Styrene	10.06	10.00	ppbv	101%		70-130
Bromoform	10.05	10.00	ppbv	100%		70-130
1,1,2,2-Tetrachloroethane	8.838	10.00	ppbv	88%		70-130
1,1,1,2-Tetrachloroethane	9.668	10.00	ppbv	97%		70-130
4-Ethyltoluene	10.70	10.00	ppbv	107%		70-130
1,3,5-Trimethylbenzene	10.53	10.00	ppbv	105%		70-130
1,2,4-Trimethylbenzene	10.72	10.00	ppbv	107%		70-130
1,3-Dichlorobenzene	10.20	10.00	ppbv	102%		70-130
1,4-Dichlorobenzene	10.01	10.00	ppbv	100%		70-130
Benzyl chloride	10.74	10.00	ppbv	107%		70-130
1,2-Dichlorobenzene	10.01	10.00	ppbv	100%		70-130
1,2,4-Trichlorobenzene	10.89	10.00	ppbv	109%		70-130
Hexachlorobutadiene	9.209	10.00	ppbv	92%		70-130
Surrogates						
Bromofluorobenzene	10.55	10.00	ppbv	106%		60-140

ENTHALPY ANALYTICAL

Batch QC

Type:	**Lab Control Sample Duplicate**	**Lab ID:**	**QC1052088**	**Batch:**	**309737**
Matrix:	**Air**	**Method:**	**EPA TO-15**	**Prep Method:**	**METHOD**

QC1052088 Analyte	Result	Spiked	Units	Recovery	Qual	Limits	RPD	RPD Lim
1,1-Difluoroethane	10.75	10.00	ppbv	107%		70-130	5	25
Freon 12	11.38	10.00	ppbv	114%		70-130	2	25
Freon 114	10.40	10.00	ppbv	104%		70-130	4	25
Chloromethane	10.43	10.00	ppbv	104%		70-130	3	25
Vinyl Chloride	9.928	10.00	ppbv	99%		70-130	5	25
Bromomethane	9.817	10.00	ppbv	98%		70-130	4	25
Chloroethane	9.297	10.00	ppbv	93%		70-130	2	25
Trichlorofluoromethane	10.72	10.00	ppbv	107%		70-130	0	25
1,1-Dichloroethene	9.925	10.00	ppbv	99%		70-130	0	25
Freon 113	9.535	10.00	ppbv	95%		70-130	1	25
Acetone	9.395	10.00	ppbv	94%		70-130	0	25
Carbon Disulfide	8.922	10.00	ppbv	89%		70-130	0	25
Isopropanol (IPA)	10.42	10.00	ppbv	104%		70-130	2	25
Methylene Chloride	7.943	10.00	ppbv	79%		70-130	0	25
trans-1,2-Dichloroethene	9.709	10.00	ppbv	97%		70-130	1	25
MTBE	9.551	10.00	ppbv	96%		70-130	1	25
n-Hexane	9.907	10.00	ppbv	99%		70-130	1	25
1,1-Dichloroethane	9.529	10.00	ppbv	95%		70-130	1	25
Vinyl Acetate	10.01	10.00	ppbv	100%		70-130	1	25
cis-1,2-Dichloroethene	9.578	10.00	ppbv	96%		70-130	0	25
2-Butanone	8.556	10.00	ppbv	86%		70-130	0	25
Chloroform	9.785	10.00	ppbv	98%		70-130	1	25
1,1,1-Trichloroethane	10.29	10.00	ppbv	103%		70-130	0	25
Carbon Tetrachloride	10.54	10.00	ppbv	105%		70-130	1	25
Benzene	8.811	10.00	ppbv	88%		70-130	0	25
1,2-Dichloroethane	10.45	10.00	ppbv	105%		70-130	2	25
Trichloroethene	9.555	10.00	ppbv	96%		70-130	0	25
1,2-Dichloropropane	8.980	10.00	ppbv	90%		70-130	1	25
Bromodichloromethane	10.06	10.00	ppbv	101%		70-130	1	25
cis-1,3-Dichloropropene	9.552	10.00	ppbv	96%		70-130	1	25
4-Methyl-2-Pentanone	10.19	10.00	ppbv	102%		70-130	1	25
Toluene	9.462	10.00	ppbv	95%		70-130	2	25
trans-1,3-Dichloropropene	9.622	10.00	ppbv	96%		70-130	1	25
1,1,2-Trichloroethane	9.229	10.00	ppbv	92%		70-130	0	25
Tetrachloroethene	9.672	10.00	ppbv	97%		70-130	1	25
2-Hexanone	10.11	10.00	ppbv	101%		70-130	3	25
Dibromochloromethane	10.27	10.00	ppbv	103%		70-130	1	25
1,2-Dibromoethane	9.484	10.00	ppbv	95%		70-130	1	25
Chlorobenzene	8.983	10.00	ppbv	90%		70-130	3	25
Ethylbenzene	9.428	10.00	ppbv	94%		70-130	2	25
m,p-Xylenes	19.72	20.00	ppbv	99%		70-130	3	25

ENTHALPY ANALYTICAL

Batch QC

QC1052088 Analyte	Result	Spiked	Units	Recovery	Qual	Limits	RPD	RPD Lim
o-Xylene	10.03	10.00	ppbv	100%		70-130	3	25
Styrene	9.783	10.00	ppbv	98%		70-130	3	25
Bromoform	9.774	10.00	ppbv	98%		70-130	3	25
1,1,2,2-Tetrachloroethane	8.694	10.00	ppbv	87%		70-130	2	25
1,1,1,2-Tetrachloroethane	9.408	10.00	ppbv	94%		70-130	3	25
4-Ethyltoluene	10.39	10.00	ppbv	104%		70-130	3	25
1,3,5-Trimethylbenzene	10.22	10.00	ppbv	102%		70-130	3	25
1,2,4-Trimethylbenzene	10.47	10.00	ppbv	105%		70-130	2	25
1,3-Dichlorobenzene	9.877	10.00	ppbv	99%		70-130	3	25
1,4-Dichlorobenzene	9.639	10.00	ppbv	96%		70-130	4	25
Benzyl chloride	10.49	10.00	ppbv	105%		70-130	2	25
1,2-Dichlorobenzene	9.694	10.00	ppbv	97%		70-130	3	25
1,2,4-Trichlorobenzene	10.37	10.00	ppbv	104%		70-130	5	25
Hexachlorobutadiene	8.860	10.00	ppbv	89%		70-130	4	25
Surrogates								
Bromofluorobenzene	10.30	10.00	ppbv	103%		60-140		

ENTHALPY ANALYTICAL

Batch QC

Type:	**Blank**	**Lab ID:**	**QC1052089**	**Batch:**	**309737**
Matrix:	**Air**	**Method:**	**EPA TO-15**	**Prep Method:**	**METHOD**

QC1052089 Analyte	Result	Qual	Units	RL	Prepared	Analyzed
1,1-Difluoroethane	ND		ppbv	1.0	03/14/23 23:42	03/14/23 23:42
Freon 12	ND		ppbv	0.20	03/14/23 23:42	03/14/23 23:42
Freon 114	ND		ppbv	0.20	03/14/23 23:42	03/14/23 23:42
Chloromethane	ND		ppbv	0.20	03/14/23 23:42	03/14/23 23:42
Vinyl Chloride	ND		ppbv	0.20	03/14/23 23:42	03/14/23 23:42
Bromomethane	ND		ppbv	0.20	03/14/23 23:42	03/14/23 23:42
Chloroethane	ND		ppbv	0.20	03/14/23 23:42	03/14/23 23:42
Trichlorofluoromethane	ND		ppbv	0.20	03/14/23 23:42	03/14/23 23:42
1,1-Dichloroethene	ND		ppbv	0.20	03/14/23 23:42	03/14/23 23:42
Freon 113	ND		ppbv	0.20	03/14/23 23:42	03/14/23 23:42
Acetone	ND		ppbv	1.0	03/14/23 23:42	03/14/23 23:42
Carbon Disulfide	ND		ppbv	0.20	03/14/23 23:42	03/14/23 23:42
Isopropanol (IPA)	ND		ppbv	1.0	03/14/23 23:42	03/14/23 23:42
Methylene Chloride	ND		ppbv	0.20	03/14/23 23:42	03/14/23 23:42
trans-1,2-Dichloroethene	ND		ppbv	0.20	03/14/23 23:42	03/14/23 23:42
MTBE	ND		ppbv	0.20	03/14/23 23:42	03/14/23 23:42
n-Hexane	ND		ppbv	0.20	03/14/23 23:42	03/14/23 23:42
1,1-Dichloroethane	ND		ppbv	0.20	03/14/23 23:42	03/14/23 23:42
Vinyl Acetate	ND		ppbv	1.0	03/14/23 23:42	03/14/23 23:42
cis-1,2-Dichloroethene	ND		ppbv	0.20	03/14/23 23:42	03/14/23 23:42
2-Butanone	ND		ppbv	1.0	03/14/23 23:42	03/14/23 23:42
Chloroform	ND		ppbv	0.20	03/14/23 23:42	03/14/23 23:42
1,1,1-Trichloroethane	ND		ppbv	0.20	03/14/23 23:42	03/14/23 23:42
Carbon Tetrachloride	ND		ppbv	0.20	03/14/23 23:42	03/14/23 23:42
Benzene	ND		ppbv	0.20	03/14/23 23:42	03/14/23 23:42
1,2-Dichloroethane	ND		ppbv	0.20	03/14/23 23:42	03/14/23 23:42
Trichloroethene	ND		ppbv	0.20	03/14/23 23:42	03/14/23 23:42
1,2-Dichloropropane	ND		ppbv	0.20	03/14/23 23:42	03/14/23 23:42
Bromodichloromethane	ND		ppbv	0.20	03/14/23 23:42	03/14/23 23:42
cis-1,3-Dichloropropene	ND		ppbv	0.20	03/14/23 23:42	03/14/23 23:42
4-Methyl-2-Pentanone	ND		ppbv	0.20	03/14/23 23:42	03/14/23 23:42
Toluene	ND		ppbv	0.20	03/14/23 23:42	03/14/23 23:42
trans-1,3-Dichloropropene	ND		ppbv	0.20	03/14/23 23:42	03/14/23 23:42
1,1,2-Trichloroethane	ND		ppbv	0.20	03/14/23 23:42	03/14/23 23:42
Tetrachloroethene	ND		ppbv	0.20	03/14/23 23:42	03/14/23 23:42
2-Hexanone	ND		ppbv	0.50	03/14/23 23:42	03/14/23 23:42
Dibromochloromethane	ND		ppbv	0.20	03/14/23 23:42	03/14/23 23:42
1,2-Dibromoethane	ND		ppbv	0.20	03/14/23 23:42	03/14/23 23:42
Chlorobenzene	ND		ppbv	0.20	03/14/23 23:42	03/14/23 23:42
Ethylbenzene	ND		ppbv	0.20	03/14/23 23:42	03/14/23 23:42
m,p-Xylenes	ND		ppbv	0.40	03/14/23 23:42	03/14/23 23:42
o-Xylene	ND		ppbv	0.20	03/14/23 23:42	03/14/23 23:42

ENTHALPY ANALYTICAL

Batch QC

QC1052089 Analyte	Result	Qual	Units	RL	Prepared	Analyzed
Styrene	ND		ppbv	0.20	03/14/23 23:42	03/14/23 23:42
Bromoform	ND		ppbv	0.20	03/14/23 23:42	03/14/23 23:42
1,1,2,2-Tetrachloroethane	ND		ppbv	0.20	03/14/23 23:42	03/14/23 23:42
1,1,1,2-Tetrachloroethane	ND		ppbv	0.20	03/14/23 23:42	03/14/23 23:42
4-Ethyltoluene	ND		ppbv	0.20	03/14/23 23:42	03/14/23 23:42
1,3,5-Trimethylbenzene	ND		ppbv	0.20	03/14/23 23:42	03/14/23 23:42
1,2,4-Trimethylbenzene	ND		ppbv	0.20	03/14/23 23:42	03/14/23 23:42
1,3-Dichlorobenzene	ND		ppbv	0.20	03/14/23 23:42	03/14/23 23:42
1,4-Dichlorobenzene	ND		ppbv	0.20	03/14/23 23:42	03/14/23 23:42
Benzyl chloride	ND		ppbv	0.20	03/14/23 23:42	03/14/23 23:42
1,2-Dichlorobenzene	ND		ppbv	0.20	03/14/23 23:42	03/14/23 23:42
1,2,4-Trichlorobenzene	ND		ppbv	0.20	03/14/23 23:42	03/14/23 23:42
Hexachlorobutadiene	ND		ppbv	0.20	03/14/23 23:42	03/14/23 23:42
Xylene (total)	ND		ppbv	0.20	03/14/23 23:42	03/14/23 23:42
Surrogates				**Limits**		
Bromofluorobenzene	90%		%REC	60-140	03/14/23 23:42	03/14/23 23:42

ENTHALPY ANALYTICAL

Batch QC

Type:	**Lab Control Sample**	**Lab ID:**	**QC1053965**	**Batch:**	**310380**
Matrix:	**Air**	**Method:**	**EPA TO-15**	**Prep Method:**	**METHOD**

QC1053965 Analyte	Result	Spiked	Units	Recovery	Qual	Limits
1,1-Difluoroethane	10.40	10.00	ppbv	104%		70-130
Freon 12	11.15	10.00	ppbv	111%		70-130
Freon 114	10.31	10.00	ppbv	103%		70-130
Chloromethane	9.408	10.00	ppbv	94%		70-130
Vinyl Chloride	9.520	10.00	ppbv	95%		70-130
Bromomethane	9.612	10.00	ppbv	96%		70-130
Chloroethane	9.167	10.00	ppbv	92%		70-130
Trichlorofluoromethane	11.02	10.00	ppbv	110%		70-130
1,1-Dichloroethene	10.09	10.00	ppbv	101%		70-130
Freon 113	9.999	10.00	ppbv	100%		70-130
Acetone	9.338	10.00	ppbv	93%		70-130
Carbon Disulfide	9.326	10.00	ppbv	93%		70-130
Isopropanol (IPA)	10.00	10.00	ppbv	100%		70-130
Methylene Chloride	8.395	10.00	ppbv	84%		70-130
trans-1,2-Dichloroethene	10.05	10.00	ppbv	101%		70-130
MTBE	10.14	10.00	ppbv	101%		70-130
n-Hexane	9.879	10.00	ppbv	99%		70-130
1,1-Dichloroethane	9.898	10.00	ppbv	99%		70-130
Vinyl Acetate	10.18	10.00	ppbv	102%		70-130
cis-1,2-Dichloroethene	9.766	10.00	ppbv	98%		70-130
2-Butanone	8.957	10.00	ppbv	90%		70-130
Chloroform	9.948	10.00	ppbv	99%		70-130
1,1,1-Trichloroethane	10.59	10.00	ppbv	106%		70-130
Carbon Tetrachloride	10.79	10.00	ppbv	108%		70-130
Benzene	9.180	10.00	ppbv	92%		70-130
1,2-Dichloroethane	10.58	10.00	ppbv	106%		70-130
Trichloroethene	9.528	10.00	ppbv	95%		70-130
1,2-Dichloropropane	8.865	10.00	ppbv	89%		70-130
Bromodichloromethane	9.859	10.00	ppbv	99%		70-130
cis-1,3-Dichloropropene	9.993	10.00	ppbv	100%		70-130
4-Methyl-2-Pentanone	9.703	10.00	ppbv	97%		70-130
Toluene	9.744	10.00	ppbv	97%		70-130
trans-1,3-Dichloropropene	10.04	10.00	ppbv	100%		70-130
1,1,2-Trichloroethane	9.326	10.00	ppbv	93%		70-130
Tetrachloroethene	10.11	10.00	ppbv	101%		70-130
2-Hexanone	9.859	10.00	ppbv	99%		70-130
Dibromochloromethane	9.994	10.00	ppbv	100%		70-130
1,2-Dibromoethane	9.641	10.00	ppbv	96%		70-130
Chlorobenzene	9.195	10.00	ppbv	92%		70-130
Ethylbenzene	9.824	10.00	ppbv	98%		70-130
m,p-Xylenes	20.10	20.00	ppbv	101%		70-130
o-Xylene	10.11	10.00	ppbv	101%		70-130

ENTHALPY ANALYTICAL

Batch QC

QC1053965 Analyte	Result	Spiked	Units	Recovery	Qual	Limits
Styrene	10.11	10.00	ppbv	101%		70-130
Bromoform	9.848	10.00	ppbv	98%		70-130
1,1,2,2-Tetrachloroethane	8.577	10.00	ppbv	86%		70-130
1,1,1,2-Tetrachloroethane	9.518	10.00	ppbv	95%		70-130
4-Ethyltoluene	10.42	10.00	ppbv	104%		70-130
1,3,5-Trimethylbenzene	10.30	10.00	ppbv	103%		70-130
1,2,4-Trimethylbenzene	10.34	10.00	ppbv	103%		70-130
1,3-Dichlorobenzene	9.755	10.00	ppbv	98%		70-130
1,4-Dichlorobenzene	9.672	10.00	ppbv	97%		70-130
Benzyl chloride	10.45	10.00	ppbv	104%		70-130
1,2-Dichlorobenzene	9.599	10.00	ppbv	96%		70-130
1,2,4-Trichlorobenzene	10.47	10.00	ppbv	105%		70-130
Hexachlorobutadiene	8.782	10.00	ppbv	88%		70-130
Surrogates						
Bromofluorobenzene	10.23	10.00	ppbv	102%		60-140

ENTHALPY ANALYTICAL

Batch QC

Type:	**Lab Control Sample Duplicate**	**Lab ID:**	**QC1053966**	**Batch:**	**310380**
Matrix:	**Air**	**Method:**	**EPA TO-15**	**Prep Method:**	**METHOD**

QC1053966 Analyte	Result	Spiked	Units	Recovery	Qual	Limits	RPD	RPD Lim
1,1-Difluoroethane	10.43	10.00	ppbv	104%		70-130	0	25
Freon 12	11.19	10.00	ppbv	112%		70-130	0	25
Freon 114	10.30	10.00	ppbv	103%		70-130	0	25
Chloromethane	9.455	10.00	ppbv	95%		70-130	1	25
Vinyl Chloride	9.506	10.00	ppbv	95%		70-130	0	25
Bromomethane	9.625	10.00	ppbv	96%		70-130	0	25
Chloroethane	9.189	10.00	ppbv	92%		70-130	0	25
Trichlorofluoromethane	10.88	10.00	ppbv	109%		70-130	1	25
1,1-Dichloroethene	9.888	10.00	ppbv	99%		70-130	2	25
Freon 113	9.842	10.00	ppbv	98%		70-130	2	25
Acetone	9.274	10.00	ppbv	93%		70-130	1	25
Carbon Disulfide	9.171	10.00	ppbv	92%		70-130	2	25
Isopropanol (IPA)	9.945	10.00	ppbv	99%		70-130	1	25
Methylene Chloride	8.138	10.00	ppbv	81%		70-130	3	25
trans-1,2-Dichloroethene	9.903	10.00	ppbv	99%		70-130	2	25
MTBE	10.33	10.00	ppbv	103%		70-130	2	25
n-Hexane	9.899	10.00	ppbv	99%		70-130	0	25
1,1-Dichloroethane	9.896	10.00	ppbv	99%		70-130	0	25
Vinyl Acetate	10.15	10.00	ppbv	101%		70-130	0	25
cis-1,2-Dichloroethene	9.858	10.00	ppbv	99%		70-130	1	25
2-Butanone	8.878	10.00	ppbv	89%		70-130	1	25
Chloroform	9.961	10.00	ppbv	100%		70-130	0	25
1,1,1-Trichloroethane	10.65	10.00	ppbv	106%		70-130	1	25
Carbon Tetrachloride	10.83	10.00	ppbv	108%		70-130	0	25
Benzene	9.139	10.00	ppbv	91%		70-130	0	25
1,2-Dichloroethane	10.62	10.00	ppbv	106%		70-130	0	25
Trichloroethene	9.525	10.00	ppbv	95%		70-130	0	25
1,2-Dichloropropane	8.697	10.00	ppbv	87%		70-130	2	25
Bromodichloromethane	9.848	10.00	ppbv	98%		70-130	0	25
cis-1,3-Dichloropropene	9.858	10.00	ppbv	99%		70-130	1	25
4-Methyl-2-Pentanone	10.11	10.00	ppbv	101%		70-130	4	25
Toluene	9.714	10.00	ppbv	97%		70-130	0	25
trans-1,3-Dichloropropene	10.01	10.00	ppbv	100%		70-130	0	25
1,1,2-Trichloroethane	9.139	10.00	ppbv	91%		70-130	2	25
Tetrachloroethene	10.16	10.00	ppbv	102%		70-130	0	25
2-Hexanone	9.828	10.00	ppbv	98%		70-130	0	25
Dibromochloromethane	10.09	10.00	ppbv	101%		70-130	1	25
1,2-Dibromoethane	9.637	10.00	ppbv	96%		70-130	0	25
Chlorobenzene	9.191	10.00	ppbv	92%		70-130	0	25
Ethylbenzene	9.758	10.00	ppbv	98%		70-130	1	25
m,p-Xylenes	20.06	20.00	ppbv	100%		70-130	0	25

ENTHALPY ANALYTICAL

Batch QC

QC1053966 Analyte	Result	Spiked	Units	Recovery	Qual	Limits	RPD	RPD Lim
o-Xylene	10.10	10.00	ppbv	101%		70-130	0	25
Styrene	9.991	10.00	ppbv	100%		70-130	1	25
Bromoform	9.827	10.00	ppbv	98%		70-130	0	25
1,1,2,2-Tetrachloroethane	8.522	10.00	ppbv	85%		70-130	1	25
1,1,1,2-Tetrachloroethane	9.457	10.00	ppbv	95%		70-130	1	25
4-Ethyltoluene	10.35	10.00	ppbv	104%		70-130	1	25
1,3,5-Trimethylbenzene	10.07	10.00	ppbv	101%		70-130	2	25
1,2,4-Trimethylbenzene	10.34	10.00	ppbv	103%		70-130	0	25
1,3-Dichlorobenzene	9.841	10.00	ppbv	98%		70-130	1	25
1,4-Dichlorobenzene	9.500	10.00	ppbv	95%		70-130	2	25
Benzyl chloride	10.54	10.00	ppbv	105%		70-130	1	25
1,2-Dichlorobenzene	9.562	10.00	ppbv	96%		70-130	0	25
1,2,4-Trichlorobenzene	10.44	10.00	ppbv	104%		70-130	0	25
Hexachlorobutadiene	8.759	10.00	ppbv	88%		70-130	0	25
Surrogates								
Bromofluorobenzene	10.29	10.00	ppbv	103%		60-140		

ENTHALPY ANALYTICAL

Batch QC

Type:	**Blank**	**Lab ID:**	**QC1053967**	**Batch:**	**310380**
Matrix:	**Air**	**Method:**	**EPA TO-15**	**Prep Method:**	**METHOD**

QC1053967 Analyte	Result	Qual	Units	RL	Prepared	Analyzed
1,1-Difluoroethane	ND		ppbv	1.0	03/24/23 00:23	03/24/23 00:23
Freon 12	ND		ppbv	0.20	03/24/23 00:23	03/24/23 00:23
Freon 114	ND		ppbv	0.20	03/24/23 00:23	03/24/23 00:23
Chloromethane	ND		ppbv	0.20	03/24/23 00:23	03/24/23 00:23
Vinyl Chloride	ND		ppbv	0.20	03/24/23 00:23	03/24/23 00:23
Bromomethane	ND		ppbv	0.20	03/24/23 00:23	03/24/23 00:23
Chloroethane	ND		ppbv	0.20	03/24/23 00:23	03/24/23 00:23
Trichlorofluoromethane	ND		ppbv	0.20	03/24/23 00:23	03/24/23 00:23
1,1-Dichloroethene	ND		ppbv	0.20	03/24/23 00:23	03/24/23 00:23
Freon 113	ND		ppbv	0.20	03/24/23 00:23	03/24/23 00:23
Acetone	ND		ppbv	1.0	03/24/23 00:23	03/24/23 00:23
Carbon Disulfide	ND		ppbv	0.20	03/24/23 00:23	03/24/23 00:23
Isopropanol (IPA)	ND		ppbv	1.0	03/24/23 00:23	03/24/23 00:23
Methylene Chloride	ND		ppbv	0.20	03/24/23 00:23	03/24/23 00:23
trans-1,2-Dichloroethene	ND		ppbv	0.20	03/24/23 00:23	03/24/23 00:23
MTBE	ND		ppbv	0.20	03/24/23 00:23	03/24/23 00:23
n-Hexane	ND		ppbv	0.20	03/24/23 00:23	03/24/23 00:23
1,1-Dichloroethane	ND		ppbv	0.20	03/24/23 00:23	03/24/23 00:23
Vinyl Acetate	ND		ppbv	1.0	03/24/23 00:23	03/24/23 00:23
cis-1,2-Dichloroethene	ND		ppbv	0.20	03/24/23 00:23	03/24/23 00:23
2-Butanone	ND		ppbv	1.0	03/24/23 00:23	03/24/23 00:23
Chloroform	ND		ppbv	0.20	03/24/23 00:23	03/24/23 00:23
1,1,1-Trichloroethane	ND		ppbv	0.20	03/24/23 00:23	03/24/23 00:23
Carbon Tetrachloride	ND		ppbv	0.20	03/24/23 00:23	03/24/23 00:23
Benzene	ND		ppbv	0.20	03/24/23 00:23	03/24/23 00:23
1,2-Dichloroethane	ND		ppbv	0.20	03/24/23 00:23	03/24/23 00:23
Trichloroethene	ND		ppbv	0.20	03/24/23 00:23	03/24/23 00:23
1,2-Dichloropropane	ND		ppbv	0.20	03/24/23 00:23	03/24/23 00:23
Bromodichloromethane	ND		ppbv	0.20	03/24/23 00:23	03/24/23 00:23
cis-1,3-Dichloropropene	ND		ppbv	0.20	03/24/23 00:23	03/24/23 00:23
4-Methyl-2-Pentanone	ND		ppbv	0.20	03/24/23 00:23	03/24/23 00:23
Toluene	ND		ppbv	0.20	03/24/23 00:23	03/24/23 00:23
trans-1,3-Dichloropropene	ND		ppbv	0.20	03/24/23 00:23	03/24/23 00:23
1,1,2-Trichloroethane	ND		ppbv	0.20	03/24/23 00:23	03/24/23 00:23
Tetrachloroethene	ND		ppbv	0.20	03/24/23 00:23	03/24/23 00:23
2-Hexanone	ND		ppbv	0.50	03/24/23 00:23	03/24/23 00:23
Dibromochloromethane	ND		ppbv	0.20	03/24/23 00:23	03/24/23 00:23
1,2-Dibromoethane	ND		ppbv	0.20	03/24/23 00:23	03/24/23 00:23
Chlorobenzene	ND		ppbv	0.20	03/24/23 00:23	03/24/23 00:23
Ethylbenzene	ND		ppbv	0.20	03/24/23 00:23	03/24/23 00:23
m,p-Xylenes	ND		ppbv	0.40	03/24/23 00:23	03/24/23 00:23
o-Xylene	ND		ppbv	0.20	03/24/23 00:23	03/24/23 00:23

ENTHALPY ANALYTICAL

Batch QC

QC1053967 Analyte	Result	Qual	Units	RL	Prepared	Analyzed
Styrene	ND		ppbv	0.20	03/24/23 00:23	03/24/23 00:23
Bromoform	ND		ppbv	0.20	03/24/23 00:23	03/24/23 00:23
1,1,2,2-Tetrachloroethane	ND		ppbv	0.20	03/24/23 00:23	03/24/23 00:23
1,1,1,2-Tetrachloroethane	ND		ppbv	0.20	03/24/23 00:23	03/24/23 00:23
4-Ethyltoluene	ND		ppbv	0.20	03/24/23 00:23	03/24/23 00:23
1,3,5-Trimethylbenzene	ND		ppbv	0.20	03/24/23 00:23	03/24/23 00:23
1,2,4-Trimethylbenzene	ND		ppbv	0.20	03/24/23 00:23	03/24/23 00:23
1,3-Dichlorobenzene	ND		ppbv	0.20	03/24/23 00:23	03/24/23 00:23
1,4-Dichlorobenzene	ND		ppbv	0.20	03/24/23 00:23	03/24/23 00:23
Benzyl chloride	ND		ppbv	0.20	03/24/23 00:23	03/24/23 00:23
1,2-Dichlorobenzene	ND		ppbv	0.20	03/24/23 00:23	03/24/23 00:23
1,2,4-Trichlorobenzene	ND		ppbv	0.20	03/24/23 00:23	03/24/23 00:23
Hexachlorobutadiene	ND		ppbv	0.20	03/24/23 00:23	03/24/23 00:23
Xylene (total)	ND		ppbv	0.20	03/24/23 00:23	03/24/23 00:23
Surrogates				**Limits**		
Bromofluorobenzene	90%		%REC	60-140	03/24/23 00:23	03/24/23 00:23

ND Not Detected

Regulatory Database Report

PSR
PHYSICAL SETTING REPORT

Property Information

Order Number:		22120601432p
Date Completed:		December 6, 2022
Project Number:		RES012-0313063-22012535
Project Property:		Resmark - Antioch, CA 3001 Oakley Road Antioch CA 94509
Coordinates:		
	Latitude:	37.99869314
	Longitude:	-121.7633309
	UTM Northing:	4206391.49217 Meters
	UTM Easting:	608580.230794 Meters
	UTM Zone:	UTM Zone 10S
	Elevation:	67.88 ft
	Slope Direction:	W

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Geologic Information....7
Soil Information....9
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  Summary....17
  Detail Report....24
Radon Information....145
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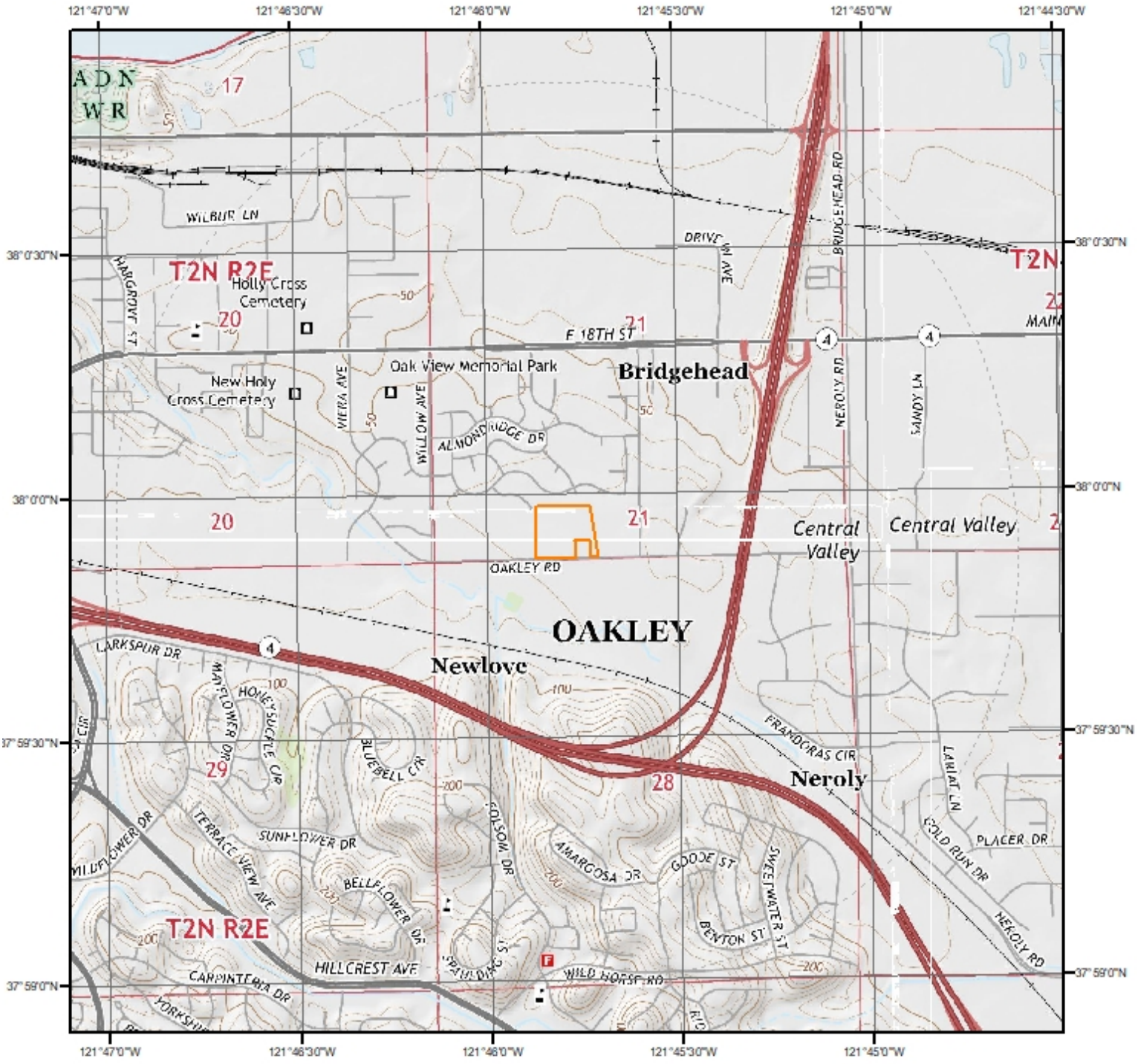
The ERIS ***Physical Setting Report - PSR*** provides comprehensive information about the physical setting around a site and includes a complete overview of topography and surface topology, in addition to hydrologic, geologic and soil characteristics. The location and detailed attributes of oil and gas wells, water wells, public water systems and radon are also included for review.

The compilation of both physical characteristics of a site and additional attribute data is useful in assessing the impact of migration of contaminants and subsequent impact on soils and groundwater.

Disclaimer

This Report does not provide a full environmental evaluation for the site or adjacent properties. Please see the terms and disclaimer at the end of the Report for greater detail.

Topographic Information



Current USGS Topo (2015)

Quadrangle(s): Antioch North,CA; Antioch South,CA; Brentwood,CA; Jersey Island,CA

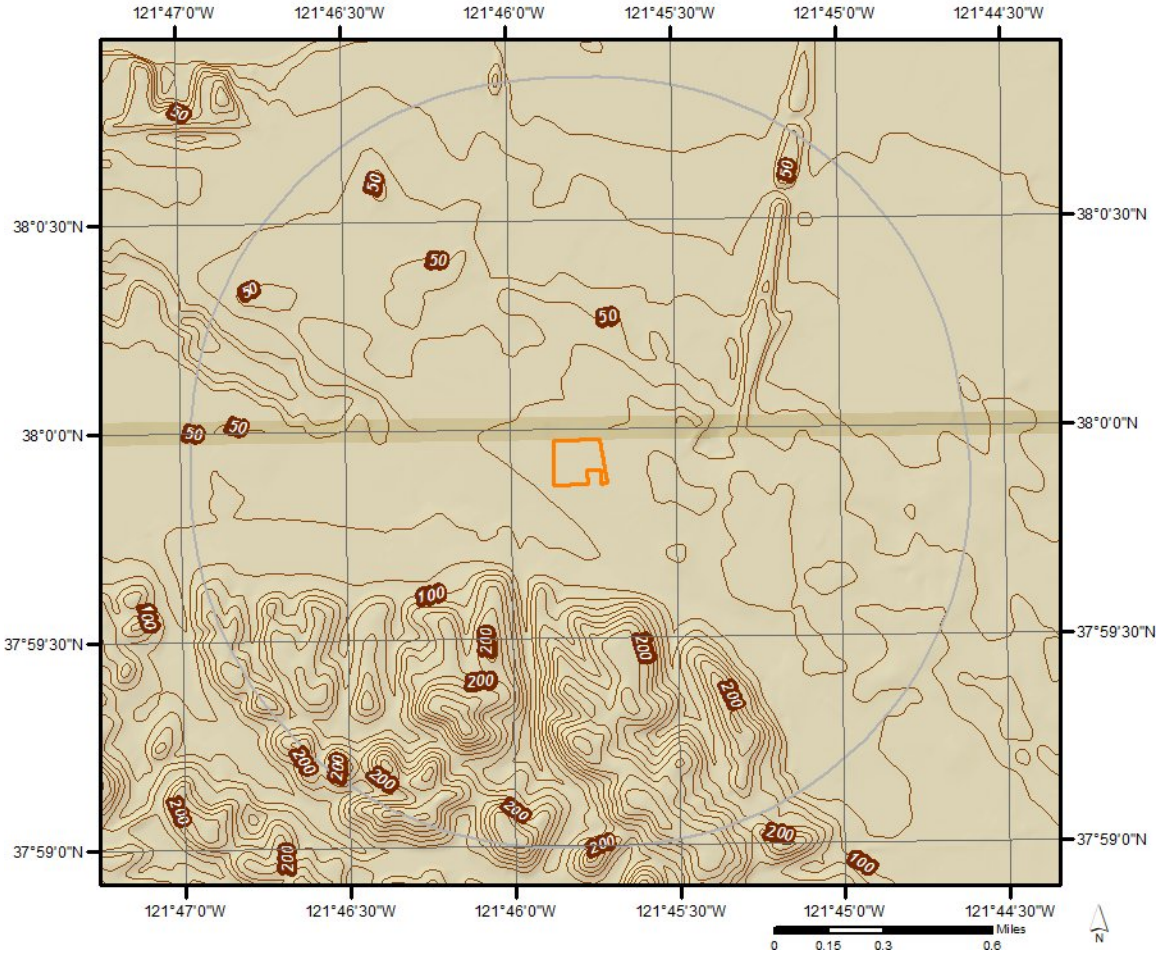
Source: USGS 7.5 Minute Topographic Map

Topographic Information

The previous topographic map(s) are created by seamlessly merging and cutting current USGS topographic data. Below are shaded relief map(s), derived from USGS elevation data to show surrounding topography in further detail.

Topographic information at project property:

Elevation:	67.88 ft
Slope Direction:	W



Hydrologic Information



Wetland

0 0.075 0.15 0.3 Miles

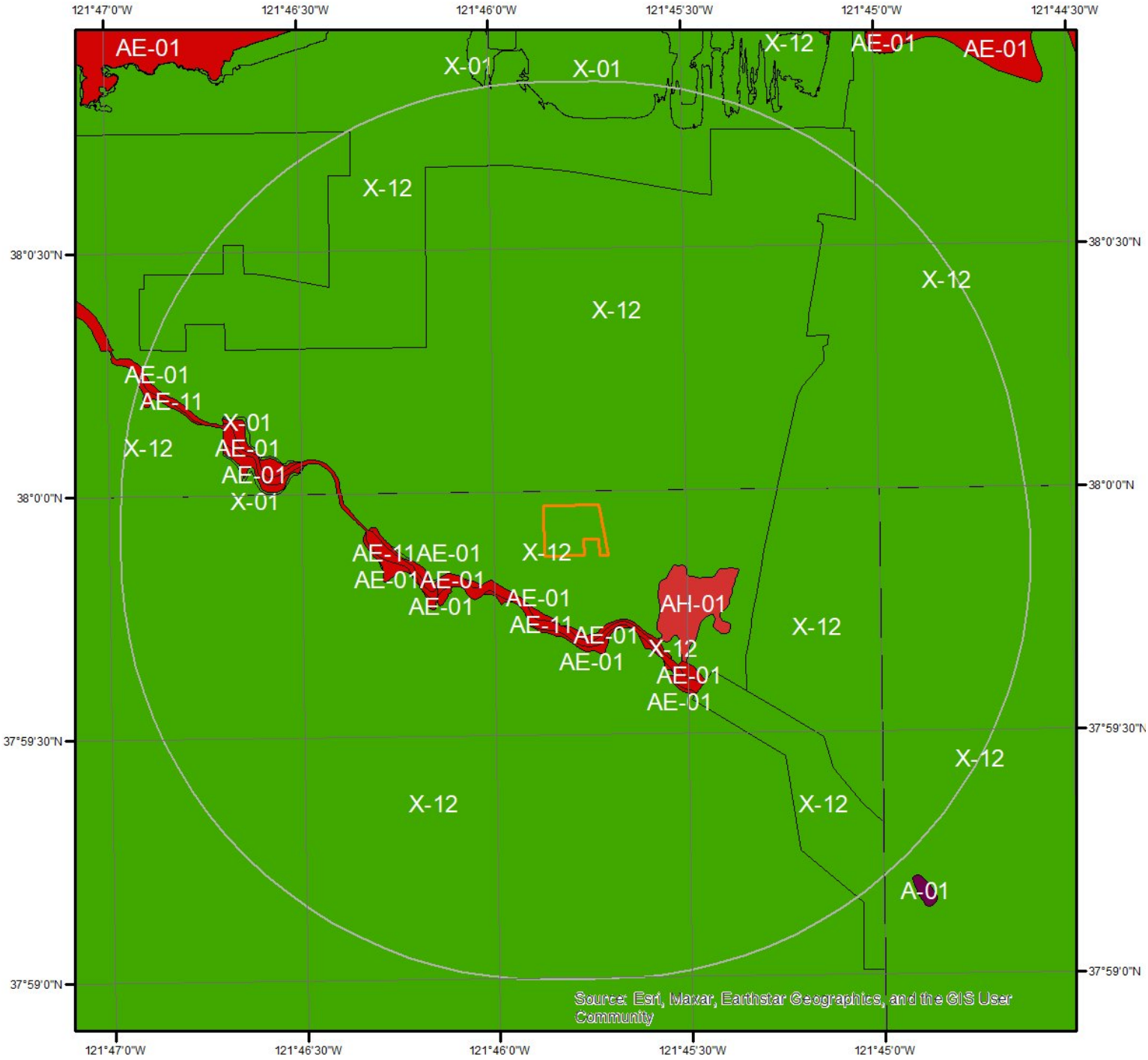
N

This map shows wetland existence using data from US Fish & Wildlife.
Data coverage is shown to the right. Gray indicates no data available in the area.

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

ERIS

Hydrologic Information

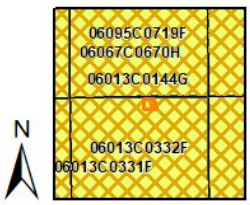


Flood Hazard Zones

Miles
0 0.2 0.4

This map shows FEMA flood hazard zones. FIRM panels are shown to the right, and blank indicates no data is available.

A	AO	X
A99	V	OPEN WATER
AE	VE	NOT POPULATED
AH	D	AREA NOT INCLUDED



Quadrangle(s): Antioch North,CA; Antioch South,CA; Brentwood,CA; Jersey Island,CA

ERIS

Hydrologic Information

The Wetland Type map shows wetland existence overlaid on an aerial imagery. The Flood Hazard Zones map shows FEMA flood hazard zones overlaid on an aerial imagery. Relevant FIRM panels and detailed zone information is provided below.
For detailed Zone descriptions please click the link: https://floodadvocate.com/fema-zone-definitions

Available FIRM Panels in area:	06013C0331F(effective:2009-06-16) 06013C0332F(effective:2009-06-16) 06013C0143G(effective:2015-09-30) 06013C0144G(effective:2015-09-30) 06013C0163G(effective:2015-09-30) 06013C0355G(effective:2017-03-21) 06067C0690H(effective:2012-08-16) 06067C0670H(effective:2012-08-16) 06095C0718F(effective:2016-08-03) 06095C0719F(effective:2016-08-03)

Flood Zone AE-01

Zone:	AE
Zone subtype:	

Flood Zone AE-11

Zone:	AE
Zone subtype:	FLOODWAY

Flood Zone AH-01

Zone:	AH
Zone subtype:	

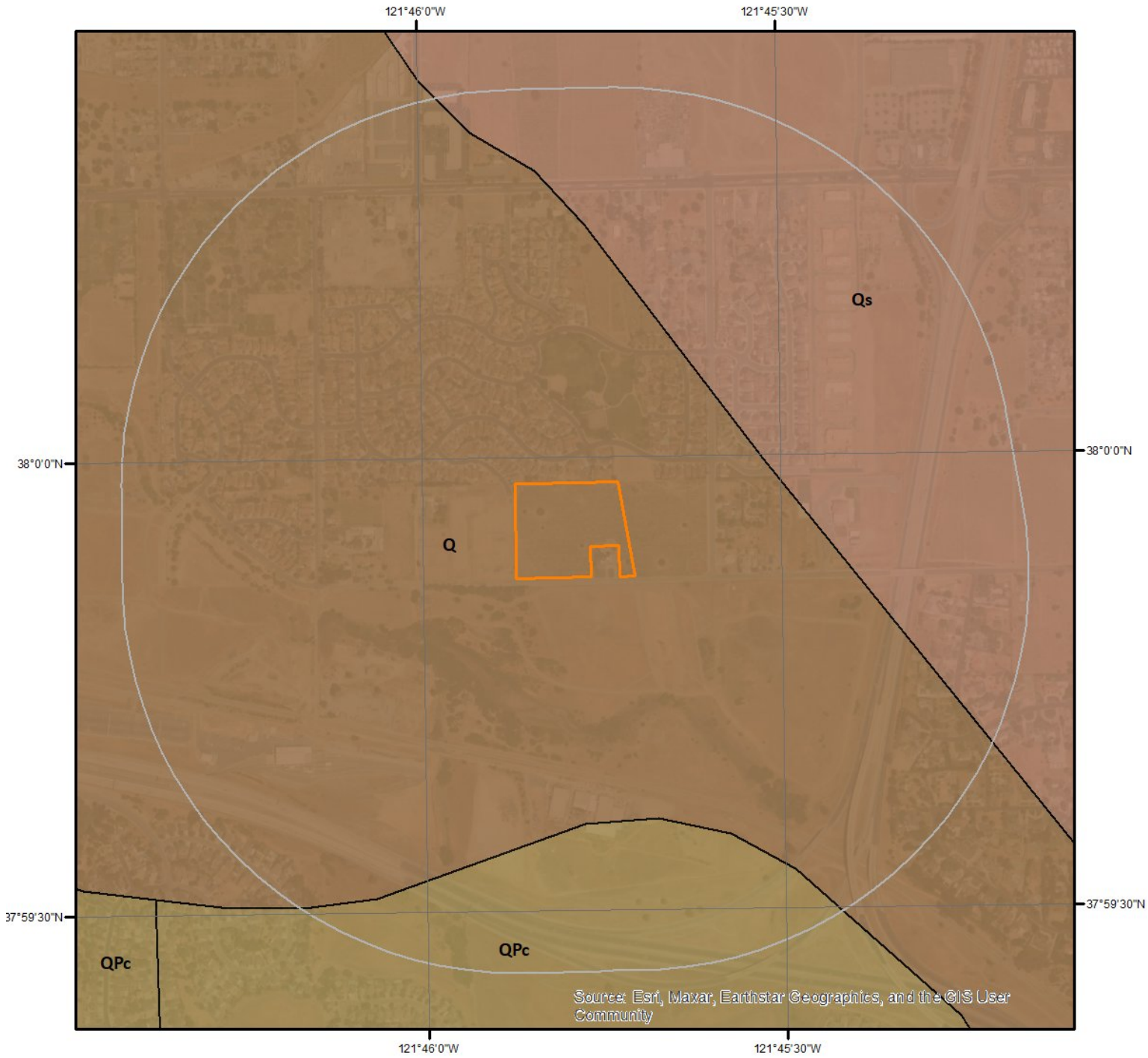
Flood Zone X-01

Zone:	X
Zone subtype:	0.2 PCT ANNUAL CHANCE FLOOD HAZARD

Flood Zone X-12

Zone:	X
Zone subtype:	AREA OF MINIMAL FLOOD HAZARD

Geologic Information



0 0.225 0.45 Miles

N

Geologic Units

This maps shows geologic units in the area. Please refer to the report for detailed descriptions.

ERIS

0 0.3 0.6 Miles

Geologic Information

The previous page shows USGS geology information. Detailed information about each unit is provided below.

Geologic Unit Q

Unit Name:	Quaternary alluvium and marine deposits
Unit Age:	Pliocene to Holocene
Primary Rock Type:	alluvium
Secondary Rock Type:	terrace
Unit Description:	Alluvium, lake, playa, and terrace deposits; unconsolidated and semi-consolidated. Mostly nonmarine, but includes marine deposits near the coast.

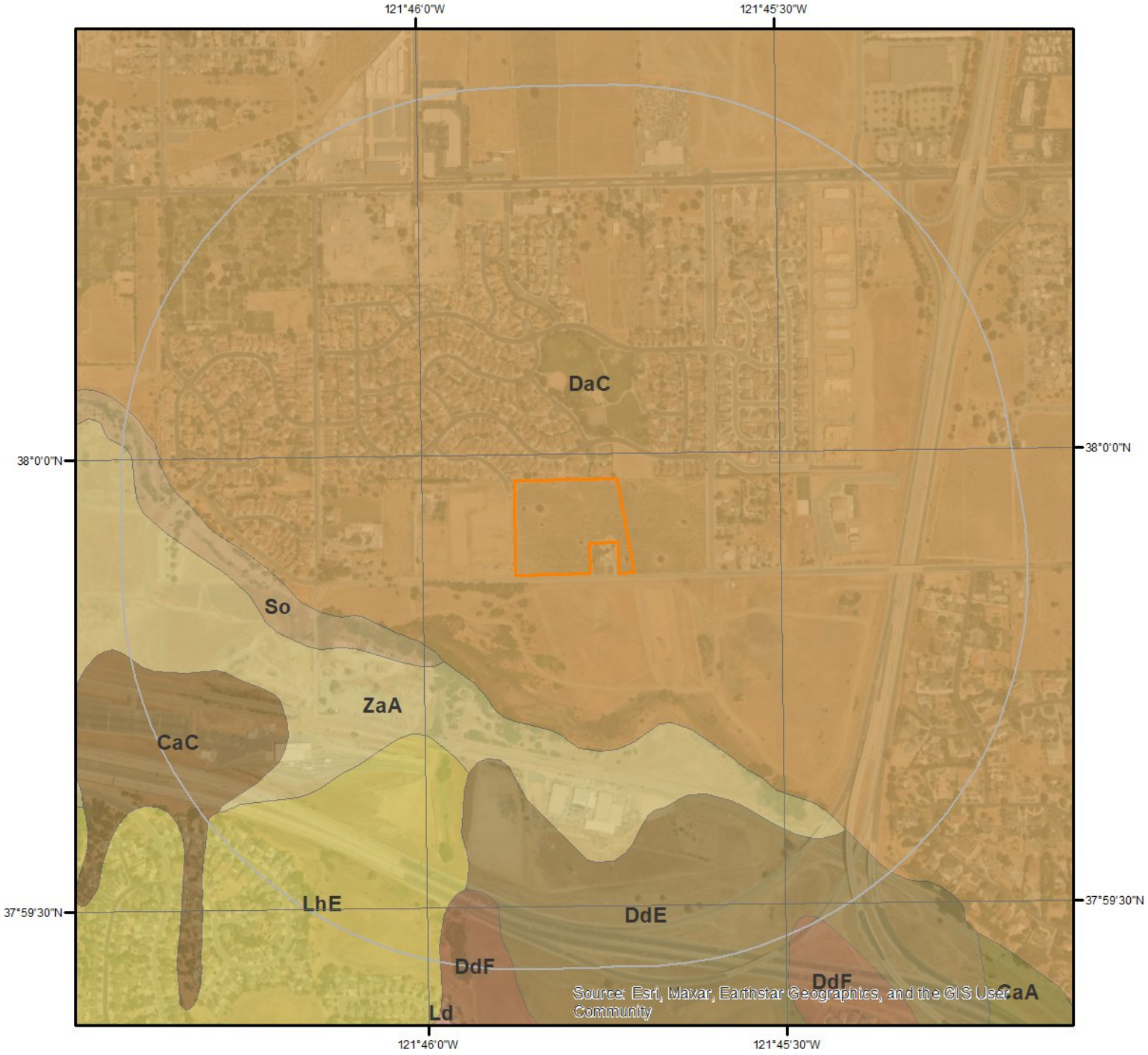
Geologic Unit Qs

Unit Name:	Quaternary sand deposits, unit 2 (inland)
Unit Age:	Quaternary
Primary Rock Type:	dune sand
Secondary Rock Type:	lake or marine deposit (non-glacial)
Unit Description:	Extensive marine and nonmarine sand deposits, generally near the coast or desert playas

Geologic Unit QPc

Unit Name:	Plio-Pleistocene and Pliocene loosely consolidated deposits
Unit Age:	Miocene to Pleistocene
Primary Rock Type:	sandstone
Secondary Rock Type:	conglomerate
Unit Description:	Pliocene and/or Pleistocene sandstone, shale, and gravel deposits; in part Miocene.

Soil Information



SSURGO Soils

0 0.2 0.4 Miles N

This maps shows SSURGO soil units around the target property. Please refer to the report for detailed soil descriptions.

ERIS

Soil Information

The previous page shows a soil map using SSURGO data from USDA Natural Resources Conservation Service. Detailed information about each unit is provided below.

Map Unit CaC (0.45%)

Map Unit Name:	Capay clay, 1 to 15 percent slopes, MLRA 17
Bedrock Depth - Min:	
Watertable Depth - Annual Min:	
Drainage Class - Dominant:	Moderately well drained
Hydrologic Group - Dominant:	C - Soils in this group have moderately high runoff potential when thoroughly wet. Water transmission through the soil is somewhat restricted.

Major components are printed below

Capay(85%)

horizon Ap(0cm to 15cm)	Clay
horizon Bss1(15cm to 38cm)	Clay
horizon Bss2(38cm to 69cm)	Clay
horizon Bkss(69cm to 91cm)	Clay
horizon Bk1(91cm to 130cm)	Clay
horizon Bk2(130cm to 183cm)	Silty clay loam

Component Description:

Minor map unit components are excluded from this report.

Map Unit: CaC - Capay clay, 1 to 15 percent slopes, MLRA 17

Component: Capay (85%)
The Capay component makes up 85 percent of the map unit. Slopes are 1 to 15 percent. This component is on stream terraces on valleys. The parent material consists of clayey alluvium derived from sedimentary rock. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is high. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 4e. Irrigated land capability classification is 2e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 1 percent. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 7 within 30 inches of the soil surface.

Component: Rincon (7%)
Generated brief soil descriptions are created for major soil components. The Rincon soil is a minor component.

Component: Antioch (5%)
Generated brief soil descriptions are created for major soil components. The Antioch soil is a minor component.

Component: Brentwood (3%)
Generated brief soil descriptions are created for major soil components. The Brentwood soil is a minor component.

Map Unit DaC (84.37%)

Map Unit Name:	Delhi sand, 2 to 9 percent slopes
Bedrock Depth - Min:	
Watertable Depth - Annual Min:	
Drainage Class - Dominant:	Somewhat excessively drained
Hydrologic Group - Dominant:	A - Soils in this group have low runoff potential when thoroughly wet. Water is transmitted freely through the soil.

Major components are printed below

Delhi(85%)

horizon H1(0cm to 13cm)	Sand
horizon H2(13cm to 152cm)	Sand

Component Description:

Minor map unit components are excluded from this report.

Map Unit: DaC - Delhi sand, 2 to 9 percent slopes

Component: Delhi (85%)
The Delhi component makes up 85 percent of the map unit. Slopes are 2 to 9 percent. This component is on alluvial fans, terraces, flood plains. The parent material consists of eolian deposits derived from igneous and sedimentary rock. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat excessively drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 6e. Irrigated land capability classification is 3s. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface.

Component: Unnamed (12%)
Generated brief soil descriptions are created for major soil components. The Unnamed soil is a minor component.

Component: Laugenour (3%)
Generated brief soil descriptions are created for major soil components. The Laugenour soil is a minor component.

Map Unit DdE (4.16%)

Map Unit Name:	Diablo clay, 15 to 30 percent slopes, MLRA 15
Bedrock Depth - Min:	135cm
Watertable Depth - Annual Min:	
Drainage Class - Dominant:	Well drained
Hydrologic Group - Dominant:	C - Soils in this group have moderately high runoff potential when thoroughly wet. Water transmission through the soil is somewhat restricted.

Major components are printed below

Diablo(85%)

horizon A1(0cm to 13cm)	Clay
horizon A2(13cm to 46cm)	Clay
horizon Bkss1(46cm to 76cm)	Clay
horizon Bkss2(76cm to 99cm)	Clay
horizon Ck(99cm to 135cm)	Clay
horizon Cr(135cm to 200cm)	Bedrock

Component Description:

Minor map unit components are excluded from this report.

Map Unit: DdE - Diablo clay, 15 to 30 percent slopes, MLRA 15

Component: Diablo (85%)
The Diablo component makes up 85 percent of the map unit. Slopes are 15 to 30 percent. This component is on hillslopes on hills, hillslopes on mountains, mountain slopes on hills, mountain slopes on mountains. The parent material consists of residuum weathered from calcareous shale. Depth to a root restrictive layer, bedrock, paralithic, is 40 to 59 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is very low. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is very high. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. This component is in the R015XD001CA Clayey, Clayey Hills ecological site. Nonirrigated land capability classification is 4e. Irrigated land capability classification is 4e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 4 percent. There are no saline horizons within 30 inches of the soil surface.

Component: Alo (4%)
Generated brief soil descriptions are created for major soil components. The Alo soil is a minor component.

Component: Cropley (4%)
Generated brief soil descriptions are created for major soil components. The Cropley soil is a minor component.

Component: Sehorn (3%)
Generated brief soil descriptions are created for major soil components. The Sehorn soil is a minor component.

Component: Haire (1%)
Generated brief soil descriptions are created for major soil components. The Haire soil is a minor component.

Component: Altamont (1%)
Generated brief soil descriptions are created for major soil components. The Altamont soil is a minor component.

Component: Linne (1%)
Generated brief soil descriptions are created for major soil components. The Linne soil is a minor component.

Component: Raynor (1%)
Generated brief soil descriptions are created for major soil components. The Raynor soil is a minor component.

Map Unit DdF (3.15%)

Map Unit Name:	Diablo clay, 30 to 50 percent slopes, MLRA 15
Bedrock Depth - Min:	135cm
Watertable Depth - Annual Min:	
Drainage Class - Dominant:	Well drained
Hydrologic Group - Dominant:	C - Soils in this group have moderately high runoff potential when thoroughly wet. Water transmission through the soil is somewhat restricted.

Major components are printed below

Diablo(85%)

horizon A1(0cm to 13cm)	Clay
horizon A2(13cm to 46cm)	Clay
horizon Bkss1(46cm to 76cm)	Clay
horizon Bkss2(76cm to 99cm)	Clay
horizon Ck(99cm to 135cm)	Clay
horizon Cr(135cm to 200cm)	Bedrock

Component Description:

Minor map unit components are excluded from this report.

Map Unit: DdF - Diablo clay, 30 to 50 percent slopes, MLRA 15

Component: Diablo (85%)
The Diablo component makes up 85 percent of the map unit. Slopes are 30 to 50 percent. This component is on hillslopes on hills, hillslopes on mountains, mountain slopes on hills, mountain slopes on mountains. The parent material consists of residuum weathered from calcareous shale. Depth to a root restrictive layer, bedrock, paralithic, is 40 to 59 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is very low. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is very high. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. This component is in the R015XD001CA Clayey, Clayey Hills ecological site. Nonirrigated land capability classification is 4e. Irrigated land capability classification is 4e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 4 percent. There are no saline horizons within 30 inches of the soil surface.

Component: Alo (8%)
Generated brief soil descriptions are created for major soil components. The Alo soil is a minor component.

Component: Sehorn (5%)
Generated brief soil descriptions are created for major soil components. The Sehorn soil is a minor component.

Component: Lodo (2%)
Generated brief soil descriptions are created for major soil components. The Lodo soil is a minor component.

Soil Information

Map Unit LhE (2.58%)

Map Unit Name:	Los Osos clay loam, 15 to 30 percent slopes
Bedrock Depth - Min:	81cm
Watertable Depth - Annual Min:	
Drainage Class - Dominant:	Well drained
Hydrologic Group - Dominant:	D - Soils in this group have high runoff potential when thoroughly wet. Water movement through the soil is restricted or very restricted.

Major components are printed below

Los Osos(85%)

horizon A(0cm to 25cm)	Clay loam
horizon Bt1(25cm to 50cm)	Clay
horizon Bt2(50cm to 81cm)	Clay
horizon Cr(81cm to 106cm)	Bedrock

Component Description:

Minor map unit components are excluded from this report.

Map Unit: LhE - Los Osos clay loam, 15 to 30 percent slopes

Component: Los Osos (85%)
The Los Osos component makes up 85 percent of the map unit. Slopes are 15 to 30 percent. This component is on hills, uplands. The parent material consists of residuum weathered from sandstone and shale. Depth to a root restrictive layer, bedrock, paralithic, is 24 to 40 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is high. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. This component is in the R015XD035CA Steep Fine Loamy ecological site. Nonirrigated land capability classification is 6e. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 2 within 30 inches of the soil surface.

Component: Alo (4%)
Generated brief soil descriptions are created for major soil components. The Alo soil is a minor component.

Component: Gaviota (2%)
Generated brief soil descriptions are created for major soil components. The Gaviota soil is a minor component.

Component: Diablo (2%)
Generated brief soil descriptions are created for major soil components. The Diablo soil is a minor component.

Component: Millsholm (2%)
Generated brief soil descriptions are created for major soil components. The Millsholm soil is a minor component.

Component: Lodo (2%)
Generated brief soil descriptions are created for major soil components. The Lodo soil is a minor component.

Component: Los Gatos (1%)
Generated brief soil descriptions are created for major soil components. The Los Gatos soil is a minor component.

Component: San Benito (1%)
Generated brief soil descriptions are created for major soil components. The San Benito soil is a minor component.

Component: Tierra (1%)
Generated brief soil descriptions are created for major soil components. The Tierra soil is a minor component.

Map Unit So (0.66%)

Map Unit Name:	Sycamore silty clay loam, 0 to 2 percent slopes, MLRA 17
Bedrock Depth - Min:	

Soil Information

Watertable Depth - Annual Min:	127cm
Drainage Class - Dominant:	Poorly drained
Hydrologic Group - Dominant:	C - Soils in this group have moderately high runoff potential when thoroughly wet. Water transmission through the soil is somewhat restricted.

Major components are printed below

Sycamore(85%)

horizon Ap(0cm to 10cm)	Silty clay loam
horizon A(10cm to 38cm)	Silty clay loam
horizon Bw1(38cm to 58cm)	Silt loam
horizon Bw2(58cm to 69cm)	Silt loam
horizon C(69cm to 79cm)	Loamy fine sand
horizon B'w3(79cm to 107cm)	Silty clay loam
horizon B'w4(107cm to 142cm)	Silty clay loam
horizon B'w5(142cm to 168cm)	Silty clay loam

Component Description:

Minor map unit components are excluded from this report.

Map Unit: So - Sycamore silty clay loam, 0 to 2 percent slopes, MLRA 17

Component: Sycamore (85%)
The Sycamore component makes up 85 percent of the map unit. Slopes are 0 to 2 percent. This component is on alluvial fans on valleys. The parent material consists of alluvium derived from sedimentary rock. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is moderate. This soil is rarely flooded. It is not ponded. A seasonal zone of water saturation is at 50 inches during January, February. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 4c. Irrigated land capability classification is 1 This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 1 percent. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Component: Sorrento (5%)
Generated brief soil descriptions are created for major soil components. The Sorrento soil is a minor component.

Component: Laugenour (4%)
Generated brief soil descriptions are created for major soil components. The Laugenour soil is a minor component.

Component: Omni (3%)
Generated brief soil descriptions are created for major soil components. The Omni soil is a minor component.

Component: Delhi (2%)
Generated brief soil descriptions are created for major soil components. The Delhi soil is a minor component.

Component: Unnamed (1%)
Generated brief soil descriptions are created for major soil components. The Unnamed soil is a minor component.

Map Unit ZaA (4.64%)

Map Unit Name:	Zamora silty clay loam, 0 to 3 percent slopes, MLRA 14
Bedrock Depth - Min:	
Watertable Depth - Annual Min:	
Drainage Class - Dominant:	Well drained
Hydrologic Group - Dominant:	C - Soils in this group have moderately high runoff potential when thoroughly wet. Water transmission through the soil is somewhat restricted.

Major components are printed below

Zamora(85%)

horizon Ap(0cm to 10cm)	Silty clay loam
horizon A(10cm to 41cm)	Silty clay loam
horizon Bt1(41cm to 71cm)	Silty clay loam

horizon Bt2(71cm to 117cm)	Silty clay loam
horizon Bt3(117cm to 152cm)	Silty clay loam
horizon Bt4(152cm to 183cm)	Clay loam

Component Description:

Minor map unit components are excluded from this report.

Map Unit: ZaA - Zamora silty clay loam, 0 to 3 percent slopes, MLRA 14

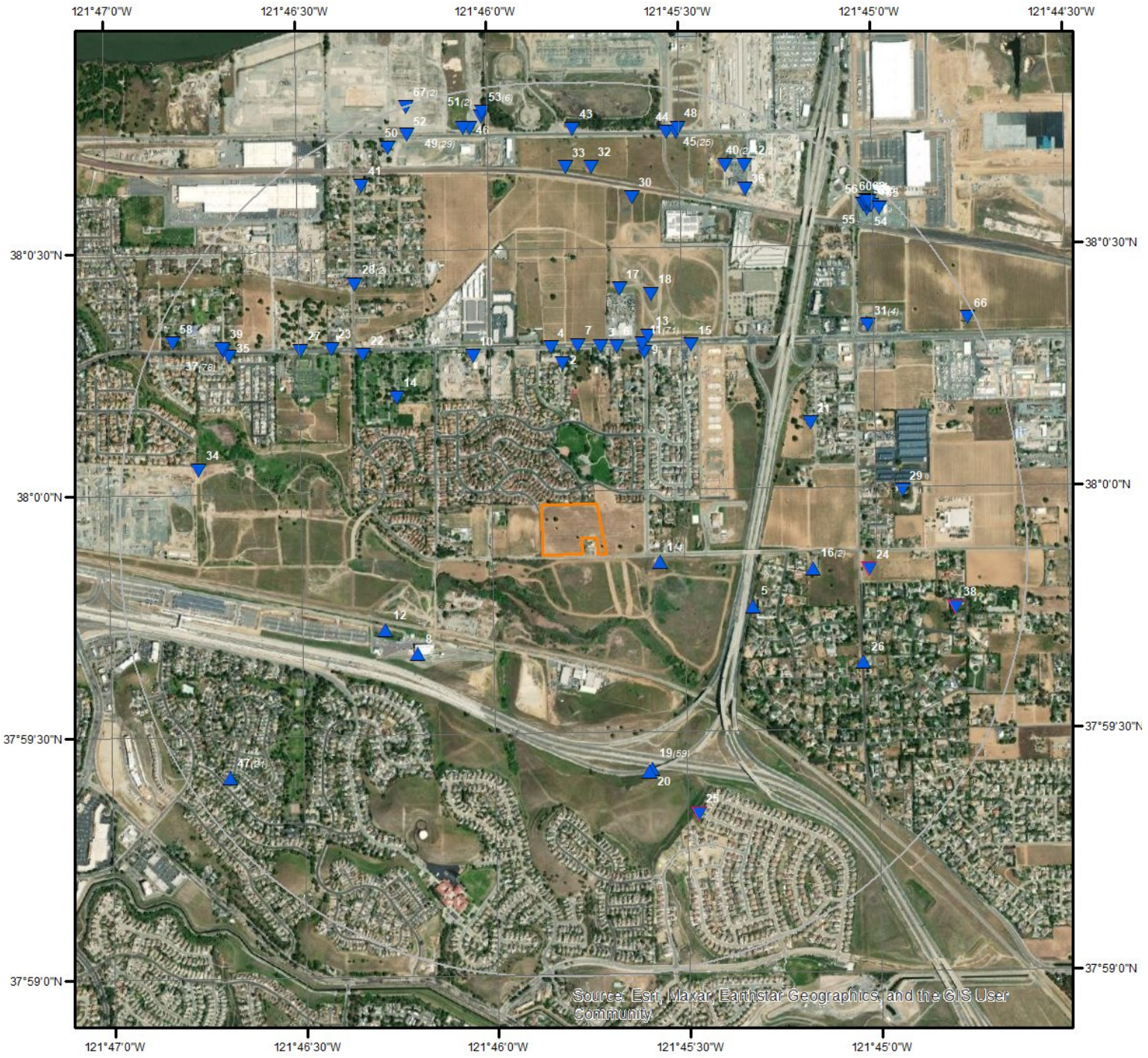
Component: Zamora (85%)
The Zamora component makes up 85 percent of the map unit. Slopes are 0 to 3 percent. This component is on stream terraces on valleys, alluvial fans on valleys. The parent material consists of alluvium derived from sedimentary rock. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is moderate. This soil is rarely flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 4c. Irrigated land capability classification is 1 This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface.

Component: Garretson (5%)
Generated brief soil descriptions are created for major soil components. The Garretson soil is a minor component.

Component: Los Robles (5%)
Generated brief soil descriptions are created for major soil components. The Los Robles soil is a minor component.

Component: Rincon (5%)
Generated brief soil descriptions are created for major soil components. The Rincon soil is a minor component.

Wells and Additional Sources



Wells & Additional Sources

N

0 0.15 0.3 0.6 Miles

- Sites with Higher Elevation
- Sites with Same Elevation
- Sites with Lower Elevation
- Sites with Unknown Elevation
- OGW Sites with Higher Elevation
- OGW Sites with Same Elevation
- OGW Sites with Lower Elevation
- OGW Sites with Unknown Elevation

ERIS

Wells and Additional Sources Summary

Federal Sources

Public Water Systems Violations and Enforcement Data

Map Key	PWS ID	Distance (ft)	Direction
3	CA0707568	1957.52	N
4	CA3901330	1959.09	N
6	CA0707554	1974.61	NNE
15	CA0706106	2305.02	NNE
23	CA0707570	3278.34	NW
27	CA0701988	3579.43	WNW
28	CA0707551	3616.30	NW

Safe Drinking Water Information System (SDWIS)

Map Key	PWS ID	Distance (ft)	Direction
28	CA0707551	3616.30	NW

USGS National Water Information System

Map Key	Site Number	Distance (ft)	Direction
2	USGS-380016121454501	1758.84	N
9	USGS-380017121453601	1984.34	NNE
10	USGS-380017121455901	2043.32	NNW
14	USGS-380012121461101	2254.01	NW
35	USGS-380017121464101	4328.31	WNW
50	USGS-380043121461201	4869.66	NNW
58	USGS-380019121464601	5042.61	WNW
67	USGS-380048121460901	5260.00	NNW
67	USGS-380048121460902	5260.00	NNW

Wells from NWIS

Map Key	ID	Distance (ft)	Direction
	No records found		

State Sources

Oil and Gas Wells

Map Key	API No	Distance (ft)	Direction
24	0401320142	3304.63	E
25	0401300278	3462.62	SSE
38	0401300277	4439.11	ESE

Periodic Groundwater Level Measurement Locations

Map Key	Site Code	Distance (ft)	Direction
51	380129N1217670W002	4920.17	NNW

51	380129N1217670W001	4920.17	NNW

Well Completion Reports

Map Key	WCR No	Distance (ft)	Direction
1	WCR2011-006461	687.10	ESE
1	WCR2011-006459	687.10	ESE
1	WCR2011-006460	687.10	ESE
1	WCR2011-006462	687.10	ESE
5	WCR2009-000923	1966.43	ESE
7	WCR2019-005225	1978.24	N
8	WCR2012-006371	1984.19	SW
11	WCR1993-005236	2071.19	NNE
11	WCR2001-005486	2071.19	NNE
11	WCR0071625	2071.19	NNE
11	WCR1951-000013	2071.19	NNE
11	WCR0129958	2071.19	NNE
11	WCR1997-006006	2071.19	NNE
11	WCR1983-001428	2071.19	NNE
11	WCR1987-001677	2071.19	NNE
11	WCR2001-004705	2071.19	NNE
11	WCR1992-006234	2071.19	NNE
11	WCR2001-004305	2071.19	NNE
11	WCR1996-001262	2071.19	NNE
11	WCR1989-003051	2071.19	NNE
11	WCR1989-003559	2071.19	NNE
11	WCR1997-006003	2071.19	NNE
11	WCR1980-004325	2071.19	NNE
11	WCR2001-004300	2071.19	NNE
11	WCR1987-001675	2071.19	NNE
11	WCR1991-002136	2071.19	NNE
11	WCR1996-001261	2071.19	NNE
11	WCR2001-004298	2071.19	NNE
11	WCR2001-005487	2071.19	NNE
11	WCR1989-003561	2071.19	NNE
11	WCR1978-000683	2071.19	NNE
11	WCR2001-005479	2071.19	NNE
11	WCR1995-005428	2071.19	NNE
11	WCR1982-001082	2071.19	NNE
11	WCR2001-004299	2071.19	NNE
11	WCR0326291	2071.19	NNE
11	WCR1988-011325	2071.19	NNE
11	WCR2001-004302	2071.19	NNE
11	WCR2001-004304	2071.19	NNE
11	WCR1989-003557	2071.19	NNE
11	WCR1999-000159	2071.19	NNE
11	WCR1989-003052	2071.19	NNE
11	WCR1951-000012	2071.19	NNE
11	WCR0014962	2071.19	NNE
11	WCR1978-000252	2071.19	NNE
11	WCR1996-001263	2071.19	NNE
11	WCR1990-001920	2071.19	NNE
11	WCR2002-003786	2071.19	NNE
11	WCR1987-001676	2071.19	NNE
11	WCR2005-003880	2071.19	NNE
11	WCR1989-003050	2071.19	NNE
11	WCR1997-006005	2071.19	NNE
11	WCR1989-003558	2071.19	NNE
11	WCR2001-004303	2071.19	NNE
11	WCR1988-011326	2071.19	NNE
11	WCR1982-000044	2071.19	NNE
11	WCR2001-005485	2071.19	NNE
11	WCR1987-004290	2071.19	NNE
11	WCR2005-004598	2071.19	NNE

11	WCR1989-003057	2071.19	NNE
11	WCR1997-006004	2071.19	NNE
11	WCR2001-005483	2071.19	NNE
11	WCR2001-005480	2071.19	NNE
11	WCR2001-004301	2071.19	NNE
11	WCR1989-003560	2071.19	NNE
11	WCR1994-005953	2071.19	NNE
11	WCR2001-005484	2071.19	NNE
11	WCR0292323	2071.19	NNE
11	WCR2001-004306	2071.19	NNE
11	WCR2002-001211	2071.19	NNE
11	WCR0298536	2071.19	NNE
11	WCR1978-000245	2071.19	NNE
11	WCR2001-004704	2071.19	NNE
11	WCR1996-001264	2071.19	NNE
11	WCR2001-005481	2071.19	NNE
11	WCR1982-000772	2071.19	NNE
11	WCR1995-001361	2071.19	NNE
11	WCR2001-005482	2071.19	NNE
12	WCR2012-006370	2170.19	WSW
13	WCR2021-000487	2191.29	NNE
16	WCR2013-006475	2607.47	E
16	WCR2013-003901	2607.47	E
17	WCR2021-000490	2696.53	NNE
18	WCR2021-000489	2700.01	NNE
19	WCR0226349	2749.62	SSE
19	WCR2004-004200	2749.62	SSE
19	WCR1992-008970	2749.62	SSE
19	WCR2007-006114	2749.62	SSE
19	WCR2003-003560	2749.62	SSE
19	WCR2009-003872	2749.62	SSE
19	WCR0194034	2749.62	SSE
19	WCR0267562	2749.62	SSE
19	WCR0121586	2749.62	SSE
19	WCR0241871	2749.62	SSE
19	WCR2004-001668	2749.62	SSE
19	WCR2009-006263	2749.62	SSE
19	WCR2004-004216	2749.62	SSE
19	WCR2003-003559	2749.62	SSE
19	WCR0325920	2749.62	SSE
19	WCR0276173	2749.62	SSE
19	WCR0030663	2749.62	SSE
19	WCR2009-003870	2749.62	SSE
19	WCR0249458	2749.62	SSE
19	WCR0242051	2749.62	SSE
19	WCR0120753	2749.62	SSE
19	WCR0203910	2749.62	SSE
19	WCR2005-003879	2749.62	SSE
19	WCR0224401	2749.62	SSE
19	WCR0186301	2749.62	SSE
19	WCR1981-002652	2749.62	SSE
19	WCR2003-003694	2749.62	SSE
19	WCR2005-004345	2749.62	SSE
19	WCR2009-006260	2749.62	SSE
19	WCR2009-006262	2749.62	SSE
19	WCR2009-006264	2749.62	SSE
19	WCR2005-003878	2749.62	SSE
19	WCR2005-003877	2749.62	SSE
19	WCR2004-004303	2749.62	SSE
19	WCR0186300	2749.62	SSE
19	WCR0053364	2749.62	SSE
19	WCR2009-003871	2749.62	SSE
19	WCR0296869	2749.62	SSE
19	WCR0120754	2749.62	SSE
19	WCR0082596	2749.62	SSE
19	WCR2009-006261	2749.62	SSE

19	WCR2010-000119	2749.62	SSE
19	WCR2009-006819	2749.62	SSE
19	WCR2009-006825	2749.62	SSE
19	WCR2004-001031	2749.62	SSE
19	WCR2009-006169	2749.62	SSE
19	WCR2004-004201	2749.62	SSE
19	WCR0322536	2749.62	SSE
19	WCR0299622	2749.62	SSE
19	WCR0287847	2749.62	SSE
19	WCR2004-004202	2749.62	SSE
19	WCR2004-004304	2749.62	SSE
19	WCR2005-003875	2749.62	SSE
19	WCR2005-003874	2749.62	SSE
19	WCR0258373	2749.62	SSE
19	WCR2004-004302	2749.62	SSE
19	WCR2009-003869	2749.62	SSE
19	WCR2009-004403	2749.62	SSE
19	WCR2005-003876	2749.62	SSE
20	WCR1988-006471	2787.74	SSE
21	WCR2022-001824	2855.04	ENE
22	WCR2013-004143	2910.98	NW
26	WCR0157279	3505.26	ESE
29	WCR2021-005341	3796.67	E
30	WCR2021-000492	3856.55	N
31	WCR2017-009680	4058.24	NE
31	WCR2017-009683	4058.24	NE
31	WCR2017-009678	4058.24	NE
31	WCR2017-009681	4058.24	NE
32	WCR2017-009755	4210.28	N
33	WCR2015-005926	4213.64	N
34	WCR2015-005900	4319.42	W
36	WCR2013-004615	4345.48	NNE
37	WCR2004-004674	4424.85	WNW
37	WCR2004-004604	4424.85	WNW
37	WCR2004-002600	4424.85	WNW
37	WCR2009-007060	4424.85	WNW
37	WCR0057716	4424.85	WNW
37	WCR0099089	4424.85	WNW
37	WCR0253695	4424.85	WNW
37	WCR0225901	4424.85	WNW
37	WCR1994-005962	4424.85	WNW
37	WCR2005-004524	4424.85	WNW
37	WCR1996-002711	4424.85	WNW
37	WCR1984-003155	4424.85	WNW
37	WCR1994-000901	4424.85	WNW
37	WCR2008-001026	4424.85	WNW
37	WCR2011-000579	4424.85	WNW
37	WCR1992-006226	4424.85	WNW
37	WCR2008-001029	4424.85	WNW
37	WCR2002-001170	4424.85	WNW
37	WCR1983-001433	4424.85	WNW
37	WCR2009-007075	4424.85	WNW
37	WCR2002-001202	4424.85	WNW
37	WCR2011-002259	4424.85	WNW
37	WCR2011-000583	4424.85	WNW
37	WCR1993-001957	4424.85	WNW
37	WCR0225973	4424.85	WNW
37	WCR0143615	4424.85	WNW
37	WCR1989-003593	4424.85	WNW
37	WCR0211245	4424.85	WNW
37	WCR1991-009975	4424.85	WNW
37	WCR2011-000572	4424.85	WNW
37	WCR1981-002955	4424.85	WNW
37	WCR1987-008424	4424.85	WNW
37	WCR1988-006468	4424.85	WNW
37	WCR0103655	4424.85	WNW

37	WCR0088145	4424.85	WNW
37	WCR0294438	4424.85	WNW
37	WCR0127820	4424.85	WNW
37	WCR1959-000229	4424.85	WNW
37	WCR1993-004248	4424.85	WNW
37	WCR2010-000156	4424.85	WNW
37	WCR1987-005721	4424.85	WNW
37	WCR2007-000790	4424.85	WNW
37	WCR2002-001169	4424.85	WNW
37	WCR1990-005199	4424.85	WNW
37	WCR2011-000585	4424.85	WNW
37	WCR2005-003694	4424.85	WNW
37	WCR1994-005964	4424.85	WNW
37	WCR0087010	4424.85	WNW
37	WCR1982-001455	4424.85	WNW
37	WCR2005-003692	4424.85	WNW
37	WCR2006-002710	4424.85	WNW
37	WCR0044800	4424.85	WNW
37	WCR1979-001480	4424.85	WNW
37	WCR2004-002601	4424.85	WNW
37	WCR0269990	4424.85	WNW
37	WCR0203946	4424.85	WNW
37	WCR2007-000789	4424.85	WNW
37	WCR0056109	4424.85	WNW
37	WCR1992-003310	4424.85	WNW
37	WCR2011-000584	4424.85	WNW
37	WCR2011-000577	4424.85	WNW
37	WCR2004-002599	4424.85	WNW
37	WCR1989-003592	4424.85	WNW
37	WCR2011-000578	4424.85	WNW
37	WCR1989-003596	4424.85	WNW
37	WCR1989-003595	4424.85	WNW
37	WCR1974-000318	4424.85	WNW
37	WCR1982-000773	4424.85	WNW
37	WCR1973-000680	4424.85	WNW
37	WCR2011-002258	4424.85	WNW
37	WCR1992-003311	4424.85	WNW
37	WCR2005-003693	4424.85	WNW
37	WCR1988-006415	4424.85	WNW
37	WCR0084462	4424.85	WNW
37	WCR2010-000155	4424.85	WNW
37	WCR2000-001276	4424.85	WNW
37	WCR1989-003594	4424.85	WNW
37	WCR1980-003273	4424.85	WNW
39	WCR1959-000230	4444.81	WNW
40	WCR2013-005075	4526.59	NNE
40	WCR2013-004612	4526.59	NNE
41	WCR2011-005997	4584.61	NNW
42	WCR2013-004613	4620.15	NNE
42	WCR2013-004614	4620.15	NNE
43	WCR2015-008514	4693.18	N
44	WCR2021-010031	4727.51	NNE
45	WCR2020-014549	4753.61	NNE
45	WCR2020-014591	4753.61	NNE
45	WCR2020-014584	4753.61	NNE
45	WCR2020-014555	4753.61	NNE
45	WCR2020-014554	4753.61	NNE
45	WCR2020-014562	4753.61	NNE
45	WCR2020-014570	4753.61	NNE
45	WCR2020-014558	4753.61	NNE
45	WCR2020-014586	4753.61	NNE
45	WCR2020-014588	4753.61	NNE
45	WCR2020-014564	4753.61	NNE
45	WCR2020-014581	4753.61	NNE
45	WCR2020-014576	4753.61	NNE
45	WCR2020-014556	4753.61	NNE

45	WCR2020-014579	4753.61	NNE
45	WCR2020-014550	4753.61	NNE
45	WCR2020-014589	4753.61	NNE
45	WCR2020-014559	4753.61	NNE
45	WCR2020-014565	4753.61	NNE
45	WCR2020-014578	4753.61	NNE
45	WCR2020-014577	4753.61	NNE
45	WCR2020-014551	4753.61	NNE
45	WCR2020-014568	4753.61	NNE
45	WCR2020-014571	4753.61	NNE
45	WCR2020-014553	4753.61	NNE
46	WCR2012-006208	4799.57	NNW
47	WCR2005-004254	4802.67	SW
47	WCR1998-006308	4802.67	SW
47	WCR1998-006306	4802.67	SW
47	WCR0240905	4802.67	SW
47	WCR0061471	4802.67	SW
47	WCR0113644	4802.67	SW
47	WCR2000-004781	4802.67	SW
47	WCR1985-003401	4802.67	SW
47	WCR2005-004253	4802.67	SW
47	WCR2000-006817	4802.67	SW
47	WCR1985-002044	4802.67	SW
47	WCR2000-004780	4802.67	SW
47	WCR1998-006307	4802.67	SW
47	WCR1998-006237	4802.67	SW
47	WCR1988-004675	4802.67	SW
47	WCR1988-004741	4802.67	SW
47	WCR2000-004782	4802.67	SW
47	WCR2000-004779	4802.67	SW
47	WCR2000-004671	4802.67	SW
47	WCR1992-007822	4802.67	SW
47	WCR1988-004674	4802.67	SW
48	WCR2015-008513	4805.72	NNE
49	WCR0320692	4814.42	NNW
49	WCR0171267	4814.42	NNW
49	WCR2012-006085	4814.42	NNW
49	WCR2012-006554	4814.42	NNW
49	WCR2012-006059	4814.42	NNW
49	WCR2012-006553	4814.42	NNW
49	WCR2012-006030	4814.42	NNW
49	WCR2012-002838	4814.42	NNW
49	WCR2012-002848	4814.42	NNW
49	WCR2012-006025	4814.42	NNW
49	WCR2012-006083	4814.42	NNW
49	WCR2012-006029	4814.42	NNW
49	WCR2012-006088	4814.42	NNW
49	WCR2012-006206	4814.42	NNW
49	WCR2012-006023	4814.42	NNW
49	WCR2012-006082	4814.42	NNW
49	WCR2012-006018	4814.42	NNW
49	WCR2012-006084	4814.42	NNW
49	WCR2012-002843	4814.42	NNW
49	WCR2012-002845	4814.42	NNW
49	WCR2012-006019	4814.42	NNW
49	WCR2012-006086	4814.42	NNW
49	WCR2012-006024	4814.42	NNW
49	WCR2012-006026	4814.42	NNW
49	WCR2012-002847	4814.42	NNW
49	WCR2012-006207	4814.42	NNW
49	WCR0320691	4814.42	NNW
49	WCR0312714	4814.42	NNW
49	WCR0269126	4814.42	NNW
52	WCR2008-005873	4924.99	NNW
53	WCR2011-002687	4973.98	NNW
53	WCR2011-002515	4973.98	NNW

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53	WCR2011-002678	4973.98	NNW
53	WCR2011-002688	4973.98	NNW
53	WCR0215148	4973.98	NNW
53	WCR0060841	4973.98	NNW
54	WCR2018-010490	4996.99	NE
55	WCR2018-010492	5008.21	NE
56	WCR2018-010491	5024.28	NE
57	WCR2018-010493	5040.99	NE
57	WCR2012-005599	5040.99	NE
57	WCR2012-005600	5040.99	NE
57	WCR2012-005598	5040.99	NE
57	WCR2012-005597	5040.99	NE
59	WCR2018-010494	5061.41	NE
60	WCR2018-010657	5064.70	NE
61	WCR2018-010489	5066.29	NE
62	WCR2018-010658	5072.66	NE
63	WCR2018-010654	5073.30	NE
64	WCR2018-010487	5079.69	NE
65	WCR2018-010660	5113.31	NE
66	WCR2022-001089	5186.42	ENE

Public Water Systems Violations and Enforcement Data

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
3	N	0.37	1,957.52	43.41	PWSV

Address Line 2:
State Code: CA
Zip Code: 94509
City Name: ANTIOCH
Address Line 1: 3100 E. 18TH ST
PWS ID: CA0707568
PWS Type Code: TNCWS
PWS Type Description: Transient Non-Community Water System
Primary Source Code: GW
Primary Source Desc: Groundwater
PWS Activity Code: A
PWS Activity Description: Active
PWS Deactivation Date:
Phone Number: 925-376-5126

--Details--
Population Served Count: 90
City Served:
County Served: Contra Costa
State Served: CA
Zip Code Served:

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
4	N	0.37	1,959.09	52.09	PWSV

Address Line 2:
State Code: CA
Zip Code: 94509
City Name: ANTIOCH
Address Line 1: 3000 E 18TH ST
PWS ID: CA3901330
PWS Type Code: TNCWS
PWS Type Description: Transient Non-Community Water System
Primary Source Code: GW
Primary Source Desc: Groundwater
PWS Activity Code: A
PWS Activity Description: Active
PWS Deactivation Date:
Phone Number:

Wells and Additional Sources Detail Report

--Details--
Population Served Count: 50
City Served:
County Served: San Joaquin
State Served: CA
Zip Code Served:

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
6	NNE	0.37	1,974.61	45.06	PWSV

Address Line 2:
State Code: CA
Zip Code: 94509
City Name: ANTIOCH
Address Line 1: 3120 E. 18TH ST
PWS ID: CA0707554
PWS Type Code: TNCWS
PWS Type Description: Transient Non-Community Water System
Primary Source Code: GW
Primary Source Desc: Groundwater
PWS Activity Code: I
PWS Activity Description: Inactive
PWS Deactivation Date: 08/10/2004
Phone Number: 9257573387

--Details--
Population Served Count: 30
City Served:
County Served: Contra Costa
State Served: CA
Zip Code Served:

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
15	NNE	0.44	2,305.02	41.40	PWSV

Address Line 2:
State Code: CA
Zip Code: 94509
City Name: ANTIOCH
Address Line 1: 3500 E. 18TH ST
PWS ID: CA0706106
PWS Type Code: TNCWS
PWS Type Description: Transient Non-Community Water System
Primary Source Code: GW
Primary Source Desc: Groundwater
PWS Activity Code: A

PWS Activity Description: Active
PWS Deactivation Date:
Phone Number: 925-706-7400

--Details--
Population Served Count: 60
City Served:
County Served: Contra Costa
State Served: CA
Zip Code Served:

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
23	NW	0.62	3,278.34	48.06	PWSV

Address Line 2:
State Code: CA
Zip Code: 94509
City Name: ANTIOCH
Address Line 1: 2415 E. 18TH AVENUE
PWS ID: CA0707570
PWS Type Code: TNCWS
PWS Type Description: Transient Non-Community Water System
Primary Source Code: GW
Primary Source Desc: Groundwater
PWS Activity Code: A
PWS Activity Description: Active
PWS Deactivation Date:
Phone Number: 925-757-4774

--Details--
Population Served Count: 80
City Served:
County Served: Contra Costa
State Served: CA
Zip Code Served:

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
27	WNW	0.68	3,579.43	48.72	PWSV

Address Line 2:
State Code: CA
Zip Code: 94509
City Name: ANTIOCH
Address Line 1: 2200 E. 18TH STREET
PWS ID: CA0701988
PWS Type Code: TNCWS

PWS Type Description: Transient Non-Community Water System
Primary Source Code: GW
Primary Source Desc: Groundwater
PWS Activity Code: A
PWS Activity Description: Active
PWS Deactivation Date:
Phone Number: 925-932-0900

--Details--
Population Served Count: 100
City Served:
County Served: Contra Costa
State Served: CA
Zip Code Served:

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
28	NW	0.68	3,616.30	42.25	PWSV

Address Line 2: 1633 VIERA AVENUE
State Code: CA
Zip Code: 94509
City Name: ANTIOCH
Address Line 1: DELLA RAYNER
PWS ID: CA0707551
PWS Type Code: TNCWS
PWS Type Description: Transient Non-Community Water System
Primary Source Code: GW
Primary Source Desc: Groundwater
PWS Activity Code: I
PWS Activity Description: Inactive
PWS Deactivation Date: 01/01/2000
Phone Number:

--Details--
Population Served Count: 70
City Served:
County Served:
State Served: CA
Zip Code Served:

Safe Drinking Water Information System (SDWIS)

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
28	NW	0.68	3,616.30	42.25	SDWIS

PWS ID: CA0707551
PWS Type: Transient non-community system

No of Facilities:	3
No of Violations:	0
No of Site Visits:	8
Cities Served:	-
Counties Served:	Contra Costa
Population Served Count:	70
Primacy Agency:	California
EPA Region:	Region 9

USGS National Water Information System

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
2	N	0.33	1,758.84	53.94	FED USGS

Reporting Agency:	USGS California Water Science Center
Site Number:	USGS-380016121454501
Station Name:	002N002E21L001M
Site Type:	Well
Latitude:	38.00436596000000
Longitude:	-121.7635656000000
Date Drilled:	19620101
Well Depth:	140
Well Depth Unit:	ft
Well Hole Depth:	140
W Hole Depth Unit:	ft
Formation Type:	Quaternary Alluvium

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
9	NNE	0.38	1,984.34	41.00	FED USGS

Reporting Agency:	USGS California Water Science Center
Site Number:	USGS-380017121453601
Station Name:	002N002E21Z001M MENDENHALL 1916
Site Type:	Well
Latitude:	38.00472220000000
Longitude:	-121.7600000000000
Date Drilled:	
Well Depth:	61
Well Depth Unit:	ft
Well Hole Depth:	
W Hole Depth Unit:	
Formation Type:	

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
10	NNW	0.39	2,043.32	47.14	FED USGS

Wells and Additional Sources Detail Report

Reporting Agency:	USGS California Water Science Center
Site Number:	USGS-380017121455901
Station Name:	002N002E21K001M
Site Type:	Well
Latitude:	38.00464370000000
Longitude:	-121.7674546000000
Date Drilled:	19520501
Well Depth:	120
Well Depth Unit:	ft
Well Hole Depth:	120
W Hole Depth Unit:	ft
Formation Type:	Quaternary Alluvium

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
14	NW	0.43	2,254.01	51.58	FED USGS

Reporting Agency:	USGS California Water Science Center
Site Number:	USGS-380012121461101
Station Name:	002N002E20J001M
Site Type:	Well
Latitude:	38.00325487000000
Longitude:	-121.7707880000000
Date Drilled:	18700101
Well Depth:	95.0
Well Depth Unit:	ft
Well Hole Depth:	95.0
W Hole Depth Unit:	ft
Formation Type:	Quaternary Alluvium

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
35	WNW	0.82	4,328.31	46.86	FED USGS

Reporting Agency:	USGS California Water Science Center
Site Number:	USGS-380017121464101
Station Name:	002N002E20Z001M MENDENHALL 1916
Site Type:	Well
Latitude:	38.00472220000000
Longitude:	-121.7780556000000
Date Drilled:	
Well Depth:	65
Well Depth Unit:	ft
Well Hole Depth:	
W Hole Depth Unit:	
Formation Type:	

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
50	NNW	0.92	4,869.66	32.35	FED USGS

Reporting Agency: USGS California Water Science Center
Site Number: USGS-380043121461201
Station Name: 002N002E20A001M
Site Type: Well
Latitude: 38.01186570000000
Longitude: -121.7710659000000
Date Drilled: 19480101
Well Depth: 78.0
Well Depth Unit: ft
Well Hole Depth: 78.0
W Hole Depth Unit: ft
Formation Type: Quaternary Alluvium

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
58	WNW	0.96	5,042.61	47.29	FED USGS

Reporting Agency: USGS California Water Science Center
Site Number: USGS-380019121464601
Station Name: 002N002E20F001M
Site Type: Well
Latitude: 38.00519924000000
Longitude: -121.7805105000000
Date Drilled: 19480101
Well Depth: 93.0
Well Depth Unit: ft
Well Hole Depth: 93.0
W Hole Depth Unit: ft
Formation Type: Quaternary Alluvium

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
67	NNW	1.00	5,260.00	27.79	FED USGS

Reporting Agency: USGS California Water Science Center
Site Number: USGS-380048121460901
Station Name: 002N002E17R002M
Site Type: Well
Latitude: 38.01325455000000
Longitude: -121.7702326000000
Date Drilled:
Well Depth: 67.0
Well Depth Unit: ft
Well Hole Depth: 67.0
W Hole Depth Unit: ft

Wells and Additional Sources Detail Report

Formation Type: Quaternary Alluvium

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
67	NNW	1.00	5,260.00	27.79	FED USGS

Reporting Agency: USGS California Water Science Center
Site Number: USGS-380048121460902
Station Name: 002N002E17R003M
Site Type: Well
Latitude: 38.01325455000000
Longitude: -121.7702326000000
Date Drilled: 19720301
Well Depth: 102
Well Depth Unit: ft
Well Hole Depth: 102
W Hole Depth Unit: ft
Formation Type:

Oil and Gas Wells

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
24	E	0.63	3,304.63	67.60	OGW

API No: 0401320142
All Well Key:
OP Well ID:
OID:
Well No: 1
Well Status: Plugged
Well Stat Desc: Plugged
Well Type: DH
Well Type Desc: Dry Hole
Well Symbol: PluggedDH
Well Sym Desc:
Release Date:
Completion Date:
Abandoned Date:
Lease Name: Calplans-New Love
Elevation:
Total Depth:
Redrilled Depth:
Redrill Cancel Flag:
Dryhole:
Confidential:
Confidential Well: No
Directional Drilled: No
Hydr Fractured:

Directional:
BLM Well:
EPA Well:
Operator Code: C5640
Operator Name: Chevron U.S.A. Inc.
Operator St:
County APIC:
District: Northern
Geo District:
Field Code:
Field Name: Any Field
Area Code:
Area Name: Any Area
County Name: Contra Costa
Section: 27
Township: 02N
Range: 02E
Lat27:
Long27:
Lat83: 37.99714279
Long83: -121.75035858
Base Meridian: MD
GIS Source Code: hud

Location:
Source83 Desc: Heads Up Digitized - Coordinates generated from scanned, geo-referenced, static scale, Mylar maps
URL:

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
25	SSE	0.66	3,462.62	11.93	OGW

API No:	0401300278	Directional:	
All Well Key:		BLM Well:	
OP Well ID:		EPA Well:	
OID:		Operator Code:	00910
Well No:	1	Operator Name:	Brazos Oil and Gas Company
Well Status:	Plugged	Operator St:	
Well Stat Desc:	Plugged	County APIC:	
Well Type:	DH	District:	Northern
Well Type Desc:	Dry Hole	Geo District:	
Well Symbol:	PluggedDH	Field Code:	
Well Sym Desc:		Field Name:	Any Field
Release Date:		Area Code:	
Completion Date:		Area Name:	Any Area
Abandoned Date:		County Name:	Contra Costa
Lease Name:	Antioch Unit A	Section:	28
Elevation:		Township:	02N
Total Depth:		Range:	02E
Redrilled Depth:		Lat27:	
Redrill Cancel Flag:		Long27:	
Dryhole:		Lat83:	37.98880386
Confidential:		Long83:	-121.75790405
Confidential Well:	No	Base Meridian:	MD
Directional Drilled:	No	GIS Source Code:	hud
Hydr Fractured:			

Location:
Source83 Desc: Heads Up Digitized - Coordinates generated from scanned, geo-referenced, static scale, Mylar maps
URL:

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
38	ESE	0.84	4,439.11	55.10	OGW

API No:	0401300277	Directional:	
All Well Key:		BLM Well:	
OP Well ID:		EPA Well:	
OID:		Operator Code:	O0500
Well No:	1-27	Operator Name:	Occidental Petroleum Corporation
Well Status:	Plugged	Operator St:	
Well Stat Desc:	Plugged	County APIC:	
Well Type:	DH	District:	Northern

Wells and Additional Sources Detail Report

Well Type Desc:	Dry Hole	Geo District:	
Well Symbol:	PluggedDH	Field Code:	
Well Sym Desc:		Field Name:	Any Field
Release Date:		Area Code:	
Completion Date:		Area Name:	Any Area
Abandoned Date:		County Name:	Contra Costa
Lease Name:	Shell-Continente	Section:	27
Elevation:		Township:	02N
Total Depth:		Range:	02E
Redrilled Depth:		Lat27:	
Redrill Cancel Flag:		Long27:	
Dryhole:		Lat83:	37.99581146
Confidential:		Long83:	-121.74659729
Confidential Well:	No	Base Meridian:	MD
Directional Drilled:	No	GIS Source Code:	hud
Hydr Fractured:			
Location:			
Source83 Desc:	Heads Up Digitized - Coordinates generated from scanned, geo-referenced, static scale, Mylar maps		
URL:			

Periodic Groundwater Level Measurement Locations

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
51	NNW	0.93	4,920.17	21.21	MONITOR WELLS

Site Code:	380129N1217670W002	Basin ID:	
State Well No:	02N02E16M998M	Basin Code:	5-022.19
Station ID:	50410	Basin Name:	East Contra Costa
WCR No:	e0138090A-B	Basin Region Code:	5
Well Depth:	106	Basin Region Desc:	Sacramento River
Well Use:	Observation	Basin Region Actv:	Y
Well Type:	Part of a nested/multi-completion well	Basin Region Order:	5
Well Name:	Wilbur Deep	County Name:	Contra Costa
Latitude:	38.0129	WLM Method:	
Longitude:	-121.767	WLM Accuracy:	
Ground Surface Elevation:	61		
GSE Accuracy:	Unknown		
GSE Method:	USGS quad		
Monitoring Program:	VOLUNTARY		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
51	NNW	0.93	4,920.17	21.21	MONITOR WELLS

Site Code:	380129N1217670W001	Basin ID:	
State Well No:	02N02E16M999M	Basin Code:	5-022.19
Station ID:	50377	Basin Name:	East Contra Costa

Wells and Additional Sources Detail Report

WCR No:	e0138090A-B	Basin Region Code:	5
Well Depth:	81	Basin Region Desc:	Sacramento River
Well Use:	Observation	Basin Region Actv:	Y
Well Type:	Part of a nested/multi-completion well	Basin Region Order:	5
Well Name:	Wilbur Shallow	County Name:	Contra Costa
Latitude:	38.0129	WLM Method:	
Longitude:	-121.767	WLM Accuracy:	
Ground Surface Elevation:	61		
GSE Accuracy:	Unknown		
GSE Method:	USGS quad		
Monitoring Program:	VOLUNTARY		

Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
1	ESE	0.13	687.10	80.91	WATER WELLS

WCR No:	WCR2011-006461	Decimal Lat(OSWCR):	37.9975
Decimal Latitude:	37.9975	Decim Long(OSWCR):	-121.7594444
Decimal Longitude:	-121.7594444		
Location:	OAKLEY RD		
City:	ANTIOCH		
County:	Contra Costa		
Location(OSWCR):	OAKLEY RD		
City(OSWCR):	ANTIOCH		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
1	ESE	0.13	687.10	80.91	WATER WELLS

WCR No:	WCR2011-006459	Decimal Lat(OSWCR):	37.9975
Decimal Latitude:	37.9975	Decim Long(OSWCR):	-121.7594444
Decimal Longitude:	-121.7594444		
Location:	OAKLEY RD		
City:	ANTIOCH		
County:	Contra Costa		
Location(OSWCR):	OAKLEY RD		
City(OSWCR):	ANTIOCH		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
1	ESE	0.13	687.10	80.91	WATER WELLS

WCR No:	WCR2011-006460	Decimal Lat(OSWCR):	37.9975
Decimal Latitude:	37.9975	Decim Long(OSWCR):	-121.7594444
Decimal Longitude:	-121.7594444		
Location:	OAKLEY RD		
City:	ANTIOCH		
County:	Contra Costa		
Location(OSWCR):	OAKLEY RD		
City(OSWCR):	ANTIOCH		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
1	ESE	0.13	687.10	80.91	WATER WELLS

WCR No:	WCR2011-006462	Decimal Lat(OSWCR):	37.9975
Decimal Latitude:	37.9975	Decim Long(OSWCR):	-121.7594444
Decimal Longitude:	-121.7594444		
Location:	OAKLEY RD		
City:	ANTIOCH		
County:	Contra Costa		
Location(OSWCR):	OAKLEY RD		
City(OSWCR):	ANTIOCH		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
5	ESE	0.37	1,966.43	81.72	WATER WELLS

WCR No:	WCR2009-000923	Decimal Lat(OSWCR):	37.9959309694
Decimal Latitude:	37.9959309694	Decim Long(OSWCR):	-121.755395641
Decimal Longitude:	-121.755395641		
Location:	4875 CALLE DE ORO		
City:	OAKLEY		
County:	Contra Costa		
Location(OSWCR):	4875 CALLE DE ORO		
City(OSWCR):	OAKLEY		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
7	N	0.37	1,978.24	46.24	WATER WELLS

WCR No:	WCR2019-005225	Decimal Lat(OSWCR):	38.0049744
Decimal Latitude:	38.0049744	Decim Long(OSWCR):	-121.7628883

Decimal Longitude: -121.7628883
Location: 3051 E 18th ST
City: Antioch
County: Contra Costa
Location(OSWCR): 3051 E 18th ST
City(OSWCR): Antioch
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
8	SW	0.38	1,984.19	80.86	WATER WELLS

WCR No: WCR2012-006371
Decimal Lat(OSWCR): 37.9944444
Decimal Latitude: 37.9944444
Decim Long(OSWCR): -121.77
Decimal Longitude: -121.77
Location: WILLOW AVE
City: ANTIOCH
County: Contra Costa
Location(OSWCR): WILLOW AVE
City(OSWCR): ANTIOCH
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
11	NNE	0.39	2,071.19	40.97	WATER WELLS

WCR No: WCR1993-005236
Decimal Lat(OSWCR): 38.00499
Decimal Latitude: 38.00499
Decim Long(OSWCR): -121.76007
Decimal Longitude: -121.76007
Location: E 18TH ST OPPOSITE PHILLIPS LN
City: ANTIOCH
County: Contra Costa
Location(OSWCR): E 18TH ST OPPOSITE PHILLIPS LN
City(OSWCR): ANTIOCH
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
11	NNE	0.39	2,071.19	40.97	WATER WELLS

WCR No: WCR2001-005486
Decimal Lat(OSWCR): 38.00499
Decimal Latitude: 38.00499
Decim Long(OSWCR): -121.76007
Decimal Longitude: -121.76007
Location: 3201 WILBUR AVE_

Wells and Additional Sources Detail Report

City: ANTIOCH
County: Contra Costa
Location(OSWCR): 3201 WILBUR AVE_
City(OSWCR): ANTIOCH
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
11	NNE	0.39	2,071.19	40.97	WATER WELLS

WCR No: WCR0071625
Decimal Lat(OSWCR): 38.00499
Decimal Latitude: 38.00499
Decim Long(OSWCR): -121.76007
Decimal Longitude: -121.76007
Location:
City:
County: Contra Costa
Location(OSWCR):
City(OSWCR):
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
11	NNE	0.39	2,071.19	40.97	WATER WELLS

WCR No: WCR1951-000013
Decimal Lat(OSWCR): 38.00499
Decimal Latitude: 38.00499
Decim Long(OSWCR): -121.76007
Decimal Longitude: -121.76007
Location:
City:
County: Contra Costa
Location(OSWCR):
City(OSWCR):
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
11	NNE	0.39	2,071.19	40.97	WATER WELLS

WCR No: WCR0129958
Decimal Lat(OSWCR): 38.00499
Decimal Latitude: 38.00499
Decim Long(OSWCR): -121.76007
Decimal Longitude: -121.76007
Location:
City:
County: Contra Costa

Location(OSWCR):
City(OSWCR):
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
11	NNE	0.39	2,071.19	40.97	WATER WELLS

WCR No: WCR1997-006006
Decimal Lat(OSWCR): 38.00499
Decimal Latitude: 38.00499
Decim Long(OSWCR): -121.76007
Decimal Longitude: -121.76007
Location: 2273 PHILLIPS LANE
City: ANTIOCH
County: Contra Costa
Location(OSWCR): 2273 PHILLIPS LANE
City(OSWCR): ANTIOCH
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
11	NNE	0.39	2,071.19	40.97	WATER WELLS

WCR No: WCR1983-001428
Decimal Lat(OSWCR): 38.00499
Decimal Latitude: 38.00499
Decim Long(OSWCR): -121.76007
Decimal Longitude: -121.76007
Location:
City: ANTIOCH
County: Contra Costa
Location(OSWCR):
City(OSWCR): ANTIOCH
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
11	NNE	0.39	2,071.19	40.97	WATER WELLS

WCR No: WCR1987-001677
Decimal Lat(OSWCR): 38.00499
Decimal Latitude: 38.00499
Decim Long(OSWCR): -121.76007
Decimal Longitude: -121.76007
Location:
City: ANTIOCH
County: Contra Costa
Location(OSWCR):
City(OSWCR): ANTIOCH

County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
11	NNE	0.39	2,071.19	40.97	WATER WELLS

WCR No: WCR2001-004705
Decimal Lat(OSWCR): 38.00499
Decimal Latitude: 38.00499
Decim Long(OSWCR): -121.76007
Decimal Longitude: -121.76007
Location: 3201 WILBUR AVE
City: ANTIOCH
County: Contra Costa
Location(OSWCR): 3201 WILBUR AVE
City(OSWCR): ANTIOCH
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
11	NNE	0.39	2,071.19	40.97	WATER WELLS

WCR No: WCR1992-006234
Decimal Lat(OSWCR): 38.00499
Decimal Latitude: 38.00499
Decim Long(OSWCR): -121.76007
Decimal Longitude: -121.76007
Location: 1779 WILBUR AVE
City: ANTIOCH
County: Contra Costa
Location(OSWCR): 1779 WILBUR AVE
City(OSWCR): ANTIOCH
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
11	NNE	0.39	2,071.19	40.97	WATER WELLS

WCR No: WCR2001-004305
Decimal Lat(OSWCR): 38.00499
Decimal Latitude: 38.00499
Decim Long(OSWCR): -121.76007
Decimal Longitude: -121.76007
Location: 3201 WILBUR AVE_
City: ANTIOCH
County: Contra Costa
Location(OSWCR): 3201 WILBUR AVE_
City(OSWCR): ANTIOCH
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water

Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
11	NNE	0.39	2,071.19	40.97	WATER WELLS

WCR No: WCR1996-001262
Decimal Lat(OSWCR): 38.00499
Decimal Latitude: 38.00499
Decim Long(OSWCR): -121.76007
Decimal Longitude: -121.76007
Location:
City: ANTIOCH
County: Contra Costa
Location(OSWCR):
City(OSWCR): ANTIOCH
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
11	NNE	0.39	2,071.19	40.97	WATER WELLS

WCR No: WCR1989-003051
Decimal Lat(OSWCR): 38.00499
Decimal Latitude: 38.00499
Decim Long(OSWCR): -121.76007
Decimal Longitude: -121.76007
Location:
City: ANTIOCH
County: Contra Costa
Location(OSWCR):
City(OSWCR): ANTIOCH
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
11	NNE	0.39	2,071.19	40.97	WATER WELLS

WCR No: WCR1989-003559
Decimal Lat(OSWCR): 38.00499
Decimal Latitude: 38.00499
Decim Long(OSWCR): -121.76007
Decimal Longitude: -121.76007
Location:
City: ANTIOCH
County: Contra Costa
Location(OSWCR):
City(OSWCR): ANTIOCH
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Wells and Additional Sources Detail Report

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
11	NNE	0.39	2,071.19	40.97	WATER WELLS

WCR No:	WCR1997-006003	Decimal Lat(OSWCR):	38.00499
Decimal Latitude:	38.00499	Decim Long(OSWCR):	-121.76007
Decimal Longitude:	-121.76007		
Location:	2425 PHILLIPS LANE		
City:	ANTIOCH		
County:	Contra Costa		
Location(OSWCR):	2425 PHILLIPS LANE		
City(OSWCR):	ANTIOCH		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
11	NNE	0.39	2,071.19	40.97	WATER WELLS

WCR No:	WCR1980-004325	Decimal Lat(OSWCR):	38.00499
Decimal Latitude:	38.00499	Decim Long(OSWCR):	-121.76007
Decimal Longitude:	-121.76007		
Location:			
City:	ANTIOCH		
County:	Contra Costa		
Location(OSWCR):			
City(OSWCR):	ANTIOCH		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
11	NNE	0.39	2,071.19	40.97	WATER WELLS

WCR No:	WCR2001-004300	Decimal Lat(OSWCR):	38.00499
Decimal Latitude:	38.00499	Decim Long(OSWCR):	-121.76007
Decimal Longitude:	-121.76007		
Location:	3201 WILBUR AVE_		
City:	ANTIOCH		
County:	Contra Costa		
Location(OSWCR):	3201 WILBUR AVE_		
City(OSWCR):	ANTIOCH		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB

11	NNE	0.39	2,071.19	40.97	WATER WELLS

WCR No:	WCR1987-001675	Decimal Lat(OSWCR):	38.00499
Decimal Latitude:	38.00499	Decim Long(OSWCR):	-121.76007
Decimal Longitude:	-121.76007		
Location:			
City:	ANTIOCH		
County:	Contra Costa		
Location(OSWCR):			
City(OSWCR):	ANTIOCH		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
11	NNE	0.39	2,071.19	40.97	WATER WELLS

WCR No:	WCR1991-002136	Decimal Lat(OSWCR):	38.00499
Decimal Latitude:	38.00499	Decim Long(OSWCR):	-121.76007
Decimal Longitude:	-121.76007		
Location:	WILBUR AND BRIDGE HEAD, SW		
City:	ANTIOCH		
County:	Contra Costa		
Location(OSWCR):	WILBUR AND BRIDGE HEAD, SW		
City(OSWCR):	ANTIOCH		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
11	NNE	0.39	2,071.19	40.97	WATER WELLS

WCR No:	WCR1996-001261	Decimal Lat(OSWCR):	38.00499
Decimal Latitude:	38.00499	Decim Long(OSWCR):	-121.76007
Decimal Longitude:	-121.76007		
Location:	OAKLEY RD METERING STATION		
City:	ANTIOCH		
County:	Contra Costa		
Location(OSWCR):	OAKLEY RD METERING STATION		
City(OSWCR):	ANTIOCH		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
11	NNE	0.39	2,071.19	40.97	WATER WELLS

WCR No:	WCR2001-004298	Decimal Lat(OSWCR):	38.00499
Decimal Latitude:	38.00499	Decim Long(OSWCR):	-121.76007
Decimal Longitude:	-121.76007		
Location:	3201 WILBUR AVE_		
City:	ANTIOCH		
County:	Contra Costa		
Location(OSWCR):	3201 WILBUR AVE_		
City(OSWCR):	ANTIOCH		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
11	NNE	0.39	2,071.19	40.97	WATER WELLS

WCR No:	WCR2001-005487	Decimal Lat(OSWCR):	38.00499
Decimal Latitude:	38.00499	Decim Long(OSWCR):	-121.76007
Decimal Longitude:	-121.76007		
Location:	3201 WILBUR AVE_		
City:	ANTIOCH		
County:	Contra Costa		
Location(OSWCR):	3201 WILBUR AVE_		
City(OSWCR):	ANTIOCH		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
11	NNE	0.39	2,071.19	40.97	WATER WELLS

WCR No:	WCR1989-003561	Decimal Lat(OSWCR):	38.00499
Decimal Latitude:	38.00499	Decim Long(OSWCR):	-121.76007
Decimal Longitude:	-121.76007		
Location:			
City:	ANTIOCH		
County:	Contra Costa		
Location(OSWCR):			
City(OSWCR):	ANTIOCH		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
11	NNE	0.39	2,071.19	40.97	WATER WELLS

WCR No:	WCR1978-000683	Decimal Lat(OSWCR):	38.00499

Decimal Latitude:	38.00499	Decim Long(OSWCR):	-121.76007
Decimal Longitude:	-121.76007		
Location:	OAKLEY RD		
City:	ANTIOCH		
County:	Contra Costa		
Location(OSWCR):	OAKLEY RD		
City(OSWCR):	ANTIOCH		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
11	NNE	0.39	2,071.19	40.97	WATER WELLS

WCR No:	WCR2001-005479	Decimal Lat(OSWCR):	38.00499
Decimal Latitude:	38.00499	Decim Long(OSWCR):	-121.76007
Decimal Longitude:	-121.76007		
Location:	3201 WILBUR AVE_		
City:	ANTIOCH		
County:	Contra Costa		
Location(OSWCR):	3201 WILBUR AVE_		
City(OSWCR):	ANTIOCH		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
11	NNE	0.39	2,071.19	40.97	WATER WELLS

WCR No:	WCR1995-005428	Decimal Lat(OSWCR):	38.00499
Decimal Latitude:	38.00499	Decim Long(OSWCR):	-121.76007
Decimal Longitude:	-121.76007		
Location:	E 18TH ST AND WILSON		
City:	ANTIOCH		
County:	Contra Costa		
Location(OSWCR):	E 18TH ST AND WILSON		
City(OSWCR):	ANTIOCH		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
11	NNE	0.39	2,071.19	40.97	WATER WELLS

WCR No:	WCR1982-001082	Decimal Lat(OSWCR):	38.00499
Decimal Latitude:	38.00499	Decim Long(OSWCR):	-121.76007
Decimal Longitude:	-121.76007		

Location:
City: ANTIOCH
County: Contra Costa
Location(OSWCR):
City(OSWCR): ANTIOCH
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
11	NNE	0.39	2,071.19	40.97	WATER WELLS

WCR No: WCR2001-004299
Decimal Lat(OSWCR): 38.00499
Decimal Latitude: 38.00499
Decim Long(OSWCR): -121.76007
Decimal Longitude: -121.76007
Location: 3201 WILBUR AVE_
City: ANTIOCH
County: Contra Costa
Location(OSWCR): 3201 WILBUR AVE_
City(OSWCR): ANTIOCH
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
11	NNE	0.39	2,071.19	40.97	WATER WELLS

WCR No: WCR0326291
Decimal Lat(OSWCR): 38.00499
Decimal Latitude: 38.00499
Decim Long(OSWCR): -121.76007
Decimal Longitude: -121.76007
Location:
City:
County: Contra Costa
Location(OSWCR):
City(OSWCR):
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
11	NNE	0.39	2,071.19	40.97	WATER WELLS

WCR No: WCR1988-011325
Decimal Lat(OSWCR): 38.00499
Decimal Latitude: 38.00499
Decim Long(OSWCR): -121.76007
Decimal Longitude: -121.76007
Location:
City: ANTIOCH

County: Contra Costa
Location(OSWCR):
City(OSWCR): ANTIOCH
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
11	NNE	0.39	2,071.19	40.97	WATER WELLS

WCR No: WCR2001-004302
Decimal Lat(OSWCR): 38.00499
Decimal Latitude: 38.00499
Decim Long(OSWCR): -121.76007
Decimal Longitude: -121.76007
Location: 3201 WILBUR AVE_
City: ANTIOCH
County: Contra Costa
Location(OSWCR): 3201 WILBUR AVE_
City(OSWCR): ANTIOCH
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
11	NNE	0.39	2,071.19	40.97	WATER WELLS

WCR No: WCR2001-004304
Decimal Lat(OSWCR): 38.00499
Decimal Latitude: 38.00499
Decim Long(OSWCR): -121.76007
Decimal Longitude: -121.76007
Location: 3201 WILBUR AVE_
City: ANTIOCH
County: Contra Costa
Location(OSWCR): 3201 WILBUR AVE_
City(OSWCR): ANTIOCH
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
11	NNE	0.39	2,071.19	40.97	WATER WELLS

WCR No: WCR1989-003557
Decimal Lat(OSWCR): 38.00499
Decimal Latitude: 38.00499
Decim Long(OSWCR): -121.76007
Decimal Longitude: -121.76007
Location:
City: ANTIOCH
County: Contra Costa
Location(OSWCR):

City(OSWCR): ANTIOCH
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
11	NNE	0.39	2,071.19	40.97	WATER WELLS

WCR No: WCR1999-000159
Decimal Lat(OSWCR): 38.00499
Decimal Latitude: 38.00499
Decim Long(OSWCR): -121.76007
Decimal Longitude: -121.76007
Location:
City: ANTIOCH
County: Contra Costa
Location(OSWCR):
City(OSWCR): ANTIOCH
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
11	NNE	0.39	2,071.19	40.97	WATER WELLS

WCR No: WCR1989-003052
Decimal Lat(OSWCR): 38.00499
Decimal Latitude: 38.00499
Decim Long(OSWCR): -121.76007
Decimal Longitude: -121.76007
Location:
City: ANTIOCH
County: Contra Costa
Location(OSWCR):
City(OSWCR): ANTIOCH
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
11	NNE	0.39	2,071.19	40.97	WATER WELLS

WCR No: WCR1951-000012
Decimal Lat(OSWCR): 38.00499
Decimal Latitude: 38.00499
Decim Long(OSWCR): -121.76007
Decimal Longitude: -121.76007
Location:
City:
County: Contra Costa
Location(OSWCR):
City(OSWCR):
County(OSWCR): Contra Costa

Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
11	NNE	0.39	2,071.19	40.97	WATER WELLS

WCR No: WCR0014962
Decimal Lat(OSWCR): 38.00499
Decimal Latitude: 38.00499
Decim Long(OSWCR): -121.76007
Decimal Longitude: -121.76007
Location:
City:
County: Contra Costa
Location(OSWCR):
City(OSWCR):
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
11	NNE	0.39	2,071.19	40.97	WATER WELLS

WCR No: WCR1978-000252
Decimal Lat(OSWCR): 38.00499
Decimal Latitude: 38.00499
Decim Long(OSWCR): -121.76007
Decimal Longitude: -121.76007
Location: ELM LN
City:
County: Contra Costa
Location(OSWCR): ELM LN
City(OSWCR):
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
11	NNE	0.39	2,071.19	40.97	WATER WELLS

WCR No: WCR1996-001263
Decimal Lat(OSWCR): 38.00499
Decimal Latitude: 38.00499
Decim Long(OSWCR): -121.76007
Decimal Longitude: -121.76007
Location: OAKLEY RD METERING STATION
City: ANTIOCH
County: Contra Costa
Location(OSWCR): OAKLEY RD METERING STATION
City(OSWCR): ANTIOCH
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Wells and Additional Sources Detail Report

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
11	NNE	0.39	2,071.19	40.97	WATER WELLS

WCR No:	WCR1990-001920	Decimal Lat(OSWCR):	38.00499
Decimal Latitude:	38.00499	Decim Long(OSWCR):	-121.76007
Decimal Longitude:	-121.76007		
Location:			
City:	ANTIOCH		
County:	Contra Costa		
Location(OSWCR):			
City(OSWCR):	ANTIOCH		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
11	NNE	0.39	2,071.19	40.97	WATER WELLS

WCR No:	WCR2002-003786	Decimal Lat(OSWCR):	38.00499
Decimal Latitude:	38.00499	Decim Long(OSWCR):	-121.76007
Decimal Longitude:	-121.76007		
Location:	5254 ELM LN		
City:	OAKLEY		
County:	Contra Costa		
Location(OSWCR):	5254 ELM LN		
City(OSWCR):	OAKLEY		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
11	NNE	0.39	2,071.19	40.97	WATER WELLS

WCR No:	WCR1987-001676	Decimal Lat(OSWCR):	38.00499
Decimal Latitude:	38.00499	Decim Long(OSWCR):	-121.76007
Decimal Longitude:	-121.76007		
Location:			
City:	ANTIOCH		
County:	Contra Costa		
Location(OSWCR):			
City(OSWCR):	ANTIOCH		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB

11	NNE	0.39	2,071.19	40.97	WATER WELLS

WCR No:	WCR2005-003880	Decimal Lat(OSWCR):	38.00499
Decimal Latitude:	38.00499	Decim Long(OSWCR):	-121.76007
Decimal Longitude:	-121.76007		
Location:	OAKLEY RD AT PHILLIPS LN		
City:	ANTIOCH		
County:	Contra Costa		
Location(OSWCR):	OAKLEY RD AT PHILLIPS LN		
City(OSWCR):	ANTIOCH		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
11	NNE	0.39	2,071.19	40.97	WATER WELLS

WCR No:	WCR1989-003050	Decimal Lat(OSWCR):	38.00499
Decimal Latitude:	38.00499	Decim Long(OSWCR):	-121.76007
Decimal Longitude:	-121.76007		
Location:			
City:	ANTIOCH		
County:	Contra Costa		
Location(OSWCR):			
City(OSWCR):	ANTIOCH		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
11	NNE	0.39	2,071.19	40.97	WATER WELLS

WCR No:	WCR1997-006005	Decimal Lat(OSWCR):	38.00499
Decimal Latitude:	38.00499	Decim Long(OSWCR):	-121.76007
Decimal Longitude:	-121.76007		
Location:	2401 PHILLIPS LANE		
City:	ANTIOCH		
County:	Contra Costa		
Location(OSWCR):	2401 PHILLIPS LANE		
City(OSWCR):	ANTIOCH		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
11	NNE	0.39	2,071.19	40.97	WATER WELLS

Wells and Additional Sources Detail Report

WCR No:	WCR1989-003558	Decimal Lat(OSWCR):	38.00499
Decimal Latitude:	38.00499	Decim Long(OSWCR):	-121.76007
Decimal Longitude:	-121.76007		
Location:			
City:	ANTIOCH		
County:	Contra Costa		
Location(OSWCR):			
City(OSWCR):	ANTIOCH		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
11	NNE	0.39	2,071.19	40.97	WATER WELLS

WCR No:	WCR2001-004303	Decimal Lat(OSWCR):	38.00499
Decimal Latitude:	38.00499	Decim Long(OSWCR):	-121.76007
Decimal Longitude:	-121.76007		
Location:	3201 WILBUR AVE_		
City:	ANTIOCH		
County:	Contra Costa		
Location(OSWCR):	3201 WILBUR AVE_		
City(OSWCR):	ANTIOCH		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
11	NNE	0.39	2,071.19	40.97	WATER WELLS

WCR No:	WCR1988-011326	Decimal Lat(OSWCR):	38.00499
Decimal Latitude:	38.00499	Decim Long(OSWCR):	-121.76007
Decimal Longitude:	-121.76007		
Location:			
City:	ANTIOCH		
County:	Contra Costa		
Location(OSWCR):			
City(OSWCR):	ANTIOCH		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
11	NNE	0.39	2,071.19	40.97	WATER WELLS

WCR No:	WCR1982-000044	Decimal Lat(OSWCR):	38.00499
Decimal Latitude:	38.00499	Decim Long(OSWCR):	-121.76007
Decimal Longitude:	-121.76007		
Location:			
City:	ANTIOCH		
County:	Contra Costa		
Location(OSWCR):			
City(OSWCR):	ANTIOCH		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
11	NNE	0.39	2,071.19	40.97	WATER WELLS

WCR No:	WCR2001-005485	Decimal Lat(OSWCR):	38.00499
Decimal Latitude:	38.00499	Decim Long(OSWCR):	-121.76007
Decimal Longitude:	-121.76007		
Location:	3201 WILBUR AVE_		
City:	ANTIOCH		
County:	Contra Costa		
Location(OSWCR):	3201 WILBUR AVE_		
City(OSWCR):	ANTIOCH		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
11	NNE	0.39	2,071.19	40.97	WATER WELLS

WCR No:	WCR1987-004290	Decimal Lat(OSWCR):	38.00499
Decimal Latitude:	38.00499	Decim Long(OSWCR):	-121.76007
Decimal Longitude:	-121.76007		
Location:			
City:	ANTIOCH		
County:	Contra Costa		
Location(OSWCR):			
City(OSWCR):	ANTIOCH		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
11	NNE	0.39	2,071.19	40.97	WATER WELLS

WCR No:	WCR2005-004598	Decimal Lat(OSWCR):	38.00499
Decimal Latitude:	38.00499	Decim Long(OSWCR):	-121.76007

Decimal Longitude: -121.76007
Location: 3540 E 18TH ST
City: ANTIOCH
County: Contra Costa
Location(OSWCR): 3540 E 18TH ST
City(OSWCR): ANTIOCH
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
11	NNE	0.39	2,071.19	40.97	WATER WELLS

WCR No: WCR1989-003057
Decimal Lat(OSWCR): 38.00499
Decimal Latitude: 38.00499
Decim Long(OSWCR): -121.76007
Decimal Longitude: -121.76007
Location:
City: ANTIOCH
County: Contra Costa
Location(OSWCR):
City(OSWCR): ANTIOCH
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
11	NNE	0.39	2,071.19	40.97	WATER WELLS

WCR No: WCR1997-006004
Decimal Lat(OSWCR): 38.00499
Decimal Latitude: 38.00499
Decim Long(OSWCR): -121.76007
Decimal Longitude: -121.76007
Location: 2401 PHILLIPS LANE
City: ANTIOCH
County: Contra Costa
Location(OSWCR): 2401 PHILLIPS LANE
City(OSWCR): ANTIOCH
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
11	NNE	0.39	2,071.19	40.97	WATER WELLS

WCR No: WCR2001-005483
Decimal Lat(OSWCR): 38.00499
Decimal Latitude: 38.00499
Decim Long(OSWCR): -121.76007
Decimal Longitude: -121.76007
Location: 3201 WILBUR AVE_

City: ANTIOCH
County: Contra Costa
Location(OSWCR): 3201 WILBUR AVE_
City(OSWCR): ANTIOCH
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
11	NNE	0.39	2,071.19	40.97	WATER WELLS

WCR No: WCR2001-005480
Decimal Lat(OSWCR): 38.00499
Decimal Latitude: 38.00499
Decim Long(OSWCR): -121.76007
Decimal Longitude: -121.76007
Location: 3201 WILBUR AVE_
City: ANTIOCH
County: Contra Costa
Location(OSWCR): 3201 WILBUR AVE_
City(OSWCR): ANTIOCH
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
11	NNE	0.39	2,071.19	40.97	WATER WELLS

WCR No: WCR2001-004301
Decimal Lat(OSWCR): 38.00499
Decimal Latitude: 38.00499
Decim Long(OSWCR): -121.76007
Decimal Longitude: -121.76007
Location: 3201 WILBUR AVE_
City: ANTIOCH
County: Contra Costa
Location(OSWCR): 3201 WILBUR AVE_
City(OSWCR): ANTIOCH
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
11	NNE	0.39	2,071.19	40.97	WATER WELLS

WCR No: WCR1989-003560
Decimal Lat(OSWCR): 38.00499
Decimal Latitude: 38.00499
Decim Long(OSWCR): -121.76007
Decimal Longitude: -121.76007
Location:
City: ANTIOCH
County: Contra Costa

Location(OSWCR):
City(OSWCR): ANTIOCH
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
11	NNE	0.39	2,071.19	40.97	WATER WELLS

WCR No: WCR1994-005953
Decimal Lat(OSWCR): 38.00499
Decimal Latitude: 38.00499
Decim Long(OSWCR): -121.76007
Decimal Longitude: -121.76007
Location: 2901 E 18TH ST
City: ANTIOCH
County: Contra Costa
Location(OSWCR): 2901 E 18TH ST
City(OSWCR): ANTIOCH
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
11	NNE	0.39	2,071.19	40.97	WATER WELLS

WCR No: WCR2001-005484
Decimal Lat(OSWCR): 38.00499
Decimal Latitude: 38.00499
Decim Long(OSWCR): -121.76007
Decimal Longitude: -121.76007
Location: 3201 WILBUR AVE_
City: ANTIOCH
County: Contra Costa
Location(OSWCR): 3201 WILBUR AVE_
City(OSWCR): ANTIOCH
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
11	NNE	0.39	2,071.19	40.97	WATER WELLS

WCR No: WCR0292323
Decimal Lat(OSWCR): 38.00499
Decimal Latitude: 38.00499
Decim Long(OSWCR): -121.76007
Decimal Longitude: -121.76007
Location:
City:
County: Contra Costa
Location(OSWCR):
City(OSWCR):

County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
11	NNE	0.39	2,071.19	40.97	WATER WELLS

WCR No: WCR2001-004306
Decimal Lat(OSWCR): 38.00499
Decimal Latitude: 38.00499
Decim Long(OSWCR): -121.76007
Decimal Longitude: -121.76007
Location: 3201 WILBUR AVE_
City: ANTIOCH
County: Contra Costa
Location(OSWCR): 3201 WILBUR AVE_
City(OSWCR): ANTIOCH
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
11	NNE	0.39	2,071.19	40.97	WATER WELLS

WCR No: WCR2002-001211
Decimal Lat(OSWCR): 38.00499
Decimal Latitude: 38.00499
Decim Long(OSWCR): -121.76007
Decimal Longitude: -121.76007
Location: 3200 BARTON LN
City: ANTIOCH
County: Contra Costa
Location(OSWCR): 3200 BARTON LN
City(OSWCR): ANTIOCH
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
11	NNE	0.39	2,071.19	40.97	WATER WELLS

WCR No: WCR0298536
Decimal Lat(OSWCR): 38.00499
Decimal Latitude: 38.00499
Decim Long(OSWCR): -121.76007
Decimal Longitude: -121.76007
Location:
City:
County: Contra Costa
Location(OSWCR):
City(OSWCR):
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water

Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
11	NNE	0.39	2,071.19	40.97	WATER WELLS

WCR No:	WCR1978-000245	Decimal Lat(OSWCR):	38.00499
Decimal Latitude:	38.00499	Decim Long(OSWCR):	-121.76007
Decimal Longitude:	-121.76007		
Location:			
City:			
County:	Contra Costa		
Location(OSWCR):			
City(OSWCR):			
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
11	NNE	0.39	2,071.19	40.97	WATER WELLS

WCR No:	WCR2001-004704	Decimal Lat(OSWCR):	38.00499
Decimal Latitude:	38.00499	Decim Long(OSWCR):	-121.76007
Decimal Longitude:	-121.76007		
Location:	3201 WILBUR AVE_		
City:	ANTIOCH		
County:	Contra Costa		
Location(OSWCR):	3201 WILBUR AVE_		
City(OSWCR):	ANTIOCH		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
11	NNE	0.39	2,071.19	40.97	WATER WELLS

WCR No:	WCR1996-001264	Decimal Lat(OSWCR):	38.00499
Decimal Latitude:	38.00499	Decim Long(OSWCR):	-121.76007
Decimal Longitude:	-121.76007		
Location:	OAKLEY RD METERING STATION		
City:	ANTIOCH		
County:	Contra Costa		
Location(OSWCR):	OAKLEY RD METERING STATION		
City(OSWCR):	ANTIOCH		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Wells and Additional Sources Detail Report

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
11	NNE	0.39	2,071.19	40.97	WATER WELLS

WCR No:	WCR2001-005481	Decimal Lat(OSWCR):	38.00499
Decimal Latitude:	38.00499	Decim Long(OSWCR):	-121.76007
Decimal Longitude:	-121.76007		
Location:	3201 WILBUR AVE_		
City:	ANTIOCH		
County:	Contra Costa		
Location(OSWCR):	3201 WILBUR AVE_		
City(OSWCR):	ANTIOCH		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
11	NNE	0.39	2,071.19	40.97	WATER WELLS

WCR No:	WCR1982-000772	Decimal Lat(OSWCR):	38.00499
Decimal Latitude:	38.00499	Decim Long(OSWCR):	-121.76007
Decimal Longitude:	-121.76007		
Location:			
City:	ANTIOCH		
County:	Contra Costa		
Location(OSWCR):			
City(OSWCR):	ANTIOCH		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
11	NNE	0.39	2,071.19	40.97	WATER WELLS

WCR No:	WCR1995-001361	Decimal Lat(OSWCR):	38.00499
Decimal Latitude:	38.00499	Decim Long(OSWCR):	-121.76007
Decimal Longitude:	-121.76007		
Location:	POBOX 460 - WILBUR AND MINAKER		
City:	ANTIOCH		
County:	Contra Costa		
Location(OSWCR):	POBOX 460 - WILBUR AND MINAKER		
City(OSWCR):	ANTIOCH		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
11	NNE	0.39	2,071.19	40.97	WATER WELLS

WCR No:	WCR2001-005482	Decimal Lat(OSWCR):	38.00499
Decimal Latitude:	38.00499	Decim Long(OSWCR):	-121.76007
Decimal Longitude:	-121.76007		
Location:	3201 WILBUR AVE_		
City:	ANTIOCH		
County:	Contra Costa		
Location(OSWCR):	3201 WILBUR AVE_		
City(OSWCR):	ANTIOCH		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
12	WSW	0.41	2,170.19	68.33	WATER WELLS

WCR No:	WCR2012-006370	Decimal Lat(OSWCR):	37.9952778
Decimal Latitude:	37.9952778	Decim Long(OSWCR):	-121.7713889
Decimal Longitude:	-121.7713889		
Location:	2502 WILLOW AVE		
City:	ANTIOCH		
County:	Contra Costa		
Location(OSWCR):	2502 WILLOW AVE		
City(OSWCR):	ANTIOCH		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
13	NNE	0.42	2,191.29	40.42	WATER WELLS

WCR No:	WCR2021-000487	Decimal Lat(OSWCR):	38.0052759
Decimal Latitude:	38.0052759	Decim Long(OSWCR):	-121.7598287
Decimal Longitude:	-121.7598287		
Location:			
City:			
County:	Contra Costa		
Location(OSWCR):			
City(OSWCR):			
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
16	E	0.49	2,607.47	82.52	WATER WELLS

WCR No:	WCR2013-006475	Decimal Lat(OSWCR):	37.9972222
Decimal Latitude:	37.9972222	Decim Long(OSWCR):	-121.7527778
Decimal Longitude:	-121.7527778		
Location:	3111 OAKLEY RD		
City:	OAKLEY		
County:	Contra Costa		
Location(OSWCR):	3111 OAKLEY RD		
City(OSWCR):	OAKLEY		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
16	E	0.49	2,607.47	82.52	WATER WELLS

WCR No:	WCR2013-003901	Decimal Lat(OSWCR):	37.9972222
Decimal Latitude:	37.9972222	Decim Long(OSWCR):	-121.7527778
Decimal Longitude:	-121.7527778		
Location:	3111 OAKLEY RD		
City:	OAKLEY		
County:	Contra Costa		
Location(OSWCR):	3111 OAKLEY RD		
City(OSWCR):	OAKLEY		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
17	NNE	0.51	2,696.53	32.40	WATER WELLS

WCR No:	WCR2021-000490	Decimal Lat(OSWCR):	38.0069011
Decimal Latitude:	38.0069011	Decim Long(OSWCR):	-121.7610511
Decimal Longitude:	-121.7610511		
Location:			
City:			
County:	Contra Costa		
Location(OSWCR):			
City(OSWCR):			
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
18	NNE	0.51	2,700.01	32.42	WATER WELLS

WCR No:	WCR2021-000489	Decimal Lat(OSWCR):	38.0066982

Decimal Latitude:	38.0066982	Decim Long(OSWCR):	-121.7596785
Decimal Longitude:	-121.7596785		
Location:			
City:			
County:	Contra Costa		
Location(OSWCR):			
City(OSWCR):			
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
19	SSE	0.52	2,749.62	197.62	WATER WELLS

WCR No:	WCR0226349	Decimal Lat(OSWCR):	37.9904
Decimal Latitude:	37.9904	Decim Long(OSWCR):	-121.7599
Decimal Longitude:	-121.7599		
Location:			
City:			
County:	Contra Costa		
Location(OSWCR):			
City(OSWCR):			
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
19	SSE	0.52	2,749.62	197.62	WATER WELLS

WCR No:	WCR2004-004200	Decimal Lat(OSWCR):	37.9904
Decimal Latitude:	37.9904	Decim Long(OSWCR):	-121.7599
Decimal Longitude:	-121.7599		
Location:	OAKLEY RD		
City:	ANTIOCH		
County:	Contra Costa		
Location(OSWCR):	OAKLEY RD		
City(OSWCR):	ANTIOCH		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
19	SSE	0.52	2,749.62	197.62	WATER WELLS

WCR No:	WCR1992-008970	Decimal Lat(OSWCR):	37.9904
Decimal Latitude:	37.9904	Decim Long(OSWCR):	-121.7599
Decimal Longitude:	-121.7599		

Location:
City: OAKLEY
County: Contra Costa
Location(OSWCR):
City(OSWCR): OAKLEY
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
19	SSE	0.52	2,749.62	197.62	WATER WELLS

WCR No: WCR2007-006114
Decimal Lat(OSWCR): 37.9904
Decimal Latitude: 37.9904
Decim Long(OSWCR): -121.7599
Decimal Longitude: -121.7599
Location: 2441 E CYPRESS RD
City: OAKLEY
County: Contra Costa
Location(OSWCR): 2441 E CYPRESS RD
City(OSWCR): OAKLEY
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
19	SSE	0.52	2,749.62	197.62	WATER WELLS

WCR No: WCR2003-003560
Decimal Lat(OSWCR): 37.9904
Decimal Latitude: 37.9904
Decim Long(OSWCR): -121.7599
Decimal Longitude: -121.7599
Location: 80 CUNHA CT
City: OAKLEY
County: Contra Costa
Location(OSWCR): 80 CUNHA CT
City(OSWCR): OAKLEY
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
19	SSE	0.52	2,749.62	197.62	WATER WELLS

WCR No: WCR2009-003872
Decimal Lat(OSWCR): 37.9904
Decimal Latitude: 37.9904
Decim Long(OSWCR): -121.7599
Decimal Longitude: -121.7599
Location: OAKLEY RD & PHILLIPS LN
City: ANTIOCH_

Wells and Additional Sources Detail Report

County: Contra Costa
Location(OSWCR): OAKLEY RD & PHILLIPS LN
City(OSWCR): ANTIOCH_
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
19	SSE	0.52	2,749.62	197.62	WATER WELLS

WCR No: WCR0194034
Decimal Lat(OSWCR): 37.9904
Decimal Latitude: 37.9904
Decim Long(OSWCR): -121.7599
Decimal Longitude: -121.7599
Location:
City:
County: Contra Costa
Location(OSWCR):
City(OSWCR):
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
19	SSE	0.52	2,749.62	197.62	WATER WELLS

WCR No: WCR0267562
Decimal Lat(OSWCR): 37.9904
Decimal Latitude: 37.9904
Decim Long(OSWCR): -121.7599
Decimal Longitude: -121.7599
Location:
City:
County: Contra Costa
Location(OSWCR):
City(OSWCR):
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
19	SSE	0.52	2,749.62	197.62	WATER WELLS

WCR No: WCR0121586
Decimal Lat(OSWCR): 37.9904
Decimal Latitude: 37.9904
Decim Long(OSWCR): -121.7599
Decimal Longitude: -121.7599
Location:
City:
County: Contra Costa
Location(OSWCR):

City(OSWCR):
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
19	SSE	0.52	2,749.62	197.62	WATER WELLS

WCR No: WCR0241871
Decimal Lat(OSWCR): 37.9904
Decimal Latitude: 37.9904
Decim Long(OSWCR): -121.7599
Decimal Longitude: -121.7599
Location:
City:
County: Contra Costa
Location(OSWCR):
City(OSWCR):
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
19	SSE	0.52	2,749.62	197.62	WATER WELLS

WCR No: WCR2004-001668
Decimal Lat(OSWCR): 37.9904
Decimal Latitude: 37.9904
Decim Long(OSWCR): -121.7599
Decimal Longitude: -121.7599
Location: 10 MADEIRA CT
City: OAKLEY
County: Contra Costa
Location(OSWCR): 10 MADEIRA CT
City(OSWCR): OAKLEY
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
19	SSE	0.52	2,749.62	197.62	WATER WELLS

WCR No: WCR2009-006263
Decimal Lat(OSWCR): 37.9904
Decimal Latitude: 37.9904
Decim Long(OSWCR): -121.7599
Decimal Longitude: -121.7599
Location: 3951 OAKLEY RD
City: ANTIOCH
County: Contra Costa
Location(OSWCR): 3951 OAKLEY RD
City(OSWCR): ANTIOCH
County(OSWCR): Contra Costa

Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
19	SSE	0.52	2,749.62	197.62	WATER WELLS

WCR No: WCR2004-004216
Decimal Lat(OSWCR): 37.9904
Decimal Latitude: 37.9904
Decim Long(OSWCR): -121.7599
Decimal Longitude: -121.7599
Location: OAKLEY RD AT PHILLIPS
City: ANTIOCH
County: Contra Costa
Location(OSWCR): OAKLEY RD AT PHILLIPS
City(OSWCR): ANTIOCH
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
19	SSE	0.52	2,749.62	197.62	WATER WELLS

WCR No: WCR2003-003559
Decimal Lat(OSWCR): 37.9904
Decimal Latitude: 37.9904
Decim Long(OSWCR): -121.7599
Decimal Longitude: -121.7599
Location: 91 CUNHA CT
City: OAKLEY
County: Contra Costa
Location(OSWCR): 91 CUNHA CT
City(OSWCR): OAKLEY
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
19	SSE	0.52	2,749.62	197.62	WATER WELLS

WCR No: WCR0325920
Decimal Lat(OSWCR): 37.9904
Decimal Latitude: 37.9904
Decim Long(OSWCR): -121.7599
Decimal Longitude: -121.7599
Location:
City:
County: Contra Costa
Location(OSWCR):
City(OSWCR):
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Wells and Additional Sources Detail Report

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
19	SSE	0.52	2,749.62	197.62	WATER WELLS

WCR No:	WCR0276173	Decimal Lat(OSWCR):	37.9904
Decimal Latitude:	37.9904	Decim Long(OSWCR):	-121.7599
Decimal Longitude:	-121.7599		
Location:			
City:			
County:	Contra Costa		
Location(OSWCR):			
City(OSWCR):			
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
19	SSE	0.52	2,749.62	197.62	WATER WELLS

WCR No:	WCR0030663	Decimal Lat(OSWCR):	37.9904
Decimal Latitude:	37.9904	Decim Long(OSWCR):	-121.7599
Decimal Longitude:	-121.7599		
Location:			
City:			
County:	Contra Costa		
Location(OSWCR):			
City(OSWCR):			
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
19	SSE	0.52	2,749.62	197.62	WATER WELLS

WCR No:	WCR2009-003870	Decimal Lat(OSWCR):	37.9904
Decimal Latitude:	37.9904	Decim Long(OSWCR):	-121.7599
Decimal Longitude:	-121.7599		
Location:	OAKLEY RD & PHILLIPS LN		
City:	ANTIOCH_		
County:	Contra Costa		
Location(OSWCR):	OAKLEY RD & PHILLIPS LN		
City(OSWCR):	ANTIOCH_		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB

19	SSE	0.52	2,749.62	197.62	WATER WELLS

WCR No:	WCR0249458	Decimal Lat(OSWCR):	37.9904
Decimal Latitude:	37.9904	Decim Long(OSWCR):	-121.7599
Decimal Longitude:	-121.7599		
Location:			
City:			
County:	Contra Costa		
Location(OSWCR):			
City(OSWCR):			
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
19	SSE	0.52	2,749.62	197.62	WATER WELLS

WCR No:	WCR0242051	Decimal Lat(OSWCR):	37.9904
Decimal Latitude:	37.9904	Decim Long(OSWCR):	-121.7599
Decimal Longitude:	-121.7599		
Location:			
City:			
County:	Contra Costa		
Location(OSWCR):			
City(OSWCR):			
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
19	SSE	0.52	2,749.62	197.62	WATER WELLS

WCR No:	WCR0120753	Decimal Lat(OSWCR):	37.9904
Decimal Latitude:	37.9904	Decim Long(OSWCR):	-121.7599
Decimal Longitude:	-121.7599		
Location:			
City:			
County:	Contra Costa		
Location(OSWCR):			
City(OSWCR):			
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
19	SSE	0.52	2,749.62	197.62	WATER WELLS

Wells and Additional Sources Detail Report

WCR No:	WCR0203910	Decimal Lat(OSWCR):	37.9904
Decimal Latitude:	37.9904	Decim Long(OSWCR):	-121.7599
Decimal Longitude:	-121.7599		
Location:			
City:			
County:	Contra Costa		
Location(OSWCR):			
City(OSWCR):			
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
19	SSE	0.52	2,749.62	197.62	WATER WELLS

WCR No:	WCR2005-003879	Decimal Lat(OSWCR):	37.9904
Decimal Latitude:	37.9904	Decim Long(OSWCR):	-121.7599
Decimal Longitude:	-121.7599		
Location:	OAKLEY RD AT PHILLIPS LN		
City:	ANTIOCH		
County:	Contra Costa		
Location(OSWCR):	OAKLEY RD AT PHILLIPS LN		
City(OSWCR):	ANTIOCH		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
19	SSE	0.52	2,749.62	197.62	WATER WELLS

WCR No:	WCR0224401	Decimal Lat(OSWCR):	37.9904
Decimal Latitude:	37.9904	Decim Long(OSWCR):	-121.7599
Decimal Longitude:	-121.7599		
Location:			
City:			
County:	Contra Costa		
Location(OSWCR):			
City(OSWCR):			
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
19	SSE	0.52	2,749.62	197.62	WATER WELLS

WCR No:	WCR0186301	Decimal Lat(OSWCR):	37.9904
Decimal Latitude:	37.9904	Decim Long(OSWCR):	-121.7599
Decimal Longitude:	-121.7599		
Location:			
City:			
County:	Contra Costa		
Location(OSWCR):			
City(OSWCR):			
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
19	SSE	0.52	2,749.62	197.62	WATER WELLS

WCR No:	WCR1981-002652	Decimal Lat(OSWCR):	37.9904
Decimal Latitude:	37.9904	Decim Long(OSWCR):	-121.7599
Decimal Longitude:	-121.7599		
Location:			
City:	ANTIOCH		
County:	Contra Costa		
Location(OSWCR):			
City(OSWCR):	ANTIOCH		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
19	SSE	0.52	2,749.62	197.62	WATER WELLS

WCR No:	WCR2003-003694	Decimal Lat(OSWCR):	37.9904
Decimal Latitude:	37.9904	Decim Long(OSWCR):	-121.7599
Decimal Longitude:	-121.7599		
Location:	4905 CALLE DE ORO		
City:	OAKLEY		
County:	Contra Costa		
Location(OSWCR):	4905 CALLE DE ORO		
City(OSWCR):	OAKLEY		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
19	SSE	0.52	2,749.62	197.62	WATER WELLS

WCR No:	WCR2005-004345	Decimal Lat(OSWCR):	37.9904
Decimal Latitude:	37.9904	Decim Long(OSWCR):	-121.7599

Decimal Longitude: -121.7599
Location: OAKLEY RD
City: ANTIOCH
County: Contra Costa
Location(OSWCR): OAKLEY RD
City(OSWCR): ANTIOCH
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
19	SSE	0.52	2,749.62	197.62	WATER WELLS

WCR No: WCR2009-006260
Decimal Lat(OSWCR): 37.9904
Decimal Latitude: 37.9904
Decim Long(OSWCR): -121.7599
Decimal Longitude: -121.7599
Location: 3951 OAKLEY RD
City: ANTIOCH
County: Contra Costa
Location(OSWCR): 3951 OAKLEY RD
City(OSWCR): ANTIOCH
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
19	SSE	0.52	2,749.62	197.62	WATER WELLS

WCR No: WCR2009-006262
Decimal Lat(OSWCR): 37.9904
Decimal Latitude: 37.9904
Decim Long(OSWCR): -121.7599
Decimal Longitude: -121.7599
Location: 3951 OAKLEY RD
City: ANTIOCH
County: Contra Costa
Location(OSWCR): 3951 OAKLEY RD
City(OSWCR): ANTIOCH
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
19	SSE	0.52	2,749.62	197.62	WATER WELLS

WCR No: WCR2009-006264
Decimal Lat(OSWCR): 37.9904
Decimal Latitude: 37.9904
Decim Long(OSWCR): -121.7599
Decimal Longitude: -121.7599
Location: 3951 OAKLEY RD

Wells and Additional Sources Detail Report

City: ANTIOCH
County: Contra Costa
Location(OSWCR): 3951 OAKLEY RD
City(OSWCR): ANTIOCH
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
19	SSE	0.52	2,749.62	197.62	WATER WELLS

WCR No: WCR2005-003878
Decimal Lat(OSWCR): 37.9904
Decimal Latitude: 37.9904
Decim Long(OSWCR): -121.7599
Decimal Longitude: -121.7599
Location: OAKLEY RD AT PHILLIPS LN
City: ANTIOCH
County: Contra Costa
Location(OSWCR): OAKLEY RD AT PHILLIPS LN
City(OSWCR): ANTIOCH
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
19	SSE	0.52	2,749.62	197.62	WATER WELLS

WCR No: WCR2005-003877
Decimal Lat(OSWCR): 37.9904
Decimal Latitude: 37.9904
Decim Long(OSWCR): -121.7599
Decimal Longitude: -121.7599
Location: OAKLEY RD AT PHILLIPS LN
City: ANTIOCH
County: Contra Costa
Location(OSWCR): OAKLEY RD AT PHILLIPS LN
City(OSWCR): ANTIOCH
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
19	SSE	0.52	2,749.62	197.62	WATER WELLS

WCR No: WCR2004-004303
Decimal Lat(OSWCR): 37.9904
Decimal Latitude: 37.9904
Decim Long(OSWCR): -121.7599
Decimal Longitude: -121.7599
Location: OAKLEY RD
City: ANTIOCH
County: Contra Costa

Location(OSWCR): OAKLEY RD
City(OSWCR): ANTIOCH
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
19	SSE	0.52	2,749.62	197.62	WATER WELLS

WCR No: WCR0186300
Decimal Lat(OSWCR): 37.9904
Decimal Latitude: 37.9904
Decim Long(OSWCR): -121.7599
Decimal Longitude: -121.7599
Location:
City:
County: Contra Costa
Location(OSWCR):
City(OSWCR):
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
19	SSE	0.52	2,749.62	197.62	WATER WELLS

WCR No: WCR0053364
Decimal Lat(OSWCR): 37.9904
Decimal Latitude: 37.9904
Decim Long(OSWCR): -121.7599
Decimal Longitude: -121.7599
Location:
City:
County: Contra Costa
Location(OSWCR):
City(OSWCR):
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
19	SSE	0.52	2,749.62	197.62	WATER WELLS

WCR No: WCR2009-003871
Decimal Lat(OSWCR): 37.9904
Decimal Latitude: 37.9904
Decim Long(OSWCR): -121.7599
Decimal Longitude: -121.7599
Location: OAKLEY RD & PHILLIPS LN
City: ANTIOCH_
County: Contra Costa
Location(OSWCR): OAKLEY RD & PHILLIPS LN
City(OSWCR): ANTIOCH_

County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
19	SSE	0.52	2,749.62	197.62	WATER WELLS

WCR No: WCR0296869
Decimal Lat(OSWCR): 37.9904
Decimal Latitude: 37.9904
Decim Long(OSWCR): -121.7599
Decimal Longitude: -121.7599
Location:
City:
County: Contra Costa
Location(OSWCR):
City(OSWCR):
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
19	SSE	0.52	2,749.62	197.62	WATER WELLS

WCR No: WCR0120754
Decimal Lat(OSWCR): 37.9904
Decimal Latitude: 37.9904
Decim Long(OSWCR): -121.7599
Decimal Longitude: -121.7599
Location:
City:
County: Contra Costa
Location(OSWCR):
City(OSWCR):
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
19	SSE	0.52	2,749.62	197.62	WATER WELLS

WCR No: WCR0082596
Decimal Lat(OSWCR): 37.9904
Decimal Latitude: 37.9904
Decim Long(OSWCR): -121.7599
Decimal Longitude: -121.7599
Location:
City:
County: Contra Costa
Location(OSWCR):
City(OSWCR):
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water

Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
19	SSE	0.52	2,749.62	197.62	WATER WELLS

WCR No:	WCR2009-006261	Decimal Lat(OSWCR):	37.9904
Decimal Latitude:	37.9904	Decim Long(OSWCR):	-121.7599
Decimal Longitude:	-121.7599		
Location:	3951 OAKLEY RD		
City:	ANTIOCH		
County:	Contra Costa		
Location(OSWCR):	3951 OAKLEY RD		
City(OSWCR):	ANTIOCH		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
19	SSE	0.52	2,749.62	197.62	WATER WELLS

WCR No:	WCR2010-000119	Decimal Lat(OSWCR):	37.9904
Decimal Latitude:	37.9904	Decim Long(OSWCR):	-121.7599
Decimal Longitude:	-121.7599		
Location:	3102 FRANDORAS CIRCLE		
City:	OAKLEY		
County:	Contra Costa		
Location(OSWCR):	3102 FRANDORAS CIRCLE		
City(OSWCR):	OAKLEY		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
19	SSE	0.52	2,749.62	197.62	WATER WELLS

WCR No:	WCR2009-006819	Decimal Lat(OSWCR):	37.9904
Decimal Latitude:	37.9904	Decim Long(OSWCR):	-121.7599
Decimal Longitude:	-121.7599		
Location:	PHILLIPS LN		
City:	ANTIOCH		
County:	Contra Costa		
Location(OSWCR):	PHILLIPS LN		
City(OSWCR):	ANTIOCH		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Wells and Additional Sources Detail Report

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
19	SSE	0.52	2,749.62	197.62	WATER WELLS

WCR No:	WCR2009-006825	Decimal Lat(OSWCR):	37.9904
Decimal Latitude:	37.9904	Decim Long(OSWCR):	-121.7599
Decimal Longitude:	-121.7599		
Location:	PHILLIPS LN		
City:	ANTIOCH		
County:	Contra Costa		
Location(OSWCR):	PHILLIPS LN		
City(OSWCR):	ANTIOCH		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
19	SSE	0.52	2,749.62	197.62	WATER WELLS

WCR No:	WCR2004-001031	Decimal Lat(OSWCR):	37.9904
Decimal Latitude:	37.9904	Decim Long(OSWCR):	-121.7599
Decimal Longitude:	-121.7599		
Location:	71 CUNHA CT		
City:	OAKLEY		
County:	Contra Costa		
Location(OSWCR):	71 CUNHA CT		
City(OSWCR):	OAKLEY		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
19	SSE	0.52	2,749.62	197.62	WATER WELLS

WCR No:	WCR2009-006169	Decimal Lat(OSWCR):	37.9904
Decimal Latitude:	37.9904	Decim Long(OSWCR):	-121.7599
Decimal Longitude:	-121.7599		
Location:	3951 OAKLEY RD		
City:	ANTIOCH		
County:	Contra Costa		
Location(OSWCR):	3951 OAKLEY RD		
City(OSWCR):	ANTIOCH		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB

19	SSE	0.52	2,749.62	197.62	WATER WELLS

WCR No:	WCR2004-004201	Decimal Lat(OSWCR):	37.9904
Decimal Latitude:	37.9904	Decim Long(OSWCR):	-121.7599
Decimal Longitude:	-121.7599		
Location:	OAKLEY RD		
City:	ANTIOCH		
County:	Contra Costa		
Location(OSWCR):	OAKLEY RD		
City(OSWCR):	ANTIOCH		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
19	SSE	0.52	2,749.62	197.62	WATER WELLS

WCR No:	WCR0322536	Decimal Lat(OSWCR):	37.9904
Decimal Latitude:	37.9904	Decim Long(OSWCR):	-121.7599
Decimal Longitude:	-121.7599		
Location:			
City:			
County:	Contra Costa		
Location(OSWCR):			
City(OSWCR):			
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
19	SSE	0.52	2,749.62	197.62	WATER WELLS

WCR No:	WCR0299622	Decimal Lat(OSWCR):	37.9904
Decimal Latitude:	37.9904	Decim Long(OSWCR):	-121.7599
Decimal Longitude:	-121.7599		
Location:			
City:			
County:	Contra Costa		
Location(OSWCR):			
City(OSWCR):			
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
19	SSE	0.52	2,749.62	197.62	WATER WELLS

WCR No:	WCR0287847	Decimal Lat(OSWCR):	37.9904
Decimal Latitude:	37.9904	Decim Long(OSWCR):	-121.7599
Decimal Longitude:	-121.7599		
Location:			
City:			
County:	Contra Costa		
Location(OSWCR):			
City(OSWCR):			
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
19	SSE	0.52	2,749.62	197.62	WATER WELLS

WCR No:	WCR2004-004202	Decimal Lat(OSWCR):	37.9904
Decimal Latitude:	37.9904	Decim Long(OSWCR):	-121.7599
Decimal Longitude:	-121.7599		
Location:	OAKLEY RD		
City:	ANTIOCH		
County:	Contra Costa		
Location(OSWCR):	OAKLEY RD		
City(OSWCR):	ANTIOCH		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
19	SSE	0.52	2,749.62	197.62	WATER WELLS

WCR No:	WCR2004-004304	Decimal Lat(OSWCR):	37.9904
Decimal Latitude:	37.9904	Decim Long(OSWCR):	-121.7599
Decimal Longitude:	-121.7599		
Location:	OAKLEY RD		
City:	ANTIOCH		
County:	Contra Costa		
Location(OSWCR):	OAKLEY RD		
City(OSWCR):	ANTIOCH		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
19	SSE	0.52	2,749.62	197.62	WATER WELLS

WCR No:	WCR2005-003875	Decimal Lat(OSWCR):	37.9904

Decimal Latitude:	37.9904	Decim Long(OSWCR):	-121.7599
Decimal Longitude:	-121.7599		
Location:	OAKLEY RD AT PHILLIPS LN		
City:	ANTIOCH		
County:	Contra Costa		
Location(OSWCR):	OAKLEY RD AT PHILLIPS LN		
City(OSWCR):	ANTIOCH		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
19	SSE	0.52	2,749.62	197.62	WATER WELLS

WCR No:	WCR2005-003874	Decimal Lat(OSWCR):	37.9904
Decimal Latitude:	37.9904	Decim Long(OSWCR):	-121.7599
Decimal Longitude:	-121.7599		
Location:	OAKLEY RD AT PHILLIPS LN		
City:	ANTIOCH		
County:	Contra Costa		
Location(OSWCR):	OAKLEY RD AT PHILLIPS LN		
City(OSWCR):	ANTIOCH		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
19	SSE	0.52	2,749.62	197.62	WATER WELLS

WCR No:	WCR0258373	Decimal Lat(OSWCR):	37.9904
Decimal Latitude:	37.9904	Decim Long(OSWCR):	-121.7599
Decimal Longitude:	-121.7599		
Location:			
City:			
County:	Contra Costa		
Location(OSWCR):			
City(OSWCR):			
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
19	SSE	0.52	2,749.62	197.62	WATER WELLS

WCR No:	WCR2004-004302	Decimal Lat(OSWCR):	37.9904
Decimal Latitude:	37.9904	Decim Long(OSWCR):	-121.7599
Decimal Longitude:	-121.7599		

Location: OAKLEY RD AT PHILLIPS
City: ANTIOCH
County: Contra Costa
Location(OSWCR): OAKLEY RD AT PHILLIPS
City(OSWCR): ANTIOCH
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
19	SSE	0.52	2,749.62	197.62	WATER WELLS

WCR No: WCR2009-003869
Decimal Latitude: 37.9904
Decimal Longitude: -121.7599
Location: OAKLEY RD & PHILLIPS LN
City: ANTIOCH
County: Contra Costa
Location(OSWCR): OAKLEY RD & PHILLIPS LN
City(OSWCR): ANTIOCH
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports
Decimal Lat(OSWCR): 37.9904
Decim Long(OSWCR): -121.7599

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
19	SSE	0.52	2,749.62	197.62	WATER WELLS

WCR No: WCR2009-004403
Decimal Latitude: 37.9904
Decimal Longitude: -121.7599
Location: OAKLEY RD & PHILLIPS LN
City: ANTIOCH_
County: Contra Costa
Location(OSWCR): OAKLEY RD & PHILLIPS LN
City(OSWCR): ANTIOCH_
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports
Decimal Lat(OSWCR): 37.9904
Decim Long(OSWCR): -121.7599

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
19	SSE	0.52	2,749.62	197.62	WATER WELLS

WCR No: WCR2005-003876
Decimal Latitude: 37.9904
Decimal Longitude: -121.7599
Location: OAKLEY RD AT PHILLIPS LN
City: ANTIOCH
Decimal Lat(OSWCR): 37.9904
Decim Long(OSWCR): -121.7599

Wells and Additional Sources Detail Report

County: Contra Costa
Location(OSWCR): OAKLEY RD AT PHILLIPS LN
City(OSWCR): ANTIOCH
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
20	SSE	0.53	2,787.74	203.21	WATER WELLS

WCR No: WCR1988-006471
Decimal Lat(OSWCR): 37.9902778
Decimal Latitude: 37.9902778
Decim Long(OSWCR): -121.76
Decimal Longitude: -121.76
Location:
City: ANTIOCH
County: Contra Costa
Location(OSWCR):
City(OSWCR): ANTIOCH
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
21	ENE	0.54	2,855.04	37.70	WATER WELLS

WCR No: WCR2022-001824
Decimal Lat(OSWCR): 38.0022037
Decimal Latitude: 38.0022037
Decim Long(OSWCR): -121.7528356
Decimal Longitude: -121.7528356
Location: 5301 Elm LN
City: Oakley
County: Contra Costa
Location(OSWCR): 5301 Elm LN
City(OSWCR): Oakley
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
22	NW	0.55	2,910.98	52.01	WATER WELLS

WCR No: WCR2013-004143
Decimal Lat(OSWCR): 38.0047222
Decimal Latitude: 38.0047222
Decim Long(OSWCR): -121.7722222
Decimal Longitude: -121.7722222
Location: 2500 E 18TH ST
City: ANTIOCH
County: Contra Costa
Location(OSWCR): 2500 E 18TH ST

City(OSWCR): ANTIOCH
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
26	ESE	0.66	3,505.26	82.92	WATER WELLS

WCR No: WCR0157279
Decimal Lat(OSWCR):
Decimal Latitude:
Decim Long(OSWCR):
Decimal Longitude:
Location: 4690 NEROLY RD
City:
County: Contra Costa
Location(OSWCR): 4690 NEROLY RD
City(OSWCR):
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
29	E	0.72	3,796.67	33.71	WATER WELLS

WCR No: WCR2021-005341
Decimal Lat(OSWCR): 37.9998333
Decimal Latitude: 37.9998333
Decim Long(OSWCR): -121.7488651
Decimal Longitude: -121.7488651
Location: 181 Sandy LN
City: Oakley
County: Contra Costa
Location(OSWCR): 181 Sandy LN
City(OSWCR): Oakley
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
30	N	0.73	3,856.55	25.45	WATER WELLS

WCR No: WCR2021-000492
Decimal Lat(OSWCR): 38.0100537
Decimal Latitude: 38.0100537
Decim Long(OSWCR): -121.7604593
Decimal Longitude: -121.7604593
Location:
City:
County: Contra Costa
Location(OSWCR):
City(OSWCR):
County(OSWCR): Contra Costa

Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
31	NE	0.77	4,058.24	28.67	WATER WELLS

WCR No: WCR2017-009680
Decimal Lat(OSWCR): 38.005551
Decimal Latitude: 38.005551
Decim Long(OSWCR): -121.750291
Decimal Longitude: -121.750291
Location: 5540 BRIDGEHEAD ROAD
City: OAKLEY
County: Contra Costa
Location(OSWCR): 5540 BRIDGEHEAD ROAD
City(OSWCR): OAKLEY
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
31	NE	0.77	4,058.24	28.67	WATER WELLS

WCR No: WCR2017-009683
Decimal Lat(OSWCR): 38.005551
Decimal Latitude: 38.005551
Decim Long(OSWCR): -121.750291
Decimal Longitude: -121.750291
Location: 5540 BRIDGEHEAD ROAD
City: OAKLEY
County: Contra Costa
Location(OSWCR): 5540 BRIDGEHEAD ROAD
City(OSWCR): OAKLEY
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
31	NE	0.77	4,058.24	28.67	WATER WELLS

WCR No: WCR2017-009678
Decimal Lat(OSWCR): 38.005551
Decimal Latitude: 38.005551
Decim Long(OSWCR): -121.750291
Decimal Longitude: -121.750291
Location: 5540 BRIDGEHEAD ROAD
City: OAKLEY
County: Contra Costa
Location(OSWCR): 5540 BRIDGEHEAD ROAD
City(OSWCR): OAKLEY
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Wells and Additional Sources Detail Report

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
31	NE	0.77	4,058.24	28.67	WATER WELLS

WCR No:	WCR2017-009681	Decimal Lat(OSWCR):	38.005551
Decimal Latitude:	38.005551	Decim Long(OSWCR):	-121.750291
Decimal Longitude:	-121.750291		
Location:	5540 BRIDGEHEAD ROAD		
City:	OAKLEY		
County:	Contra Costa		
Location(OSWCR):	5540 BRIDGEHEAD ROAD		
City(OSWCR):	OAKLEY		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
32	N	0.80	4,210.28	22.80	WATER WELLS

WCR No:	WCR2017-009755	Decimal Lat(OSWCR):	38.011111
Decimal Latitude:	38.011111	Decim Long(OSWCR):	-121.762222
Decimal Longitude:	-121.762222		
Location:	~2920'E/O & ~430' S/O INT/O VERA AVE & W		
City:	ANTIOCH		
County:	Contra Costa		
Location(OSWCR):	~2920'E/O & ~430' S/O INT/O VERA AVE & W		
City(OSWCR):	ANTIOCH		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
33	N	0.80	4,213.64	22.43	WATER WELLS

WCR No:	WCR2015-005926	Decimal Lat(OSWCR):	38.011111
Decimal Latitude:	38.011111	Decim Long(OSWCR):	-121.763333
Decimal Longitude:	-121.763333		
Location:	SITE 1: ~450' S/O WILBUR AVE & ~2,600' E		
City:	ANTIOCH		
County:	Contra Costa		
Location(OSWCR):	SITE 1: ~450' S/O WILBUR AVE & ~2,600' E		
City(OSWCR):	ANTIOCH		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
34	W	0.82	4,319.42	43.63	WATER WELLS

WCR No:	WCR2015-005900	Decimal Lat(OSWCR):	38.000833
Decimal Latitude:	38.000833	Decim Long(OSWCR):	-121.779444
Decimal Longitude:	-121.779444		
Location:	SITE3-380' S/O & 120' E/O YELLOWSTONE DR		
City:	ANTIOCH		
County:	Contra Costa		
Location(OSWCR):	SITE3-380' S/O & 120' E/O YELLOWSTONE DR		
City(OSWCR):	ANTIOCH		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
36	NNE	0.82	4,345.48	23.59	WATER WELLS

WCR No:	WCR2013-004615	Decimal Lat(OSWCR):	38.0102778
Decimal Latitude:	38.0102778	Decim Long(OSWCR):	-121.7555556
Decimal Longitude:	-121.7555556		
Location:	3400 WILBUR AVE		
City:	ANTIOCH		
County:	Contra Costa		
Location(OSWCR):	3400 WILBUR AVE		
City(OSWCR):	ANTIOCH		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
37	WNW	0.84	4,424.85	50.66	WATER WELLS

WCR No:	WCR2004-004674	Decimal Lat(OSWCR):	38.00493
Decimal Latitude:	38.00493	Decim Long(OSWCR):	-121.7783
Decimal Longitude:	-121.7783		
Location:	1549 VIERRA AE		
City:	ANTIOCH		
County:	Contra Costa		
Location(OSWCR):	1549 VIERRA AE		
City(OSWCR):	ANTIOCH		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
37	WNW	0.84	4,424.85	50.66	WATER WELLS

WCR No:	WCR2004-004604	Decimal Lat(OSWCR):	38.00493
Decimal Latitude:	38.00493	Decim Long(OSWCR):	-121.7783
Decimal Longitude:	-121.7783		
Location:	1966 VINE LANE		
City:	ANTIOCH		
County:	Contra Costa		
Location(OSWCR):	1966 VINE LANE		
City(OSWCR):	ANTIOCH		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
37	WNW	0.84	4,424.85	50.66	WATER WELLS

WCR No:	WCR2004-002600	Decimal Lat(OSWCR):	38.00493
Decimal Latitude:	38.00493	Decim Long(OSWCR):	-121.7783
Decimal Longitude:	-121.7783		
Location:	1801 HILLCREST AVE		
City:	ANTIOCH		
County:	Contra Costa		
Location(OSWCR):	1801 HILLCREST AVE		
City(OSWCR):	ANTIOCH		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
37	WNW	0.84	4,424.85	50.66	WATER WELLS

WCR No:	WCR2009-007060	Decimal Lat(OSWCR):	38.00493
Decimal Latitude:	38.00493	Decim Long(OSWCR):	-121.7783
Decimal Longitude:	-121.7783		
Location:	2100 WYMORE WAY		
City:	ANTIOCH		
County:	Contra Costa		
Location(OSWCR):	2100 WYMORE WAY		
City(OSWCR):	ANTIOCH		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
37	WNW	0.84	4,424.85	50.66	WATER WELLS

WCR No:	WCR0057716	Decimal Lat(OSWCR):	38.00493
Decimal Latitude:	38.00493	Decim Long(OSWCR):	-121.7783
Decimal Longitude:	-121.7783		
Location:			
City:			
County:	Contra Costa		
Location(OSWCR):			
City(OSWCR):			
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
37	WNW	0.84	4,424.85	50.66	WATER WELLS

WCR No:	WCR0099089	Decimal Lat(OSWCR):	38.00493
Decimal Latitude:	38.00493	Decim Long(OSWCR):	-121.7783
Decimal Longitude:	-121.7783		
Location:	BOWEN LN ANTIOCH		
City:			
County:	Contra Costa		
Location(OSWCR):	BOWEN LN ANTIOCH		
City(OSWCR):			
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
37	WNW	0.84	4,424.85	50.66	WATER WELLS

WCR No:	WCR0253695	Decimal Lat(OSWCR):	38.00493
Decimal Latitude:	38.00493	Decim Long(OSWCR):	-121.7783
Decimal Longitude:	-121.7783		
Location:			
City:			
County:	Contra Costa		
Location(OSWCR):			
City(OSWCR):			
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
37	WNW	0.84	4,424.85	50.66	WATER WELLS

WCR No:	WCR0225901	Decimal Lat(OSWCR):	38.00493
Decimal Latitude:	38.00493	Decim Long(OSWCR):	-121.7783

Decimal Longitude: -121.7783
Location:
City:
County: Contra Costa
Location(OSWCR):
City(OSWCR):
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
37	WNW	0.84	4,424.85	50.66	WATER WELLS

WCR No: WCR1994-005962
Decimal Lat(OSWCR): 38.00493
Decimal Latitude: 38.00493
Decim Long(OSWCR): -121.7783
Decimal Longitude: -121.7783
Location: 1706 VIERA AVE_
City: ANTIOCH
County: Contra Costa
Location(OSWCR): 1706 VIERA AVE_
City(OSWCR): ANTIOCH
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
37	WNW	0.84	4,424.85	50.66	WATER WELLS

WCR No: WCR2005-004524
Decimal Lat(OSWCR): 38.00493
Decimal Latitude: 38.00493
Decim Long(OSWCR): -121.7783
Decimal Longitude: -121.7783
Location: 1745 E 18TH ST
City: ANTIOCH
County: Contra Costa
Location(OSWCR): 1745 E 18TH ST
City(OSWCR): ANTIOCH
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
37	WNW	0.84	4,424.85	50.66	WATER WELLS

WCR No: WCR1996-002711
Decimal Lat(OSWCR): 38.00493
Decimal Latitude: 38.00493
Decim Long(OSWCR): -121.7783
Decimal Longitude: -121.7783
Location: JERSEY ISLAND RD

City: OAKLEY
County: Contra Costa
Location(OSWCR): JERSEY ISLAND RD
City(OSWCR): OAKLEY
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
37	WNW	0.84	4,424.85	50.66	WATER WELLS

WCR No: WCR1984-003155
Decimal Lat(OSWCR): 38.00493
Decimal Latitude: 38.00493
Decim Long(OSWCR): -121.7783
Decimal Longitude: -121.7783
Location:
City: ANTIOCH
County: Contra Costa
Location(OSWCR):
City(OSWCR): ANTIOCH
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
37	WNW	0.84	4,424.85	50.66	WATER WELLS

WCR No: WCR1994-000901
Decimal Lat(OSWCR): 38.00493
Decimal Latitude: 38.00493
Decim Long(OSWCR): -121.7783
Decimal Longitude: -121.7783
Location: 1900 WILBUR AVE
City: ANTIOCH
County: Contra Costa
Location(OSWCR): 1900 WILBUR AVE
City(OSWCR): ANTIOCH
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
37	WNW	0.84	4,424.85	50.66	WATER WELLS

WCR No: WCR2008-001026
Decimal Lat(OSWCR): 38.00493
Decimal Latitude: 38.00493
Decim Long(OSWCR): -121.7783
Decimal Longitude: -121.7783
Location: 1965 VINE LANE
City: ANTIOCH
County: Contra Costa

Location(OSWCR): 1965 VINE LANE
City(OSWCR): ANTIOCH
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
37	WNW	0.84	4,424.85	50.66	WATER WELLS

WCR No: WCR2011-000579
Decimal Lat(OSWCR): 38.00493
Decimal Latitude: 38.00493
Decim Long(OSWCR): -121.7783
Decimal Longitude: -121.7783
Location: 2111 HILLCREST AVE
City: ANTIOCH
County: Contra Costa
Location(OSWCR): 2111 HILLCREST AVE
City(OSWCR): ANTIOCH
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
37	WNW	0.84	4,424.85	50.66	WATER WELLS

WCR No: WCR1992-006226
Decimal Lat(OSWCR): 38.00493
Decimal Latitude: 38.00493
Decim Long(OSWCR): -121.7783
Decimal Longitude: -121.7783
Location: 385 VIERA AVE_
City: ANTIOCH
County: Contra Costa
Location(OSWCR): 385 VIERA AVE_
City(OSWCR): ANTIOCH
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
37	WNW	0.84	4,424.85	50.66	WATER WELLS

WCR No: WCR2008-001029
Decimal Lat(OSWCR): 38.00493
Decimal Latitude: 38.00493
Decim Long(OSWCR): -121.7783
Decimal Longitude: -121.7783
Location: 1965VINE LANE
City: ANTIOCH
County: Contra Costa
Location(OSWCR): 1965VINE LANE
City(OSWCR): ANTIOCH

County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
37	WNW	0.84	4,424.85	50.66	WATER WELLS

WCR No: WCR2002-001170
Decimal Lat(OSWCR): 38.00493
Decimal Latitude: 38.00493
Decim Long(OSWCR): -121.7783
Decimal Longitude: -121.7783
Location: 2301 WILBUR AVE___
City: ANTIOCH
County: Contra Costa
Location(OSWCR): 2301 WILBUR AVE___
City(OSWCR): ANTIOCH
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
37	WNW	0.84	4,424.85	50.66	WATER WELLS

WCR No: WCR1983-001433
Decimal Lat(OSWCR): 38.00493
Decimal Latitude: 38.00493
Decim Long(OSWCR): -121.7783
Decimal Longitude: -121.7783
Location:
City: ANTIOCH
County: Contra Costa
Location(OSWCR):
City(OSWCR): ANTIOCH
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
37	WNW	0.84	4,424.85	50.66	WATER WELLS

WCR No: WCR2009-007075
Decimal Lat(OSWCR): 38.00493
Decimal Latitude: 38.00493
Decim Long(OSWCR): -121.7783
Decimal Longitude: -121.7783
Location: 2100 WYMORE WAY
City: ANTIOCH
County: Contra Costa
Location(OSWCR): 2100 WYMORE WAY
City(OSWCR): ANTIOCH
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water

Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
37	WNW	0.84	4,424.85	50.66	WATER WELLS

WCR No:	WCR2002-001202	Decimal Lat(OSWCR):	38.00493
Decimal Latitude:	38.00493	Decim Long(OSWCR):	-121.7783
Decimal Longitude:	-121.7783		
Location:	1954 VINE LN		
City:	ANTIOCH		
County:	Contra Costa		
Location(OSWCR):	1954 VINE LN		
City(OSWCR):	ANTIOCH		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
37	WNW	0.84	4,424.85	50.66	WATER WELLS

WCR No:	WCR2011-002259	Decimal Lat(OSWCR):	38.00493
Decimal Latitude:	38.00493	Decim Long(OSWCR):	-121.7783
Decimal Longitude:	-121.7783		
Location:	1575 TREMBATH LN		
City:	ANTIOCH		
County:	Contra Costa		
Location(OSWCR):	1575 TREMBATH LN		
City(OSWCR):	ANTIOCH		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
37	WNW	0.84	4,424.85	50.66	WATER WELLS

WCR No:	WCR2011-000583	Decimal Lat(OSWCR):	38.00493
Decimal Latitude:	38.00493	Decim Long(OSWCR):	-121.7783
Decimal Longitude:	-121.7783		
Location:	2111 HILLCREST AVE		
City:	ANTIOCH		
County:	Contra Costa		
Location(OSWCR):	2111 HILLCREST AVE		
City(OSWCR):	ANTIOCH		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Wells and Additional Sources Detail Report

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
37	WNW	0.84	4,424.85	50.66	WATER WELLS

WCR No:	WCR1993-001957	Decimal Lat(OSWCR):	38.00493
Decimal Latitude:	38.00493	Decim Long(OSWCR):	-121.7783
Decimal Longitude:	-121.7783		
Location:	1900 WILBUR AVE		
City:	ANTIOCH		
County:	Contra Costa		
Location(OSWCR):	1900 WILBUR AVE		
City(OSWCR):	ANTIOCH		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
37	WNW	0.84	4,424.85	50.66	WATER WELLS

WCR No:	WCR0225973	Decimal Lat(OSWCR):	38.00493
Decimal Latitude:	38.00493	Decim Long(OSWCR):	-121.7783
Decimal Longitude:	-121.7783		
Location:			
City:			
County:	Contra Costa		
Location(OSWCR):			
City(OSWCR):			
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
37	WNW	0.84	4,424.85	50.66	WATER WELLS

WCR No:	WCR0143615	Decimal Lat(OSWCR):	38.00493
Decimal Latitude:	38.00493	Decim Long(OSWCR):	-121.7783
Decimal Longitude:	-121.7783		
Location:			
City:			
County:	Contra Costa		
Location(OSWCR):			
City(OSWCR):			
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
37	WNW	0.84	4,424.85	50.66	WATER WELLS

WCR No:	WCR1989-003593	Decimal Lat(OSWCR):	38.00493
Decimal Latitude:	38.00493	Decim Long(OSWCR):	-121.7783
Decimal Longitude:	-121.7783		
Location:			
City:	ANTIOCH		
County:	Contra Costa		
Location(OSWCR):			
City(OSWCR):	ANTIOCH		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
37	WNW	0.84	4,424.85	50.66	WATER WELLS

WCR No:	WCR0211245	Decimal Lat(OSWCR):	38.00493
Decimal Latitude:	38.00493	Decim Long(OSWCR):	-121.7783
Decimal Longitude:	-121.7783		
Location:			
City:			
County:	Contra Costa		
Location(OSWCR):			
City(OSWCR):			
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
37	WNW	0.84	4,424.85	50.66	WATER WELLS

WCR No:	WCR1991-009975	Decimal Lat(OSWCR):	38.00493
Decimal Latitude:	38.00493	Decim Long(OSWCR):	-121.7783
Decimal Longitude:	-121.7783		
Location:			
City:	ANTIOCH		
County:	Contra Costa		
Location(OSWCR):			
City(OSWCR):	ANTIOCH		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
37	WNW	0.84	4,424.85	50.66	WATER WELLS

WCR No:	WCR2011-000572	Decimal Lat(OSWCR):	38.00493
Decimal Latitude:	38.00493	Decim Long(OSWCR):	-121.7783
Decimal Longitude:	-121.7783		
Location:	1801 HILL CREST AVE		
City:	ANTIOCH		
County:	Contra Costa		
Location(OSWCR):	1801 HILL CREST AVE		
City(OSWCR):	ANTIOCH		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
37	WNW	0.84	4,424.85	50.66	WATER WELLS

WCR No:	WCR1981-002955	Decimal Lat(OSWCR):	38.00493
Decimal Latitude:	38.00493	Decim Long(OSWCR):	-121.7783
Decimal Longitude:	-121.7783		
Location:			
City:	ANTIOCH		
County:	Contra Costa		
Location(OSWCR):			
City(OSWCR):	ANTIOCH		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
37	WNW	0.84	4,424.85	50.66	WATER WELLS

WCR No:	WCR1987-008424	Decimal Lat(OSWCR):	38.00493
Decimal Latitude:	38.00493	Decim Long(OSWCR):	-121.7783
Decimal Longitude:	-121.7783		
Location:			
City:	ANTIOCH		
County:	Contra Costa		
Location(OSWCR):			
City(OSWCR):	ANTIOCH		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
37	WNW	0.84	4,424.85	50.66	WATER WELLS

WCR No:	WCR1988-006468	Decimal Lat(OSWCR):	38.00493

Decimal Latitude:	38.00493	Decim Long(OSWCR):	-121.7783
Decimal Longitude:	-121.7783		
Location:			
City:	ANTIOCH		
County:	Contra Costa		
Location(OSWCR):			
City(OSWCR):	ANTIOCH		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
37	WNW	0.84	4,424.85	50.66	WATER WELLS

WCR No:	WCR0103655	Decimal Lat(OSWCR):	38.00493
Decimal Latitude:	38.00493	Decim Long(OSWCR):	-121.7783
Decimal Longitude:	-121.7783		
Location:			
City:			
County:	Contra Costa		
Location(OSWCR):			
City(OSWCR):			
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
37	WNW	0.84	4,424.85	50.66	WATER WELLS

WCR No:	WCR0088145	Decimal Lat(OSWCR):	38.00493
Decimal Latitude:	38.00493	Decim Long(OSWCR):	-121.7783
Decimal Longitude:	-121.7783		
Location:			
City:			
County:	Contra Costa		
Location(OSWCR):			
City(OSWCR):			
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
37	WNW	0.84	4,424.85	50.66	WATER WELLS

WCR No:	WCR0294438	Decimal Lat(OSWCR):	38.00493
Decimal Latitude:	38.00493	Decim Long(OSWCR):	-121.7783
Decimal Longitude:	-121.7783		

Location:
City:
County: Contra Costa
Location(OSWCR):
City(OSWCR):
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
37	WNW	0.84	4,424.85	50.66	WATER WELLS

WCR No: WCR0127820
Decimal Lat(OSWCR): 38.00493
Decimal Latitude: 38.00493
Decim Long(OSWCR): -121.7783
Decimal Longitude: -121.7783
Location:
City:
County: Contra Costa
Location(OSWCR):
City(OSWCR):
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
37	WNW	0.84	4,424.85	50.66	WATER WELLS

WCR No: WCR1959-000229
Decimal Lat(OSWCR): 38.00493
Decimal Latitude: 38.00493
Decim Long(OSWCR): -121.7783
Decimal Longitude: -121.7783
Location: HWY 4
City:
County: Contra Costa
Location(OSWCR): HWY 4
City(OSWCR):
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
37	WNW	0.84	4,424.85	50.66	WATER WELLS

WCR No: WCR1993-004248
Decimal Lat(OSWCR): 38.00493
Decimal Latitude: 38.00493
Decim Long(OSWCR): -121.7783
Decimal Longitude: -121.7783
Location: 1423 ST CLAIR DR
City: ANTIOCH

Wells and Additional Sources Detail Report

County: Contra Costa
Location(OSWCR): 1423 ST CLAIR DR
City(OSWCR): ANTIOCH
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
37	WNW	0.84	4,424.85	50.66	WATER WELLS

WCR No: WCR2010-000156
Decimal Lat(OSWCR): 38.00493
Decimal Latitude: 38.00493
Decim Long(OSWCR): -121.7783
Decimal Longitude: -121.7783
Location: 1801 HILLCREST AVE
City: ANTIOCH
County: Contra Costa
Location(OSWCR): 1801 HILLCREST AVE
City(OSWCR): ANTIOCH
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
37	WNW	0.84	4,424.85	50.66	WATER WELLS

WCR No: WCR1987-005721
Decimal Lat(OSWCR): 38.00493
Decimal Latitude: 38.00493
Decim Long(OSWCR): -121.7783
Decimal Longitude: -121.7783
Location:
City: ANTIOCH
County: Contra Costa
Location(OSWCR):
City(OSWCR): ANTIOCH
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
37	WNW	0.84	4,424.85	50.66	WATER WELLS

WCR No: WCR2007-000790
Decimal Lat(OSWCR): 38.00493
Decimal Latitude: 38.00493
Decim Long(OSWCR): -121.7783
Decimal Longitude: -121.7783
Location: 1801 HILLCREST AVE
City: ANTIOCH
County: Contra Costa
Location(OSWCR): 1801 HILLCREST AVE

City(OSWCR): ANTIOCH
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
37	WNW	0.84	4,424.85	50.66	WATER WELLS

WCR No: WCR2002-001169
Decimal Lat(OSWCR): 38.00493
Decimal Latitude: 38.00493
Decim Long(OSWCR): -121.7783
Decimal Longitude: -121.7783
Location: 1490 VIERA AVE
City: ANTIOCH
County: Contra Costa
Location(OSWCR): 1490 VIERA AVE
City(OSWCR): ANTIOCH
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
37	WNW	0.84	4,424.85	50.66	WATER WELLS

WCR No: WCR1990-005199
Decimal Lat(OSWCR): 38.00493
Decimal Latitude: 38.00493
Decim Long(OSWCR): -121.7783
Decimal Longitude: -121.7783
Location: STEWART LN
City: ANTIOCH
County: Contra Costa
Location(OSWCR): STEWART LN
City(OSWCR): ANTIOCH
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
37	WNW	0.84	4,424.85	50.66	WATER WELLS

WCR No: WCR2011-000585
Decimal Lat(OSWCR): 38.00493
Decimal Latitude: 38.00493
Decim Long(OSWCR): -121.7783
Decimal Longitude: -121.7783
Location: 2111 HILLCREST AVE
City: ANTIOCH
County: Contra Costa
Location(OSWCR): 2111 HILLCREST AVE
City(OSWCR): ANTIOCH
County(OSWCR): Contra Costa

Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
37	WNW	0.84	4,424.85	50.66	WATER WELLS

WCR No: WCR2005-003694
Decimal Lat(OSWCR): 38.00493
Decimal Latitude: 38.00493
Decim Long(OSWCR): -121.7783
Decimal Longitude: -121.7783
Location: 1840 E 18TH ST
City: ANTIOCH
County: Contra Costa
Location(OSWCR): 1840 E 18TH ST
City(OSWCR): ANTIOCH
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
37	WNW	0.84	4,424.85	50.66	WATER WELLS

WCR No: WCR1994-005964
Decimal Lat(OSWCR): 38.00493
Decimal Latitude: 38.00493
Decim Long(OSWCR): -121.7783
Decimal Longitude: -121.7783
Location: 1706 VIERA AVE
City: ANTIOCH
County: Contra Costa
Location(OSWCR): 1706 VIERA AVE
City(OSWCR): ANTIOCH
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
37	WNW	0.84	4,424.85	50.66	WATER WELLS

WCR No: WCR0087010
Decimal Lat(OSWCR): 38.00493
Decimal Latitude: 38.00493
Decim Long(OSWCR): -121.7783
Decimal Longitude: -121.7783
Location:
City:
County: Contra Costa
Location(OSWCR):
City(OSWCR):
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

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Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
37	WNW	0.84	4,424.85	50.66	WATER WELLS

WCR No:	WCR1982-001455	Decimal Lat(OSWCR):	38.00493
Decimal Latitude:	38.00493	Decim Long(OSWCR):	-121.7783
Decimal Longitude:	-121.7783		
Location:	382 VIERA LN		
City:	ANTIOCH		
County:	Contra Costa		
Location(OSWCR):	382 VIERA LN		
City(OSWCR):	ANTIOCH		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
37	WNW	0.84	4,424.85	50.66	WATER WELLS

WCR No:	WCR2005-003692	Decimal Lat(OSWCR):	38.00493
Decimal Latitude:	38.00493	Decim Long(OSWCR):	-121.7783
Decimal Longitude:	-121.7783		
Location:	1820 E 18TH ST		
City:	ANTIOCH		
County:	Contra Costa		
Location(OSWCR):	1820 E 18TH ST		
City(OSWCR):	ANTIOCH		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
37	WNW	0.84	4,424.85	50.66	WATER WELLS

WCR No:	WCR2006-002710	Decimal Lat(OSWCR):	38.00493
Decimal Latitude:	38.00493	Decim Long(OSWCR):	-121.7783
Decimal Longitude:	-121.7783		
Location:	1715 ST CLAIR DR		
City:	ANTIOCH		
County:	Contra Costa		
Location(OSWCR):	1715 ST CLAIR DR		
City(OSWCR):	ANTIOCH		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
37	WNW	0.84	4,424.85	50.66	WATER WELLS

WCR No:	WCR0044800	Decimal Lat(OSWCR):	38.00493
Decimal Latitude:	38.00493	Decim Long(OSWCR):	-121.7783
Decimal Longitude:	-121.7783		
Location:			
City:			
County:	Contra Costa		
Location(OSWCR):			
City(OSWCR):			
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
37	WNW	0.84	4,424.85	50.66	WATER WELLS

WCR No:	WCR1979-001480	Decimal Lat(OSWCR):	38.00493
Decimal Latitude:	38.00493	Decim Long(OSWCR):	-121.7783
Decimal Longitude:	-121.7783		
Location:	HILLCREST AVE		
City:	ANTIOCH		
County:	Contra Costa		
Location(OSWCR):	HILLCREST AVE		
City(OSWCR):	ANTIOCH		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
37	WNW	0.84	4,424.85	50.66	WATER WELLS

WCR No:	WCR2004-002601	Decimal Lat(OSWCR):	38.00493
Decimal Latitude:	38.00493	Decim Long(OSWCR):	-121.7783
Decimal Longitude:	-121.7783		
Location:	1801 HILLCREST AVE		
City:	ANTIOCH		
County:	Contra Costa		
Location(OSWCR):	1801 HILLCREST AVE		
City(OSWCR):	ANTIOCH		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
37	WNW	0.84	4,424.85	50.66	WATER WELLS

WCR No:	WCR0269990	Decimal Lat(OSWCR):	38.00493
Decimal Latitude:	38.00493	Decim Long(OSWCR):	-121.7783
Decimal Longitude:	-121.7783		
Location:			
City:			
County:	Contra Costa		
Location(OSWCR):			
City(OSWCR):			
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
37	WNW	0.84	4,424.85	50.66	WATER WELLS

WCR No:	WCR0203946	Decimal Lat(OSWCR):	38.00493
Decimal Latitude:	38.00493	Decim Long(OSWCR):	-121.7783
Decimal Longitude:	-121.7783		
Location:			
City:			
County:	Contra Costa		
Location(OSWCR):			
City(OSWCR):			
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
37	WNW	0.84	4,424.85	50.66	WATER WELLS

WCR No:	WCR2007-000789	Decimal Lat(OSWCR):	38.00493
Decimal Latitude:	38.00493	Decim Long(OSWCR):	-121.7783
Decimal Longitude:	-121.7783		
Location:	1801 HILLCREST AVE		
City:	ANTIOCH		
County:	Contra Costa		
Location(OSWCR):	1801 HILLCREST AVE		
City(OSWCR):	ANTIOCH		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
37	WNW	0.84	4,424.85	50.66	WATER WELLS

WCR No:	WCR0056109	Decimal Lat(OSWCR):	38.00493
Decimal Latitude:	38.00493	Decim Long(OSWCR):	-121.7783
Decimal Longitude:	-121.7783		
Location:			
City:			
County:	Contra Costa		
Location(OSWCR):			
City(OSWCR):			
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
37	WNW	0.84	4,424.85	50.66	WATER WELLS

WCR No:	WCR1992-003310	Decimal Lat(OSWCR):	38.00493
Decimal Latitude:	38.00493	Decim Long(OSWCR):	-121.7783
Decimal Longitude:	-121.7783		
Location:	1515 WALNUT AVE_		
City:	ANTIOCH		
County:	Contra Costa		
Location(OSWCR):	1515 WALNUT AVE_		
City(OSWCR):	ANTIOCH		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
37	WNW	0.84	4,424.85	50.66	WATER WELLS

WCR No:	WCR2011-000584	Decimal Lat(OSWCR):	38.00493
Decimal Latitude:	38.00493	Decim Long(OSWCR):	-121.7783
Decimal Longitude:	-121.7783		
Location:	2111 HILLCREST AVE		
City:	ANTIOCH		
County:	Contra Costa		
Location(OSWCR):	2111 HILLCREST AVE		
City(OSWCR):	ANTIOCH		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
37	WNW	0.84	4,424.85	50.66	WATER WELLS

WCR No:	WCR2011-000577	Decimal Lat(OSWCR):	38.00493
Decimal Latitude:	38.00493	Decim Long(OSWCR):	-121.7783

Decimal Longitude: -121.7783
Location: 2111 HILLCREST AVE
City: ANTIOCH
County: Contra Costa
Location(OSWCR): 2111 HILLCREST AVE
City(OSWCR): ANTIOCH
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
37	WNW	0.84	4,424.85	50.66	WATER WELLS

WCR No: WCR2004-002599
Decimal Lat(OSWCR): 38.00493
Decimal Latitude: 38.00493
Decim Long(OSWCR): -121.7783
Decimal Longitude: -121.7783
Location: 1801 HILLCREST AVE
City: ANTIOCH
County: Contra Costa
Location(OSWCR): 1801 HILLCREST AVE
City(OSWCR): ANTIOCH
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
37	WNW	0.84	4,424.85	50.66	WATER WELLS

WCR No: WCR1989-003592
Decimal Lat(OSWCR): 38.00493
Decimal Latitude: 38.00493
Decim Long(OSWCR): -121.7783
Decimal Longitude: -121.7783
Location:
City: ANTIOCH
County: Contra Costa
Location(OSWCR):
City(OSWCR): ANTIOCH
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
37	WNW	0.84	4,424.85	50.66	WATER WELLS

WCR No: WCR2011-000578
Decimal Lat(OSWCR): 38.00493
Decimal Latitude: 38.00493
Decim Long(OSWCR): -121.7783
Decimal Longitude: -121.7783
Location: 2111 HILLCREST AVE

Wells and Additional Sources Detail Report

City: ANTIOCH
County: Contra Costa
Location(OSWCR): 2111 HILLCREST AVE
City(OSWCR): ANTIOCH
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
37	WNW	0.84	4,424.85	50.66	WATER WELLS

WCR No: WCR1989-003596
Decimal Lat(OSWCR): 38.00493
Decimal Latitude: 38.00493
Decim Long(OSWCR): -121.7783
Decimal Longitude: -121.7783
Location:
City: ANTIOCH
County: Contra Costa
Location(OSWCR):
City(OSWCR): ANTIOCH
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
37	WNW	0.84	4,424.85	50.66	WATER WELLS

WCR No: WCR1989-003595
Decimal Lat(OSWCR): 38.00493
Decimal Latitude: 38.00493
Decim Long(OSWCR): -121.7783
Decimal Longitude: -121.7783
Location:
City: ANTIOCH
County: Contra Costa
Location(OSWCR):
City(OSWCR): ANTIOCH
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
37	WNW	0.84	4,424.85	50.66	WATER WELLS

WCR No: WCR1974-000318
Decimal Lat(OSWCR): 38.00493
Decimal Latitude: 38.00493
Decim Long(OSWCR): -121.7783
Decimal Longitude: -121.7783
Location: VERA AVE & VINE LN
City: ANTIOCH
County: Contra Costa

Location(OSWCR): VERA AVE & VINE LN
City(OSWCR): ANTIOCH
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
37	WNW	0.84	4,424.85	50.66	WATER WELLS

WCR No: WCR1982-000773
Decimal Lat(OSWCR): 38.00493
Decimal Latitude: 38.00493
Decim Long(OSWCR): -121.7783
Decimal Longitude: -121.7783
Location:
City: ANTIOCH
County: Contra Costa
Location(OSWCR):
City(OSWCR): ANTIOCH
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
37	WNW	0.84	4,424.85	50.66	WATER WELLS

WCR No: WCR1973-000680
Decimal Lat(OSWCR): 38.00493
Decimal Latitude: 38.00493
Decim Long(OSWCR): -121.7783
Decimal Longitude: -121.7783
Location: WALNUT AVE
City: ANTIOCH
County: Contra Costa
Location(OSWCR): WALNUT AVE
City(OSWCR): ANTIOCH
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
37	WNW	0.84	4,424.85	50.66	WATER WELLS

WCR No: WCR2011-002258
Decimal Lat(OSWCR): 38.00493
Decimal Latitude: 38.00493
Decim Long(OSWCR): -121.7783
Decimal Longitude: -121.7783
Location: 1575 TREMBATH LN
City: ANTIOCH
County: Contra Costa
Location(OSWCR): 1575 TREMBATH LN
City(OSWCR): ANTIOCH

County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
37	WNW	0.84	4,424.85	50.66	WATER WELLS

WCR No: WCR1992-003311
Decimal Lat(OSWCR): 38.00493
Decimal Latitude: 38.00493
Decim Long(OSWCR): -121.7783
Decimal Longitude: -121.7783
Location: 1515 WALNUT AVE
City: ANTIOCH
County: Contra Costa
Location(OSWCR): 1515 WALNUT AVE
City(OSWCR): ANTIOCH
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
37	WNW	0.84	4,424.85	50.66	WATER WELLS

WCR No: WCR2005-003693
Decimal Lat(OSWCR): 38.00493
Decimal Latitude: 38.00493
Decim Long(OSWCR): -121.7783
Decimal Longitude: -121.7783
Location: 1840 E 18TH ST
City: ANTIOCH
County: Contra Costa
Location(OSWCR): 1840 E 18TH ST
City(OSWCR): ANTIOCH
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
37	WNW	0.84	4,424.85	50.66	WATER WELLS

WCR No: WCR1988-006415
Decimal Lat(OSWCR): 38.00493
Decimal Latitude: 38.00493
Decim Long(OSWCR): -121.7783
Decimal Longitude: -121.7783
Location:
City: ANTIOCH
County: Contra Costa
Location(OSWCR):
City(OSWCR): ANTIOCH
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water

Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
37	WNW	0.84	4,424.85	50.66	WATER WELLS

WCR No:	WCR0084462	Decimal Lat(OSWCR):	38.00493
Decimal Latitude:	38.00493	Decim Long(OSWCR):	-121.7783
Decimal Longitude:	-121.7783		
Location:	HILLCREST RD		
City:			
County:	Contra Costa		
Location(OSWCR):	HILLCREST RD		
City(OSWCR):			
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
37	WNW	0.84	4,424.85	50.66	WATER WELLS

WCR No:	WCR2010-000155	Decimal Lat(OSWCR):	38.00493
Decimal Latitude:	38.00493	Decim Long(OSWCR):	-121.7783
Decimal Longitude:	-121.7783		
Location:	1801 HILLCREST AVE		
City:	ANTIOCH		
County:	Contra Costa		
Location(OSWCR):	1801 HILLCREST AVE		
City(OSWCR):	ANTIOCH		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
37	WNW	0.84	4,424.85	50.66	WATER WELLS

WCR No:	WCR2000-001276	Decimal Lat(OSWCR):	38.00493
Decimal Latitude:	38.00493	Decim Long(OSWCR):	-121.7783
Decimal Longitude:	-121.7783		
Location:	1920 VINE LANE		
City:	ANTIOCH		
County:	Contra Costa		
Location(OSWCR):	1920 VINE LANE		
City(OSWCR):	ANTIOCH		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Wells and Additional Sources Detail Report

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
37	WNW	0.84	4,424.85	50.66	WATER WELLS

WCR No:	WCR1989-003594	Decimal Lat(OSWCR):	38.00493
Decimal Latitude:	38.00493	Decim Long(OSWCR):	-121.7783
Decimal Longitude:	-121.7783		
Location:			
City:	ANTIOCH		
County:	Contra Costa		
Location(OSWCR):			
City(OSWCR):	ANTIOCH		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
37	WNW	0.84	4,424.85	50.66	WATER WELLS

WCR No:	WCR1980-003273	Decimal Lat(OSWCR):	38.00493
Decimal Latitude:	38.00493	Decim Long(OSWCR):	-121.7783
Decimal Longitude:	-121.7783		
Location:			
City:	ANTIOCH		
County:	Contra Costa		
Location(OSWCR):			
City(OSWCR):	ANTIOCH		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
39	WNW	0.84	4,444.81	51.49	WATER WELLS

WCR No:	WCR1959-000230	Decimal Lat(OSWCR):	38.005
Decimal Latitude:	38.005	Decim Long(OSWCR):	-121.7783333
Decimal Longitude:	-121.7783333		
Location:	HWY 4		
City:			
County:	Contra Costa		
Location(OSWCR):	HWY 4		
City(OSWCR):			
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB

40	NNE	0.86	4,526.59	20.73	WATER WELLS

WCR No:	WCR2013-005075	Decimal Lat(OSWCR):	38.0111111
Decimal Latitude:	38.0111111	Decim Long(OSWCR):	-121.7563889
Decimal Longitude:	-121.7563889		
Location:	3400 WILBUR AVE		
City:	ANTIOCH		
County:	Contra Costa		
Location(OSWCR):	3400 WILBUR AVE		
City(OSWCR):	ANTIOCH		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
40	NNE	0.86	4,526.59	20.73	WATER WELLS

WCR No:	WCR2013-004612	Decimal Lat(OSWCR):	38.0111111
Decimal Latitude:	38.0111111	Decim Long(OSWCR):	-121.7563889
Decimal Longitude:	-121.7563889		
Location:	3400 WILBUR AVE		
City:	ANTIOCH		
County:	Contra Costa		
Location(OSWCR):	3400 WILBUR AVE		
City(OSWCR):	ANTIOCH		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
41	NNW	0.87	4,584.61	33.68	WATER WELLS

WCR No:	WCR2011-005997	Decimal Lat(OSWCR):	38.0105556
Decimal Latitude:	38.0105556	Decim Long(OSWCR):	-121.7722222
Decimal Longitude:	-121.7722222		
Location:	1429 VIERA LN		
City:	ANTIOCH		
County:	Contra Costa		
Location(OSWCR):	1429 VIERA LN		
City(OSWCR):	ANTIOCH		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
42	NNE	0.88	4,620.15	21.42	WATER WELLS

WCR No:	WCR2013-004613	Decimal Lat(OSWCR):	38.0111111
Decimal Latitude:	38.0111111	Decim Long(OSWCR):	-121.7555556
Decimal Longitude:	-121.7555556		
Location:	3400 WILBUR AVE		
City:	ANTIOCH		
County:	Contra Costa		
Location(OSWCR):	3400 WILBUR AVE		
City(OSWCR):	ANTIOCH		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
42	NNE	0.88	4,620.15	21.42	WATER WELLS

WCR No:	WCR2013-004614	Decimal Lat(OSWCR):	38.0111111
Decimal Latitude:	38.0111111	Decim Long(OSWCR):	-121.7555556
Decimal Longitude:	-121.7555556		
Location:	3400 WILBUR AVE		
City:	ANTIOCH		
County:	Contra Costa		
Location(OSWCR):	3400 WILBUR AVE		
City(OSWCR):	ANTIOCH		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
43	N	0.89	4,693.18	15.71	WATER WELLS

WCR No:	WCR2015-008514	Decimal Lat(OSWCR):	38.012431
Decimal Latitude:	38.012431	Decim Long(OSWCR):	-121.76301
Decimal Longitude:	-121.76301		
Location:	3201 WILBUR AVENUE (NRG ENERGY PROPERTY)		
City:	ANTIOCH		
County:	Contra Costa		
Location(OSWCR):	3201 WILBUR AVENUE (NRG ENERGY PROPERTY)		
City(OSWCR):	ANTIOCH		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
44	NNE	0.90	4,727.51	14.29	WATER WELLS

WCR No:	WCR2021-010031	Decimal Lat(OSWCR):	38.0122799

Decimal Latitude:	38.0122799	Decim Long(OSWCR):	-121.7589429
Decimal Longitude:	-121.7589429		
Location:	3201 Wilbur AVE		
City:	Antioch		
County:	Contra Costa		
Location(OSWCR):	3201 Wilbur AVE		
City(OSWCR):	Antioch		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
45	NNE	0.90	4,753.61	13.73	WATER WELLS

WCR No:	WCR2020-014549	Decimal Lat(OSWCR):	38.0122799
Decimal Latitude:	38.0122799	Decim Long(OSWCR):	-121.7585087
Decimal Longitude:	-121.7585087		
Location:	3225 Wilbur AVE		
City:	Antioch		
County:	Contra Costa		
Location(OSWCR):	3225 Wilbur AVE		
City(OSWCR):	Antioch		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
45	NNE	0.90	4,753.61	13.73	WATER WELLS

WCR No:	WCR2020-014591	Decimal Lat(OSWCR):	38.0122799
Decimal Latitude:	38.0122799	Decim Long(OSWCR):	-121.7585087
Decimal Longitude:	-121.7585087		
Location:	3225 Wilbur AVE		
City:	Antioch		
County:	Contra Costa		
Location(OSWCR):	3225 Wilbur AVE		
City(OSWCR):	Antioch		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
45	NNE	0.90	4,753.61	13.73	WATER WELLS

WCR No:	WCR2020-014584	Decimal Lat(OSWCR):	38.0122799
Decimal Latitude:	38.0122799	Decim Long(OSWCR):	-121.7585087
Decimal Longitude:	-121.7585087		

Location: 3225 Wilbur AVE
City: Antioch
County: Contra Costa
Location(OSWCR): 3225 Wilbur AVE
City(OSWCR): Antioch
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
45	NNE	0.90	4,753.61	13.73	WATER WELLS

WCR No: WCR2020-014555
Decimal Latitude: 38.0122799
Decimal Longitude: -121.7585087
Location: 3225 Wilbur AVE
City: Antioch
County: Contra Costa
Location(OSWCR): 3225 Wilbur AVE
City(OSWCR): Antioch
County(OSWCR): Contra Costa
Decimal Lat(OSWCR): 38.0122799
Decim Long(OSWCR): -121.7585087
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
45	NNE	0.90	4,753.61	13.73	WATER WELLS

WCR No: WCR2020-014554
Decimal Latitude: 38.0122799
Decimal Longitude: -121.7585087
Location: 3225 Wilbur AVE
City: Antioch
County: Contra Costa
Location(OSWCR): 3225 Wilbur AVE
City(OSWCR): Antioch
County(OSWCR): Contra Costa
Decimal Lat(OSWCR): 38.0122799
Decim Long(OSWCR): -121.7585087
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
45	NNE	0.90	4,753.61	13.73	WATER WELLS

WCR No: WCR2020-014562
Decimal Latitude: 38.0122799
Decimal Longitude: -121.7585087
Location: 3225 Wilbur AVE
City: Antioch
Decimal Lat(OSWCR): 38.0122799
Decim Long(OSWCR): -121.7585087

County: Contra Costa
Location(OSWCR): 3225 Wilbur AVE
City(OSWCR): Antioch
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
45	NNE	0.90	4,753.61	13.73	WATER WELLS

WCR No: WCR2020-014570
Decimal Lat(OSWCR): 38.0122799
Decimal Latitude: 38.0122799
Decim Long(OSWCR): -121.7585087
Decimal Longitude: -121.7585087
Location: 3225 Wilbur AVE
City: Antioch
County: Contra Costa
Location(OSWCR): 3225 Wilbur AVE
City(OSWCR): Antioch
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
45	NNE	0.90	4,753.61	13.73	WATER WELLS

WCR No: WCR2020-014558
Decimal Lat(OSWCR): 38.0122799
Decimal Latitude: 38.0122799
Decim Long(OSWCR): -121.7585087
Decimal Longitude: -121.7585087
Location: 3225 Wilbur AVE
City: Antioch
County: Contra Costa
Location(OSWCR): 3225 Wilbur AVE
City(OSWCR): Antioch
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
45	NNE	0.90	4,753.61	13.73	WATER WELLS

WCR No: WCR2020-014586
Decimal Lat(OSWCR): 38.0122799
Decimal Latitude: 38.0122799
Decim Long(OSWCR): -121.7585087
Decimal Longitude: -121.7585087
Location: 3225 Wilbur AVE
City: Antioch
County: Contra Costa
Location(OSWCR): 3225 Wilbur AVE

City(OSWCR): Antioch
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
45	NNE	0.90	4,753.61	13.73	WATER WELLS

WCR No: WCR2020-014588
Decimal Lat(OSWCR): 38.0122799
Decimal Latitude: 38.0122799
Decim Long(OSWCR): -121.7585087
Decimal Longitude: -121.7585087
Location: 3225 Wilbur AVE
City: Antioch
County: Contra Costa
Location(OSWCR): 3225 Wilbur AVE
City(OSWCR): Antioch
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
45	NNE	0.90	4,753.61	13.73	WATER WELLS

WCR No: WCR2020-014564
Decimal Lat(OSWCR): 38.0122799
Decimal Latitude: 38.0122799
Decim Long(OSWCR): -121.7585087
Decimal Longitude: -121.7585087
Location: 3225 Wilbur AVE
City: Antioch
County: Contra Costa
Location(OSWCR): 3225 Wilbur AVE
City(OSWCR): Antioch
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
45	NNE	0.90	4,753.61	13.73	WATER WELLS

WCR No: WCR2020-014581
Decimal Lat(OSWCR): 38.0122799
Decimal Latitude: 38.0122799
Decim Long(OSWCR): -121.7585087
Decimal Longitude: -121.7585087
Location: 3225 Wilbur AVE
City: Antioch
County: Contra Costa
Location(OSWCR): 3225 Wilbur AVE
City(OSWCR): Antioch
County(OSWCR): Contra Costa

Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
45	NNE	0.90	4,753.61	13.73	WATER WELLS

WCR No: WCR2020-014576
Decimal Lat(OSWCR): 38.0122799
Decimal Latitude: 38.0122799
Decim Long(OSWCR): -121.7585087
Decimal Longitude: -121.7585087
Location: 3225 Wilbur AVE
City: Antioch
County: Contra Costa
Location(OSWCR): 3225 Wilbur AVE
City(OSWCR): Antioch
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
45	NNE	0.90	4,753.61	13.73	WATER WELLS

WCR No: WCR2020-014556
Decimal Lat(OSWCR): 38.0122799
Decimal Latitude: 38.0122799
Decim Long(OSWCR): -121.7585087
Decimal Longitude: -121.7585087
Location: 3225 Wilbur AVE
City: Antioch
County: Contra Costa
Location(OSWCR): 3225 Wilbur AVE
City(OSWCR): Antioch
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
45	NNE	0.90	4,753.61	13.73	WATER WELLS

WCR No: WCR2020-014579
Decimal Lat(OSWCR): 38.0122799
Decimal Latitude: 38.0122799
Decim Long(OSWCR): -121.7585087
Decimal Longitude: -121.7585087
Location: 3225 Wilbur AVE
City: Antioch
County: Contra Costa
Location(OSWCR): 3225 Wilbur AVE
City(OSWCR): Antioch
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Wells and Additional Sources Detail Report

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
45	NNE	0.90	4,753.61	13.73	WATER WELLS

WCR No:	WCR2020-014550	Decimal Lat(OSWCR):	38.0122799
Decimal Latitude:	38.0122799	Decim Long(OSWCR):	-121.7585087
Decimal Longitude:	-121.7585087		
Location:	3225 Wilbur AVE		
City:	Antioch		
County:	Contra Costa		
Location(OSWCR):	3225 Wilbur AVE		
City(OSWCR):	Antioch		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
45	NNE	0.90	4,753.61	13.73	WATER WELLS

WCR No:	WCR2020-014589	Decimal Lat(OSWCR):	38.0122799
Decimal Latitude:	38.0122799	Decim Long(OSWCR):	-121.7585087
Decimal Longitude:	-121.7585087		
Location:	3225 Wilbur AVE		
City:	Antioch		
County:	Contra Costa		
Location(OSWCR):	3225 Wilbur AVE		
City(OSWCR):	Antioch		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
45	NNE	0.90	4,753.61	13.73	WATER WELLS

WCR No:	WCR2020-014559	Decimal Lat(OSWCR):	38.0122799
Decimal Latitude:	38.0122799	Decim Long(OSWCR):	-121.7585087
Decimal Longitude:	-121.7585087		
Location:	3225 Wilbur AVE		
City:	Antioch		
County:	Contra Costa		
Location(OSWCR):	3225 Wilbur AVE		
City(OSWCR):	Antioch		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
45	NNE	0.90	4,753.61	13.73	WATER WELLS

WCR No:	WCR2020-014565	Decimal Lat(OSWCR):	38.0122799
Decimal Latitude:	38.0122799	Decim Long(OSWCR):	-121.7585087
Decimal Longitude:	-121.7585087		
Location:	3225 Wilbur AVE		
City:	Antioch		
County:	Contra Costa		
Location(OSWCR):	3225 Wilbur AVE		
City(OSWCR):	Antioch		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
45	NNE	0.90	4,753.61	13.73	WATER WELLS

WCR No:	WCR2020-014578	Decimal Lat(OSWCR):	38.0122799
Decimal Latitude:	38.0122799	Decim Long(OSWCR):	-121.7585087
Decimal Longitude:	-121.7585087		
Location:	3225 Wilbur AVE		
City:	Antioch		
County:	Contra Costa		
Location(OSWCR):	3225 Wilbur AVE		
City(OSWCR):	Antioch		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
45	NNE	0.90	4,753.61	13.73	WATER WELLS

WCR No:	WCR2020-014577	Decimal Lat(OSWCR):	38.0122799
Decimal Latitude:	38.0122799	Decim Long(OSWCR):	-121.7585087
Decimal Longitude:	-121.7585087		
Location:	3225 Wilbur AVE		
City:	Antioch		
County:	Contra Costa		
Location(OSWCR):	3225 Wilbur AVE		
City(OSWCR):	Antioch		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
45	NNE	0.90	4,753.61	13.73	WATER WELLS

WCR No:	WCR2020-014551	Decimal Lat(OSWCR):	38.0122799
Decimal Latitude:	38.0122799	Decim Long(OSWCR):	-121.7585087
Decimal Longitude:	-121.7585087		
Location:	3225 Wilbur AVE		
City:	Antioch		
County:	Contra Costa		
Location(OSWCR):	3225 Wilbur AVE		
City(OSWCR):	Antioch		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
45	NNE	0.90	4,753.61	13.73	WATER WELLS

WCR No:	WCR2020-014568	Decimal Lat(OSWCR):	38.0122799
Decimal Latitude:	38.0122799	Decim Long(OSWCR):	-121.7585087
Decimal Longitude:	-121.7585087		
Location:	3225 Wilbur AVE		
City:	Antioch		
County:	Contra Costa		
Location(OSWCR):	3225 Wilbur AVE		
City(OSWCR):	Antioch		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
45	NNE	0.90	4,753.61	13.73	WATER WELLS

WCR No:	WCR2020-014571	Decimal Lat(OSWCR):	38.0122799
Decimal Latitude:	38.0122799	Decim Long(OSWCR):	-121.7585087
Decimal Longitude:	-121.7585087		
Location:	3225 Wilbur AVE		
City:	Antioch		
County:	Contra Costa		
Location(OSWCR):	3225 Wilbur AVE		
City(OSWCR):	Antioch		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
45	NNE	0.90	4,753.61	13.73	WATER WELLS

WCR No:	WCR2020-014553	Decimal Lat(OSWCR):	38.0122799
Decimal Latitude:	38.0122799	Decim Long(OSWCR):	-121.7585087
Decimal Longitude:	-121.7585087		
Location:	3225 Wilbur AVE		
City:	Antioch		
County:	Contra Costa		
Location(OSWCR):	3225 Wilbur AVE		
City(OSWCR):	Antioch		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
46	NNW	0.91	4,799.57	22.57	WATER WELLS

WCR No:	WCR2012-006208	Decimal Lat(OSWCR):	38.0125
Decimal Latitude:	38.0125	Decim Long(OSWCR):	-121.7675
Decimal Longitude:	-121.7675		
Location:	2603 WILBUR AVE		
City:	ANTIOCH		
County:	Contra Costa		
Location(OSWCR):	2603 WILBUR AVE		
City(OSWCR):	ANTIOCH		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
47	SW	0.91	4,802.67	163.99	WATER WELLS

WCR No:	WCR2005-004254	Decimal Lat(OSWCR):	37.99025
Decimal Latitude:	37.99025	Decim Long(OSWCR):	-121.77824
Decimal Longitude:	-121.77824		
Location:	BETTER HOMES REALTY / CROSSING		
City:	ANTIOCH		
County:	Contra Costa		
Location(OSWCR):	BETTER HOMES REALTY / CROSSING		
City(OSWCR):	ANTIOCH		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
47	SW	0.91	4,802.67	163.99	WATER WELLS

WCR No:	WCR1998-006308	Decimal Lat(OSWCR):	37.99025
Decimal Latitude:	37.99025	Decim Long(OSWCR):	-121.77824

Decimal Longitude: -121.77824
Location: 2700 HILLCREST AVE_
City: ANTIOCH
County: Contra Costa
Location(OSWCR): 2700 HILLCREST AVE_
City(OSWCR): ANTIOCH
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
47	SW	0.91	4,802.67	163.99	WATER WELLS

WCR No: WCR1998-006306
Decimal Lat(OSWCR): 37.99025
Decimal Latitude: 37.99025
Decim Long(OSWCR): -121.77824
Decimal Longitude: -121.77824
Location: 2700 HILLCREST AVE_
City: ANTIOCH
County: Contra Costa
Location(OSWCR): 2700 HILLCREST AVE_
City(OSWCR): ANTIOCH
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
47	SW	0.91	4,802.67	163.99	WATER WELLS

WCR No: WCR0240905
Decimal Lat(OSWCR): 37.99025
Decimal Latitude: 37.99025
Decim Long(OSWCR): -121.77824
Decimal Longitude: -121.77824
Location:
City:
County: Contra Costa
Location(OSWCR):
City(OSWCR):
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
47	SW	0.91	4,802.67	163.99	WATER WELLS

WCR No: WCR0061471
Decimal Lat(OSWCR): 37.99025
Decimal Latitude: 37.99025
Decim Long(OSWCR): -121.77824
Decimal Longitude: -121.77824
Location:

City:
County: Contra Costa
Location(OSWCR):
City(OSWCR):
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
47	SW	0.91	4,802.67	163.99	WATER WELLS

WCR No: WCR0113644
Decimal Lat(OSWCR): 37.99025
Decimal Latitude: 37.99025
Decim Long(OSWCR): -121.77824
Decimal Longitude: -121.77824
Location:
City:
County: Contra Costa
Location(OSWCR):
City(OSWCR):
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
47	SW	0.91	4,802.67	163.99	WATER WELLS

WCR No: WCR2000-004781
Decimal Lat(OSWCR): 37.99025
Decimal Latitude: 37.99025
Decim Long(OSWCR): -121.77824
Decimal Longitude: -121.77824
Location: 2700 HILLCREST AVE_
City: ANTIOCH
County: Contra Costa
Location(OSWCR): 2700 HILLCREST AVE_
City(OSWCR): ANTIOCH
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
47	SW	0.91	4,802.67	163.99	WATER WELLS

WCR No: WCR1985-003401
Decimal Lat(OSWCR): 37.99025
Decimal Latitude: 37.99025
Decim Long(OSWCR): -121.77824
Decimal Longitude: -121.77824
Location:
City: ANTIOCH
County: Contra Costa

Location(OSWCR):
City(OSWCR): ANTIOCH
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
47	SW	0.91	4,802.67	163.99	WATER WELLS

WCR No: WCR2005-004253
Decimal Lat(OSWCR): 37.99025
Decimal Latitude: 37.99025
Decim Long(OSWCR): -121.77824
Decimal Longitude: -121.77824
Location: 3321 CROSSINGS
City: ANTIOCH
County: Contra Costa
Location(OSWCR): 3321 CROSSINGS
City(OSWCR): ANTIOCH
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
47	SW	0.91	4,802.67	163.99	WATER WELLS

WCR No: WCR2000-006817
Decimal Lat(OSWCR): 37.99025
Decimal Latitude: 37.99025
Decim Long(OSWCR): -121.77824
Decimal Longitude: -121.77824
Location: 1200 ARCY LN
City: PITTSBURG
County: Contra Costa
Location(OSWCR): 1200 ARCY LN
City(OSWCR): PITTSBURG
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
47	SW	0.91	4,802.67	163.99	WATER WELLS

WCR No: WCR1985-002044
Decimal Lat(OSWCR): 37.99025
Decimal Latitude: 37.99025
Decim Long(OSWCR): -121.77824
Decimal Longitude: -121.77824
Location:
City: ANTIOCH
County: Contra Costa
Location(OSWCR):
City(OSWCR): ANTIOCH

County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
47	SW	0.91	4,802.67	163.99	WATER WELLS

WCR No: WCR2000-004780
Decimal Lat(OSWCR): 37.99025
Decimal Latitude: 37.99025
Decim Long(OSWCR): -121.77824
Decimal Longitude: -121.77824
Location: 2700 HILLCREST AVE_
City: ANTIOCH
County: Contra Costa
Location(OSWCR): 2700 HILLCREST AVE_
City(OSWCR): ANTIOCH
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
47	SW	0.91	4,802.67	163.99	WATER WELLS

WCR No: WCR1998-006307
Decimal Lat(OSWCR): 37.99025
Decimal Latitude: 37.99025
Decim Long(OSWCR): -121.77824
Decimal Longitude: -121.77824
Location: 2700 HILLCREST AVE_
City: ANTIOCH
County: Contra Costa
Location(OSWCR): 2700 HILLCREST AVE_
City(OSWCR): ANTIOCH
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
47	SW	0.91	4,802.67	163.99	WATER WELLS

WCR No: WCR1998-006237
Decimal Lat(OSWCR): 37.99025
Decimal Latitude: 37.99025
Decim Long(OSWCR): -121.77824
Decimal Longitude: -121.77824
Location: 2700 HILLCREST AVE
City: ANTIOCH
County: Contra Costa
Location(OSWCR): 2700 HILLCREST AVE
City(OSWCR): ANTIOCH
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water

Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
47	SW	0.91	4,802.67	163.99	WATER WELLS

WCR No:	WCR1988-004675	Decimal Lat(OSWCR):	37.99025
Decimal Latitude:	37.99025	Decim Long(OSWCR):	-121.77824
Decimal Longitude:	-121.77824		
Location:			
City:	ANTIOCH		
County:	Contra Costa		
Location(OSWCR):			
City(OSWCR):	ANTIOCH		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
47	SW	0.91	4,802.67	163.99	WATER WELLS

WCR No:	WCR1988-004741	Decimal Lat(OSWCR):	37.99025
Decimal Latitude:	37.99025	Decim Long(OSWCR):	-121.77824
Decimal Longitude:	-121.77824		
Location:			
City:	ANTIOCH		
County:	Contra Costa		
Location(OSWCR):			
City(OSWCR):	ANTIOCH		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
47	SW	0.91	4,802.67	163.99	WATER WELLS

WCR No:	WCR2000-004782	Decimal Lat(OSWCR):	37.99025
Decimal Latitude:	37.99025	Decim Long(OSWCR):	-121.77824
Decimal Longitude:	-121.77824		
Location:	2700 HILLCREST AVE_		
City:	ANTIOCH		
County:	Contra Costa		
Location(OSWCR):	2700 HILLCREST AVE_		
City(OSWCR):	ANTIOCH		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Wells and Additional Sources Detail Report

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
47	SW	0.91	4,802.67	163.99	WATER WELLS

WCR No:	WCR2000-004779	Decimal Lat(OSWCR):	37.99025
Decimal Latitude:	37.99025	Decim Long(OSWCR):	-121.77824
Decimal Longitude:	-121.77824		
Location:	2700 HILLCREST AVE_		
City:	ANTIOCH		
County:	Contra Costa		
Location(OSWCR):	2700 HILLCREST AVE_		
City(OSWCR):	ANTIOCH		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
47	SW	0.91	4,802.67	163.99	WATER WELLS

WCR No:	WCR2000-004671	Decimal Lat(OSWCR):	37.99025
Decimal Latitude:	37.99025	Decim Long(OSWCR):	-121.77824
Decimal Longitude:	-121.77824		
Location:	1029 10TH ST		
City:	ANTIOCH		
County:	Contra Costa		
Location(OSWCR):	1029 10TH ST		
City(OSWCR):	ANTIOCH		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
47	SW	0.91	4,802.67	163.99	WATER WELLS

WCR No:	WCR1992-007822	Decimal Lat(OSWCR):	37.99025
Decimal Latitude:	37.99025	Decim Long(OSWCR):	-121.77824
Decimal Longitude:	-121.77824		
Location:	3904 CAPLES CT		
City:	ANTIOCH		
County:	Contra Costa		
Location(OSWCR):	3904 CAPLES CT		
City(OSWCR):	ANTIOCH		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB

47	SW	0.91	4,802.67	163.99	WATER WELLS

WCR No:	WCR1988-004674	Decimal Lat(OSWCR):	37.99025
Decimal Latitude:	37.99025	Decim Long(OSWCR):	-121.77824
Decimal Longitude:	-121.77824		
Location:			
City:	ANTIOCH		
County:	Contra Costa		
Location(OSWCR):			
City(OSWCR):	ANTIOCH		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
48	NNE	0.91	4,805.72	12.71	WATER WELLS

WCR No:	WCR2015-008513	Decimal Lat(OSWCR):	38.012417
Decimal Latitude:	38.012417	Decim Long(OSWCR):	-121.758455
Decimal Longitude:	-121.758455		
Location:	3201 WILBUR AVENUE (PG&E PROPERTY)		
City:	ANTIOCH		
County:	Contra Costa		
Location(OSWCR):	3201 WILBUR AVENUE (PG&E PROPERTY)		
City(OSWCR):	ANTIOCH		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
49	NNW	0.91	4,814.42	23.40	WATER WELLS

WCR No:	WCR0320692	Decimal Lat(OSWCR):	38.0125
Decimal Latitude:	38.0125	Decim Long(OSWCR):	-121.767777777778
Decimal Longitude:	-121.767777777778		
Location:	2603 WILBUR AVE		
City:	ANTIOCH		
County:	Contra Costa		
Location(OSWCR):	2603 WILBUR AVE		
City(OSWCR):	ANTIOCH		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
49	NNW	0.91	4,814.42	23.40	WATER WELLS

WCR No:	WCR0171267	Decimal Lat(OSWCR):	38.0125
Decimal Latitude:	38.0125	Decim Long(OSWCR):	-121.767777777778
Decimal Longitude:	-121.767777777778		
Location:	2603 WILBUR AVE		
City:	ANTIOCH		
County:	Contra Costa		
Location(OSWCR):	2603 WILBUR AVE		
City(OSWCR):	ANTIOCH		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
49	NNW	0.91	4,814.42	23.40	WATER WELLS

WCR No:	WCR2012-006085	Decimal Lat(OSWCR):	38.0125
Decimal Latitude:	38.0125	Decim Long(OSWCR):	-121.7677778
Decimal Longitude:	-121.7677778		
Location:	2603 WILBUR AVE		
City:	ANTIOCH		
County:	Contra Costa		
Location(OSWCR):	2603 WILBUR AVE		
City(OSWCR):	ANTIOCH		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
49	NNW	0.91	4,814.42	23.40	WATER WELLS

WCR No:	WCR2012-006554	Decimal Lat(OSWCR):	38.0125
Decimal Latitude:	38.0125	Decim Long(OSWCR):	-121.7677778
Decimal Longitude:	-121.7677778		
Location:	2603 WILBUR AVE		
City:	ANTIOCH		
County:	Contra Costa		
Location(OSWCR):	2603 WILBUR AVE		
City(OSWCR):	ANTIOCH		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
49	NNW	0.91	4,814.42	23.40	WATER WELLS

WCR No:	WCR2012-006059	Decimal Lat(OSWCR):	38.0125

Decimal Latitude:	38.0125	Decim Long(OSWCR):	-121.7677778
Decimal Longitude:	-121.7677778		
Location:	2603 WILBUR AVE		
City:	ANTIOCH		
County:	Contra Costa		
Location(OSWCR):	2603 WILBUR AVE		
City(OSWCR):	ANTIOCH		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
49	NNW	0.91	4,814.42	23.40	WATER WELLS

WCR No:	WCR2012-006553	Decimal Lat(OSWCR):	38.0125
Decimal Latitude:	38.0125	Decim Long(OSWCR):	-121.7677778
Decimal Longitude:	-121.7677778		
Location:	2603 WILBUR AVE		
City:	ANTIOCH		
County:	Contra Costa		
Location(OSWCR):	2603 WILBUR AVE		
City(OSWCR):	ANTIOCH		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
49	NNW	0.91	4,814.42	23.40	WATER WELLS

WCR No:	WCR2012-006030	Decimal Lat(OSWCR):	38.0125
Decimal Latitude:	38.0125	Decim Long(OSWCR):	-121.7677778
Decimal Longitude:	-121.7677778		
Location:	2603 WILBUR AVE		
City:	ANTIOCH		
County:	Contra Costa		
Location(OSWCR):	2603 WILBUR AVE		
City(OSWCR):	ANTIOCH		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
49	NNW	0.91	4,814.42	23.40	WATER WELLS

WCR No:	WCR2012-002838	Decimal Lat(OSWCR):	38.0125
Decimal Latitude:	38.0125	Decim Long(OSWCR):	-121.7677778
Decimal Longitude:	-121.7677778		

Wells and Additional Sources Detail Report

Location: 2603 WILBUR AVE
City: ANTIOCH
County: Contra Costa
Location(OSWCR): 2603 WILBUR AVE
City(OSWCR): ANTIOCH
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
49	NNW	0.91	4,814.42	23.40	WATER WELLS

WCR No: WCR2012-002848
Decimal Lat(OSWCR): 38.0125
Decimal Latitude: 38.0125
Decim Long(OSWCR): -121.7677778
Decimal Longitude: -121.7677778
Location: 2603 WILBUR AVE
City: ANTIOCH
County: Contra Costa
Location(OSWCR): 2603 WILBUR AVE
City(OSWCR): ANTIOCH
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
49	NNW	0.91	4,814.42	23.40	WATER WELLS

WCR No: WCR2012-006025
Decimal Lat(OSWCR): 38.0125
Decimal Latitude: 38.0125
Decim Long(OSWCR): -121.7677778
Decimal Longitude: -121.7677778
Location: 2603 WILBUR AVE
City: ANTIOCH
County: Contra Costa
Location(OSWCR): 2603 WILBUR AVE
City(OSWCR): ANTIOCH
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
49	NNW	0.91	4,814.42	23.40	WATER WELLS

WCR No: WCR2012-006083
Decimal Lat(OSWCR): 38.0125
Decimal Latitude: 38.0125
Decim Long(OSWCR): -121.7677778
Decimal Longitude: -121.7677778
Location: 2603 WILBUR AVE
City: ANTIOCH

Wells and Additional Sources Detail Report

County: Contra Costa
Location(OSWCR): 2603 WILBUR AVE
City(OSWCR): ANTIOCH
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
49	NNW	0.91	4,814.42	23.40	WATER WELLS

WCR No: WCR2012-006029
Decimal Lat(OSWCR): 38.0125
Decimal Latitude: 38.0125
Decim Long(OSWCR): -121.7677778
Decimal Longitude: -121.7677778
Location: 2603 WILBUR AVE
City: ANTIOCH
County: Contra Costa
Location(OSWCR): 2603 WILBUR AVE
City(OSWCR): ANTIOCH
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
49	NNW	0.91	4,814.42	23.40	WATER WELLS

WCR No: WCR2012-006088
Decimal Lat(OSWCR): 38.0125
Decimal Latitude: 38.0125
Decim Long(OSWCR): -121.7677778
Decimal Longitude: -121.7677778
Location: 2603 WILBUR AVE
City: ANTIOCH
County: Contra Costa
Location(OSWCR): 2603 WILBUR AVE
City(OSWCR): ANTIOCH
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
49	NNW	0.91	4,814.42	23.40	WATER WELLS

WCR No: WCR2012-006206
Decimal Lat(OSWCR): 38.0125
Decimal Latitude: 38.0125
Decim Long(OSWCR): -121.7677778
Decimal Longitude: -121.7677778
Location: 2603 WILBUR AVE
City: ANTIOCH
County: Contra Costa
Location(OSWCR): 2603 WILBUR AVE

City(OSWCR): ANTIOCH
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
49	NNW	0.91	4,814.42	23.40	WATER WELLS

WCR No: WCR2012-006023
Decimal Lat(OSWCR): 38.0125
Decimal Latitude: 38.0125
Decim Long(OSWCR): -121.7677778
Decimal Longitude: -121.7677778
Location: 2603 WILBUR AVE
City: ANTIOCH
County: Contra Costa
Location(OSWCR): 2603 WILBUR AVE
City(OSWCR): ANTIOCH
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
49	NNW	0.91	4,814.42	23.40	WATER WELLS

WCR No: WCR2012-006082
Decimal Lat(OSWCR): 38.0125
Decimal Latitude: 38.0125
Decim Long(OSWCR): -121.7677778
Decimal Longitude: -121.7677778
Location: 2603 WILBUR AVE
City: ANTIOCH
County: Contra Costa
Location(OSWCR): 2603 WILBUR AVE
City(OSWCR): ANTIOCH
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
49	NNW	0.91	4,814.42	23.40	WATER WELLS

WCR No: WCR2012-006018
Decimal Lat(OSWCR): 38.0125
Decimal Latitude: 38.0125
Decim Long(OSWCR): -121.7677778
Decimal Longitude: -121.7677778
Location: 2603 WILBUR AVE
City: ANTIOCH
County: Contra Costa
Location(OSWCR): 2603 WILBUR AVE
City(OSWCR): ANTIOCH
County(OSWCR): Contra Costa

Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
49	NNW	0.91	4,814.42	23.40	WATER WELLS

WCR No: WCR2012-006084
Decimal Lat(OSWCR): 38.0125
Decimal Latitude: 38.0125
Decim Long(OSWCR): -121.7677778
Decimal Longitude: -121.7677778
Location: 2603 WILBUR AVE
City: ANTIOCH
County: Contra Costa
Location(OSWCR): 2603 WILBUR AVE
City(OSWCR): ANTIOCH
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
49	NNW	0.91	4,814.42	23.40	WATER WELLS

WCR No: WCR2012-002843
Decimal Lat(OSWCR): 38.0125
Decimal Latitude: 38.0125
Decim Long(OSWCR): -121.7677778
Decimal Longitude: -121.7677778
Location: 2603 WILBUR AVE
City: ANTIOCH
County: Contra Costa
Location(OSWCR): 2603 WILBUR AVE
City(OSWCR): ANTIOCH
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
49	NNW	0.91	4,814.42	23.40	WATER WELLS

WCR No: WCR2012-002845
Decimal Lat(OSWCR): 38.0125
Decimal Latitude: 38.0125
Decim Long(OSWCR): -121.7677778
Decimal Longitude: -121.7677778
Location: 2603 WILBUR AVE
City: ANTIOCH
County: Contra Costa
Location(OSWCR): 2603 WILBUR AVE
City(OSWCR): ANTIOCH
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Wells and Additional Sources Detail Report

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
49	NNW	0.91	4,814.42	23.40	WATER WELLS

WCR No:	WCR2012-006019	Decimal Lat(OSWCR):	38.0125
Decimal Latitude:	38.0125	Decim Long(OSWCR):	-121.7677778
Decimal Longitude:	-121.7677778		
Location:	2603 WILBUR AVE		
City:	ANTIOCH		
County:	Contra Costa		
Location(OSWCR):	2603 WILBUR AVE		
City(OSWCR):	ANTIOCH		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
49	NNW	0.91	4,814.42	23.40	WATER WELLS

WCR No:	WCR2012-006086	Decimal Lat(OSWCR):	38.0125
Decimal Latitude:	38.0125	Decim Long(OSWCR):	-121.7677778
Decimal Longitude:	-121.7677778		
Location:	2603 WILBUR AVE		
City:	ANTIOCH		
County:	Contra Costa		
Location(OSWCR):	2603 WILBUR AVE		
City(OSWCR):	ANTIOCH		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
49	NNW	0.91	4,814.42	23.40	WATER WELLS

WCR No:	WCR2012-006024	Decimal Lat(OSWCR):	38.0125
Decimal Latitude:	38.0125	Decim Long(OSWCR):	-121.7677778
Decimal Longitude:	-121.7677778		
Location:	2603 WILBUR AVE		
City:	ANTIOCH		
County:	Contra Costa		
Location(OSWCR):	2603 WILBUR AVE		
City(OSWCR):	ANTIOCH		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
49	NNW	0.91	4,814.42	23.40	WATER WELLS

WCR No:	WCR2012-006026	Decimal Lat(OSWCR):	38.0125
Decimal Latitude:	38.0125	Decim Long(OSWCR):	-121.7677778
Decimal Longitude:	-121.7677778		
Location:	2603 WILBUR AVE		
City:	ANTIOCH		
County:	Contra Costa		
Location(OSWCR):	2603 WILBUR AVE		
City(OSWCR):	ANTIOCH		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
49	NNW	0.91	4,814.42	23.40	WATER WELLS

WCR No:	WCR2012-002847	Decimal Lat(OSWCR):	38.0125
Decimal Latitude:	38.0125	Decim Long(OSWCR):	-121.7677778
Decimal Longitude:	-121.7677778		
Location:	2603 WILBUR AVE		
City:	ANTIOCH		
County:	Contra Costa		
Location(OSWCR):	2603 WILBUR AVE		
City(OSWCR):	ANTIOCH		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
49	NNW	0.91	4,814.42	23.40	WATER WELLS

WCR No:	WCR2012-006207	Decimal Lat(OSWCR):	38.0125
Decimal Latitude:	38.0125	Decim Long(OSWCR):	-121.7677778
Decimal Longitude:	-121.7677778		
Location:	2603 WILBUR AVE		
City:	ANTIOCH		
County:	Contra Costa		
Location(OSWCR):	2603 WILBUR AVE		
City(OSWCR):	ANTIOCH		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
49	NNW	0.91	4,814.42	23.40	WATER WELLS

Wells and Additional Sources Detail Report

WCR No:	WCR0320691	Decimal Lat(OSWCR):	38.0125
Decimal Latitude:	38.0125	Decim Long(OSWCR):	-121.767777777778
Decimal Longitude:	-121.767777777778		
Location:	2603 WILBUR AVE		
City:	ANTIOCH		
County:	Contra Costa		
Location(OSWCR):	2603 WILBUR AVE		
City(OSWCR):	ANTIOCH		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
49	NNW	0.91	4,814.42	23.40	WATER WELLS

WCR No:	WCR0312714	Decimal Lat(OSWCR):	38.0125
Decimal Latitude:	38.0125	Decim Long(OSWCR):	-121.767777777778
Decimal Longitude:	-121.767777777778		
Location:	2603 WILBUR AVE		
City:	ANTIOCH		
County:	Contra Costa		
Location(OSWCR):	2603 WILBUR AVE		
City(OSWCR):	ANTIOCH		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
49	NNW	0.91	4,814.42	23.40	WATER WELLS

WCR No:	WCR0269126	Decimal Lat(OSWCR):	38.0125
Decimal Latitude:	38.0125	Decim Long(OSWCR):	-121.767777777778
Decimal Longitude:	-121.767777777778		
Location:	2603 WILBUR AVE		
City:	ANTIOCH		
County:	Contra Costa		
Location(OSWCR):	2603 WILBUR AVE		
City(OSWCR):	ANTIOCH		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
52	NNW	0.93	4,924.99	29.62	WATER WELLS

WCR No:	WCR2008-005873	Decimal Lat(OSWCR):	
Decimal Latitude:		Decim Long(OSWCR):	
Decimal Longitude:			
Location:	2600 WILBUR AVE		
City:	ANTIOCH		
County:	Contra Costa		
Location(OSWCR):	2600 WILBUR AVE		
City(OSWCR):	ANTIOCH		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
53	NNW	0.94	4,973.98	21.55	WATER WELLS

WCR No:	WCR2011-002687	Decimal Lat(OSWCR):	38.0130556
Decimal Latitude:	38.0130556	Decim Long(OSWCR):	-121.7669444
Decimal Longitude:	-121.7669444		
Location:	2603 WILBUR AVE		
City:	ANTIOCH		
County:	Contra Costa		
Location(OSWCR):	2603 WILBUR AVE		
City(OSWCR):	ANTIOCH		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
53	NNW	0.94	4,973.98	21.55	WATER WELLS

WCR No:	WCR2011-002515	Decimal Lat(OSWCR):	38.0130556
Decimal Latitude:	38.0130556	Decim Long(OSWCR):	-121.7669444
Decimal Longitude:	-121.7669444		
Location:	2603 WILBUR AVE		
City:	ANTIOCH		
County:	Contra Costa		
Location(OSWCR):	2603 WILBUR AVE		
City(OSWCR):	ANTIOCH		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
53	NNW	0.94	4,973.98	21.55	WATER WELLS

WCR No:	WCR2011-002678	Decimal Lat(OSWCR):	38.0130556
Decimal Latitude:	38.0130556	Decim Long(OSWCR):	-121.7669444

Decimal Longitude: -121.7669444
Location: 2603 WILBUR AVE
City: ANTIOCH
County: Contra Costa
Location(OSWCR): 2603 WILBUR AVE
City(OSWCR): ANTIOCH
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
53	NNW	0.94	4,973.98	21.55	WATER WELLS

WCR No: WCR2011-002688
Decimal Lat(OSWCR): 38.0130556
Decimal Latitude: 38.0130556
Decim Long(OSWCR): -121.7669444
Decimal Longitude: -121.7669444
Location: 2603 WILBUR AVE
City: ANTIOCH
County: Contra Costa
Location(OSWCR): 2603 WILBUR AVE
City(OSWCR): ANTIOCH
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
53	NNW	0.94	4,973.98	21.55	WATER WELLS

WCR No: WCR0215148
Decimal Lat(OSWCR): 38.0130555555556
Decimal Latitude: 38.0130555555556
Decim Long(OSWCR): -121.766944444444
Decimal Longitude: -121.766944444444
Location: 2603 WILBUR AVENUE
City: ANTIOCH
County: Contra Costa
Location(OSWCR): 2603 WILBUR AVENUE
City(OSWCR): ANTIOCH
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
53	NNW	0.94	4,973.98	21.55	WATER WELLS

WCR No: WCR0060841
Decimal Lat(OSWCR): 38.0130555555556
Decimal Latitude: 38.0130555555556
Decim Long(OSWCR): -121.766944444444
Decimal Longitude: -121.766944444444
Location: 2603 WILBUR AVENUE

City: ANTIOCH
County: Contra Costa
Location(OSWCR): 2603 WILBUR AVENUE
City(OSWCR): ANTIOCH
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
54	NE	0.95	4,996.99	22.65	WATER WELLS

WCR No: WCR2018-010490
Decimal Lat(OSWCR): 38.0095315
Decimal Latitude: 38.0095315
Decim Long(OSWCR): -121.7502579
Decimal Longitude: -121.7502579
Location: 2600 Bridgehead RD
City: Fremont
County: Contra Costa
Location(OSWCR): 2600 Bridgehead RD
City(OSWCR): Fremont
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
55	NE	0.95	5,008.21	22.37	WATER WELLS

WCR No: WCR2018-010492
Decimal Lat(OSWCR): 38.0097
Decimal Latitude: 38.0097
Decim Long(OSWCR): -121.75043
Decimal Longitude: -121.75043
Location: 2600 Bridgehead RD
City: Oakley
County: Contra Costa
Location(OSWCR): 2600 Bridgehead RD
City(OSWCR): Oakley
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
56	NE	0.95	5,024.28	22.40	WATER WELLS

WCR No: WCR2018-010491
Decimal Lat(OSWCR): 38.0097062
Decimal Latitude: 38.0097062
Decim Long(OSWCR): -121.750356
Decimal Longitude: -121.750356
Location: 2600 Bridgehead RD
City: Oakley
County: Contra Costa

Location(OSWCR): 2600 Bridgehead RD
City(OSWCR): Oakley
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
57	NE	0.95	5,040.99	22.40	WATER WELLS

WCR No: WCR2018-010493
Decimal Lat(OSWCR): 38.009704
Decimal Latitude: 38.009704
Decim Long(OSWCR): -121.750282
Decimal Longitude: -121.750282
Location: 2600 Bridgehead RD
City: Oakley
County: Contra Costa
Location(OSWCR): 2600 Bridgehead RD
City(OSWCR): Oakley
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
57	NE	0.95	5,040.99	22.40	WATER WELLS

WCR No: WCR2012-005599
Decimal Lat(OSWCR): 38.0097222
Decimal Latitude: 38.0097222
Decim Long(OSWCR): -121.7502778
Decimal Longitude: -121.7502778
Location: 5900 BRIDGEHEAD RD
City: OAKLEY
County: Contra Costa
Location(OSWCR): 5900 BRIDGEHEAD RD
City(OSWCR): OAKLEY
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
57	NE	0.95	5,040.99	22.40	WATER WELLS

WCR No: WCR2012-005600
Decimal Lat(OSWCR): 38.0097222
Decimal Latitude: 38.0097222
Decim Long(OSWCR): -121.7502778
Decimal Longitude: -121.7502778
Location: 5900 BRIDGEHEAD RD
City: OAKLEY
County: Contra Costa
Location(OSWCR): 5900 BRIDGEHEAD RD
City(OSWCR): OAKLEY

County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
57	NE	0.95	5,040.99	22.40	WATER WELLS

WCR No: WCR2012-005598
Decimal Lat(OSWCR): 38.0097222
Decimal Latitude: 38.0097222
Decim Long(OSWCR): -121.7502778
Decimal Longitude: -121.7502778
Location: 5900 BRIDGEHEAD RD
City: OAKLEY
County: Contra Costa
Location(OSWCR): 5900 BRIDGEHEAD RD
City(OSWCR): OAKLEY
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
57	NE	0.95	5,040.99	22.40	WATER WELLS

WCR No: WCR2012-005597
Decimal Lat(OSWCR): 38.0097222
Decimal Latitude: 38.0097222
Decim Long(OSWCR): -121.7502778
Decimal Longitude: -121.7502778
Location: 5900 BRIDGEHEAD RD
City: OAKLEY
County: Contra Costa
Location(OSWCR): 5900 BRIDGEHEAD RD
City(OSWCR): OAKLEY
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
59	NE	0.96	5,061.41	22.39	WATER WELLS

WCR No: WCR2018-010494
Decimal Lat(OSWCR): 38.00968
Decimal Latitude: 38.00968
Decim Long(OSWCR): -121.750131
Decimal Longitude: -121.750131
Location: 2600 Bridgehead RD
City: Fremont
County: Contra Costa
Location(OSWCR): 2600 Bridgehead RD
City(OSWCR): Fremont
County(OSWCR): Contra Costa
Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water

Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
60	NE	0.96	5,064.70	22.40	WATER WELLS

WCR No:	WCR2018-010657	Decimal Lat(OSWCR):	38.009801
Decimal Latitude:	38.009801	Decim Long(OSWCR):	-121.750279
Decimal Longitude:	-121.750279		
Location:	2600 Bridgehead RD		
City:	Oakley		
County:	Contra Costa		
Location(OSWCR):	2600 Bridgehead RD		
City(OSWCR):	Oakley		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
61	NE	0.96	5,066.29	22.34	WATER WELLS

WCR No:	WCR2018-010489	Decimal Lat(OSWCR):	38.0096692
Decimal Latitude:	38.0096692	Decim Long(OSWCR):	-121.7500918
Decimal Longitude:	-121.7500918		
Location:	2600 Bridgehead RD		
City:	Oakley		
County:	Contra Costa		
Location(OSWCR):	2600 Bridgehead RD		
City(OSWCR):	Oakley		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
62	NE	0.96	5,072.66	22.34	WATER WELLS

WCR No:	WCR2018-010658	Decimal Lat(OSWCR):	38.009653
Decimal Latitude:	38.009653	Decim Long(OSWCR):	-121.750038
Decimal Longitude:	-121.750038		
Location:	2600 Bridgehead RD		
City:	Oakley		
County:	Contra Costa		
Location(OSWCR):	2600 Bridgehead RD		
City(OSWCR):	Oakley		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Wells and Additional Sources Detail Report

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
63	NE	0.96	5,073.30	22.39	WATER WELLS

WCR No:	WCR2018-010654	Decimal Lat(OSWCR):	38.009833
Decimal Latitude:	38.009833	Decim Long(OSWCR):	-121.750279
Decimal Longitude:	-121.750279		
Location:	2600 Bridgehead RD		
City:	Oakley		
County:	Contra Costa		
Location(OSWCR):	2600 Bridgehead RD		
City(OSWCR):	Oakley		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
64	NE	0.96	5,079.69	22.40	WATER WELLS

WCR No:	WCR2018-010487	Decimal Lat(OSWCR):	38.0097968
Decimal Latitude:	38.0097968	Decim Long(OSWCR):	-121.7501964
Decimal Longitude:	-121.7501964		
Location:	2600 Bridgehead RD		
City:	Oakley		
County:	Contra Costa		
Location(OSWCR):	2600 Bridgehead RD		
City(OSWCR):	Oakley		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
65	NE	0.97	5,113.31	22.30	WATER WELLS

WCR No:	WCR2018-010660	Decimal Lat(OSWCR):	38.00958
Decimal Latitude:	38.00958	Decim Long(OSWCR):	-121.749739
Decimal Longitude:	-121.749739		
Location:	2600 Bridgehead RD		
City:	Oakley		
County:	Contra Costa		
Location(OSWCR):	2600 Bridgehead RD		
City(OSWCR):	Oakley		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB

Wells and Additional Sources Detail Report

66	ENE	0.98	5,186.42	22.41	WATER WELLS

WCR No:	WCR2022-001089	Decimal Lat(OSWCR):	38.0057596
Decimal Latitude:	38.0057596	Decim Long(OSWCR):	-121.7459588
Decimal Longitude:	-121.7459588		
Location:	6000 Bridgehead RD		
City:	Oakley		
County:	Contra Costa		
Location(OSWCR):	6000 Bridgehead RD		
City(OSWCR):	Oakley		
County(OSWCR):	Contra Costa		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Radon Information

This section lists any relevant radon information found for the target property.

Federal EPA Radon Zone for *CONTRA COSTA* County: **2**

Zone 1: Counties with predicted average indoor radon screening levels greater than 4 pCi/L
Zone 2: Counties with predicted average indoor radon screening levels from 2 to 4 pCi/L
Zone 3: Counties with predicted average indoor radon screening levels less than 2 pCi/L

Federal Area Radon Information for *CONTRA COSTA* County

No Measures/Homes:	60
Geometric Mean:	0.4
Arithmetic Mean:	0.8
Median:	0.7
Standard Deviation:	0.9
Maximum:	4
% >4 pCi/L:	0
% >20 pCi/L:	0
Notes on Data Table:	TABLE 1. Screening indoor radon data from the EPA/State Residential Radon Survey of California conducted during 1989-90. Data represent 2-7 day charcoal canister measurements from the lowest level of each home tested.

Appendix

Federal Sources

FEMA National Flood Hazard Layer — **FEMA FLOOD**

The National Flood Hazard Layer (NFHL) data incorporates Flood Insurance Rate Map (FIRM) databases published by the Federal Emergency Management Agency (FEMA), and any Letters Of Map Revision (LOMRs) that have been issued against those databases since their publication date. The FIRM Database is the digital, geospatial version of the flood hazard information shown on the published paper FIRMs. The FIRM Database depicts flood risk information and supporting data used to develop the risk data. The FIRM Database is derived from Flood Insurance Studies (FISs), previously published FIRMs, flood hazard analyses performed in support of the FISs and FIRMs, and new mapping data, where available.

Indoor Radon Data — **INDOOR RADON**

Indoor radon measurements tracked by the Environmental Protection Agency(EPA) and the State Residential Radon Survey.

Public Water Systems Violations and Enforcement Data — **PWSV**

List of drinking water violations and enforcement actions from the Safe Drinking Water Information System (SDWIS) made available by the Drinking Water Protection Division of the US EPA's Office of Groundwater and Drinking Water. Enforcement sensitive actions are not included in the data released by the EPA. Address information provided in SWDIS may correspond either with the physical location of the water system, or with a contact address.

Radon Zone Level — **RADON ZONE**

Areas showing the level of Radon Zones (level 1, 2 or 3) by county. This data is maintained by the Environmental Protection Agency (EPA).

Safe Drinking Water Information System (SDWIS) — **SDWIS**

The Safe Drinking Water Information System (SDWIS) contains information about public water systems as reported to US Environmental Protection Agency (EPA) by the states. Addresses may correspond with the location of the water system, or with a contact address.

Soil Survey Geographic database — **SSURGO**

The Soil Survey Geographic database (SSURGO) contains information about soil as collected by the National Cooperative Soil Survey at the Natural Resources Conservation Service (NRCS). Soil maps outline areas called map units. The map units are linked to soil properties in a database. Each map unit may contain one to three major components and some minor components.

U.S. Fish & Wildlife Service Wetland Data — **US WETLAND**

The U.S. Fish & Wildlife Service Wetland layer represents the approximate location and type of wetlands and deepwater habitats in the United States.

USGS Current Topo — **US TOPO**

US Topo topographic maps are produced by the National Geospatial Program of the U.S. Geological Survey (USGS). The project was launched in late 2009, and the term "US Topo" refers specifically to quadrangle topographic maps published in 2009 and later.

USGS Geology — **US GEOLOGY**

Seamless maps depicting geological information provided by the United States Geological Survey (USGS).

USGS National Water Information System — **FED USGS**

The U.S. Geological Survey (USGS)'s National Water Information System (NWIS) is the nation's principal repository of water resources data. This database includes comprehensive information of well-construction details, time-series data for gage height, streamflow, groundwater level, and precipitation and water use data.

Wells from NWIS — **FED USGS**

The U.S. Geological Survey's National Water Information System (NWIS) is the nation's principal repository of water resources data. The NWIS includes comprehensive information of well-construction details, time-series data for gage height, streamflow, groundwater level, and precipitation and water use data. This NWIW dataset contains select Site Types from the overall NWIS Sites data, limited to the following Group Site Types only: Groundwater Group Site Types: Well, Collector or Ranney type well, Hyporheic-zone well,

Interconnected Wells, Multiple wells; Spring Group Site Type: Spring; and Other Group Site Types: Aggregate groundwater use, Cistern.

State Sources

Oil and Gas Wells **OGW**

A list of Oil and Gas well locations. This is provided by California's Department of Conservation Division of Oil, Gas and Geothermal Resources.

Periodic Groundwater Level Measurement Locations **MONITOR WELLS**

Locations of groundwater level monitoring wells in the Department of Water Resources (DWR)'s Periodic Groundwater Levels dataset. The DWR Periodic Groundwater Levels dataset contains seasonal and long-term groundwater level measurements collected by the Department of Water Resources and cooperating agencies.

Well Completion Reports **WATER WELLS**

List of wells from the Well Completion Reports data made available by the California Department of Water Resources' (DWR) Online System for Well Completion Reports (OSWCR). Please note that the majority of well completion reports have been spatially registered to the center of the 1x1 mile Public Land Survey System section that the well is located in.

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DATABASE REPORT

Project Property:	*Resmark - Antioch Update* *3001 Oakley Road* *Antioch CA 94509*
Project No:	*RES012-0313063-22012535*
Report Type:	*Database Report*
Order No:	*25021100942*
Requested by:	*Apex Companies, LLC*
Date Completed:	*February 12, 2025*

Environmental Risk Information Services
A division of Glacier Media Inc.
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Executive Summary

Property Information:

Project Property:		*Resmark - Antioch Update* *3001 Oakley Road Antioch CA 94509*
Project No:		*RES012-0313063-22012535*
Coordinates:		
	Latitude:	*37.99870391*
	Longitude:	*-121.76230966*
	UTM Northing:	*4,206,393.88*
	UTM Easting:	*608,669.88*
	UTM Zone:	*10S*
Elevation:		*72 FT*

Order Information:

Order No:	*25021100942*
Date Requested:	*February 11, 2025*
Requested by:	*Apex Companies, LLC*
Report Type:	*Database Report*

Historicals/Products:

ERIS Xplorer	*ERIS Xplorer*
Excel Add-On	*Excel Add-On*

Executive Summary: Report Summary

Database	Searched	Search Radius	Project Property	Within 0.12mi	0.125mi to 0.25mi	0.25mi to 0.50mi	0.50mi to 1.00mi	Total
Standard Environmental Records								
Federal								
NPL	Y	1	0	0	0	0	0	0
PROPOSED NPL	Y	1	0	0	0	0	0	0
DELETED NPL	Y	0.5	0	0	0	0	-	0
SEMS	Y	0.5	0	0	0	0	-	0
ODI	Y	0.5	0	0	0	0	-	0
SEMS ARCHIVE	Y	0.5	0	0	0	0	-	0
CERCLIS	Y	0.5	0	0	0	0	-	0
IODI	Y	0.5	0	0	0	0	-	0
CERCLIS NFRAP	Y	0.5	0	0	0	0	-	0
CERCLIS LIENS	Y	PO	0	-	-	-	-	0
RCRA CORRACTS	Y	1	0	0	0	0	0	0
RCRA TSD	Y	0.5	0	0	0	**2**	-	**2**
RCRA LQG	Y	0.25	0	0	0	-	-	0
RCRA SQG	Y	0.25	0	0	0	-	-	0
RCRA VSQG	Y	0.25	0	0	**1**	-	-	**1**
RCRA NON GEN	Y	0.25	0	**3**	**3**	-	-	**6**
RCRA CONTROLS	Y	0.5	0	0	0	0	-	0
FED ENG	Y	0.5	0	0	0	0	-	0
FED INST	Y	0.5	0	0	0	0	-	0
LUCIS	Y	0.5	0	0	0	0	-	0
NPL IC	Y	0.5	0	0	0	0	-	0
ERNS 1982 TO 1986	Y	PO	0	-	-	-	-	0
ERNS 1987 TO 1989	Y	PO	0	-	-	-	-	0
ERNS	Y	PO	0	-	-	-	-	0
FED BROWNFIELDS	Y	0.5	0	0	0	0	-	0
FEMA UST	Y	0.25	0	0	0	-	-	0
FRP	Y	0.25	0	0	0	-	-	0

Database	Searched	Search Radius	Project Property	Within 0.12mi	0.125mi to 0.25mi	0.25mi to 0.50mi	0.50mi to 1.00mi	Total
DELISTED FRP	Y	0.25	0	0	0	-	-	0
HIST GAS STATIONS	Y	0.25	0	0	0	-	-	0
REFN	Y	0.25	0	0	0	-	-	0
BULK TERMINAL	Y	0.25	0	0	0	-	-	0
SEMS LIEN	Y	PO	0	-	-	-	-	0
SUPERFUND ROD	Y	1	0	0	0	0	0	0
DOE FUSRAP	Y	1	0	0	0	0	0	0
State								
RESPONSE	Y	1	0	0	0	0	0	0
ENVIROSTOR	Y	1	0	**1**	0	**1**	**3**	**5**
DELISTED ENVS	Y	1	0	0	0	0	0	0
SWF/LF	Y	0.5	0	0	0	0	-	0
SWRCB SWF	Y	0.5	0	0	0	0	-	0
WMUD	Y	0.5	0	0	0	0	-	0
HWP	Y	1	0	0	0	0	0	0
SWAT	Y	0.5	0	0	0	0	-	0
C&D DEBRIS RECY	Y	0.5	0	0	0	0	-	0
RECYCLING	Y	0.5	0	0	0	0	-	0
PROCESSORS	Y	0.5	0	0	0	0	-	0
CONTAINER RECY	Y	0.5	0	0	0	0	-	0
LDS	Y	0.5	0	0	0	0	-	0
LUST	Y	0.5	0	0	0	**1**	-	**1**
DELISTED LST	Y	0.5	0	0	0	0	-	0
UST	Y	0.25	0	0	0	-	-	0
UST CLOSURE	Y	0.5	0	0	0	0	-	0
HHSS	Y	0.25	0	0	0	-	-	0
UST SWEEPS	Y	0.25	0	0	0	-	-	0
AST	Y	0.25	0	0	0	-	-	0
AST SWRCB	Y	0.25	0	0	0	-	-	0
TANK OIL GAS	Y	0.25	0	0	0	-	-	0
DELISTED TNK	Y	0.25	0	0	0	-	-	0
CERS TANK	Y	0.25	0	0	0	-	-	0
DELISTED CTNK	Y	0.25	0	0	0	-	-	0
HIST TANK	Y	0.25	0	0	0	-	-	0

Database	Searched	Search Radius	Project Property	Within 0.12mi	0.125mi to 0.25mi	0.25mi to 0.50mi	0.50mi to 1.00mi	Total
LUR	Y	0.5	0	0	0	0	-	0
CALSITES	Y	0.5	0	**1**	0	0	-	**1**
HLUR	Y	0.5	0	0	0	0	-	0
DEED	Y	0.5	0	0	0	0	-	0
VCP	Y	0.5	0	0	0	**1**	-	**1**
CLEANUP SITES	Y	0.5	0	**3**	0	**2**	-	**5**
DELISTED CLEANUP	Y	0.5	0	0	0	0	-	0
DELISTED COUNTY	Y	0.25	0	0	0	-	-	0
Tribal								
INDIAN LUST	Y	0.5	0	0	0	0	-	0
INDIAN UST	Y	0.25	0	0	0	-	-	0
DELISTED INDIAN LST	Y	0.5	0	0	0	0	-	0
DELISTED INDIAN UST	Y	0.25	0	0	0	-	-	0
County								
CUPA CONTRACO	Y	0.25	0	**2**	**1**	-	-	**3**
Additional Environmental Records								
Federal								
PFAS GHG	Y	0.5	0	0	0	0	-	0
OSC RESPONSE	Y	0.125	0	0	-	-	-	0
FINDS/FRS	Y	PO	0	**2**	-	-	-	**2**
TRIS	Y	PO	0	-	-	-	-	0
PFAS NPL	Y	0.5	0	0	0	0	-	0
PFAS FED SITES	Y	0.5	0	0	0	0	-	0
PFAS SSEHRI	Y	0.5	0	0	0	0	-	0
PFAS ERNS	Y	0.5	0	0	0	0	-	0
PFAS NPDES	Y	0.5	0	0	0	0	-	0
PFAS TRI	Y	0.5	0	0	0	0	-	0
PFAS WATER	Y	0.5	0	0	0	0	-	0
PFAS TSCA	Y	0.5	0	0	0	0	-	0
PFAS E-MANIFEST	Y	0.5	0	0	0	0	-	0
PFAS IND	Y	0.5	0	0	**1**	**2**	-	**3**
HMIRS	Y	0.125	0	0	-	-	-	0
NCDL	Y	0.125	0	0	-	-	-	0
TSCA	Y	0.125	0	0	-	-	-	0

Database	Searched	Search Radius	Project Property	Within 0.12mi	0.125mi to 0.25mi	0.25mi to 0.50mi	0.50mi to 1.00mi	Total
HIST TSCA	Y	0.125	0	0	-	-	-	0
FTTS ADMIN	Y	PO	0	-	-	-	-	0
FTTS INSP	Y	PO	0	-	-	-	-	0
PRP	Y	PO	0	-	-	-	-	0
SCRD DRYCLEANER	Y	0.5	0	0	0	0	-	0
ICIS	Y	PO	0	-	-	-	-	0
FED DRYCLEANERS	Y	0.25	0	0	0	-	-	0
DELISTED FED DRY	Y	0.25	0	0	0	-	-	0
FUDS	Y	1	0	0	0	0	0	0
FUDS MRS	Y	1	0	0	0	0	0	0
FORMER NIKE	Y	1	0	0	0	0	0	0
PIPELINE INCIDENT	Y	PO	0	-	-	-	-	0
MLTS	Y	PO	0	-	-	-	-	0
HIST MLTS	Y	PO	0	-	-	-	-	0
MINES	Y	0.25	0	0	0	-	-	0
SMCRA	Y	1	0	0	0	0	0	0
MRDS	Y	1	0	0	**2**	0	0	**2**
LM SITES	Y	1	0	0	0	0	0	0
ALT FUELS	Y	0.25	0	0	0	-	-	0
CONSENT DECREES	Y	0.25	0	0	0	-	-	0
AFS	Y	PO	0	-	-	-	-	0
SSTS	Y	0.25	0	0	0	-	-	0
PCBT	Y	0.5	0	0	0	0	-	0
PCB	Y	0.5	0	0	0	0	-	0
POWER PLANTS	Y	0.125	0	0	-	-	-	0
State								
PFAS SAMPLING	Y	0.5	0	0	0	0	-	0
DRYCLEANERS	Y	0.25	0	0	0	-	-	0
DELISTED DRYCLEANERS	Y	0.25	0	0	0	-	-	0
DRYC GRANT	Y	0.25	0	0	0	-	-	0
PFAS GT CLEANUPS	Y	0.5	0	0	0	0	-	0
PFAS GW	Y	0.5	0	0	0	0	-	0
PFAS INVEST	Y	0.5	0	0	0	0	-	0
HWSS CLEANUP	Y	0.5	0	0	0	0	-	0
TOXIC PITS	Y	1	0	0	0	0	0	0

Database	Searched	Search Radius	Project Property	Within 0.12mi	0.125mi to 0.25mi	0.25mi to 0.50mi	0.50mi to 1.00mi	Total
DTSC HWF	Y	0.5	0	0	0	0	-	0
INSP COMP ENF	Y	1	0	0	0	0	0	0
SCH	Y	1	0	0	0	0	0	0
CHMIRS	Y	PO	0	**1**	-	-	-	**1**
HIST CHMIRS	Y	PO	0	-	-	-	-	0
HAZNET	Y	PO	0	-	-	-	-	0
HAZ GEN	Y	PO	0	**1**	-	-	-	**1**
HAZ TSD	Y	0.5	0	0	0	0	-	0
HIST MANIFEST	Y	PO	0	**1**	-	-	-	**1**
HW TRANSPORT	Y	0.125	0	0	-	-	-	0
WASTE TIRE	Y	PO	0	-	-	-	-	0
MEDICAL WASTE	Y	0.25	0	0	0	-	-	0
HIST CORTESE	Y	0.5	0	0	0	0	-	0
CDO/CAO	Y	0.5	0	0	0	0	-	0
CERS HAZ	Y	0.125	0	0	-	-	-	0
DELISTED HAZ	Y	0.5	0	**1**	0	**3**	-	**4**
GEOTRACKER	Y	0.125	0	0	-	-	-	0
MINE	Y	1	0	0	0	0	0	0
LIEN	Y	PO	0	-	-	-	-	0
WASTE DISCHG	Y	0.25	0	0	0	-	-	0
EMISSIONS	Y	0.25	0	**1**	0	-	-	**1**
CDL	Y	0.125	0	**1**	-	-	-	**1**
Tribal	***No Tribal additional environmental record sources available for this State.***							
County								
Total:			*0*	***18***	***8***	***12***	***3***	***41***

**** PO – Property Only***
**** 'Property and adjoining properties' database search radii are set at 0.25 miles.***

Executive Summary: Site Report Summary - Project Property

Map Key	DB	Company/Site Name	Address	Direction	Distance (mi/ft)	Elev Diff (ft)	Page Number

No records found in the selected databases for the project property.

Executive Summary: Site Report Summary - Surrounding Properties

Map Key	DB	Company/Site Name	Address	Direction	Distance (mi/ft)	Elev Diff (ft)	Page Number
1	FINDS/FRS	PACIFIC GAS & ELECTRIC COMPANY	OAKLEY RD & PHILLIPS LN ANTIOCH CA 94509- ***Registry ID:*** 110013832996	ESE	0.01 / 44.93	7	25
1	ENVIROSTOR	OAKLEY ROAD METERING SITE	OAKLEY RD. & PHILLIPS LN. ANTIOCH CA 94509 ***Estor/EPA ID | Cleanup Status:*** 07490002 | REFER: RWQCB AS OF 8/28/2002	ESE	0.01 / 44.93	7	25
1	CHMIRS	PGE	Oakley Road and Phillips Lane Antioch CA 94598 ***Control No | Notified Date:*** 7/14/199704:08:14 PM	ESE	0.01 / 44.93	7	26
1	HIST MANIFEST		OAKLEY RD @ PHILLIPS LANE ANTIOCH CA 945090000	ESE	0.01 / 44.93	7	26
1	EMISSIONS	PACIFIC GAS & ELECTRIC COMPANY	OAKLEY RD & PHILLIPS LN ANTIOCH CA 94509	ESE	0.01 / 44.93	7	27
1	CALSITES	OAKLEY ROAD METERING SITE	OAKLEY RD. & PHILLIPS LN. ANTIOCH CA 94509	ESE	0.01 / 44.93	7	33
1	HAZ GEN	PG&E OAKLEY RD METER SITE	OAKLEY RD @ PHILLIPS LANE ANTIOCH CA 945090000	ESE	0.01 / 44.93	7	34
2	RCRA NON GEN	PG&E OAKLEY ROAD METER STATION	3302 OAKLEY RD ANTIOCH CA 94509 ***EPA Handler ID | Recycler Activity?:*** CAC003106273 | NO	ESE	0.02 / 81.58	8	34
2	RCRA NON GEN	PG&E OAKLEY ROAD METER STATION	3302 OAKLEY RD ANTIOCH CA 94509 ***EPA Handler ID | Recycler Activity?:*** CAC003121202 | NO	ESE	0.02 / 81.58	8	35
2	RCRA NON GEN	PG&E OAKLEY ROAD METER STATIION	3302 OAKLEY RD ANTIOCH CA 94509 ***EPA Handler ID | Recycler Activity?:*** CAL000406646 | NO	ESE	0.02 / 81.58	8	36
2	FINDS/FRS	PG&E OAKLEY ROAD METER STATION	3302 OAKLEY RD ANTIOCH CA 94509 ***Registry ID:*** 110071058361	ESE	0.02 / 81.58	8	37
3	CUPA CONTRACO	PG&E OAKLEY ROAD METER	3320 OAKLEY RD ANTIOCH CA 94509	ESE	0.03 / 150.83	9	38

Map Key	DB	Company/Site Name	Address	Direction	Distance (mi/ft)	Elev Diff (ft)	Page Number
3	DELISTED HAZ	PG&E: Oakley Road Meter	3320 OAKLEY RD ANTIOCH CA 94509	ESE	0.03 / 150.83	9	38
4	CDL		3899 OAKLEY RD ANTIOCH CA 94509	WSW	0.12 / 635.32	-17	38
5	CUPA CONTRACO	HICKSON KERLEY INC	3951 OAKLEY RD ANTIOCH CA 94509	SW	0.12 / 652.45	-19	38
5	CLEANUP SITES	CHEVRON, HICKSON KERLEY, ANTIOCH	3951 OAKLEY ROAD ANTIOCH CA 94509 ***Global ID:*** SL0601370344	SW	0.12 / 652.45	-19	39
5	CLEANUP SITES	FKP INC (FORMERLY HICKSON - KERLEY)	3951 OAKLEY RD ANTIOCH CA ***Global ID:*** SL185922952	SW	0.12 / 652.45	-19	45
5	CLEANUP SITES	HICKSON-KERLEY PIPELINE RELEASE	3951 OAKLEY RD ANTIOCH CA ***Global ID:*** SL186232981	SW	0.12 / 652.45	-19	57
6	RCRA VSQG	PG&E OAKLEY RD METER SITE	OAKLEY RD NR PHILLIPS LN ANTIOCH CA 94509 ***EPA Handler ID | Recycler Activity?:*** CAD983612854 | NO	NE	0.13 / 670.19	-8	59
7	MRDS	HENRY J. KAISER CO.	CONTRA COSTA COUNTY ANTIOCH CA 94509 ***Dep ID:*** 10257073	ESE	0.16 / 839.72	4	61
7	MRDS	HENRY J. KAISER COMPANY	CONTRA COSTA COUNTY ANTIOCH CA 94509 ***Dep ID:*** 10109198	ESE	0.16 / 839.72	4	62
8	PFAS IND	HICKSON KERLEY INCORPORATED	ANTIOCH CA	W	0.25 / 1,309.88	-19	62
9	RCRA NON GEN	GORDON N. BALL, INC.	2600 WILLOW AVENUE ANTIOCH CA 94509 ***EPA Handler ID | Recycler Activity?:*** CAC002989229 | NO	W	0.25 / 1,319.40	-20	63
9	RCRA NON GEN	GORDON N. BALL, INC.	2600 WILLOW AVENUE ANTIOCH CA 94509 ***EPA Handler ID | Recycler Activity?:*** CAC003065260 | NO	W	0.25 / 1,319.40	-20	64
9	RCRA NON GEN	GORDON N BALL INC	2600 WILLOW AVE ANTIOCH CA 94509	W	0.25 / 1,319.40	-20	65

Map Key	DB	Company/Site Name	Address	Direction	Distance (mi/ft)	Elev Diff (ft)	Page Number
			***EPA Handler ID	Recycler Activity?:*** CAL000459176 | NO			
9	CUPA CONTRACO	GORDON N. BALL - YARD	2600 WILLOW AVE ANTIOCH CA 94509	W	0.25 / 1,319.40	-20	66
10	RCRA TSD	COUNTY PAVING COMPANY INC.	1823 PHILLIPS LANE ANTIOCH CA 94509	NNE	0.29 / 1,554.87	-23	67
			***EPA Handler ID	Recycler Activity?:*** CAC003018922 | NO			
11	CLEANUP SITES	Chevron TAOC New Love Pump Sta.	Willow Ave Antioch CA 94509	S	0.32 / 1,671.06	-52	68
			Global ID: T10000000198				
12	CLEANUP SITES	KMEP Willow Avenue Release	Willow Avenue Antioch CA	WSW	0.32 / 1,685.71	-5	72
			Global ID: T10000012670				
13	DELISTED HAZ	El Pato General Auto and Truck Repair	3420 E 18TH ST ANTIOCH CA 94509	NE	0.34 / 1,772.10	-30	79
14	PFAS IND	CLYDE PRICE DBA CJ PRICE TRUCKING	ANTIOCH CA	NNW	0.38 / 1,997.40	-18	80
15	DELISTED HAZ	Straight Up Kustoms LLC	3277 E 18TH ST ANTIOCH CA 94509	NNE	0.38 / 2,013.04	-30	80
16	DELISTED HAZ	Spectrum Autoworx	3265 E 18TH ST ANTIOCH CA 94509	NNE	0.38 / 2,013.75	-30	80
17	PFAS IND	SUN CHEMICAL	ANTIOCH CA	NNW	0.44 / 2,302.37	-23	81
18	LUST	PECKHAM PROPERTY	3215 18TH ST E ANTIOCH CA 94509	N	0.44 / 2,326.35	-36	81
			***Global ID	Status:*** T0601300779 |			
19	VCP	VINEYARD TRACT	E. 18TH STREET ANTIOCH CA 94509	NNE	0.44 / 2,338.43	-36	85
			***Estor/EPA ID	Cleanup Status:*** 07010013 | CERTIFIED AS OF 12/19/2005			
19	ENVIROSTOR	VINEYARD TRACT	E. 18TH STREET ANTIOCH CA 94509	NNE	0.44 / 2,338.43	-36	87
			***Estor/EPA ID	Cleanup Status:*** 07010013 | CERTIFIED AS OF 12/19/2005			
20	RCRA TSD	ANTIOCH GAS & CARWASH	3629 E 18TH STREET ANTIOCH CA 94509	NE	0.50 / 2,628.46	-40	88

Map Key	DB	Company/Site Name	Address	Direction	Distance (mi/ft)	Elev Diff (ft)	Page Number
			***EPA Handler ID	Recycler Activity?:*** CAL000421174 | YES			
21	ENVIROSTOR	ALMOND ORCHARD	2101 E. 18TH STREET ANTIOCH CA 94509	WNW	0.80 / 4,244.64	-26	90
			***Estor/EPA ID	Cleanup Status:*** 07010011 | CERTIFIED AS OF 6/13/2005			
22	ENVIROSTOR	INDUSTRIAL LOT WITH RAILROAD SIDING	2600 WILBUR AVENUE ANTIOCH CA 94509	NNW	0.87 / 4,617.30	-43	91
			***Estor/EPA ID	Cleanup Status:*** 07990014 | CERTIFIED AS OF 3/6/2006			
23	ENVIROSTOR	DELTA SCRAP & SALVAGE INC	1371 MAIN ST OAKLEY CA 945610000	ENE	0.97 / 5,096.06	-41	93
			***Estor/EPA ID	Cleanup Status:*** 60003067 | INACTIVE - NEEDS EVALUATION AS OF 9/21/2023			
24	MRDS	1B DU PONT B PLANT TI	CONTRA COSTA COUNTY OAKLEY CA 94561	ENE	1.00 / 5,280.83	-49	94
			Dep ID: 10138392				

Executive Summary: Summary by Data Source

Standard

Federal

RCRA TSD - RCRA non-CORRACTS TSD Facilities

A search of the RCRA TSD database, dated Oct 21, 2024 has found that there are 2 RCRA TSD site(s) within approximately 0.50miles of the project property.

Lower Elevation	Address	Direction	Distance (mi/ft)	Map Key
COUNTY PAVING COMPANY INC.	1823 PHILLIPS LANE ANTIOCH CA 94509	NNE	0.29 / 1,554.87	10
	***EPA Handler ID | Recycler Activity?**: CAC003018922 | NO*			
ANTIOCH GAS & CARWASH	3629 E 18TH STREET ANTIOCH CA 94509	NE	0.50 / 2,628.46	20
	***EPA Handler ID | Recycler Activity?**: CAL000421174 | YES*			

RCRA VSQG - RCRA Very Small Quantity Generators List

A search of the RCRA VSQG database, dated Oct 21, 2024 has found that there are 1 RCRA VSQG site(s) within approximately 0.25 miles of the project property.

Lower Elevation	Address	Direction	Distance (mi/ft)	Map Key
PG&E OAKLEY RD METER SITE	OAKLEY RD NR PHILLIPS LN ANTIOCH CA 94509	NE	0.13 / 670.19	6
	***EPA Handler ID | Recycler Activity?**: CAD983612854 | NO*			

RCRA NON GEN - RCRA Non-Generators

A search of the RCRA NON GEN database, dated Oct 21, 2024 has found that there are 6 RCRA NON GEN site(s) within approximately 0.25miles of the project property.

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
PG&E OAKLEY ROAD METER STATIION	3302 OAKLEY RD ANTIOCH CA 94509	ESE	0.02 / 81.58	2
	***EPA Handler ID | Recycler Activity?**: CAL000406646 | NO*			
PG&E OAKLEY ROAD METER STATION	3302 OAKLEY RD ANTIOCH CA 94509	ESE	0.02 / 81.58	2
	***EPA Handler ID | Recycler Activity?**: CAC003106273 | NO*			
PG&E OAKLEY ROAD METER STATION	3302 OAKLEY RD ANTIOCH CA 94509	ESE	0.02 / 81.58	2
	***EPA Handler ID | Recycler Activity?**: CAC003121202 | NO*			

Lower Elevation	Address	Direction	Distance (mi/ft)	Map Key
GORDON N. BALL, INC.	2600 WILLOW AVENUE ANTIOCH CA 94509	W	0.25 / 1,319.40	9
	***EPA Handler ID | Recycler Activity?**: CAC003065260 | NO*			
GORDON N BALL INC	2600 WILLOW AVE ANTIOCH CA 94509	W	0.25 / 1,319.40	9
	***EPA Handler ID | Recycler Activity?**: CAL000459176 | NO*			
GORDON N. BALL, INC.	2600 WILLOW AVENUE ANTIOCH CA 94509	W	0.25 / 1,319.40	9
	***EPA Handler ID | Recycler Activity?**: CAC002989229 | NO*			

State

ENVIROSTOR - EnviroStor Database

A search of the ENVIROSTOR database, dated Sep 25, 2024 has found that there are 5 ENVIROSTOR site(s) within approximately 1.00miles of the project property.

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
OAKLEY ROAD METERING SITE	OAKLEY RD. & PHILLIPS LN. ANTIOCH CA 94509	ESE	0.01 / 44.93	1
	***Estor/EPA ID | Cleanup Status**: 07490002 | REFER: RWQCB AS OF 8/28/2002*			

Lower Elevation	Address	Direction	Distance (mi/ft)	Map Key
VINEYARD TRACT	E. 18TH STREET ANTIOCH CA 94509	NNE	0.44 / 2,338.43	19
	***Estor/EPA ID | Cleanup Status**: 07010013 | CERTIFIED AS OF 12/19/2005*			
ALMOND ORCHARD	2101 E. 18TH STREET ANTIOCH CA 94509	WNW	0.80 / 4,244.64	21
	***Estor/EPA ID | Cleanup Status**: 07010011 | CERTIFIED AS OF 6/13/2005*			
INDUSTRIAL LOT WITH RAILROAD SIDING	2600 WILBUR AVENUE ANTIOCH CA 94509	NNW	0.87 / 4,617.30	22
	***Estor/EPA ID | Cleanup Status**: 07990014 | CERTIFIED AS OF 3/6/2006*			
DELTA SCRAP & SALVAGE INC	1371 MAIN ST OAKLEY CA 945610000	ENE	0.97 / 5,096.06	23
	***Estor/EPA ID | Cleanup Status**: 60003067 | INACTIVE - NEEDS EVALUATION AS OF 9/21/2023*			

LUST - Leaking Underground Fuel Tank Reports

A search of the LUST database, dated Sep 25, 2024 has found that there are 1 LUST site(s) within approximately 0.50miles of the project property.

Lower Elevation	Address	Direction	Distance (mi/ft)	Map Key
PECKHAM PROPERTY	3215 18TH ST E ANTIOCH CA 94509	N	0.44 / 2,326.35	18

Lower Elevation	Address	Direction	Distance (mi/ft)	Map Key
	Global ID* | *Status: *T0601300779* |			

CALSITES - CALSITES Database

A search of the CALSITES database, dated May 1, 2004 has found that there are 1 CALSITES site(s) within approximately 0.50miles of the project property.

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
OAKLEY ROAD METERING SITE	OAKLEY RD. & PHILLIPS LN. ANTIOCH CA 94509	ESE	0.01 / 44.93	1

VCP - Voluntary Cleanup Program

A search of the VCP database, dated Sep 25, 2024 has found that there are 1 VCP site(s) within approximately 0.50miles of the project property.

Lower Elevation	Address	Direction	Distance (mi/ft)	Map Key
VINEYARD TRACT	E. 18TH STREET ANTIOCH CA 94509	NNE	0.44 / 2,338.43	19
	Estor/EPA ID* | *Cleanup Status: *07010013* | *CERTIFIED AS OF 12/19/2005*			

CLEANUP SITES - GeoTracker Cleanup Program Sites

A search of the CLEANUP SITES database, dated Sep 25, 2024 has found that there are 5 CLEANUP SITES site(s) within approximately 0.50miles of the project property.

Lower Elevation	Address	Direction	Distance (mi/ft)	Map Key
HICKSON-KERLEY PIPELINE RELEASE	3951 OAKLEY RD ANTIOCH CA	SW	0.12 / 652.45	5
	Global ID: *SL186232981*			
FKP INC (FORMERLY HICKSON - KERLEY)	3951 OAKLEY RD ANTIOCH CA	SW	0.12 / 652.45	5
	Global ID: *SL185922952*			
CHEVRON, HICKSON KERLEY, ANTIOCH	3951 OAKLEY ROAD ANTIOCH CA 94509	SW	0.12 / 652.45	5
	Global ID: *SL0601370344*			
Chevron TAOC New Love Pump Sta.	Willow Ave Antioch CA 94509	S	0.32 / 1,671.06	11
	Global ID: *T10000000198*			
KMEP Willow Avenue Release	Willow Avenue Antioch CA	WSW	0.32 / 1,685.71	12
	Global ID: *T10000012670*			

County

CUPA CONTRACO - Contra Costa County - CUPA List

A search of the CUPA CONTRACO database, dated Oct 1, 2024 has found that there are 3 CUPA CONTRACO site(s) within approximately 0.25miles of the project property.

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
PG&E OAKLEY ROAD METER	3320 OAKLEY RD ANTIOCH CA 94509	ESE	0.03 / 150.83	3

Lower Elevation	Address	Direction	Distance (mi/ft)	Map Key
HICKSON KERLEY INC	3951 OAKLEY RD ANTIOCH CA 94509	SW	0.12 / 652.45	5
GORDON N. BALL - YARD	2600 WILLOW AVE ANTIOCH CA 94509	W	0.25 / 1,319.40	9

Non Standard

Federal

FINDS/FRS - Facility Registry Service/Facility Index

A search of the FINDS/FRS database, dated Aug 1, 2024 has found that there are 2 FINDS/FRS site(s) within approximately 0.02miles of the project property.

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
PACIFIC GAS & ELECTRIC COMPANY	OAKLEY RD & PHILLIPS LN ANTIOCH CA 94509- ***Registry ID**: 110013832996*	ESE	0.01 / 44.93	1
PG&E OAKLEY ROAD METER STATION	3302 OAKLEY RD ANTIOCH CA 94509 ***Registry ID**: 110071058361*	ESE	0.02 / 81.58	2

PFAS IND - PFAS Industry Sectors

A search of the PFAS IND database, dated Dec 16, 2024 has found that there are 3 PFAS IND site(s) within approximately 0.50miles of the project property.

Lower Elevation	Address	Direction	Distance (mi/ft)	Map Key
HICKSON KERLEY INCORPORATED	ANTIOCH CA	W	0.25 / 1,309.88	8
CLYDE PRICE DBA CJ PRICE TRUCKING	ANTIOCH CA	NNW	0.38 / 1,997.40	14

Lower Elevation	Address	Direction	Distance (mi/ft)	Map Key
SUN CHEMICAL	ANTIOCH CA	NNW	0.44 / 2,302.37	17

MRDS - Mineral Resource Data System

A search of the MRDS database, dated Mar 15, 2016 has found that there are 3 MRDS site(s) within approximately 1.00miles of the project property.

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
HENRY J. KAISER CO.	CONTRA COSTA COUNTY ANTIOCH CA 94509 ***Dep ID**: 10257073*	ESE	0.16 / 839.72	7
HENRY J. KAISER COMPANY	CONTRA COSTA COUNTY ANTIOCH CA 94509 ***Dep ID**: 10109198*	ESE	0.16 / 839.72	7

Lower Elevation	Address	Direction	Distance (mi/ft)	Map Key
1B DU PONT B PLANT TI	CONTRA COSTA COUNTY OAKLEY CA 94561 ***Dep ID**: 10138392*	ENE	1.00 / 5,280.83	24

State

CHMIRS - California Hazardous Material Incident Report System (CHMIRS)

A search of the CHMIRS database, dated Oct 21, 2024 has found that there are 1 CHMIRS site(s) within approximately 0.02miles of the project property.

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
PGE	Oakley Road and Phillips Lane Antioch CA 94598 ***Control No** | **Notified Date**: 7/14/199704:08:14 PM*	ESE	0.01 / 44.93	1

HAZ GEN - Generators from Hazardous Waste Manifest Data

A search of the HAZ GEN database, dated Dec 31, 2017 has found that there are 1 HAZ GEN site(s) within approximately 0.02miles of the project property.

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
PG&E OAKLEY RD METER SITE	OAKLEY RD @ PHILLIPS LANE ANTIOCH CA 945090000	ESE	0.01 / 44.93	1

HIST MANIFEST - Historical Hazardous Waste Manifest Data

A search of the HIST MANIFEST database, dated Dec 31, 1992 has found that there are 1 HIST MANIFEST site(s) within approximately 0.02miles of the project property.

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
	OAKLEY RD @ PHILLIPS LANE ANTIOCH CA 945090000	ESE	0.01 / 44.93	1

DELISTED HAZ - Delisted Environmental Reporting System (CERS) Hazardous Waste Sites

A search of the DELISTED HAZ database, dated Nov 29, 2018 has found that there are 4 DELISTED HAZ site(s) within approximately 0.50miles of the project property.

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
PG&E: Oakley Road Meter	3320 OAKLEY RD ANTIOCH CA 94509	ESE	0.03 / 150.83	3

Lower Elevation	Address	Direction	Distance (mi/ft)	Map Key
El Pato General Auto and Truck Repair	3420 E 18TH ST ANTIOCH CA 94509	NE	0.34 / 1,772.10	13
Straight Up Kustoms LLC	3277 E 18TH ST ANTIOCH CA 94509	NNE	0.38 / 2,013.04	15
Spectrum Autoworx	3265 E 18TH ST ANTIOCH CA 94509	NNE	0.38 / 2,013.75	16

EMISSIONS - Toxic Pollutant Emissions Facilities

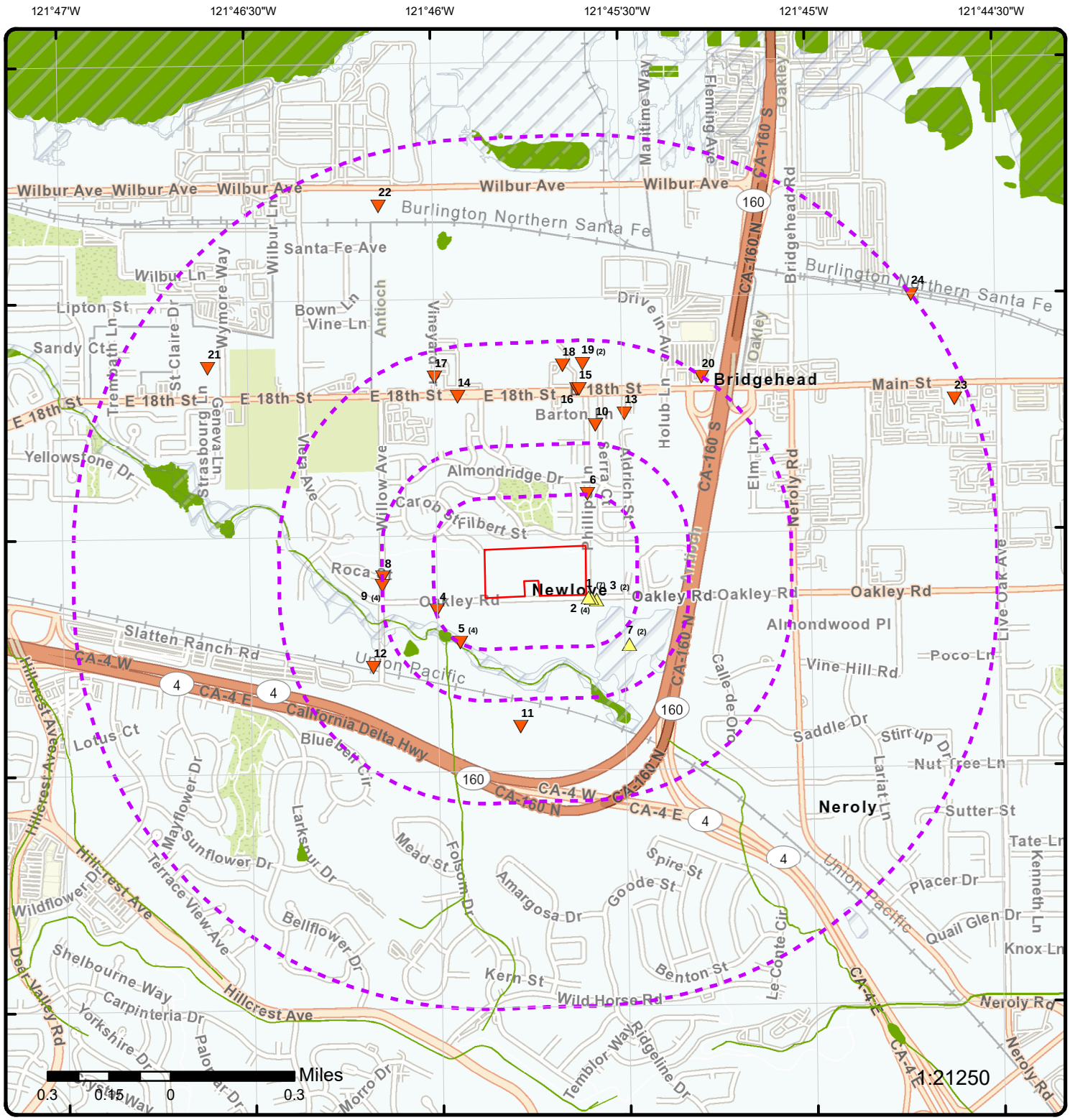
A search of the EMISSIONS database, dated Dec 31, 2021 has found that there are 1 EMISSIONS site(s) within approximately 0.25 miles of the project property.

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
PACIFIC GAS & ELECTRIC COMPANY	OAKLEY RD & PHILLIPS LN ANTIOCH CA 94509	ESE	0.01 / 44.93	1

CDL - Clandestine Drug Lab Sites

A search of the CDL database, dated Jan 19, 2021 has found that there are 1 CDL site(s) within approximately 0.12miles of the project property.

Lower Elevation	Address	Direction	Distance (mi/ft)	Map Key
	3899 OAKLEY RD ANTIOCH CA 94509	WSW	0.12 / 635.32	4



Map: 1.0 Mile Radius

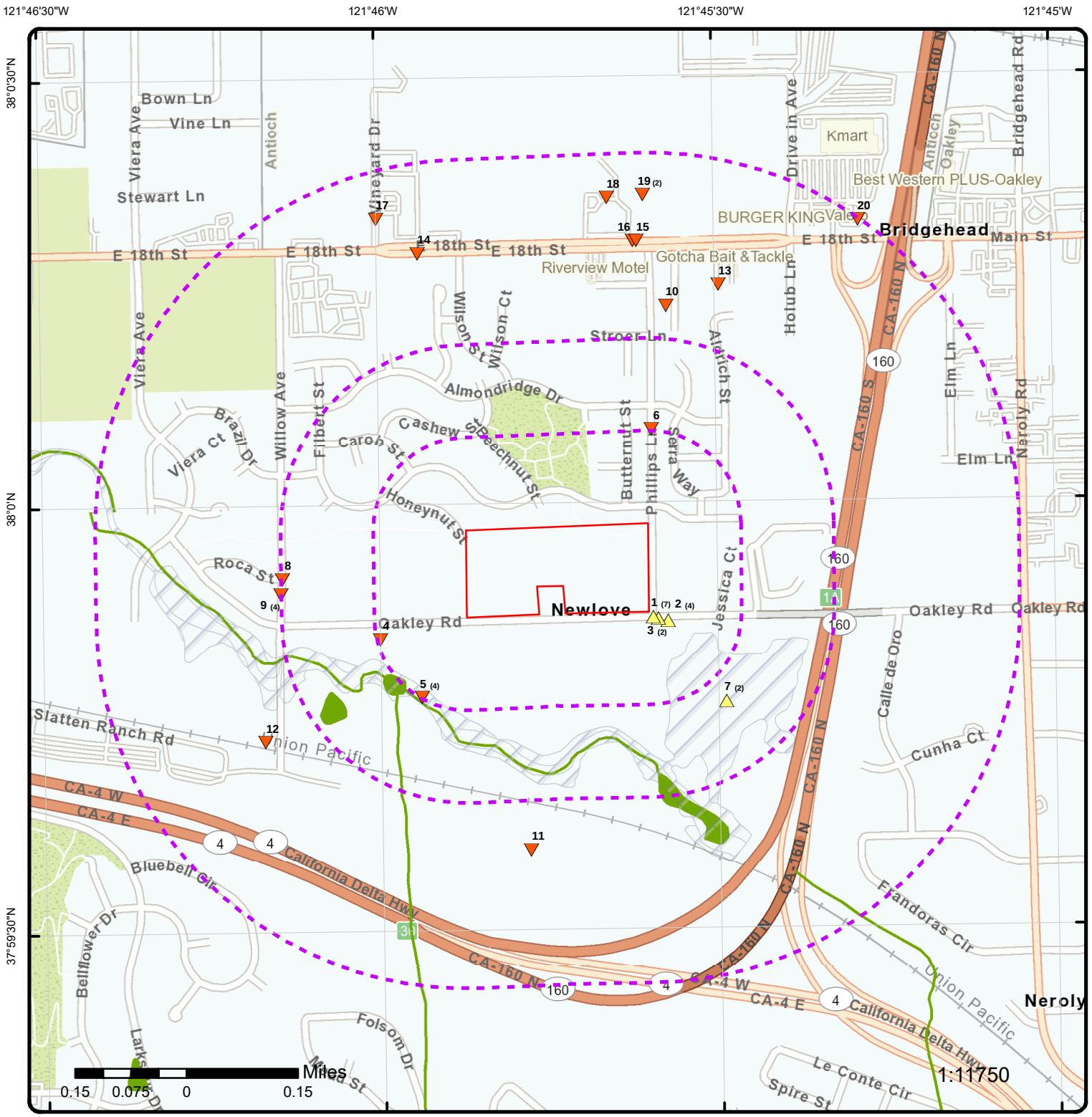
Order Number: 25021100942

Address: 3001 Oakley Road, Antioch, CA

- Project Property
- Buffer Outline
- Sites with Higher Elevation
- Sites with Same Elevation
- Sites with Lower Elevation
- Sites with Unknown Elevation
- Areas with Higher Elevation
- Areas with Same Elevation
- Areas with Lower Elevation
- Areas with Unknown Elevation
- Freeways; Highways
- Traffic Circle; Ramp
- Major & Minor Arterial
- Traffic Circle; Ramp
- Local Road
- Rail
- State
- Country
- National Wetland
- Indian Reserve Land
- 100 Year Flood Zone
- 500 Year Flood Zone
- FWS Special Designation Areas
- National Priorities List (Active, Delisted, Proposed, Institutional Control)

Source: © 2021 ESRI StreetMap Premium

© ERIS Information Inc.



Map: 0.5 Mile Radius

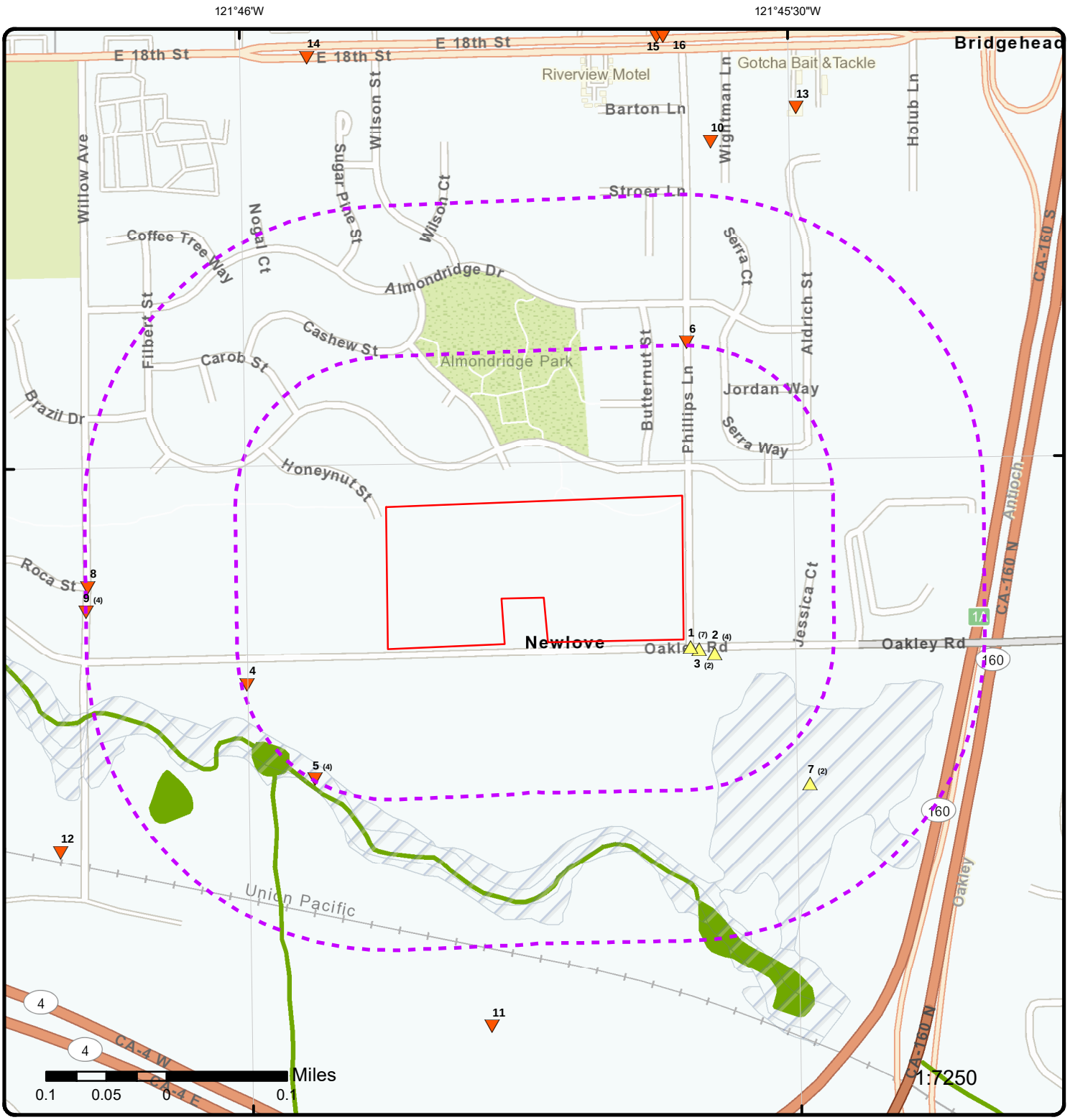
Order Number: 25021100942

Address: 3001 Oakley Road, Antioch, CA

- Project Property
- Buffer Outline
- Sites with Higher Elevation
- Sites with Same Elevation
- Sites with Lower Elevation
- Sites with Unknown Elevation
- Areas with Higher Elevation
- Areas with Same Elevation
- Areas with Lower Elevation
- Areas with Unknown Elevation
- Freeways; Highways
- Traffic Circle; Ramp
- Major & Minor Arterial
- Traffic Circle; Ramp
- Local Road
- Rail
- State
- Country
- National Wetland
- Indian Reserve Land
- 100 Year Flood Zone
- 500 Year Flood Zone
- FWS Special Designation Areas
- National Priorities List (Active, Delisted, Proposed, Institutional Control)

Source: © 2021 ESRI StreetMap Premium

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Map: 0.25 Mile Radius

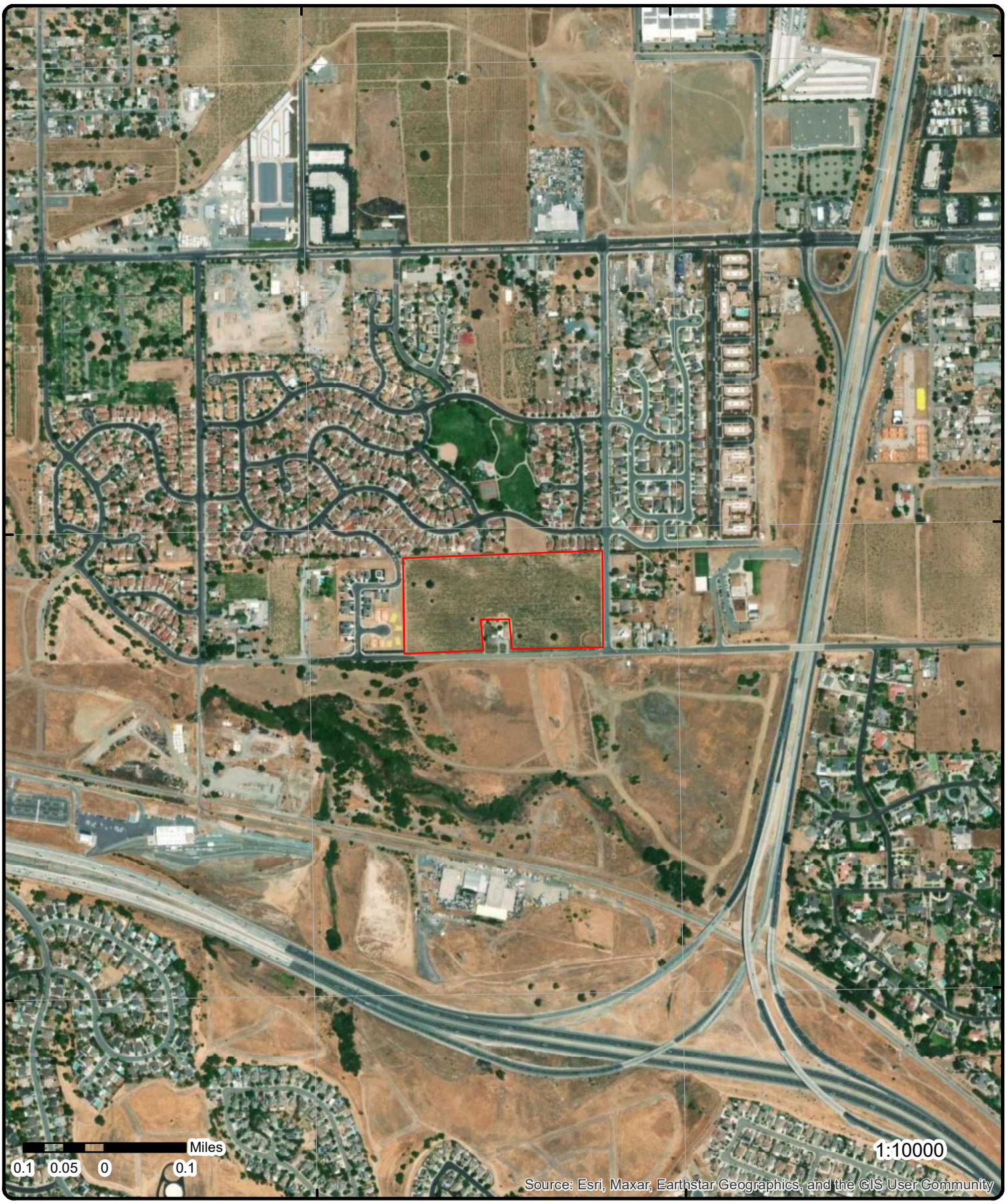
Order Number: 25021100942

Address: 3001 Oakley Road, Antioch, CA

- Project Property
- Buffer Outline
- Sites with Higher Elevation
- Sites with Same Elevation
- Sites with Lower Elevation
- Sites with Unknown Elevation
- Areas with Higher Elevation
- Areas with Same Elevation
- Areas with Lower Elevation
- Areas with Unknown Elevation
- Freeways; Highways
- Traffic Circle; Ramp
- Major & Minor Arterial
- Traffic Circle; Ramp
- Local Road
- Rail
- State
- Country
- National Wetland
- Indian Reserve Land
- 100 Year Flood Zone
- 500 Year Flood Zone
- FWS Special Designation Areas
- National Priorities List (Active, Delisted, Proposed, Institutional Control)

Source: © 2021 ESRI StreetMap Premium

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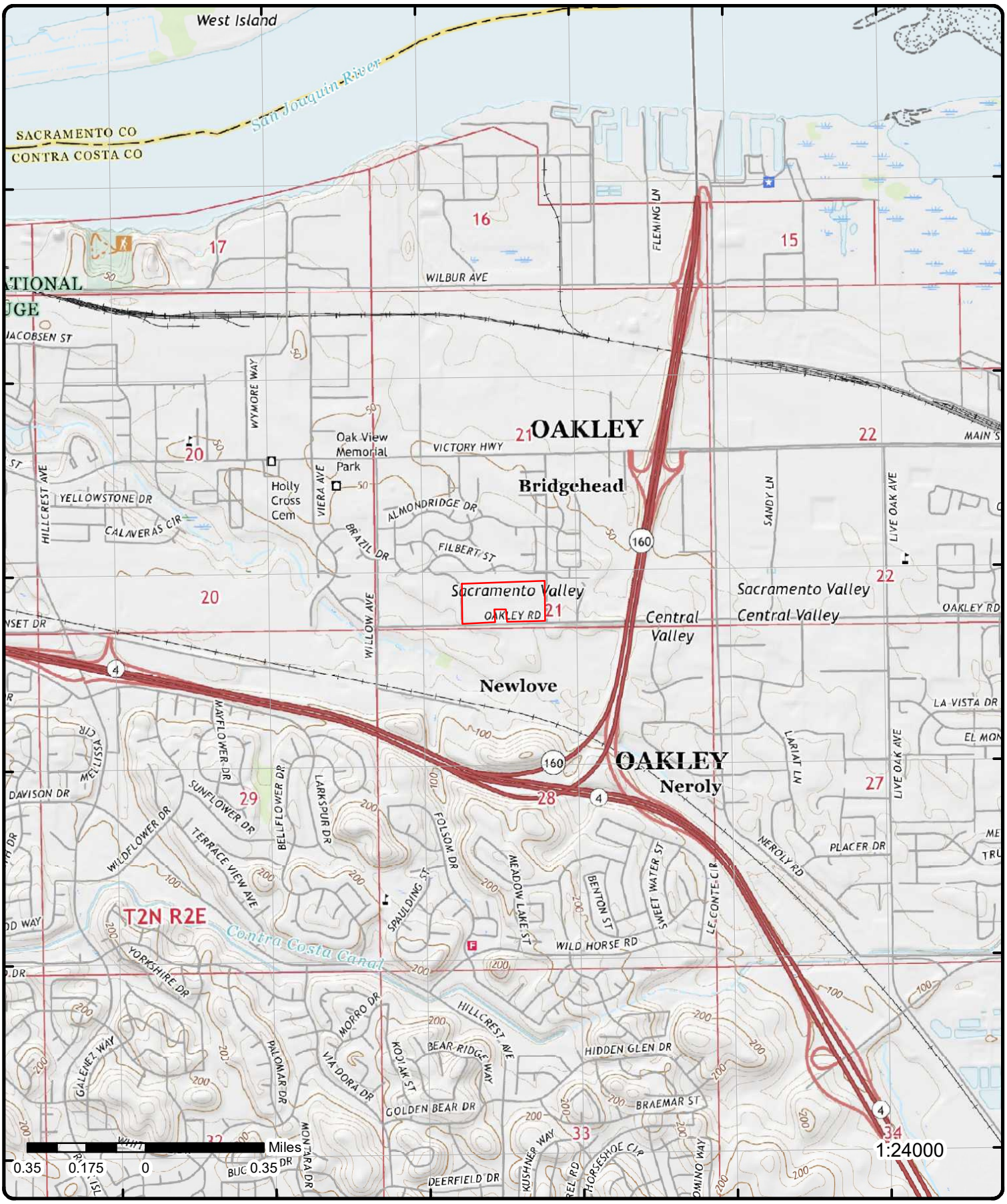
Aerial **Year: 2022**

Order Number: 25021100942

Address: 3001 Oakley Road, Antioch, CA

Source: ESRI World Imagery

© ERIS Information Inc.



Topographic Map

Year: 2021

Order Number: 25021100942

Address: 3001 Oakley Road, CA

Quadrangle(s): Brentwood CA, Antioch North CA, Antioch South CA, Jersey Island CA

Source: USGS Topographic Map

© ERIS Information Inc.

Detail Report

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
1	1 of7	ESE	0.01 / 44.93	79.39 / 7	PACIFIC GAS & ELECTRIC COMPANY OAKLEY RD & PHILLIPS LN ANTIOCH CA 94509-	FINDS/FRS

Registry ID: 110013832996
FIPS Code: 06013
HUC Code: 18040003
Site Type Name: STATIONARY
Location Description:
Supplemental Location:
Create Date: 02-APR-03
Update Date: 01-JUN-17
Interest Types: HAZARDOUS AIR POLLUTANT MAJOR
SIC Codes:
SIC Code Descriptions:
NAICS Codes: 221210
NAICS Code Descriptions: NATURAL GAS DISTRIBUTION.
Conveyor: FRS
Federal Facility Code:
Federal Agency Name:
Tribal Land Code:
Tribal Land Name:
Congressional Dist No: 10
Census Block Code: 060133060022044
EPA Region Code: 09
County Name: CONTRA COSTA
US/Mexico Border Ind:
Latitude: 37.99775
Longitude: -121.75998
Reference Point: ENTRANCE POINT OF A FACILITY OR STATION
Coord Collection Method: ADDRESS MATCHING-NEAREST INTERSECTION
Accuracy Value: 200
Datum: NAD83
Source:
Facility Detail Rprt URL: https://ofmpub.epa.gov/frs_public2/fii_query_detail.disp_program_facility?p_registry_id=110013832996
Data Source: Facility Registry Service - Single File
Program Acronyms:

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
1	2 of7	ESE	0.01 / 44.93	79.39 / 7	OAKLEY ROAD METERING SITE OAKLEY RD. & PHILLIPS LN. ANTIOCH CA 94509	ENVIROSTOR

Estor/EPA ID: 07490002
Site Code:
Nat Priority List: NO
APN: NONE SPECIFIED
Census Tract: 6013306002
Site Type: EVALUATION
Address Description: OAKLEY RD. & PHILLIPS LN.
Office: CLEANUP BERKELEY
Special Program:
Funding:
Cleanup Status: REFER: RWQCB AS OF 8/28/2002
Cleanup Oversight Agencies: NONE SPECIFIED
School District:
Past Use that Caused Contam: NONE SPECIFIED
Assembly District: 15
Senate District: 09
Permit Renewal Lead:
Public Partici Spclst:
Project Manager:
County: CONTRA COSTA
Latitude: 37.9975
Longitude: -121.759722222222
Acres: 0.7 ACRES
Supervisor:

Potential Media Affected: NONE SPECIFIED
Potential Contamin of Concern:

HYDROCARBON SOLVENTS
POLYCHLORINATED BIPHENYLS (PCBS)

Site History:

The Oakley Road Metering Site (the Site) consists of 0.7 acres and is located on the south side of Oakley Road, at the T-intersection with Phillip Lane. The site is within two miles south of San Joaquin River, upstream of the Suisun Bay. To the east, a quarter of a mile is Highway 4. The Oakley Metering Site is owned by Standard Pacific Gas Lines (SPG). SPG is owned largely by the Pacific Gas and Electric Company (87.5%), with the remaining portion (12.5%) is owned by the Chevron Corporation. The Site, until the middle 1970s, was utilized for routine operations associated with the handling of natural gas well liquids (condensate). These liquids consist of water and petroleum hydrocarbons. Currently, the Site is used as a storage area for the Pacific Gas and Electric Company's natural gas pipeline equipment.

Status: REFER: RWQCB
Program Type: EVALUATION
CalEnviroScreen Score: 70-75%
Summary Link: https://www.envirostor.dtsc.ca.gov/public/profile_report?global_id=07490002

Completed Activities

Title: Site Screening
Title Link:
Area Name:
Area Link:
Sub Area:
Sub Area Link:
Document Type: Site Screening
Date Completed: 1/31/1992
Comments: Completed Site Screening. Investigation conducted in August 1991 showed that soil and groundwater are contaminated with hydrocarbons, BTEX and PCBs.

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
1	3 of7	ESE	0.01 / 44.93	79.39 / 7	PGE Oakley Road and Phillips Lane Antioch CA 94598	CHMIRS

Control No:
County: Contra Costa County
Year: 1997
URL:
Notified Date: 7/14/199704:08:14 PM
Notified Date Time:

California Hazardous Material Incident Report System (as of 1997 to 2005)

Contained: Yes
Substance: Petroleum hydrocarbons
Incident Date: 7/14/199712:00:00 AM
No of Injuries: 0
No of Fatals: 0
No of Evacs: 0
Cleanup: Reporting Party
Water: No
Water Way:
City: Antioch
County: Contra Costa County
ZIP: 94598
Site: Industrial Plant
Admin Agency:
Location: Oakley Road and Phillips Lane
Description: Pipe ruptured in a PGE facility, drained liquid into soil.
Bbls: 0
Cups: 0
Cu Ft: 0
Gals: 300
Grams: 0
Lbs: 0
Liters: 0
Oz: 0
Pts: 0
Qts: 0
Sheen: 0
Tons: 0
Unknown: 0

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
1	4 of7	ESE	0.01 / 44.93	79.39 / 7	OAKLEY RD @ PHILLIPS LANE ANTIOCH CA 945090000	HIST MANIFEST

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Gen EPA ID: CAD983612854
Create Date: 11/11/1991 0:00
Inact Date: 6/30/2002 0:00:00
Facility Mail Street: 375 N WIGET LN STE 170
Facility Mail City: WALNUT CREEK
Facility Mail State: CA
Facility Mail Zip: 945982412
Contact Phone(s): 9259744083
File Year(s): 1991
Contact Name(s): DAVID J GERMANN

Tanner Information

State Waste Code: 223
Year: 1991
Tons: 7.25
Method Code: D80
State Waste Code Desc: Unspecified oil-containing waste
Method Description:

Generator County:
Tsd Epa ID: IDD073114654
Tsd County: Unknown

1	5 of7	ESE	0.01 / 44.93	79.39 / 7	PACIFIC GAS & ELECTRIC COMPANY OAKLEY RD & PHILLIPS LN ANTIOCH CA 94509	EMISSIONS

1998 Criteria Data

Facility ID: 11250
Facility SIC Code: 4953
CO: 7
Air Basin: SF
District: BA
COID: CC
DISN: BAY AREA AQMD
CHAPIS:

CERR Code:
TOGT: .7
ROGT: .00903
COT:
NOXT:
SOXT:
PMT:
PM10T:

1998 Toxic Data

Facility ID: 11250
Facility SIC Code: 4953
CO: 7
Air Basin: SF
District: BA
TS:
Health Risk Asmt:
Non-Cancer Chronic Haz Ind:
Non-Cancer Acute Haz Ind:

COID: CC
DISN: BAY AREA AQMD
CHAPIS:
CERR Code:

1999 Criteria Data

Facility ID: 11250
Facility SIC Code: 4953
CO: 7
Air Basin: SF
District: BA
COID: CC
DISN: BAY AREA AQMD
CHAPIS:

CERR Code:
TOGT: .417
ROGT: .2913162
COT:
NOXT:
SOXT:
PMT:
PM10T:

1999 Toxic Data

Facility ID:	11250	**COID:**	CC
Facility SIC Code:	4953	**DISN:**	BAY AREA AQMD
CO:	7	**CHAPIS:**	
Air Basin:	SF	**CERR Code:**	
District:	BA		
TS:			
Health Risk Asmt:			
Non-Cancer Chronic Haz Ind:			
Non-Cancer Acute Haz Ind:			

2000 Criteria Data

Facility ID:	11250	**CERR Code:**	
Facility SIC Code:	4953	**TOGT:**	.417
CO:	7	**ROGT:**	.29
Air Basin:	SF	**COT:**	
District:	BA	**NOXT:**	
COID:	CC	**SOXT:**	
DISN:	BAY AREA AQMD	**PMT:**	
CHAPIS:		**PM10T:**	

2000 Toxic Data

Facility ID:	11250	**COID:**	CC
Facility SIC Code:	4953	**DISN:**	BAY AREA AQMD
CO:	7	**CHAPIS:**	
Air Basin:	SF	**CERR Code:**	
District:	BA		
TS:			
Health Risk Asmt:			
Non-Cancer Chronic Haz Ind:			
Non-Cancer Acute Haz Ind:			

2001 Criteria Data

Facility ID:	11250	**CERR Code:**	
Facility SIC Code:	4953	**TOGT:**	.51
CO:	7	**ROGT:**	.35
Air Basin:	SF	**COT:**	
District:	BA	**NOXT:**	
COID:	CC	**SOXT:**	
DISN:	BAY AREA AQMD	**PMT:**	
CHAPIS:		**PM10T:**	

2001 Toxic Data

Facility ID:	11250	**COID:**	CC
Facility SIC Code:	4953	**DISN:**	BAY AREA AQMD
CO:	7	**CHAPIS:**	
Air Basin:	SF	**CERR Code:**	
District:	BA		
TS:			
Health Risk Asmt:			
Non-Cancer Chronic Haz Ind:			
Non-Cancer Acute Haz Ind:			

2002 Criteria Data

Facility ID:	11250	**CERR Code:**	
Facility SIC Code:	4923	**TOGT:**	.847
CO:	7	**ROGT:**	.5917142
Air Basin:	SF	**COT:**	
District:	BA	**NOXT:**	

COID: CC
DISN: BAY AREA AQMD
CHAPIS:
SOXT:
PMT:
PM10T:

2002 Toxic Data

Facility ID: 11250
Facility SIC Code: 4923
CO: 7
Air Basin: SF
District: BA
TS:
Health Risk Asmt:
Non-Cancer Chronic Haz Ind:
Non-Cancer Acute Haz Ind:
COID: CC
DISN: BAY AREA AQMD
CHAPIS:
CERR Code:

2003 Criteria Data

Facility ID: 11250
Facility SIC Code: 4923
CO: 7
Air Basin: SF
District: BA
COID: CC
DISN: BAY AREA AQMD
CHAPIS:
CERR Code:
TOGT: .573
ROGT: .4
COT:
NOXT:
SOXT:
PMT:
PM10T:

2003 Toxic Data

Facility ID: 11250
Facility SIC Code: 4923
CO: 7
Air Basin: SF
District: BA
TS:
Health Risk Asmt:
Non-Cancer Chronic Haz Ind:
Non-Cancer Acute Haz Ind:
COID: CC
DISN: BAY AREA AQMD
CHAPIS:
CERR Code:

2004 Criteria Data

Facility ID: 11250
Facility SIC Code: 4923
CO: 7
Air Basin: SF
District: BA
COID: CC
DISN: BAY AREA AQMD
CHAPIS:
CERR Code:
TOGT: .482
ROGT: .3367252
COT:
NOXT:
SOXT:
PMT:
PM10T:

2004 Toxic Data

Facility ID: 11250
Facility SIC Code: 4923
CO: 7
Air Basin: SF
District: BA
TS:
Health Risk Asmt:
Non-Cancer Chronic Haz Ind:
Non-Cancer Acute Haz Ind:
COID: CC
DISN: BAY AREA AQMD
CHAPIS:
CERR Code:

2005 Criteria Data

Facility ID:	11250	***CERR Code:***	
Facility SIC Code:	4923	***TOGT:***	.756
CO:	7	***ROGT:***	.5281416
Air Basin:	SF	***COT:***	
District:	BA	***NOXT:***	
COID:	CC	***SOXT:***	
DISN:	BAY AREA AQMD	***PMT:***	
CHAPIS:		***PM10T:***	

2005 Toxic Data

Facility ID:	11250	***COID:***	CC
Facility SIC Code:	4923	***DISN:***	BAY AREA AQMD
CO:	7	***CHAPIS:***	
Air Basin:	SF	***CERR Code:***	
District:	BA		
TS:			
Health Risk Asmt:			
Non-Cancer Chronic Haz Ind:			
Non-Cancer Acute Haz Ind:			

2006 Criteria Data

Facility ID:	11250	***CERR Code:***	
Facility SIC Code:	4923	***TOGT:***	.792
CO:	7	***ROGT:***	.5532912
Air Basin:	SF	***COT:***	
District:	BA	***NOXT:***	
COID:	CC	***SOXT:***	
DISN:	BAY AREA AQMD	***PMT:***	
CHAPIS:		***PM10T:***	

2006 Toxic Data

Facility ID:	11250	***COID:***	CC
Facility SIC Code:	4923	***DISN:***	BAY AREA AQMD
CO:	7	***CHAPIS:***	
Air Basin:	SF	***CERR Code:***	
District:	BA		
TS:			
Health Risk Asmt:			
Non-Cancer Chronic Haz Ind:			
Non-Cancer Acute Haz Ind:			

2010 Toxic Data

Facility ID:	11250	***COID:***	CC
Facility SIC Code:	4923	***DISN:***	BAY AREA AQMD
CO:	7	***CHAPIS:***	
Air Basin:	SF	***CERR Code:***	
District:	BA		
TS:			
Health Risk Asmt:			
Non-Cancer Chronic Haz Ind:			
Non-Cancer Acute Haz Ind:			

2011 Criteria Data

Facility ID:	11250	***CERR Code:***	
Facility SIC Code:	4923	***TOGT:***	.261
CO:	7	***ROGT:***	.1823346

Air Basin:	SF	**COT:**	
District:	BA	**NOXT:**	
COID:	CC	**SOXT:**	
DISN:	BAY AREA AQMD	**PMT:**	
CHAPIS:		**PM10T:**	

2011 Toxic Data

Facility ID:	11250	**COID:**	CC
Facility SIC Code:	4923	**DISN:**	BAY AREA AQMD
CO:	7	**CHAPIS:**	
Air Basin:	SF	**CERR Code:**	
District:	BA		
TS:			
Health Risk Asmt:			
Non-Cancer Chronic Haz Ind:			
Non-Cancer Acute Haz Ind:			

2012 Criteria Data

Facility ID:	11250	**CERR Code:**	
Facility SIC Code:	4923	**TOGT:**	.86
CO:	7	**ROGT:**	.600796
Air Basin:	SF	**COT:**	
District:	BA	**NOXT:**	
COID:	CC	**SOXT:**	
DISN:	BAY AREA AQMD	**PMT:**	
CHAPIS:		**PM10T:**	

2012 Toxic Data

Facility ID:	11250	**COID:**	CC
Facility SIC Code:	4923	**DISN:**	BAY AREA AQMD
CO:	7	**CHAPIS:**	
Air Basin:	SF	**CERR Code:**	
District:	BA		
TS:			
Health Risk Asmt:			
Non-Cancer Chronic Haz Ind:			
Non-Cancer Acute Haz Ind:			

2013 Criteria Data

Facility ID:	11250	**CERR Code:**	
Facility SIC Code:	4923	**TOGT:**	1.327
CO:	7	**ROGT:**	.9270422
Air Basin:	SF	**COT:**	
District:	BA	**NOXT:**	
COID:	CC	**SOXT:**	
DISN:	BAY AREA AQMD	**PMT:**	
CHAPIS:		**PM10T:**	

2013 Toxic Data

Facility ID:	11250	**COID:**	CC
Facility SIC Code:	4923	**DISN:**	BAY AREA AQMD
CO:	7	**CHAPIS:**	
Air Basin:	SF	**CERR Code:**	
District:	BA		
TS:			
Health Risk Asmt:			
Non-Cancer Chronic Haz Ind:			
Non-Cancer Acute Haz Ind:			

2014 Criteria Data

Facility ID:	11250	***CERR Code:***	
Facility SIC Code:	4923	***TOGT:***	.645331881
CO:	7	***ROGT:***	
Air Basin:	SF	***COT:***	
District:	BA	***NOXT:***	
COID:	CC	***SOXT:***	
DISN:	BAY AREA AQMD	***PMT:***	
CHAPIS:		***PM10T:***	

2014 Toxic Data

Facility ID:	11250	***COID:***	CC
Facility SIC Code:	4923	***DISN:***	BAY AREA AQMD
CO:	7	***CHAPIS:***	
Air Basin:	SF	***CERR Code:***	
District:	BA		
TS:			
Health Risk Asmt:			
Non-Cancer Chronic Haz Ind:			
Non-Cancer Acute Haz Ind:			

2015 Criteria Data

Facility ID:	11250	***CERR Code:***	
Facility SIC Code:	4923	***TOGT:***	.645444612
CO:	7	***ROGT:***	.645400811
Air Basin:	SF	***COT:***	.000805
District:	BA	***NOXT:***	.003225313
COID:	CC	***SOXT:***	.00001307
DISN:	BAY AREA AQMD	***PMT:***	.000069
CHAPIS:		***PM10T:***	.000069

2015 Toxic Data

Facility ID:	11250	***COID:***	CC
Facility SIC Code:	4923	***DISN:***	BAY AREA AQMD
CO:	7	***CHAPIS:***	
Air Basin:	SF	***CERR Code:***	
District:	BA		
TS:			
Health Risk Asmt:			
Non-Cancer Chronic Haz Ind:			
Non-Cancer Acute Haz Ind:			

2016 Criteria Data

Facility ID:	11250	***CERR CODE:***	
Facility SIC Code:	4923	***TOGT:***	.029717076
CO:	7	***ROGT:***	.0207312019704
Air Basin:	SF	***COT:***	.000805
District:	BA	***NOXT:***	.003225313
COID:	CC	***SOXT:***	.00001307
DISN:	BAY AREA AQMD	***PMT:***	.000069
CHAPIS:		***PM10T:***	.000069

2016 Toxic Data

Facility ID:	11250	***TS:***	
Facility SIC Code:	4923	***HRA:***	

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

CERR CODE:		**CH Index:**	
COID:	CC	**AH Index:**	
CO:	7	**Air Basin:**	SF
DISN:	BAY AREA AQMD	**District:**	BA
CHAPIS:			

2017 Criteria Data

Facility ID:	11250	**CERR Code:**	
Facility SIC Code:	4923	**TOGT:**	.118590008
CO:	7	**ROGT:**	.082183172008
Air Basin:	SF	**COT:**	.01833333
District:	BA	**NOXT:**	.073454336
COID:	CC	**SOXT:**	.000297653
DISN:	BAY AREA AQMD	**PMT:**	.001571429
CHAPIS:		**PM10T:**	.001571429

2017 Toxic Data

Facility ID:	11250	**COID:**	CC
Facility SIC Code:	4923	**DISN:**	BAY AREA AQMD
CO:	7	**CHAPIS:**	
Air Basin:	SF	**CERR Code:**	
District:	BA		
TS:			
Health Risk Asmt:			
Non-Cancer Chronic Haz Ind:			
Non-Cancer Acute Haz Ind:			

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
1	6 of7	ESE	0.01 / 44.93	79.39 / 7	OAKLEY ROAD METERING SITE OAKLEY RD. & PHILLIPS LN. ANTIOCH CA 94509	CALSITES

ID No:	07490002	**Assembly:**	
Status Date:	05/26/1994	**Senate:**	
NPL:		**Region:**	2
Tier:		**Region Name:**	BERKELEY
Fund:		**County Co:**	07
Access :		**Facility County:**	CONTRA COSTA
Access Code:	NOT REPORTED	**Lat Deg:**	0
Cortese:		**Lat Min:**	0
Hrscore:		**Lat Sec:**	0
Hrsdate:		**Lat Dir:**	
Groundwater Contam:	C	**Long Deg:**	0
GW Code:	CONFIRMED	**Long Min:**	0
No Sources:	0	**Long Sec:**	0
RWQCB Name:	SAN FRANCISCO BAY	**Long Dir:**	
Branch Name:	NORTH COAST	**Llmethod:**	
Staff:		**Lldesc:**	
Senior:			
Status Name:	PROPERTY/SITE REFERRED TO RWQCB		
Type Name:	N/A		
Lead Name:	N/A		
SIC Name:	ELECTRIC, GAS & SANITARY SERVICES		
Filename:			
Comments:			

QUESTIONNAIRE SENT QUEST. RECEIVED. NO PROBLEM TEL VERIFIED THEM AS A TRANSP. The San Francisco Retional Water Quality Control Board is directly overseeing site activities with help from the County Environ. Health Svcs. The Oakley Rd. metering Site occupies approx. .7 acre and is loated in Antioch, Contra Costa, California. It is currently used as a sotage area for PG&E natural gas pipeline equipment. The site is owned by the Standard Pacific Gas Lines, a California Corporation which is owned by both PG&E (87.5%) and Chevron corporation (12.5%). The site was used for routine gas condensate operations until the mid-1970's In August 1991, soil and groundwater investigation was conducted to determine if petroleum hydrocarbons are present in soils and groundwater beneath the site. Contaminants detected in soil and their highest concentrations include the FF: benzene-1,100 ppb, toulene-5,400 ppb, ethylbenzene-35,000 ppb, xylene-150,000 ppb, TPH-5,500 ppm, and TPH-3,500 ppm. Contaminants in groundwater include: toulene - 2.3 ppb, ethylbenzene - 4.7 ppb, xylenes - 16 ppb, TPH - 4,400 ppb, TPH - 23,000 ppb. Floating products were observed in one of the monitoring wells and later analyzed to have pcb's in them. Nearby domestic wells were investigated and found to have non-detectable

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

levels of the same contaminants detected beneath the site. Monitoring of these wells off-site under suvervision of the Contra Costa County Health Services Dept. is ongoing. The SF Regional Water Quality Control Board is currently reviewing a work plan for a follow-up site investigation to fully define the horiz. & vert. extent of the contam. plume.

Background:

1	7 of7	ESE	0.01 / 44.93	79.39 / 7	PG&E OAKLEY RD METER SITE OAKLEY RD @ PHILLIPS LANE ANTIOCH CA 945090000	HAZ GEN

Epa ID: CAD983612854
Facility County: 07
Address 2:
County: Contra Costa
Details DTSC HWTS: The Department of Toxic Substances Control (DTSC) makes available a Waste Code Matrix showing each Waste Code, its description, and annual amounts in its Hazardous Waste Tracking System: https://hwts.dtsc.ca.gov/search
Handler Profile URL: https://hwts.dtsc.ca.gov/facility/CAD983612854

2	1 of4	ESE	0.02 / 81.58	79.73 / 8	PG&E OAKLEY ROAD METER STATION 3302 OAKLEY RD ANTIOCH CA 94509	RCRA NON GEN

EPA Handler ID: CAC003106273
Gen Status Universe: No Report
Contact Name: SUSAN SONG
Contact Address: 3401 CROW CANYON ROAD , 177H , SAN RAMON , CA, 94583 ,
Contact Phone No and Ext: 925-415-6331
Contact Email: SISI@PGE.COM
Contact Country:
County Name: CONTRA COSTA
EPA Region: 09
Land Type:
Receive Date: 20210218
Location Latitude:
Location Longitude:
Recycler Activity?: NO
Recycler Activity Note: This facility has no indication of Recycling Activity.

Violation/Evaluation Summary

Note: NO RECORDS: As of Oct 2024, there are no Compliance Monitoring and Enforcement (violation) records associated with this facility (EPA ID).

Handler Summary

Importer Activity: No
Mixed Waste Generator: No
Transporter Activity: No
Transfer Facility: No
Onsite Burner Exemption: No
Furnace Exemption: No
Underground Injection Activity: No
Commercial TSD: No
Used Oil Transporter: No
Used Oil Transfer Facility: No
Used Oil Processor: No
Used Oil Refiner: No
Used Oil Burner: No
Used Oil Market Burner: No
Used Oil Spec Marketer: No
Recycler Activity: No
Recycler Activity Without Storage: No

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Hazardous Waste Handler Details

Sequence No:	1
Receive Date:	20210218
Handler Name:	PG&E OAKLEY ROAD METER STATION
Source Type:	Implementer
Federal Waste Generator Code:	N
Generator Code Description:	Not a Generator, Verified

Owner/Operator Details

Owner/Operator Ind:	Current Operator	***Street No:***	
Type:	Other	***Street 1:***	3401 CROW CANYON ROAD
Name:	SUSAN SONG	***Street 2:***	177H
Date Became Current:		***City:***	SAN RAMON
Date Ended Current:		***State:***	CA
Phone:	925-415-6331	***Country:***	
Source Type:	Implementer	***Zip Code:***	94583
Owner/Operator Ind:	Current Owner	***Street No:***	
Type:	Other	***Street 1:***	77 BEALE STREET
Name:	PACIFIC GAS AND ELECTRIC	***Street 2:***	
Date Became Current:		***City:***	SAN FRANCISCO
Date Ended Current:		***State:***	CA
Phone:	925-415-6331	***Country:***	
Source Type:	Implementer	***Zip Code:***	94105

2	*2 of4*	*ESE*	*0.02 / 81.58*	*79.73 / 8*	***PG&E OAKLEY ROAD METER STATION*** ***3302 OAKLEY RD*** ***ANTIOCH CA 94509***	***RCRA NON GEN***

EPA Handler ID:	CAC003121202
Gen Status Universe:	No Report
Contact Name:	SUSAN SONG
Contact Address:	3401 CROW CANYON ROAD , , SAN RAMON , CA, 94583 ,
Contact Phone No and Ext:	925-415-6331
Contact Email:	SISI@PGE.COM
Contact Country:	
County Name:	CONTRA COSTA
EPA Region:	09
Land Type:	
Receive Date:	20210524
Location Latitude:	
Location Longitude:	
Recycler Activity?:	NO
Recycler Activity Note:	This facility has no indication of Recycling Activity.

Violation/Evaluation Summary

Note: NO RECORDS: As of Oct 2024, there are no Compliance Monitoring and Enforcement (violation) records associated with this facility (EPA ID).

Handler Summary

Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility:	No
Onsite Burner Exemption:	No
Furnace Exemption:	No
Underground Injection Activity:	No

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Commercial TSD:	No
Used Oil Transporter:	No
Used Oil Transfer Facility:	No
Used Oil Processor:	No
Used Oil Refiner:	No
Used Oil Burner:	No
Used Oil Market Burner:	No
Used Oil Spec Marketer:	No
Recycler Activity:	No
Recycler Activity Without Storage:	No

Hazardous Waste Handler Details

Sequence No:	1
Receive Date:	20210524
Handler Name:	PG&E OAKLEY ROAD METER STATION
Source Type:	Implementer
Federal Waste Generator Code:	N
Generator Code Description:	Not a Generator, Verified

Owner/Operator Details

Owner/Operator Ind:	Current Owner	**Street No:**	
Type:	Other	**Street 1:**	77 BEALE STREET
Name:	PACIFIC GAS AND ELECTRIC	**Street 2:**	
Date Became Current:		**City:**	SAN FRANCISCO
Date Ended Current:		**State:**	CA
Phone:	925-415-6331	**Country:**	
Source Type:	Implementer	**Zip Code:**	94105
Owner/Operator Ind:	Current Operator	**Street No:**	
Type:	Other	**Street 1:**	3401 CROW CANYON ROAD
Name:	SUSAN SONG	**Street 2:**	
Date Became Current:		**City:**	SAN RAMON
Date Ended Current:		**State:**	CA
Phone:	925-415-6331	**Country:**	
Source Type:	Implementer	**Zip Code:**	94583

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
2	3 of4	ESE	0.02 / 81.58	79.73 / 8	PG&E OAKLEY ROAD METER STATIION 3302 OAKLEY RD ANTIOCH CA 94509	RCRA NON GEN

EPA Handler ID:	CAL000406646
Gen Status Universe:	No Report
Contact Name:	PALOMA DUONG
Contact Address:	PO BOX , 7640 , , SAN FRANCISCO , CA, 94120 , US
Contact Phone No and Ext:	916-671-4623
Contact Email:	PRD0@PGE.COM
Contact Country:	US
County Name:	CONTRA COSTA
EPA Region:	09
Land Type:	
Receive Date:	20211020
Location Latitude:	
Location Longitude:	
Recycler Activity?:	NO
Recycler Activity Note:	This facility has no indication of Recycling Activity.

Violation/Evaluation Summary

Note:	NO RECORDS: As of Oct 2024, there are no Compliance Monitoring and Enforcement (violation) records associated with this facility (EPA ID).

Handler Summary

Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility:	No
Onsite Burner Exemption:	No
Furnace Exemption:	No
Underground Injection Activity:	No
Commercial TSD:	No
Used Oil Transporter:	No
Used Oil Transfer Facility:	No
Used Oil Processor:	No
Used Oil Refiner:	No
Used Oil Burner:	No
Used Oil Market Burner:	No
Used Oil Spec Marketer:	No
Recycler Activity:	No
Recycler Activity Without Storage:	No

Hazardous Waste Handler Details

Sequence No:	1
Receive Date:	20211020
Handler Name:	PG&E OAKLEY ROAD METER STATIION
Source Type:	Implementer
Federal Waste Generator Code:	N
Generator Code Description:	Not a Generator, Verified

Owner/Operator Details

Owner/Operator Ind:	Current Operator	***Street No:***	77
Type:	Other	***Street 1:***	BEALE ST
Name:	PG&E	***Street 2:***	
Date Became Current:		***City:***	SAN FRANCISCO
Date Ended Current:		***State:***	CA
Phone:	925-471-1104	***Country:***	US
Source Type:	Implementer	***Zip Code:***	94105

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
2	4 of4	ESE	0.02 / 81.58	79.73 / 8	PG&E OAKLEY ROAD METER STATION 3302 OAKLEY RD ANTIOCH CA 94509	FINDS/FRS

Registry ID:	110071058361
FIPS Code:	06013
HUC Code:	
Site Type Name:	STATIONARY
Location Description:	
Supplemental Location:	
Create Date:	08-JUL-21
Update Date:	
Interest Types:	UNSPECIFIED UNIVERSE
SIC Codes:	
SIC Code Descriptions:	
NAICS Codes:	486210
NAICS Code Descriptions:	PIPELINE TRANSPORTATION OF NATURAL GAS.
Conveyor:	
Federal Facility Code:	
Federal Agency Name:	
Tribal Land Code:	
Tribal Land Name:	
Congressional Dist No:	
Census Block Code:	

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

EPA Region Code: 09
County Name: CONTRA COSTA
US/Mexico Border Ind:
Latitude:
Longitude:
Reference Point:
Coord Collection Method:
Accuracy Value:
Datum: NAD83
Source:
Facility Detail Rprt URL: https://ofmpub.epa.gov/frs_public2/fii_query_detail.disp_program_facility?p_registry_id=110071058361
Data Source: Facility Registry Service - Single File
Program Acronyms:

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
3	1 of2	ESE	0.03 / 150.83	80.64 / 9	PG&E OAKLEY ROAD METER 3320 OAKLEY RD ANTIOCH CA 94509	CUPA CONTRACO

Facility ID: FA0035574
CUPA ID: 774886
CERS ID: 10504735

Detail(s)

Billing Status: INACTIVE, NON-BILLABLE
Program Element Code: 7101
Program Element: HWG: LESS THAN 5 TONS/YEAR

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
3	2 of2	ESE	0.03 / 150.83	80.64 / 9	PG&E: Oakley Road Meter 3320 OAKLEY RD ANTIOCH CA 94509	DELISTED HAZ

Siteid: 382385
Latitude: 37.997709
Longitude: -121.759579
Original Source: CHAZ
Record Date: 30-MAY-2017

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
4	1 of1	WSW	0.12 / 635.32	54.99 / -17	3899 OAKLEY RD ANTIOCH CA 94509	CDL

Clue: 2005-08-028
Date: 8/19/2005
County: CONTRA COSTA
Lab Type: L
Lab Type Description: Illegal Drug Lab - location where an illegal drug lab was operated or drug lab equipment and/or materials were stored.

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
5	1 of4	SW	0.12 / 652.45	53.17 / -19	HICKSON KERLEY INC 3951 OAKLEY RD ANTIOCH CA 94509	CUPA CONTRACO

Facility ID: FA0031003
CUPA ID: 707601
CERS ID: 10004881

Detail(s)

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Billing Status: INACTIVE, NON-BILLABLE
Program Element Code: 7302
Program Element: UNDERGROUND STORAGE TANK SITE

5	2 of4	SW	0.12 / 652.45	53.17 / -19	CHEVRON, HICKSON KERLEY, ANTIOCH 3951 OAKLEY ROAD ANTIOCH CA 94509	CLEANUP SITES

Global ID: SL0601370344
Site Fac Type (SRCH): CLEANUP PROGRAM SITE
Status (SRCH): COMPLETED - CASE CLOSED
Status (DL): Completed - Case Closed
Status Date (DL): 8/8/2012
Cleanup Status: COMPLETED - CASE CLOSED
Site Facility Type: CLEANUP PROGRAM SITE
Case Type (DL): Cleanup Program Site
RWQCB Region (DL): CENTRAL VALLEY RWQCB (REGION 5S)
Census Tract (SRCH): 6013306002
Latitude (DL): 37.9968
Longitude (DL): -121.7711
Site Facility Name (SRCH): CHEVRON, HICKSON KERLEY, ANTIOCH
Address (SRCH): 3951 OAKLEY ROAD
City (SRCH): ANTIOCH
Zip (SRCH): 94509
County (SRCH): CONTRA COSTA
Street No (DL): 3951
Street Name (DL): OAKLEY ROAD
City (DL): ANTIOCH
Zip (DL): 94509
County (DL): Contra Costa
State (DL): CA
Site Facility Name : CHEVRON, HICKSON KERLEY, ANTIOCH
Address : 3951 OAKLEY ROAD
City : ANTIOCH
Zip : 94509
County : CONTRA COSTA
Report Source: GeoTracker Search Results (SRCH); Cleanup Sites from GeoTracker Cleanup Sites Data Download; GeoTracker Search Results Report

GeoTracker Sites Data Download - Site Details

RB Case No: 1862300
Local Case No:
Begin Date: 5/1/1995
Lead Agency: CENTRAL VALLEY RWQCB (REGION 5F)
Local Agency:
CUF Case:
CalEnvScreen Score:
EPA Region: 9
Qty Rlsd Gallons:
Potential COC: Heating Oil / Fuel Oil
How Discovered: * Other Means
Stop Method:
Stop Description:
Case Worker:
Military DoD Site: No
Leak Reported Dt: 1995-05-01 00:00:00
No Further Action Dt: 2012-08-08 00:00:00
Potential Media of Concern: Other Groundwater (uses other than drinking water), Soil
How Discovered Description: LEAK(S) FROM FORMER OLD VALLEY PIPELINE AND POSSIBLY FIVE OTHER ACTIVE OR FORMER PIPELINES ADJACENT TO THE SITE.
Calwater Watershed Name: San Joaquin Delta (544.00)
DWR GW Subbasin Name: San Joaquin Valley - East Contra Costa (5-022.19)
Disadvantaged Community:
Coordinate Source: * USGS Quad map
Discharge Cause: Other
Discharge Source: Piping
Facility Project Sub Type:
Calenviroscreen 3 Score: 71-75%
Calenviroscreen 4 Score: 70-75%
File Location: Regional Board
Claim No:

Claim Status:
Site History:

The Site is located at 3951 Oakley Road in Antioch on approximately 153 acres. A variety of nitrogen and sulfur based fertilizers were manufactured at the plant from 1962 to 1992. The former process area is now graded and operated as PES Towing. Approximately 40 non-operational vehicles are stored at the PES impound yard. Six active or former petroleum pipelines are located within and parallel to the Union Pacific Railroad right-of-way parallel to the south side of the former Hickson Kerley site. This includes Chevron and Texaco's former pipelines that transported heavy petroleum, crude and Bunker C fuel oil, from Bakersfield to Richmond, California. Multiple investigations have been performed at the Site to assess the extent of impacts to soil and groundwater from the agricultural chemicals. In February of 1995 an underground rail car used to store ammonium sulfide sludge residue was removed from the former process area. The groundwater monitoring wells were installed in the area to assess any potential release of chemicals associated with the former tank. Petroleum hydrocarbons were encountered in the former process area and investigations have been conducted since about 1997. Site groundwater monitoring wells were properly destroyed and MRP No. R5-2006-0813 was rescinded by a Water Board letter dated 22 September 2009. Numerous site investigaitons were completed including an October 2010 risk assessment findings that stated "an acceptable cancer risk for exposure to onsite soils for future hypothetical resident." An August 2011 Soil and Groundwater Management Plan for the site provides proceedures and contacts in the event future activities encouneter crude oil in soil or groundwater from the historical pipelines is encountered. Residual crude oil affected soil and groundwater remains in place and the extent adequately delineated. Chevron remains as the responsible party for residual crude oil leaks determined to be associated with the historical pipelines. In September 2011 Public Notice was submitted to property owners onsite and adjacent offsite locations within a 200-foot radius of affected soil/groundwater that the Water Board was considering a no further action determination for the site. Two comments received were addressed with no further comments provided. Thus, on 8 August 2012, a no further action required determination was issued to Chevron and the case closed.

GeoTracker Sites Data Download - Status History

Status:	Completed - Case Closed
Status Date:	2012-08-08 00:00:00
Status:	Open - Site Assessment
Status Date:	1995-05-01 00:00:00
Status:	Open - Case Begin Date
Status Date:	1995-05-01 00:00:00

GeoTracker Search - Facilities (as of September 25, 2024)

Project Status:	
Cuf Claim No:	
CUF Priority Assign:	
CUF Amount Paid:	
Composting Method:	
Facility Type:	
WDR Place Type:	
WDR File No:	
WDR Order No:	
File Location:	REGIONAL BOARD
User Defined Beneficial Use:	
Designated Beneficial Use:	MUN, AGR, IND, PROC
Designated Beneficl Use Desc:	Municipal and Domestic Supply, Agricultural Supply, Industrial Service Supply, Industrial Process Supply
Project Oversight Agencies:	
Report Link:	https://geotracker.waterboards.ca.gov/profile_report?global_id=SL0601370344
Cleanup Status Detail:	COMPLETED - CASE CLOSED AS OF 8/8/2012
Potential COC:	HEATING OIL / FUEL OIL, PETROLEUM/FUELS/OILS
Potential Media of Concern:	OTHER GROUNDWATER (USES OTHER THAN DRINKING WATER), SOIL
Groundwater Monitoring Freq:	
DWR GW Sub Basin:	San Joaquin Valley - East Contra Costa (5-022.19)
CalWater Watershed Name:	San Joaquin Delta (544.00)
Post Closure Site Management:	
Future Land Use:	
Cleanup Oversight Agencies:	CENTRAL VALLEY RWQCB (REGION 5F) (LEAD) - CASE #: 1862300
Cleanup History Link:	https://geotracker.waterboards.ca.gov/profile_report_include?global_id=SL0601370344&tabname=regulatoryhistory

Site History:

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impacts to soil and groundwater from the agricultural chemicals.

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In September 2011 Public Notice was submitted to property owners onsite and adjacent offsite locations within a 200-foot radius of affected soil/groundwater that the Water Board was considering a no further action determination for the site. Two comments received were addressed with no further comments provided. Thus, on 8 August 2012, a no further action required determination was issued to Chevron and the case closed.

GeoTracker Search - Regulatory Activities (as of September 25, 2024)

Action Type: Other Regulatory Actions
Action: Technical Correspondence / Assistance / Other
Action Date: 9/22/2009
Received Issue Date: 9/22/2009
Doc Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=SL0601370344&enforcement_id=6040566&temptable=ENFORCEMENT
Title Description Comments:

Monitoring Well Destruction Rep. & Rescission of Monit. & Reporting Prog. 09/22/2009

Action Type: Other Regulatory Actions
Action: Technical Correspondence / Assistance / Other
Action Date: 6/17/2009
Received Issue Date: 6/17/2009
Doc Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=SL0601370344&enforcement_id=6040564&temptable=ENFORCEMENT
Title Description Comments:

Monitoring Well Destruction Workplan 06/17/2009

Action Type: Other Regulatory Actions
Action: Technical Correspondence / Assistance / Other
Action Date: 6/11/2009
Received Issue Date: 6/11/2009
Doc Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=SL0601370344&enforcement_id=6040563&temptable=ENFORCEMENT
Title Description Comments:

Review-Additional GW Investigation Report 06/11/2009

Action Type: Other Regulatory Actions
Action: Technical Correspondence / Assistance / Other
Action Date: 6/3/2009
Received Issue Date: 6/3/2009
Doc Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=SL0601370344&enforcement_id=6040558&temptable=ENFORCEMENT
Title Description Comments:

Review-1st Semiannual 09 GW Monitoring & Sampling Report 06/03/2009

Action Type: Other Regulatory Actions
Action: Technical Correspondence / Assistance / Other
Action Date: 12/11/2008

Received Issue Date: 12/11/2008
Doc Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=SL0601370344&enforcement_id=6040557&temptable=ENFORCEMENT
Title Description Comments:

Review-Second Semiannual 08 GW Monitoring & Sampling Report 12/11/2008

Action Type: Other Regulatory Actions
Action: Technical Correspondence / Assistance / Other
Action Date: 11/21/2008
Received Issue Date: 11/21/2008
Doc Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=SL0601370344&enforcement_id=6040556&temptable=ENFORCEMENT
Title Description Comments:

Review-Additional GW Investigation Workplan 11/21/2008

Action Type: Other Regulatory Actions
Action: Technical Correspondence / Assistance / Other
Action Date: 10/8/2008
Received Issue Date: 10/8/2008
Doc Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=SL0601370344&enforcement_id=6040555&temptable=ENFORCEMENT
Title Description Comments:

Possible Refined Petroleum Product Pipeline Leak 10/08/2008

Action Type: Leak Action
Action: Leak Reported
Action Date: 5/1/1995
Received Issue Date:
Doc Link:
Title Description Comments:

GeoTracker Search - Documents (as of September 25, 2024)

Document Type: Site Documents ***Document Date:*** 7/13/2012*
Type: SOIL AND WATER INVESTIGATION REPORT ***Submitted:***
Submitted By: LEIDOS (SAIC) (AUTH_RP)
Title: SOIL AND GROUNDWATER INVESTIGATION REPORT
Title Link: https://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4357881069/SL0601370344.PDF

Document Type: Site Documents ***Document Date:*** 6/27/2011*
Type: RISK ASSESSMENT REPORT ***Submitted:***
Submitted By: LEIDOS (SAIC) (AUTH_RP)
Title: SITE AND OFF-SITE PROPERTY OWNER SURVEY
Title Link: https://geotracker.waterboards.ca.gov/esi/uploads/geo_report/9379007995/SL0601370344.PDF

Document Type: Site Documents ***Document Date:*** 3/25/2011*
Type: RISK ASSESSMENT REPORT ***Submitted:***
Submitted By: LEIDOS (SAIC) (AUTH_RP)
Title: NO FURTHER ACTION REQUIRED REQUEST REPORT
Title Link: https://geotracker.waterboards.ca.gov/esi/uploads/geo_report/8244120299/SL0601370344.PDF

Document Type: Site Documents ***Document Date:*** 10/21/2010*
Type: RISK ASSESSMENT REPORT ***Submitted:***
Submitted By: LEIDOS (SAIC) (AUTH_RP)
Title: HUMAN HEALTH SCREENING EVALUATION
Title Link: https://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2681193053/SL0601370344.PDF

Document Type: Site Documents ***Document Date:*** 9/22/2009
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER ***Submitted:***
Submitted By: (REGULATOR)

Title: MONITORING WELL DESTRUCTION REP. & RESCISSION OF MONIT. & REPORTING PROG. 09/22/2009
Title Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=SL0601370344&enforcement_id=6040566

Document Type: Site Documents **Document Date:** 8/18/2009*
Type: WELL DESTRUCTION REPORT **Submitted:**
Submitted By: LEIDOS (SAIC) (AUTH_RP)
Title: GROUNDWATER MONITORING WELL DESTRUCTION REPORT
Title Link: https://geotracker.waterboards.ca.gov/esi/uploads/geo_report/9935599088/SL0601370344.PDF

Document Type: Site Documents **Document Date:** 6/17/2009
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER **Submitted:**
Submitted By: (REGULATOR)
Title: MONITORING WELL DESTRUCTION WORKPLAN 06/17/2009
Title Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=SL0601370344&enforcement_id=6040564

Document Type: Site Documents **Document Date:** 6/11/2009
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER **Submitted:**
Submitted By: (REGULATOR)
Title: REVIEW-ADDITIONAL GW INVESTIGATION REPORT 06/11/2009
Title Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=SL0601370344&enforcement_id=6040563

Document Type: Site Documents **Document Date:** 6/9/2009*
Type: WELL DESTRUCTION WORKPLAN **Submitted:**
Submitted By: LEIDOS (SAIC) (AUTH_RP)
Title: WELL DESTRUCTION WORK PLAN
Title Link: https://geotracker.waterboards.ca.gov/esi/uploads/geo_report/5712505519/SL0601370344.PDF

Document Type: Site Documents **Document Date:** 6/3/2009
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER **Submitted:**
Submitted By: (REGULATOR)
Title: REVIEW-1ST SEMIANNUAL 09 GW MONITORING & SAMPLING REPORT 06/03/2009
Title Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=SL0601370344&enforcement_id=6040558

Document Type: Monitoring Reports **Document Date:** 4/16/2009*
Type: MONITORING REPORT - OTHER **Submitted:**
Submitted By: LEIDOS (SAIC) (AUTH_RP)
Title: ADDITIONAL GROUNDWATER INVESTIGATION REPORT
Title Link: https://geotracker.waterboards.ca.gov/esi/uploads/geo_report/1569589078/SL0601370344.PDF

Document Type: Monitoring Reports **Document Date:** 4/3/2009*
Type: MONITORING REPORT - SEMI-ANNUALLY **Submitted:**
Submitted By: LEIDOS (SAIC) (AUTH_RP)
Title: FIRST 2009 SEMI-ANNUAL GROUNDWATER MONITORING AND SAMPLING REPORT
Title Link: https://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6017388463/SL0601370344.PDF

Document Type: Site Documents **Document Date:** 12/11/2008
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER **Submitted:**
Submitted By: (REGULATOR)
Title: REVIEW-SECOND SEMIANNUAL 08 GW MONITORING & SAMPLING REPORT 12/11/2008
Title Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=SL0601370344&enforcement_id=6040557

Document Type: Site Documents **Document Date:** 11/21/2008
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER **Submitted:**
Submitted By: (REGULATOR)
Title: REVIEW-ADDITIONAL GW INVESTIGATION WORKPLAN 11/21/2008
Title Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=SL0601370344&enforcement_id=6040556

Document Type: Site Documents **Document Date:** 11/5/2008*
Type: OTHER WORKPLAN **Submitted:**
Submitted By: LEIDOS (SAIC) (AUTH_RP)
Title: ADDITIONAL GROUNDWATER INVESTIGATION WORK PLAN
Title Link: https://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7948061287/SL0601370344.PDF

Document Type: Monitoring Reports **Document Date:** 10/28/2008*

Type: MONITORING REPORT - SEMI-ANNUALLY **Submitted:**
Submitted By: LEIDOS (SAIC) (AUTH_RP)
Title: 2008 SECOND SEMI-ANNUAL GROUNDWATER MONITORING AND SAMPLING REPORT
Title Link: https://geotracker.waterboards.ca.gov/esi/uploads/geo_report/8526566028/SL0601370344.PDF

Document Type: Site Documents **Document Date:** 10/8/2008
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER **Submitted:**
Submitted By: (REGULATOR)
Title: POSSIBLE REFINED PETROLEUM PRODUCT PIPELINE LEAK 10/08/2008
Title Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=SL0601370344&enforcement_id=6040555

Document Type: Monitoring Reports **Document Date:** 4/23/2008*
Type: MONITORING REPORT - SEMI-ANNUALLY **Submitted:**
Submitted By: LEIDOS (SAIC) (AUTH_RP)
Title: GROUNDWATER MONITORING REPORT
Title Link: https://geotracker.waterboards.ca.gov/esi/uploads/geo_report/9605818808/SL0601370344.PDF

Document Type: Site Documents **Document Date:** 4/3/2008*
Type: REPORTS - INVESTIGATION RPT. **Submitted:**
Submitted By: LEIDOS (SAIC) (AUTH_RP)
Title: SOIL AND GROUNDWATER INVESTIGATION REPORT
Title Link: https://geotracker.waterboards.ca.gov/esi/uploads/geo_report/5812377035/SL0601370344.PDF

Document Type: Site Documents **Document Date:** 4/3/2008*
Type: REPORTS - INVESTIGATION RPT. **Submitted:**
Submitted By: LEIDOS (SAIC) (AUTH_RP)
Title: SOIL AND GROUNDWATER INVESTIGATION REPORT
Title Link: https://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7187193155/SL0601370344.PDF

Document Type: Monitoring Reports **Document Date:** 11/5/2007*
Type: MONITORING REPORT - SEMI-ANNUALLY **Submitted:**
Submitted By: LEIDOS (SAIC) (AUTH_RP)
Title: SECOND SEMI-ANNUAL 2007 GROUNDWATER MONITORING AND SAMPLING REPORT
Title Link: https://geotracker.waterboards.ca.gov/esi/uploads/geo_report/3196134805/SL0601370344.PDF

Document Type: Monitoring Reports **Document Date:** 11/5/2007*
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Submitted By: LEIDOS (SAIC) (AUTH_RP)
Title: THIRD QUARTER 2006 GROUNDWATER MONITORING AND SAMPLING REPORT
Title Link: https://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6798235833/SL0601370344.PDF

Document Type: Monitoring Reports **Document Date:** 11/5/2007*
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Submitted By: LEIDOS (SAIC) (AUTH_RP)
Title: FOURTH QUARTER 2005 GROUNDWATER MONITORING AND SAMPLING REPORT
Title Link: https://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6157759726/SL0601370344.PDF

Document Type: Monitoring Reports **Document Date:** 11/5/2007*
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Submitted By: LEIDOS (SAIC) (AUTH_RP)
Title: FIRST QUARTER 2005 GROUNDWATER MONITORING AND SAMPLING REPORT
Title Link: https://geotracker.waterboards.ca.gov/esi/uploads/geo_report/9124989390/SL0601370344.PDF

Document Type: Monitoring Reports **Document Date:** 11/5/2007*
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Submitted By: LEIDOS (SAIC) (AUTH_RP)
Title: FOURTH QUARTER 2006 GROUNDWATER MONITORING AND SAMPLING REPORT
Title Link: https://geotracker.waterboards.ca.gov/esi/uploads/geo_report/1154173910/SL0601370344.PDF

Document Type: Monitoring Reports **Document Date:** 11/5/2007*
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Submitted By: LEIDOS (SAIC) (AUTH_RP)
Title: THIRD QUARTER 2005 GROUNDWATER MONITORING AND SAMPLING REPORT
Title Link: https://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4109787464/SL0601370344.PDF

Document Type: Monitoring Reports **Document Date:** 11/5/2007*
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Submitted By: LEIDOS (SAIC) (AUTH_RP)

Title: FIRST QUARTER 2006 GROUNDWATER MONITORING AND SAMPLING REPORT
Title Link: https://geotracker.waterboards.ca.gov/esi/uploads/geo_report/8544279336/SL0601370344.PDF

Document Type: Site Documents **Document Date:** 11/5/2007*
Type: REPORTS - INVESTIGATION RPT. **Submitted:**
Submitted By: LEIDOS (SAIC) (AUTH_RP)
Title: SOIL AND GROUNDWATER INVESTIGATION AND MONITORING WELL INSTALLATION
Title Link: https://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7242083489/SL0601370344.PDF

Document Type: Monitoring Reports **Document Date:** 11/5/2007*
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Submitted By: LEIDOS (SAIC) (AUTH_RP)
Title: SECOND QUARTER 2005 GROUNDWATER MONITORING AND SAMPLING REPORT
Title Link: https://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7748402476/SL0601370344.PDF

Document Type: Monitoring Reports **Document Date:** 11/5/2007*
Type: MONITORING REPORT - SEMI-ANNUALLY **Submitted:**
Submitted By: LEIDOS (SAIC) (AUTH_RP)
Title: FIRST SEMI-ANNUAL 2007 GROUNDWATER MONITORING AND SAMPLING REPORT
Title Link: https://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7274657309/SL0601370344.PDF

Document Type: Monitoring Reports **Document Date:** 11/5/2007*
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Submitted By: LEIDOS (SAIC) (AUTH_RP)
Title: SECOND QUARTER 2006 GROUNDWATER MONITORING AND SAMPLING REPORT
Title Link: https://geotracker.waterboards.ca.gov/esi/uploads/geo_report/3394671380/SL0601370344.PDF

GeoTracker Search - Site Maps (as of September 25, 2024)

Submitted: 2/18/2011*
Submitted By: LEIDOS (SAIC) (AUTH_RP)
Title: GEO_MAP
Link: https://geotracker.waterboards.ca.gov/esi/uploads/geo_map/7118305981/SL0601370344.PDF

Submitted: 8/28/2008*
Submitted By: LEIDOS (SAIC) (AUTH_RP)
Title: GEO_MAP
Link: https://geotracker.waterboards.ca.gov/esi/uploads/geo_map/3834667384/SL0601370344.PDF

Submitted: 8/22/2007*
Submitted By: LEIDOS (SAIC) (AUTH_RP)
Title: GEO_MAP
Link: https://geotracker.waterboards.ca.gov/esi/uploads/geo_map/6431333780/SL0601370344.pdf

GeoTracker Search - Cleanup Status History (as of September 25, 2024)

Status: Completed - Case Closed
Date: 8/8/2012

Status: Open - Site Assessment
Date: 5/1/1995

Status: Open - Case Begin Date
Date: 5/1/1995

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
5	3 of4	SW	0.12 / 652.45	53.17 / -19	FKP INC (FORMERLY HICKSON - KERLEY) 3951 OAKLEY RD ANTIOCH CA	CLEANUP SITES

Global ID: SL185922952
Site Fac Type (SRCH): CLEANUP PROGRAM SITE
Status (SRCH): OPEN - SITE ASSESSMENT
Status (DL): Open - Site Assessment
Status Date (DL): 5/1/2016
Cleanup Status: OPEN - SITE ASSESSMENT
Site Facility Type: CLEANUP PROGRAM SITE
Case Type (DL): Cleanup Program Site
RWQCB Region (DL): CENTRAL VALLEY RWQCB (REGION 5S)
Census Tract (SRCH): 6013306002
Latitude (DL): 37.9961626797281
Longitude (DL): -121.767654418945

Site Facility Name (SRCH):	FKP INC (FORMERLY HICKSON - KERLEY)
Address (SRCH):	3951 OAKLEY RD
City (SRCH):	ANTIOCH
Zip (SRCH):	
County (SRCH):	CONTRA COSTA
Street No (DL):	3951
Street Name (DL):	OAKLEY RD
City (DL):	ANTIOCH
Zip (DL):	
County (DL):	Contra Costa
State (DL):	CA
Site Facility Name :	FKP INC (FORMERLY HICKSON - KERLEY)
Address :	3951 OAKLEY RD
City :	ANTIOCH
Zip :	
County :	CONTRA COSTA
Report Source:	GeoTracker Search Results (SRCH); Cleanup Sites from GeoTracker Cleanup Sites Data Download; GeoTracker Search Results Report

GeoTracker Sites Data Download - Site Details

RB Case No:	SL185922952
Local Case No:	
Begin Date:	6/1/1999
Lead Agency:	CENTRAL VALLEY RWQCB (REGION 5S)
Local Agency:	
CUF Case:	
CalEnvScreen Score:	
EPA Region:	9
Qty Rlsd Gallons:	
Potential COC:	* Fertilizers, * Metals/Heavy Metals, * Other Spill
How Discovered:	
Stop Method:	
Stop Description:	
Case Worker:	JM
Military DoD Site:	No
Leak Reported Dt:	1995-03-24 00:00:00
No Further Action Dt:	
Potential Media of Concern:	Other Groundwater (uses other than drinking water)
How Discovered Description:	
Calwater Watershed Name:	San Joaquin Delta (544.00)
DWR GW Subbasin Name:	San Joaquin Valley - East Contra Costa (5-022.19)
Disadvantaged Community:	
Coordinate Source:	Google Map Move
Discharge Cause:	
Discharge Source:	
Facility Project Sub Type:	
Calenviroscreen 3 Score:	71-75%
Calenviroscreen 4 Score:	70-75%
File Location:	Regional Board
Claim No:	
Claim Status:	
Site History:	

Soil beneath a former pond feature contains sulfate and ammonium to at least 8 feet below ground surface. A groundwater extraction system has operated in the past.

GeoTracker Sites Data Download - Status History

Status:	Open - Site Assessment
Status Date:	2016-05-01 00:00:00
Status:	Open - Inactive
Status Date:	2016-04-12 00:00:00
Status:	Open - Site Assessment

Status Date: 2010-01-01 00:00:00

Status: Open - Remediation
Status Date: 2004-05-18 00:00:00

Status: Open - Site Assessment
Status Date: 2000-01-01 00:00:00

Status: Open - Case Begin Date
Status Date: 1999-06-01 00:00:00

GeoTracker Sites Data Download - Regulatory Contacts

Contact Type: Regional Board Caseworker - Primary Caseworker
Contact Name: JEREMY MOTA
Organization Name: CENTRAL VALLEY RWQCB (REGION 5S)
Address: 11020 Sun Center Drive Suite 200
City: RANCHO CORDOVA
Email: jeremy.mota@waterboards.ca.gov
Phone No: 9164643291

GeoTracker Search - Facilities (as of September 25, 2024)

Project Status:
Cuf Claim No:
CUF Priority Assign:
CUF Amount Paid:
Composting Method:
Facility Type:
WDR Place Type:
WDR File No:
WDR Order No:
File Location: REGIONAL BOARD
User Defined Beneficial Use:
Designated Beneficial Use: MUN, AGR, IND, PROC
Designated Beneficl Use Desc: Municipal and Domestic Supply, Agricultural Supply, Industrial Service Supply, Industrial Process Supply
Project Oversight Agencies:
Report Link: https://geotracker.waterboards.ca.gov/profile_report?global_id=SL185922952
Cleanup Status Detail: OPEN - SITE ASSESSMENT AS OF 5/1/2016
Potential COC: FERTILIZERS, METALS/HEAVY METALS, OTHER SPILL
Potential Media of Concern: OTHER GROUNDWATER (USES OTHER THAN DRINKING WATER)
Groundwater Monitoring Freq:
DWR GW Sub Basin: San Joaquin Valley - East Contra Costa (5-022.19)
CalWater Watershed Name: San Joaquin Delta (544.00)
Post Closure Site Management:
Future Land Use:
Cleanup Oversight Agencies: CENTRAL VALLEY RWQCB (REGION 5S) (LEAD) - CASE #: SL185922952
CASE MANAGER: JEREMY MOTA
Cleanup History Link: https://geotracker.waterboards.ca.gov/profile_report_include?global_id=SL185922952&tabname=regulatoryhistory
Site History:

Soil beneath a former pond feature contains sulfate and ammonium to at least 8 feet below ground surface. A groundwater extraction system has operated in the past.

GeoTracker Search - Cleanup Action Report (as of September 25, 2024)

Action Type: PUMP & TREAT (P&T) GROUNDWATER
Begin Date: 8/1/2000
End Date: 12/31/2008
Phase: Water, Water, Water, Water
Contaminant Mass Removed: 265,218 Pounds
Description: Inorganic mass removed is sulfate and ammonium, Other metal is Manganese.

Action Type: EXCAVATION
Begin Date: 7/22/1998

End Date: 10/1/1998
Phase: Soil
Contaminant Mass Removed:
Description: 1,200 tons of soil containing lead, manganese, zinc, sulfate and nitrate removed.

GeoTracker Search - Regulatory Activities (as of September 25, 2024)

Action Type: Other Regulatory Actions
Action: Annual Estimation Letter
Action Date: 6/27/2024
Received Issue Date: 6/27/2024
Doc Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=SL185922952&enforcement_id=6594241&temptable=ENFORCEMENT
Title Description Comments:

Annual Estimate Letter

Action Type: Other Regulatory Actions
Action: Staff Letter
Action Date: 5/31/2024
Received Issue Date: 5/31/2024
Doc Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=SL185922952&enforcement_id=6590978&temptable=ENFORCEMENT
Title Description Comments:

Review of Site Status

Action Type: Other Regulatory Actions
Action: Annual Estimation Letter
Action Date: 6/30/2023
Received Issue Date: 6/30/2023
Doc Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=SL185922952&enforcement_id=6546754&temptable=ENFORCEMENT
Title Description Comments:

Annual Estimate Letter

Action Type: Other Regulatory Actions
Action: Staff Letter
Action Date: 3/15/2023
Received Issue Date: 3/15/2023
Doc Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=SL185922952&enforcement_id=6534224&temptable=ENFORCEMENT
Title Description Comments:

Review of Site Status

Action Type: Other Regulatory Actions
Action: Annual Estimation Letter
Action Date: 7/1/2022
Received Issue Date: 7/1/2022
Doc Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=SL185922952&enforcement_id=6498887&temptable=ENFORCEMENT
Title Description Comments:

Annual Estimate Letter

Action Type: Other Regulatory Actions
Action: File review
Action Date: 3/26/2019
Received Issue Date: 3/26/2019
Doc Link:
Title Description Comments:

When the owner finds a use for a lot of soil that doesn't need to be treated, the sulfide pit will be excavated.

Action Type: Other Regulatory Actions
Action: Annual Estimation Letter
Action Date: 6/30/2017
Received Issue Date: 6/30/2017
Doc Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=SL185922952&enforcement_id=6491878&temptable=ENFORCEMENT
Title Description Comments:

Annual Estimate for Cost Recovery Program 2017-2018

Action Type: Other Regulatory Actions
Action: Technical Correspondence / Assistance / Other
Action Date: 6/13/2013
Received Issue Date: 6/13/2013
Doc Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=SL185922952&enforcement_id=6162381&temptable=ENFORCEMENT
Title Description Comments:

Review of Investigation, Conditional Concurrence with Well Destruction Workplan

Action Type: Response Requested - Workplans
Action: Well Destruction Workplan
Action Date: 5/17/2013
Received Issue Date: 5/17/2013
Doc Link: https://geotracker.waterboards.ca.gov/view_documents_all?global_id=SL185922952&doc_id=5772345
Title Description Comments:

Well Abandonment Work Plan

Action Type: Response Requested - Reports
Action: Site Assessment Report
Action Date: 5/16/2013
Received Issue Date: 5/16/2013
Doc Link: https://geotracker.waterboards.ca.gov/view_documents_all?global_id=SL185922952&doc_id=5772344
Title Description Comments:

Limited Site Investigation Report

Action Type: Other Regulatory Actions
Action: Meeting
Action Date: 4/4/2013
Received Issue Date: 4/4/2013
Doc Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=SL185922952&enforcement_id=6161410&temptable=ENFORCEMENT
Title Description Comments:

7 March 2013 Meeting Minutes

Action Type: Other Regulatory Actions
Action: Technical Correspondence / Assistance / Other
Action Date: 1/23/2013
Received Issue Date: 1/23/2013
Doc Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=SL185922952&enforcement_id=6147900&temptable=ENFORCEMENT
Title Description Comments:

Review of Limited Site Investigation Work Plan (former pond investigation)

Action Type: Other Regulatory Actions
Action: Technical Correspondence / Assistance / Other
Action Date: 1/9/2013
Received Issue Date: 1/9/2013

Doc Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=SL185922952&enforcement_id=6146621&temptable=ENFORCEMENT
Title Description Comments:

December 19 2012 Meeting Minutes

Action Type: Response Requested - Other
Action: Request for Closure
Action Date: 8/8/2012
Received Issue Date: 8/8/2012
Doc Link: https://geotracker.waterboards.ca.gov/view_documents_all?global_id=SL185922952&doc_id=5764417
Title Description Comments:

NO FURTHER ACTION REQUIRED DETERMINATION

Action Type: Notices
Action: Letter - Notice
Action Date: 5/11/2012
Received Issue Date: 5/11/2012
Doc Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=SL185922952&enforcement_id=6121594&temptable=ENFORCEMENT
Title Description Comments:

File memo

Action Type: Response Requested - Workplans
Action: Soil and Water Investigation Workplan
Action Date: 8/24/2011
Received Issue Date: 8/24/2011
Doc Link: https://geotracker.waterboards.ca.gov/view_documents_all?global_id=SL185922952&doc_id=5764416
Title Description Comments:

SOIL AND GROUNDWATER INVESTIGATION PLAN

Action Type: Response Requested - Reports
Action: Monitoring Report - Other
Action Date: 1/1/2010
Received Issue Date: 1/1/2010
Doc Link: https://geotracker.waterboards.ca.gov/view_documents_all?global_id=SL185922952&doc_id=5759314
Title Description Comments:

COMBINED GROUNDWATER MONITORING AND GROUNDWATER EXTRACTION REPORT

Action Type: Other Regulatory Actions
Action: Staff Letter
Action Date: 10/26/2009
Received Issue Date: 10/26/2009
Doc Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=SL185922952&enforcement_id=6079222&temptable=ENFORCEMENT
Title Description Comments:

memo meeting documentation

Action Type: Other Regulatory Actions
Action: Staff Letter
Action Date: 4/22/2005
Received Issue Date: 4/22/2005
Doc Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=SL185922952&enforcement_id=6534161&temptable=ENFORCEMENT
Title Description Comments:

Review of Monitoring Report and Letters

Action Type: Enforcement - Other

Action: * LETM - #R5-2003-0837
Action Date: 11/4/2003
Received Issue Date: 11/4/2003
Doc Link:
Title Description Comments:

Action Type: Enforcement/Orders
Action: 13267 Monitoring Program
Action Date: 11/4/2003
Received Issue Date: 11/4/2003
Doc Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=SL185922952&enforcement_id=6534158&temptable=ENFORCEMENT
Title Description Comments:

Monitoring and Reporting Program No. R5-2003-0837

Action Type: Response Requested - Reports
Action: Monitoring Report - Quarterly
Action Date: 8/1/2002
Received Issue Date: 8/1/2002
Doc Link:
Title Description Comments:

Monitoring Report - Quarterly

Action Type: Enforcement/Orders
Action: 13267 Monitoring Program
Action Date: 4/26/2002
Received Issue Date: 4/26/2002
Doc Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=SL185922952&enforcement_id=6534153&temptable=ENFORCEMENT
Title Description Comments:

Monitoring and Reporting Program No. R5-2002-0816

Action Type: Response Requested - Other
Action: Other Report / Document
Action Date: 5/31/2001
Received Issue Date: 5/31/2001
Doc Link: https://geotracker.waterboards.ca.gov/view_documents_all?global_id=SL185922952&doc_id=5759610
Title Description Comments:

Closure Report Addendum: Lead Impacted Soil Removal

Action Type: Cleanup Action
Action: Pump & Treat (P&T) Groundwater
Action Date: 8/1/2000
Received Issue Date:
Doc Link:
Title Description Comments:

Inorganic mass removed is sulfate and ammonium, Other metal is Manganese.

Action Type: Response Requested - Other
Action: Unknown
Action Date: 10/12/1999
Received Issue Date: 10/12/1999
Doc Link:
Title Description Comments:

Additional Groundwater Evaluation Report & Focused Feasibility Study

Action Type: Response Requested - Other
Action: Unknown

Action Date: 10/12/1999
Received Issue Date: 10/12/1999
Doc Link:
Title Description Comments:

Additional Groundwater Evaluation Report & Focused Feasibility Study

Action Type: Response Requested - Reports
Action: Feasibility Study Report
Action Date: 10/12/1999
Received Issue Date: 10/12/1999
Doc Link: https://geotracker.waterboards.ca.gov/view_documents_all?global_id=SL185922952&doc_id=5759617
Title Description Comments:

Additional Groundwater Evaluation Report & Focused Feasibility Study

Action Type: Response Requested - Reports
Action: Feasibility Study Report
Action Date: 10/12/1999
Received Issue Date: 10/12/1999
Doc Link: https://geotracker.waterboards.ca.gov/view_documents_all?global_id=SL185922952&doc_id=5759625
Title Description Comments:

Additional Groundwater Evaluation Report & Focused Feasibility Study Appendices I-L

Action Type: Response Requested - Other
Action: Unknown
Action Date: 10/12/1999
Received Issue Date: 10/12/1999
Doc Link:
Title Description Comments:

Additional Groundwater Evaluation Report & Focused Feasibility Study

Action Type: Response Requested - Other
Action: Unknown
Action Date: 10/12/1999
Received Issue Date: 10/12/1999
Doc Link:
Title Description Comments:

Additional Groundwater Evaluation Report & Focused Feasibility Study

Action Type: Response Requested - Reports
Action: Progress Report (Soil/GW/ Updates)
Action Date: 3/22/1999
Received Issue Date: 3/22/1999
Doc Link: https://geotracker.waterboards.ca.gov/view_documents_all?global_id=SL185922952&doc_id=5764866
Title Description Comments:

Laboratory Data Report for RRSS samples

Action Type: Response Requested - Other
Action: Other Report / Document
Action Date: 2/22/1999
Received Issue Date: 2/22/1999
Doc Link:
Title Description Comments:

Closure Report Addendum: Refuse Area

Action Type: Response Requested - Other
Action: Request for Closure

Action Date: 2/22/1999
Received Issue Date: 2/22/1999
Doc Link: https://geotracker.waterboards.ca.gov/view_documents_all?global_id=SL185922952&doc_id=5759657
Title Description Comments:

Closure Report Addendum: Refuse Area

Action Type: Response Requested - Other
Action: Other Report / Document
Action Date: 2/22/1999
Received Issue Date: 2/22/1999
Doc Link:
Title Description Comments:

Closure Report Addendum: Refuse Area

Action Type: Response Requested - Workplans
Action: Corrective Action Plan / Remedial Action Plan - Addendum
Action Date: 10/21/1998
Received Issue Date: 10/21/1998
Doc Link: https://geotracker.waterboards.ca.gov/view_documents_all?global_id=SL185922952&doc_id=5760175
Title Description Comments:

Addendum Remedial Action Plan: Refuse Area

Action Type: Response Requested - Other
Action: Request for Closure
Action Date: 10/21/1998
Received Issue Date: 10/21/1998
Doc Link: https://geotracker.waterboards.ca.gov/view_documents_all?global_id=SL185922952&doc_id=5759597
Title Description Comments:

Closure Report FKP Inc.

Action Type: Response Requested - Workplans
Action: Corrective Action Plan / Remedial Action Plan - Addendum
Action Date: 10/21/1998
Received Issue Date: 10/21/1998
Doc Link:
Title Description Comments:

Addendum Remedial Action Plan: Refuse Area

Action Type: Cleanup Action
Action: Excavation
Action Date: 7/22/1998
Received Issue Date:
Doc Link:
Title Description Comments:

1,200 tons of soil containing lead, manganese, zinc, sulfate and nitrate removed.

Action Type: Response Requested - Reports
Action: Risk Assessment Report
Action Date: 12/10/1997
Received Issue Date: 12/10/1997
Doc Link: https://geotracker.waterboards.ca.gov/view_documents_all?global_id=SL185922952&doc_id=5760093
Title Description Comments:

Screening Level Risk Assessment

Action Type: Response Requested - Reports
Action: Preliminary Site Assessment Report

Action Date: 1/9/1997
Received Issue Date: 1/9/1997
Doc Link: https://geotracker.waterboards.ca.gov/view_documents_all?global_id=SL185922952&doc_id=5764860
Title Description Comments:

Refilling of Sulfide Pits Above-Ground Closure Operations

Action Type: Leak Action
Action: Leak Reported
Action Date: 3/24/1995
Received Issue Date:
Doc Link:
Title Description Comments:

GeoTracker Search - Documents (as of September 25, 2024)

Document Type: Site Documents **Document Date:** 6/27/2024
Type: ANNUAL ESTIMATION LETTER **Submitted:**
Submitted By: JEREMY MOTA (REGULATOR)
Title: ANNUAL ESTIMATE LETTER
Title Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=SL185922952&enforcement_id=6594241

Document Type: Site Documents **Document Date:** 5/31/2024
Type: STAFF LETTER **Submitted:**
Submitted By: JEREMY MOTA (REGULATOR)
Title: REVIEW OF SITE STATUS
Title Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=SL185922952&enforcement_id=6590978

Document Type: Site Documents **Document Date:** 6/30/2023
Type: ANNUAL ESTIMATION LETTER **Submitted:**
Submitted By: NICHOLAS WHITE (REGULATOR)
Title: ANNUAL ESTIMATE LETTER
Title Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=SL185922952&enforcement_id=6546754

Document Type: Site Documents **Document Date:** 3/15/2023
Type: STAFF LETTER **Submitted:**
Submitted By: NICHOLAS WHITE (REGULATOR)
Title: REVIEW OF SITE STATUS
Title Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=SL185922952&enforcement_id=6534224

Document Type: Site Documents **Document Date:** 7/1/2022
Type: ANNUAL ESTIMATION LETTER **Submitted:**
Submitted By: NICHOLAS WHITE (REGULATOR)
Title: ANNUAL ESTIMATE LETTER
Title Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=SL185922952&enforcement_id=6498887

Document Type: Site Documents **Document Date:** 6/30/2017
Type: ANNUAL ESTIMATION LETTER **Submitted:**
Submitted By: WEIJIE DONG (REGULATOR)
Title: ANNUAL ESTIMATE FOR COST RECOVERY PROGRAM 2017-2018
Title Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=SL185922952&enforcement_id=6491878

Document Type: Site Documents **Document Date:** 6/13/2013
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER **Submitted:**
Submitted By: AMY TERRELL (REGULATOR)
Title: REVIEW OF INVESTIGATION, CONDITIONAL CONCURRENCE WITH WELL DESTRUCTION WORKPLAN
Title Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=SL185922952&enforcement_id=6162381

Document Type: Site Documents **Document Date:** 5/17/2013
Type: WELL DESTRUCTION WORKPLAN **Submitted:**
Submitted By: AMY TERRELL (REGULATOR)
Title: WELL ABANDONMENT WORK PLAN
Title Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=SL185922952&document_id=5772345

Document Type: Site Documents **Document Date:** 5/16/2013

Type: SITE ASSESSMENT REPORT **Submitted:**
Submitted By: AMY TERRELL (REGULATOR)
Title: LIMITED SITE INVESTIGATION REPORT
Title Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=SL185922952&document_id=5772344

Document Type: Site Documents **Document Date:** 4/4/2013
Type: MEETING **Submitted:**
Submitted By: AMY TERRELL (REGULATOR)
Title: 7 MARCH 2013 MEETING MINUTES
Title Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=SL185922952&enforcement_id=6161410

Document Type: Site Documents **Document Date:** 1/23/2013
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER **Submitted:**
Submitted By: AMY TERRELL (REGULATOR)
Title: REVIEW OF LIMITED SITE INVESTIGATION WORK PLAN (FORMER POND INVESTIGATION)
Title Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=SL185922952&enforcement_id=6147900

Document Type: Site Documents **Document Date:** 1/9/2013
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER **Submitted:**
Submitted By: AMY TERRELL (REGULATOR)
Title: DECEMBER 19 2012 MEETING MINUTES
Title Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=SL185922952&enforcement_id=6146621

Document Type: Site Documents **Document Date:** 8/8/2012
Type: REQUEST FOR CLOSURE **Submitted:**
Submitted By: CLAYTON PRUE (REGULATOR)
Title: NO FURTHER ACTION REQUIRED DETERMINATION
Title Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=SL185922952&document_id=5764417

Document Type: Site Documents **Document Date:** 5/11/2012
Type: LETTER - NOTICE **Submitted:**
Submitted By: CHRIS COCHRANE (REGULATOR)
Title: FILE MEMO
Title Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=SL185922952&enforcement_id=6121594

Document Type: Site Documents **Document Date:** 8/24/2011
Type: SOIL AND WATER INVESTIGATION WORKPLAN **Submitted:**
Submitted By: CLAYTON PRUE (REGULATOR)
Title: SOIL AND GROUNDWATER INVESTIGATION PLAN
Title Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=SL185922952&document_id=5764416

Document Type: Monitoring Reports **Document Date:** 1/1/2010
Type: MONITORING REPORT - OTHER **Submitted:**
Submitted By: CLAYTON PRUE (REGULATOR)
Title: COMBINED GROUNDWATER MONITORING AND GROUNDWATER EXTRACTION REPORT - A COMBINED REPORT OF BOTH THE 2009 GROUNDWATER MONITORING REPORT AND THE 2009 GROUNDWATER EXTRACTION REPORT
Title Link: https://geotracker.waterboards.ca.gov/regulators/deliverable_documents/6507413566/2009%20combined%20groundwater%20monitoring%20and%20extraction%2Epdf

Document Type: Site Documents **Document Date:** 10/26/2009
Type: STAFF LETTER **Submitted:**
Submitted By: CHRIS COCHRANE (REGULATOR)
Title: MEMO MEETING DOCUMENTATION
Title Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=SL185922952&enforcement_id=6079222

Document Type: Site Documents **Document Date:** 4/22/2005
Type: STAFF LETTER **Submitted:**
Submitted By: KAREN PENG (REGULATOR)
Title: REVIEW OF MONITORING REPORT AND LETTERS
Title Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=SL185922952&enforcement_id=6534161

Document Type: Site Documents **Document Date:** 11/4/2003
Type: 13267 MONITORING PROGRAM **Submitted:**
Submitted By: KAREN PENG (REGULATOR)
Title: MONITORING AND REPORTING PROGRAM NO. R5-2003-0837

Title Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=SL185922952&enforcement_id=6534158

Document Type: Site Documents **Document Date:** 4/26/2002
Type: 13267 MONITORING PROGRAM **Submitted:**
Submitted By: KAREN PENG (REGULATOR)
Title: MONITORING AND REPORTING PROGRAM NO. R5-2002-0816
Title Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=SL185922952&enforcement_id=6534153

Document Type: Site Documents **Document Date:** 5/31/2001
Type: OTHER REPORT / DOCUMENT **Submitted:**
Submitted By: CLAYTON PRUE (REGULATOR)
Title: CLOSURE REPORT ADDENDUM: LEAD IMPACTED SOIL REMOVAL
Title Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=SL185922952&document_id=5759610

Document Type: Site Documents **Document Date:** 10/12/1999
Type: FEASIBILITY STUDY REPORT **Submitted:**
Submitted By: JOSH PARKHURST (REGULATOR)
Title: ADDITIONAL GROUNDWATER EVALUATION REPORT & FOCUSED FEASIBILITY STUDY
Title Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=SL185922952&document_id=5759617

Document Type: Site Documents **Document Date:** 10/12/1999
Type: FEASIBILITY STUDY REPORT **Submitted:**
Submitted By: JOSH PARKHURST (REGULATOR)
Title: ADDITIONAL GROUNDWATER EVALUATION REPORT & FOCUSED FEASIBILITY STUDY APPENDICES I-L
Title Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=SL185922952&document_id=5759625

Document Type: Site Documents **Document Date:** 3/22/1999
Type: PROGRESS REPORT (SOIL/GW/ UPDATES) **Submitted:**
Submitted By: AMY TERRELL (REGULATOR)
Title: LABORATORY DATA REPORT FOR RRSS SAMPLES
Title Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=SL185922952&document_id=5764866

Document Type: Site Documents **Document Date:** 2/22/1999
Type: REQUEST FOR CLOSURE **Submitted:**
Submitted By: CLAYTON PRUE (REGULATOR)
Title: CLOSURE REPORT ADDENDUM: REFUSE AREA
Title Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=SL185922952&document_id=5759657

Document Type: Site Documents **Document Date:** 10/21/1998
Type: REQUEST FOR CLOSURE **Submitted:**
Submitted By: AMY TERRELL (REGULATOR)
Title: CLOSURE REPORT FKP INC.
Title Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=SL185922952&document_id=5759597

Document Type: Site Documents **Document Date:** 10/21/1998
Type: CORRECTIVE ACTION PLAN / REMEDIAL ACTION PLAN - ADDENDUM **Submitted:**
Submitted By: CLAYTON PRUE (REGULATOR)
Title: ADDENDUM REMEDIAL ACTION PLAN: REFUSE AREA
Title Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=SL185922952&document_id=5760175

Document Type: Site Documents **Document Date:** 12/10/1997
Type: RISK ASSESSMENT REPORT **Submitted:**
Submitted By: JOSH PARKHURST (REGULATOR)
Title: SCREENING LEVEL RISK ASSESSMENT
Title Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=SL185922952&document_id=5760093

Document Type: Site Documents **Document Date:** 1/9/1997
Type: PRELIMINARY SITE ASSESSMENT REPORT **Submitted:**
Submitted By: AMY TERRELL (REGULATOR)
Title: REFILLING OF SULFIDE PITS ABOVE-GROUND CLOSURE OPERATIONS
Title Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=SL185922952&document_id=5764860

GeoTracker Search - Cleanup Status History (as of September 25, 2024)

Status: Open - Site Assessment
Date: 5/1/2016

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Status: Open - Inactive
Date: 4/12/2016

Status: Open - Site Assessment
Date: 1/1/2010

Status: Open - Remediation
Date: 5/18/2004

Status: Open - Site Assessment
Date: 1/1/2000

Status: Open - Case Begin Date
Date: 6/1/1999

5	4 of4	SW	0.12 / 652.45	53.17 / -19	HICKSON-KERLEY PIPELINE RELEASE 3951 OAKLEY RD ANTIOCH CA	CLEANUP SITES

Global ID: SL186232981
Site Fac Type (SRCH): CLEANUP PROGRAM SITE
Status (SRCH): COMPLETED - CASE CLOSED
Status (DL): Completed - Case Closed
Status Date (DL): 3/20/2012
Cleanup Status: COMPLETED - CASE CLOSED
Site Facility Type: CLEANUP PROGRAM SITE
Case Type (DL): Cleanup Program Site
RWQCB Region (DL): CENTRAL VALLEY RWQCB (REGION 5S)
Census Tract (SRCH): 6013306002
Latitude (DL): 37.9967714286018
Longitude (DL): -121.771152019501
Site Facility Name (SRCH): HICKSON-KERLEY PIPELINE RELEASE
Address (SRCH): 3951 OAKLEY RD
City (SRCH): ANTIOCH
Zip (SRCH):
County (SRCH): CONTRA COSTA
Street No (DL): 3951
Street Name (DL): OAKLEY RD
City (DL): ANTIOCH
Zip (DL):
County (DL): Contra Costa
State (DL): CA
Site Facility Name : HICKSON-KERLEY PIPELINE RELEASE
Address : 3951 OAKLEY RD
City : ANTIOCH
Zip :
County : CONTRA COSTA
Report Source: GeoTracker Search Results (SRCH); Cleanup Sites from GeoTracker Cleanup Sites Data Download; GeoTracker Search Results Report

GeoTracker Sites Data Download - Site Details

RB Case No: SL186232981
Local Case No:
Begin Date: 10/1/1999
Lead Agency: CENTRAL VALLEY RWQCB (REGION 5S)
Local Agency:
CUF Case:
CalEnvScreen Score:
EPA Region: 9
Qty Rlsd Gallons:
Potential COC:
How Discovered: * GOV
Stop Method:
Stop Description:
Case Worker: ZZZ
Military DoD Site: No
Leak Reported Dt: 1965-01-02 00:00:00
No Further Action Dt: 2012-03-20 00:00:00
Potential Media of Concern:
How Discovered Description:
Calwater Watershed Name: San Joaquin Delta (544.00)

DWR GW Subbasin Name: San Joaquin Valley - East Contra Costa (5-022.19)
Disadvantaged Community:
Coordinate Source: Google Map Move
Discharge Cause:
Discharge Source:
Facility Project Sub Type:
Calenviroscreen 3 Score: 71-75%
Calenviroscreen 4 Score: 70-75%
File Location:
Claim No:
Claim Status:
Site History:

GeoTracker Sites Data Download - Status History

Status: Completed - Case Closed
Status Date: 2012-03-20 00:00:00

Status: Open - Inactive
Status Date: 1999-10-02 00:00:00

Status: Open - Case Begin Date
Status Date: 1999-10-01 00:00:00

GeoTracker Sites Data Download - Regulatory Contacts

Contact Type: Regional Board Caseworker - Primary Caseworker
Contact Name: zzz
Organization Name: CENTRAL VALLEY RWQCB (REGION 5S)
Address: 11020 SUN CENTER DRIVE #200
City: RANCHO CORDOVA
Email: info5@waterboards.ca.gov
Phone No:

GeoTracker Search - Facilities (as of September 25, 2024)

Project Status:
Cuf Claim No:
CUF Priority Assign:
CUF Amount Paid:
Composting Method:
Facility Type:
WDR Place Type:
WDR File No:
WDR Order No:
File Location:
User Defined Beneficial Use:
Designated Beneficial Use: MUN, AGR, IND, PROC
Designated Beneficl Use Desc: Municipal and Domestic Supply, Agricultural Supply, Industrial Service Supply, Industrial Process Supply
Project Oversight Agencies:
Report Link: https://geotracker.waterboards.ca.gov/profile_report?global_id=SL186232981
Cleanup Status Detail: COMPLETED - CASE CLOSED AS OF 3/20/2012
Potential COC: PETROLEUM/FUELS/OILS
Potential Media of Concern: NONE SPECIFIED
Groundwater Monitoring Freq:
DWR GW Sub Basin: San Joaquin Valley - East Contra Costa (5-022.19)
CalWater Watershed Name: San Joaquin Delta (544.00)
Post Closure Site Management:
Future Land Use:
Cleanup Oversight Agencies: CENTRAL VALLEY RWQCB (REGION 5S) (LEAD) - CASE #: SL186232981
CASE MANAGER: zzz
Cleanup History Link: https://geotracker.waterboards.ca.gov/profile_report_include?global_id=SL186232981&tabname=regulatoryhistory
Site History:

No site history available

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

GeoTracker Search - Regulatory Activities (as of September 25, 2024)

Action Type: Other Regulatory Actions
Action: File Review - Closure
Action Date: 3/20/2012
Received Issue Date: 3/20/2012
Doc Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=SL186232981&enforcement_id=6116104&temptable=ENFORCEMENT
Title Description Comments:

File Review Memo

Action Type: Enforcement - Other
Action: * No Action
Action Date: 3/18/2002
Received Issue Date: 3/18/2002
Doc Link:
Title Description Comments:

Action Type: Leak Action
Action: Leak Reported
Action Date: 1/2/1965
Received Issue Date:
Doc Link:
Title Description Comments:

GeoTracker Search - Documents (as of September 25, 2024)

Document Type: Site Documents
Document Date: 3/20/2012
Type: FILE REVIEW - CLOSURE
Submitted:
Submitted By: KRISTIN SHELTON (REGULATOR)
Title: FILE REVIEW MEMO
Title Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=SL186232981&enforcement_id=6116104

GeoTracker Search - Cleanup Status History (as of September 25, 2024)

Status: Completed - Case Closed
Date: 3/20/2012

Status: Open - Inactive
Date: 10/2/1999

Status: Open - Case Begin Date
Date: 10/1/1999

6	1 of1	NE	0.13 / 670.19	63.86 / -8	PG&E OAKLEY RD METER SITE OAKLEY RD NR PHILLIPS LN ANTIOCH CA 94509	RCRA VSQG

EPA Handler ID: CAD983612854
Gen Status Universe: VSG
Contact Name: VERONICA MORA
Contact Address: PO BOX 28150 , , OAKLAND , CA, 94604 , US
Contact Phone No and Ext: 925-471-1104
Contact Email:
Contact Country: US
County Name: CONTRA COSTA
EPA Region: 09
Land Type: Private
Receive Date: 20240827

Location Latitude: 38.001416
Location Longitude: -121.759963
Recycler Activity?: NO
Recycler Activity Note: This facility has no indication of Recycling Activity.

Violation/Evaluation Summary

Note: NO RECORDS: As of Oct 2024, there are no Compliance Monitoring and Enforcement (violation) records associated with this facility (EPA ID).

Handler Summary

Importer Activity: No
Mixed Waste Generator: No
Transporter Activity: No
Transfer Facility: No
Onsite Burner Exemption: No
Furnace Exemption: No
Underground Injection Activity: No
Commercial TSD: No
Used Oil Transporter: No
Used Oil Transfer Facility: No
Used Oil Processor: No
Used Oil Refiner: No
Used Oil Burner: No
Used Oil Market Burner: No
Used Oil Spec Marketer: No
Recycler Activity: No
Recycler Act W.O. Storage: No

Hazardous Waste Handler Details

Sequence No: 1
Receive Date: 19960901
Handler Name: P G & E OAKLEY RD METER SITE
Federal Waste Generator Code: 2
Generator Code Description: Small Quantity Generator
Source Type: Implementer

Hazardous Waste Handler Details

Sequence No: 1
Receive Date: 19970520
Handler Name: P G & E OAKLEY RD METER SITE
Federal Waste Generator Code: 2
Generator Code Description: Small Quantity Generator
Source Type: Notification

Hazardous Waste Handler Details

Sequence No: 2
Receive Date: 19970520
Handler Name: P G & E OAKLEY RD METER SITE
Federal Waste Generator Code: 2
Generator Code Description: Small Quantity Generator
Source Type: Notification

Hazardous Waste Handler Details

Sequence No: 3
Receive Date: 20240827
Handler Name: PG&E OAKLEY RD METER SITE

Federal Waste Generator Code: 3
Generator Code Description: Very Small Quantity Generator
Source Type: Notification

Waste Code Details

Hazardous Waste Code: 221
Waste Code Description: Waste oil and mixed oil

Hazardous Waste Code: D001
Waste Code Description: IGNITABLE WASTE

Owner/Operator Details

Owner/Operator Ind: Current Owner
Type: Other
Name: PACIFIC GAS AND ELECTRIC COMPANY
Date Became Current: 19051010
Date Ended Current:
Phone: 925-471-1104
Source Type: Notification
Street No: 300
Street 1: LAKESIDE DRIVE
Street 2:
City: OAKLAND
State: CA
Country: US
Zip Code: 94612

Owner/Operator Ind: Current Owner
Type: Private
Name: PACIFIC GAS AND ELECTRIC CO
Date Became Current:
Date Ended Current:
Phone: 510-974-4073
Source Type: Notification
Street No:
Street 1: 375 N WIGET LN STE 200
Street 2:
City: WALNUT CREEK
State: CA
Country:
Zip Code: 94598-2412

Owner/Operator Ind: Current Operator
Type: Other
Name: PACIFIC GAS AND ELECTRIC COMPANY
Date Became Current: 19051010
Date Ended Current:
Phone: 925-471-1104
Source Type: Notification
Street No: 300
Street 1: LAKESIDE DRIVE
Street 2:
City: OAKLAND
State: CA
Country: US
Zip Code: 94612

Historical Handler Details

Receive Dt: 19970520
Generator Code Description: Small Quantity Generator
Handler Name: P G & E OAKLEY RD METER SITE

Receive Dt: 19970520
Generator Code Description: Small Quantity Generator
Handler Name: P G & E OAKLEY RD METER SITE

Receive Dt: 19960901
Generator Code Description: Small Quantity Generator
Handler Name: P G & E OAKLEY RD METER SITE

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
7	1 of2	ESE	0.16 / 839.72	76.31 / 4	HENRY J. KAISER CO. CONTRA COSTA COUNTY ANTIOCH CA 94509	MRDS

Dep ID: 10257073
Dev Status: PAST PRODUCER
Code List: SDG
Url: http://mrdata.usgs.gov/mrds/show-mrds.php?dep_id=10257073
I1: 58
Latitude: 37.996094
Longitude: -121.758179

Commodity

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

I1:	46	**Line:**	1
Code:	SDG	**Inserted By:**	MAS migration
Commodity:	Sand and Gravel, Cons	**Insert Date:**	29-OCT-02
Commodity Type:	Non-metallic	**Updated By:**	USGS
Commodity Group:	Sand and Gravel	**Update Date:**	29-OCT-02
Importance:	Primary		

Names

I1:	13	**Inserted By:**	MAS migration
Status:	Current	**Insert Date:**	29-OCT-02
Site Name:	Henry J. Kaiser Co.	**Updated By:**	USGS
Line:	1	**Update Date:**	29-OCT-02

7	2 of2	ESE	0.16 / 839.72	76.31 / 4	HENRY J. KAISER COMPANY CONTRA COSTA COUNTY ANTIOCH CA 94509	MRDS

Dep ID:	10109198	**I1:**	23
Dev Status:	PRODUCER	**Latitude:**	37.996094
Code List:	SDG	**Longitude:**	-121.758179
Url:	http://mrdata.usgs.gov/mrds/show-mrds.php?dep_id=10109198		

Commodity

I1:	35	**Line:**	1
Code:	SDG	**Inserted By:**	MRDS migration
Commodity:	Sand and Gravel, Cons	**Insert Date:**	29-OCT-2002 09:00:24
Commodity Type:	Non-metallic	**Updated By:**	USGS
Commodity Group:	Sand and Gravel	**Update Date:**	29-OCT-2002 09:01:17
Importance:	Primary		

Materials

I1:	16	**Inserted B:**	MRDS migration
Material:	Sand	**Insert Dat:**	29-OCT-2002 09:44:3
Ore or Gangue:	Ore	**Updated By:**	
Rec:	1	**Update Dat:**	

Names

I1:	11	**Inserted By:**	MRDS migration
Status:	Current	**Insert Date:**	29-OCT-02
Site Name:	Henry J. Kaiser Company	**Updated By:**	USGS
Line:	1	**Update Date:**	29-OCT-02

8	1 of1	W	0.25 / 1,309.88	53.33 / -19	HICKSON KERLEY INCORPORATED ANTIOCH CA	PFAS IND

Status:	Unknown	**Fac Fips Code:**	06013
Fac Indian Cntry Flg:	No	**Compliance Status:**	-
Fac Derived Huc:	18040003	**EPA Programs:**	-
Fac Derived Wbd:	180400030907	**Federal Facility:**	No
Fac Derived Cd113:	09	**Federal Agency:**	-
Fac Derived Cb2010:	060133060021014	**Fac Snc Flg:**	No
Fac Informal Count:	0	**AIR Flag:**	No
Last Informal Action:	-	**NPDES Flag:**	No
Formal Action Count:	0	**SDWIS Flag:**	No
Last Formal Action:	-	**RCRAFlag:**	No
Fac Total Penalties:	0	**TRI Flag:**	No
Fac Penalty Count:	-	**GHG Flag:**	No

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Date Last Penalty:	-	**TRI IDs:**	94509KRLYGWILLO
Last Penalty Amt:	-	**TRI Releases Trnsfrs:**	-
Fac Qtrs With Nc:	-	**TRI on Site Releases:**	-
Programs With Snc:	0	**TRI off Site Trnsfrs:**	-
Fac Percent Minority:	59.968	**TRI Reporter:**	-
Fac Pop Den:	3884.33	**Fac Imp Water Flg:**	-
Count:	1	**Fac Major Flag:**	-
Fac County:	CONTRA COSTA	**Fac Active Flag:**	-
State Other :		**Fac Inspection Count:**	0
Region:	09	**Date Last Inspection:**	-
Latitude:	37.99856	**Days Last Inspection:**	-
Longitude:	-121.76912		

Fac Derived Tribes:	-
AIR IDs:	-
CAA Permit Types:	-
CAA NAICS:	-
CAA SICS:	-
NPDES IDs:	-
CWA Permit Types:	-
CWA NAICS:	-
CWA SICS:	-
RCRA IDs:	-
RCRA Permit Types:	-
RCRA NAICS:	-
SDWA IDs:	-
SDWA System Types:	-
SDWA Compliance Status:	-
SDWA Snc Flag:	No
Fac Collection Meth:	ADDRESS MATCHING-HOUSE NUMBER
EJSCREEN Flag Us:	Yes
EJSCREEN Report:	https://ejscreen.epa.gov/mapper/mobile/EJSCREEN_mobile.aspx?geometry=%7B%22x%22:-121.76912,%22y%22:37.99856,%22spatialReference%22:%7B%22wkid%22:4326%7D%7D&unit=9035&areatype=&areaid=&basemap=streets&distance=1
ECHO Facility Report:	https://echo.epa.gov/detailed-facility-report?fid=110002465163
Industry:	Chemical Mfg

9	1 of4	W	0.25 / 1,319.40	51.75 / -20	**GORDON N. BALL, INC.** **2600 WILLOW AVENUE** **ANTIOCH CA 94509**	**RCRA NON GEN**

EPA Handler ID:	CAC002989229
Gen Status Universe:	No Report
Contact Name:	SERINA SIRNA
Contact Address:	333 CAMILLE AVENUE , , ALAMO , CA, 94507 ,
Contact Phone No and Ext:	925-838-5675
Contact Email:	SSIRNA@BALLCONCO.COM
Contact Country:	
County Name:	CONTRA COSTA
EPA Region:	09
Land Type:	
Receive Date:	20181114
Location Latitude:	37.998279
Location Longitude:	-121.769192
Recycler Activity?:	NO
Recycler Activity Note:	This facility has no indication of Recycling Activity.

Violation/Evaluation Summary

Note:	NO RECORDS: As of Oct 2024, there are no Compliance Monitoring and Enforcement (violation) records associated with this facility (EPA ID).

Handler Summary

Importer Activity:	No
Mixed Waste Generator:	No

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Transporter Activity:	No
Transfer Facility:	No
Onsite Burner Exemption:	No
Furnace Exemption:	No
Underground Injection Activity:	No
Commercial TSD:	No
Used Oil Transporter:	No
Used Oil Transfer Facility:	No
Used Oil Processor:	No
Used Oil Refiner:	No
Used Oil Burner:	No
Used Oil Market Burner:	No
Used Oil Spec Marketer:	No
Recycler Activity:	No
Recycler Activity Without Storage:	No

Hazardous Waste Handler Details

Sequence No:	1
Receive Date:	20181114
Handler Name:	GORDON N. BALL, INC.
Source Type:	Implementer
Federal Waste Generator Code:	N
Generator Code Description:	Not a Generator, Verified

Owner/Operator Details

Owner/Operator Ind:	Current Operator	**Street No:**	
Type:	Other	**Street 1:**	333 CAMILLE AVENUE
Name:	SERINA SIRNA	**Street 2:**	
Date Became Current:		**City:**	ALAMO
Date Ended Current:		**State:**	CA
Phone:	925-838-5675	**Country:**	
Source Type:	Implementer	**Zip Code:**	94507
Owner/Operator Ind:	Current Owner	**Street No:**	
Type:	Other	**Street 1:**	333 CAMILLE AVENUE
Name:	GORDON N. BALL, INC.	**Street 2:**	
Date Became Current:		**City:**	ALAMO
Date Ended Current:		**State:**	CA
Phone:	925-838-5675	**Country:**	
Source Type:	Implementer	**Zip Code:**	94507

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
9	2 of4	W	0.25 / 1,319.40	51.75 / -20	GORDON N. BALL, INC. 2600 WILLOW AVENUE ANTIOCH CA 94509	RCRA NON GEN

EPA Handler ID:	CAC003065260
Gen Status Universe:	No Report
Contact Name:	SERINA SIRNA
Contact Address:	333 CAMILLE AVE , , ALAMO , CA, 94507 ,
Contact Phone No and Ext:	925-838-5675
Contact Email:	SSIRNA@BALLCONCO.COM
Contact Country:	
County Name:	CONTRA COSTA
EPA Region:	09
Land Type:	
Receive Date:	20200501
Location Latitude:	
Location Longitude:	
Recycler Activity?:	NO
Recycler Activity Note:	This facility has no indication of Recycling Activity.

Violation/Evaluation Summary

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Note: NO RECORDS: As of Oct 2024, there are no Compliance Monitoring and Enforcement (violation) records associated with this facility (EPA ID).

Handler Summary

Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility:	No
Onsite Burner Exemption:	No
Furnace Exemption:	No
Underground Injection Activity:	No
Commercial TSD:	No
Used Oil Transporter:	No
Used Oil Transfer Facility:	No
Used Oil Processor:	No
Used Oil Refiner:	No
Used Oil Burner:	No
Used Oil Market Burner:	No
Used Oil Spec Marketer:	No
Recycler Activity:	No
Recycler Activity Without Storage:	No

Hazardous Waste Handler Details

Sequence No:	1
Receive Date:	20200501
Handler Name:	GORDON N. BALL, INC.
Source Type:	Implementer
Federal Waste Generator Code:	N
Generator Code Description:	Not a Generator, Verified

Owner/Operator Details

Owner/Operator Ind:	Current Operator	**Street No:**	
Type:	Other	**Street 1:**	333 CAMILLE AVE
Name:	SERINA SIRNA	**Street 2:**	
Date Became Current:		**City:**	ALAMO
Date Ended Current:		**State:**	CA
Phone:	925-838-5675	**Country:**	
Source Type:	Implementer	**Zip Code:**	94507
Owner/Operator Ind:	Current Owner	**Street No:**	
Type:	Other	**Street 1:**	333 CAMILLE AVE
Name:	GORDON N. BALL, INC.	**Street 2:**	
Date Became Current:		**City:**	ALAMO
Date Ended Current:		**State:**	CA
Phone:	925-838-5675	**Country:**	
Source Type:	Implementer	**Zip Code:**	94507

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
9	3 of4	W	0.25 / 1,319.40	51.75 / -20	GORDON N BALL INC 2600 WILLOW AVE ANTIOCH CA 94509	RCRA NON GEN

EPA Handler ID:	CAL000459176
Gen Status Universe:	No Report
Contact Name:	EDISON CANNARD
Contact Address:	333 CAMILLE AVENUE , , ALAMO , CA, 94507 ,
Contact Phone No and Ext:	928-386-1003
Contact Email:	ECANNARD@BALLCONCO.COM
Contact Country:	
County Name:	CONTRA COSTA
EPA Region:	09

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Land Type:
Receive Date: 20210104
Location Latitude:
Location Longitude:
Recycler Activity?: NO
Recycler Activity Note: This facility has no indication of Recycling Activity.

Violation/Evaluation Summary

Note: NO RECORDS: As of Oct 2024, there are no Compliance Monitoring and Enforcement (violation) records associated with this facility (EPA ID).

Handler Summary

Importer Activity: No
Mixed Waste Generator: No
Transporter Activity: No
Transfer Facility: No
Onsite Burner Exemption: No
Furnace Exemption: No
Underground Injection Activity: No
Commercial TSD: No
Used Oil Transporter: No
Used Oil Transfer Facility: No
Used Oil Processor: No
Used Oil Refiner: No
Used Oil Burner: No
Used Oil Market Burner: No
Used Oil Spec Marketer: No
Recycler Activity: No
Recycler Activity Without Storage: No

Hazardous Waste Handler Details

Sequence No: 1
Receive Date: 20210104
Handler Name: GORDON N BALL INC
Source Type: Implementer
Federal Waste Generator Code: N
Generator Code Description: Not a Generator, Verified

Owner/Operator Details

Owner/Operator Ind: Current Owner
Type: Other
Name: GORDON N BALL INC
Date Became Current:
Date Ended Current:
Phone: 925-838-5675
Source Type: Implementer
Street No:
Street 1: 333 CAMILLE AVENUE
Street 2:
City: ALAMO
State: CA
Country:
Zip Code: 94507

Owner/Operator Ind: Current Operator
Type: Other
Name: EDISON CANNARD
Date Became Current:
Date Ended Current:
Phone: 928-386-1003
Source Type: Implementer
Street No:
Street 1: 333 CAMILLE AVENUE
Street 2:
City: ALAMO
State: CA
Country:
Zip Code: 94507

9	4 of4	W	0.25 / 1,319.40	51.75 / -20	GORDON N. BALL - YARD 2600 WILLOW AVE ANTIOCH CA 94509	CUPA CONTRACO

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Facility ID: FA0045471
CUPA ID: 777018
CERS ID: 10871893

Detail(s)

Billing Status: ACTIVE, BILLABLE
Program Element Code: 7110
Program Element: HWG: VSQG NON- RCRA <1.3T

Billing Status: ACTIVE, BILLABLE
Program Element Code: 7202
Program Element: HMBP: 1K-10K LBS

10	1 of1	NNE	0.29 / 1,554.87	49.33 / -23	COUNTY PAVING COMPANY INC. 1823 PHILLIPS LANE ANTIOCH CA 94509	RCRA TSD

EPA Handler ID: CAC003018922
Gen Status Universe: No Report
Contact Name: STEVE KAISER
Contact Address: 1823 PHILLIPS LANE , , ANTIOCH , CA, 94509 ,
Contact Phone No and Ext: 925-756-7454
Contact Email: CESMIKE@SBCGLOBAL.NET
Contact Country:
Land Type:
County Name: CONTRA COSTA
EPA Region: 09
Receive Date: 20190610
Location Latitude: 38.003982
Location Longitude: -121.759891
Recycler Activity?: NO
Recycler Activity Note: This facility has no indication of Recycling Activity.

Violation/Evaluation Summary

Note: NO RECORDS: As of Oct 2024, there are no Compliance Monitoring and Enforcement (violation) records associated with this facility (EPA ID).

Handler Summary

Importer Activity: No
Mixed Waste Generator: No
Transporter Activity: No
Transfer Facility: No
Onsite Burner Exemption: No
Smelting, Melting and Refining: No
Underground Injection Control: No
Commercial TSD: No
Used Oil Transporter: No
Used Oil Transfer Facility: No
Used Oil Processor: No
Used Oil Refiner: No
Used Oil Burner: No
Used Oil Market Burner: No
Used Oil Spec Marketer: No
Recycler Activity: No
Recycler Activity W.O. Storage: No

Hazardous Waste Handler Details

Sequence No: 1
Receive Date: 20190610

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Handler Name: COUNTY PAVING COMPANY INC.
Federal Waste Generator Code: N
Generator Code Description: Not a Generator, Verified
Source Type: Implementer
TSD Activity: Y

Owner/Operator Details

Owner/Operator Ind:	Current Operator	**Street No:**	
Type:	Other	**Street 1:**	1823 PHILLIPS LANE
Name:	STEVE KAISER	**Street 2:**	
Date Became Current:		**City:**	ANTIOCH
Date Ended Current:		**State:**	CA
Phone:	925-756-7454	**Country:**	
Source Type:	Implementer	**Zip Code:**	94509

Owner/Operator Ind:	Current Owner	**Street No:**	
Type:	Other	**Street 1:**	1823 PHILLIPS LANE
Name:	COUNTY PAVING COMPANY INC.	**Street 2:**	
Date Became Current:		**City:**	ANTIOCH
Date Ended Current:		**State:**	CA
Phone:	925-756-7454	**Country:**	
Source Type:	Implementer	**Zip Code:**	94509

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
11	1 of1	S	0.32 / 1,671.06	20.10 / -52	Chevron TAOC New Love Pump Sta. Willow Ave Antioch CA 94509	CLEANUP SITES

Global ID:	T10000000198	**Site Facility Type:**	CLEANUP PROGRAM SITE
Site Fac Type (SRCH):	CLEANUP PROGRAM SITE	**Case Type (DL):**	Cleanup Program Site
Status (SRCH):	COMPLETED - CASE CLOSED	**RWQCB Region (DL):**	CENTRAL VALLEY RWQCB (REGION 5S)
Status (DL):	Completed - Case Closed	**Census Tract (SRCH):**	6013308002
Status Date (DL):	11/16/2010	**Latitude (DL):**	37.9932203222796
Cleanup Status:	COMPLETED - CASE CLOSED	**Longitude (DL):**	-121.763062477112

Site Facility Name (SRCH): CHEVRON TAOC NEW LOVE PUMP STA.
Address (SRCH): WILLOW AVE
City (SRCH): ANTIOCH
Zip (SRCH): 94509
County (SRCH): CONTRA COSTA
Street No (DL):
Street Name (DL): Willow Ave
City (DL): Antioch
Zip (DL): 94509
County (DL): Contra Costa
State (DL): CA
Site Facility Name : CHEVRON TAOC NEW LOVE PUMP STA.
Address : WILLOW AVE
City : ANTIOCH
Zip : 94509
County : CONTRA COSTA
Report Source: GeoTracker Search Results (SRCH); Cleanup Sites from GeoTracker Cleanup Sites Data Download; GeoTracker Search Results Report

GeoTracker Sites Data Download - Site Details

RB Case No: 2050354
Local Case No:
Begin Date: 6/15/2008
Lead Agency: CENTRAL VALLEY RWQCB (REGION 5F)
Local Agency:
CUF Case:
CalEnvScreen Score:
EPA Region: 9
Qty Rlsd Gallons:
Potential COC: Crude Oil

How Discovered:	Site Assessment/Site Investigation
Stop Method:	Change Operating Procedures
Stop Description:	Ceased Production
Case Worker:	
Military DoD Site:	No
Leak Reported Dt:	2008-06-15 00:00:00
No Further Action Dt:	2010-11-16 00:00:00
Potential Media of Concern:	Soil, Soil Vapor, Surface water
How Discovered Description:	Site Assessment
Calwater Watershed Name:	San Joaquin Delta (544.00)
DWR GW Subbasin Name:	San Joaquin Valley - East Contra Costa (5-022.19)
Disadvantaged Community:	
Coordinate Source:	Google Map Move
Discharge Cause:	Unknown
Discharge Source:	Piping
Facility Project Sub Type:	
Calenviroscreen 3 Score:	41-45%
Calenviroscreen 4 Score:	60-65%
File Location:	Regional Board
Claim No:	
Claim Status:	
Site History:	

The Site is located at the intersection of Oakley Road and Willow Avenues in Antioch on approximately 2 acres. The Site originally consisted of structures for pumps, heaters, boilers and aboveground petroleum storage tanks with capacity ranging from 10,000 to 55,000 barrels (.42 to 2.31 million gallons), associated piping, maintenance shops, and residential cottages. Currently, the Site is occupied by a metals foundry business. The adjacent areas are undeveloped open land and local access roads. Antioch Creek, a seasonal stream, is approximately 200 feet to the north. Historical aerial photographs indicate the presence of two sumps north of the Site between the UPRR tracks and Antioch Creek. In June of 2008 a soil and groundwater investigation was completed for the Site. On 30 March 2010 Chevron's consultant (SAIC) completed/submitted a request for a no further action required determination. RB staff reviewed the report and related project files and on 16 November 2010, an NFAR determination was issued to Chevron and the case was closed.

GeoTracker Sites Data Download - Status History

Status:	Completed - Case Closed
Status Date:	2010-11-16 00:00:00
Status:	Open - Site Assessment
Status Date:	2008-08-13 00:00:00
Status:	Open - Case Begin Date
Status Date:	2008-06-15 00:00:00

GeoTracker Search - Facilities (as of September 25, 2024)

Project Status:	
Cuf Claim No:	
CUF Priority Assign:	
CUF Amount Paid:	
Composting Method:	
Facility Type:	
WDR Place Type:	
WDR File No:	
WDR Order No:	
File Location:	REGIONAL BOARD
User Defined Beneficial Use:	
Designated Beneficial Use:	MUN, AGR, IND, PROC
Designated Beneficl Use Desc:	Municipal and Domestic Supply, Agricultural Supply, Industrial Service Supply, Industrial Process Supply
Project Oversight Agencies:	
Report Link:	https://geotracker.waterboards.ca.gov/profile_report?global_id=T10000000198
Cleanup Status Detail:	COMPLETED - CASE CLOSED AS OF 11/16/2010
Potential COC:	CRUDE OIL
Potential Media of Concern:	SOIL, SOIL VAPOR, SURFACE WATER
Groundwater Monitoring Freq:	
DWR GW Sub Basin:	San Joaquin Valley - East Contra Costa (5-022.19)
CalWater Watershed Name:	San Joaquin Delta (544.00)

Post Closure Site Management:
Future Land Use:
Cleanup Oversight Agencies: CENTRAL VALLEY RWQCB (REGION 5F) (LEAD) - CASE #: 2050354
CONTRA COSTA COUNTY
Cleanup History Link: https://geotracker.waterboards.ca.gov/profile_report_include?global_id=T10000000198&tabname=regulatoryhistory
Site History:

The Site is located at the intersection of Oakley Road and Willow Avenues in Antioch on approximately 2 acres. The Site originally consisted of structures for pumps, heaters, boilers and aboveground petroleum storage tanks with capacity ranging from 10,000 to 55,000 barrels (.42 to 2.31 million gallons), associated piping, maintenance shops, and residential cottages. Currently, the Site is occupied by a metals foundry business. The adjacent areas are undeveloped open land and local access roads. Antioch Creek, a seasonal stream, is approximately 200 feet to the north. Historical aerial photographs indicate the presence of two sumps north of the Site between the UPRR tracks and Antioch Creek.

In June of 2008 a soil and groundwater investigation was completed for the Site.

On 30 March 2010 Chevron's consultant (SAIC) completed/submitted a request for a no further action required determination. RB staff reviewed the report and related project files and on 16 November 2010, an NFAR determination was issued to Chevron and the case was closed.

GeoTracker Search - Regulatory Activities (as of September 25, 2024)

Action Type: Other Regulatory Actions
Action: Technical Correspondence / Assistance / Other
Action Date: 10/27/2009
Received Issue Date: 10/27/2009
Doc Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=T10000000198&enforcement_id=6040900&temptable=ENFORCEMENT
Title Description Comments:

Review - Human Health Screening Evaluation 10/27/2009

Action Type: Other Regulatory Actions
Action: Technical Correspondence / Assistance / Other
Action Date: 9/12/2008
Received Issue Date: 9/12/2008
Doc Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=T10000000198&enforcement_id=6040899&temptable=ENFORCEMENT
Title Description Comments:

Review - Soil & Groundwater Investigation Report 09/12/2008

Action Type: Leak Action
Action: Leak Reported
Action Date: 6/15/2008
Received Issue Date:
Doc Link:
Title Description Comments:

Action Type: Leak Action
Action: Leak Discovery
Action Date: 6/15/2008
Received Issue Date:
Doc Link:
Title Description Comments:

Action Type: Leak Action
Action: Leak Began
Action Date: 1/2/1965
Received Issue Date:
Doc Link:
Title Description Comments:

Action Type: Leak Action

Action: Leak Stopped
Action Date: 1/2/1965
Received Issue Date:
Doc Link:
Title Description Comments:

GeoTracker Search - Documents (as of September 25, 2024)

Document Type: Site Documents ***Document Date:*** 8/25/2010*
Type: RISK ASSESSMENT REPORT ***Submitted:***
Submitted By: LEIDOS (SAIC) (AUTH_RP)
Title: PROPERTY OWNER SURVEY
Title Link: https://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2675796449/T10000000198.PDF

Document Type: Site Documents ***Document Date:*** 8/25/2010*
Type: REMOVAL ACTION WORK PLAN ***Submitted:***
Submitted By: LEIDOS (SAIC) (AUTH_RP)
Title: SOIL AND GROUNDWATER MANAGEMENT PLAN - PDQ PRODUCTS
Title Link: https://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4187453508/T10000000198.PDF

Document Type: Site Documents ***Document Date:*** 8/25/2010*
Type: REMOVAL ACTION WORK PLAN ***Submitted:***
Submitted By: LEIDOS (SAIC) (AUTH_RP)
Title: SOIL AND GROUNDWATER MANAGEMENT PLAN - UPRR
Title Link: https://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6726972222/T10000000198.PDF

Document Type: Site Documents ***Document Date:*** 3/30/2010*
Type: RISK ASSESSMENT REPORT ***Submitted:***
Submitted By: LEIDOS (SAIC) (AUTH_RP)
Title: NO FURTHER ACTION REQUIRED REQUEST REPORT
Title Link: https://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4113324761/T10000000198.PDF

Document Type: Site Documents ***Document Date:*** 10/27/2009
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER ***Submitted:***
Submitted By: (REGULATOR)
Title: REVIEW - HUMAN HEALTH SCREENING EVALUATION 10/27/2009
Title Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=T10000000198&enforcement_id=6040900

Document Type: Site Documents ***Document Date:*** 6/15/2009*
Type: RISK ASSESSMENT REPORT ***Submitted:***
Submitted By: LEIDOS (SAIC) (AUTH_RP)
Title: HUMAN HEALTH SCREENING EVALUATION
Title Link: https://geotracker.waterboards.ca.gov/esi/uploads/geo_report/5778568327/T10000000198.PDF

Document Type: Site Documents ***Document Date:*** 9/12/2008
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER ***Submitted:***
Submitted By: (REGULATOR)
Title: REVIEW - SOIL & GROUNDWATER INVESTIGATION REPORT 09/12/2008
Title Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=T10000000198&enforcement_id=6040899

Document Type: Site Documents ***Document Date:*** 6/25/2008*
Type: SOIL AND WATER INVESTIGATION REPORT ***Submitted:***
Submitted By: LEIDOS (SAIC) (AUTH_RP)
Title: SOIL AND GROUNDWATER INVESTIGATION REPORT
Title Link: https://geotracker.waterboards.ca.gov/esi/uploads/geo_report/9881255388/T10000000198.PDF

Document Type: Site Documents ***Document Date:*** 11/30/2007*
Type: SOIL AND WATER INVESTIGATION WORKPLAN ***Submitted:***
Submitted By: LEIDOS (SAIC) (AUTH_RP)
Title: SOIL AND GROUNDWATER INVESTIGATION WORK PLAN
Title Link: https://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6840955376/T10000000198.PDF

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

GeoTracker Search - Site Maps (as of September 25, 2024)

Submitted: 8/2/2011*
Submitted By: LEIDOS (SAIC) (AUTH_RP)
Title: GEO_MAP
Link: https://geotracker.waterboards.ca.gov/esi/uploads/geo_map/9207930803/T10000000198.PDF

GeoTracker Search - Cleanup Status History (as of September 25, 2024)

Status: Completed - Case Closed
Date: 11/16/2010

Status: Open - Site Assessment
Date: 8/13/2008

Status: Open - Case Begin Date
Date: 6/15/2008

12	1 of1	WSW	0.32 / 1,685.71	66.86 / -5	KMEP Willow Avenue Release Willow Avenue Antioch CA	CLEANUP SITES

Global ID: T10000012670
Site Fac Type (SRCH): CLEANUP PROGRAM SITE
Status (SRCH): OPEN - SITE ASSESSMENT
Status (DL): Open - Site Assessment
Status Date (DL): 1/25/2019
Cleanup Status: OPEN - SITE ASSESSMENT
Site Facility Type: CLEANUP PROGRAM SITE
Case Type (DL): Cleanup Program Site
RWQCB Region (DL): CENTRAL VALLEY RWQCB (REGION 5S)
Census Tract (SRCH): 6013306002
Latitude (DL): 37.9953806401629
Longitude (DL): -121.769579503722
Site Facility Name (SRCH): KMEP WILLOW AVENUE RELEASE
Address (SRCH): WILLOW AVENUE
City (SRCH): ANTIOCH
Zip (SRCH):
County (SRCH): CONTRA COSTA
Street No (DL):
Street Name (DL): Willow Avenue
City (DL): Antioch
Zip (DL):
County (DL): Contra Costa
State (DL): CA
Site Facility Name : KMEP WILLOW AVENUE RELEASE
Address : WILLOW AVENUE
City : ANTIOCH
Zip :
County : CONTRA COSTA
Report Source: GeoTracker Search Results (SRCH); Cleanup Sites from GeoTracker Cleanup Sites Data Download; GeoTracker Search Results Report

GeoTracker Sites Data Download - Site Details

RB Case No:
Local Case No:
Begin Date: 10/22/2018
Lead Agency: CENTRAL VALLEY RWQCB (REGION 5S)
Local Agency: CONTRA COSTA COUNTY
CUF Case:
CalEnvScreen Score:
EPA Region: 9
Qty Rlsd Gallons:
Potential COC: Benzene, Diesel, Ethylbenzene, Gasoline, Naphthalene, Toluene, Total Petroleum Hydrocarbons (TPH), Waste Oil / Motor / Hydraulic / Lubricating, Xylene
How Discovered:
Stop Method: Repair Product Piping
Stop Description: pipeline/valve repaired
Case Worker: JL
Military DoD Site: No
Leak Reported Dt: 2018-10-22 00:00:00

No Further Action Dt:
Potential Media of Concern:
How Discovered Description:
Calwater Watershed Name: San Joaquin Delta (544.00)
DWR GW Subbasin Name: San Joaquin Valley - East Contra Costa (5-022.19)
Disadvantaged Community:
Coordinate Source: Google Map Move
Discharge Cause: Other
Discharge Source: Piping
Facility Project Sub Type:
Calenviroscreen 3 Score: 71-75%
Calenviroscreen 4 Score: 70-75%
File Location: All Files are on GeoTracker or in the Local Agency Database
Claim No:
Claim Status:
Site History:

On 22 October 2018, Kinder Morgan observed surface staining around a block valve on 12-inch diameter pipeline about 30 feet north of the railroad tracks. Kinder Morgan initiated spill response activities and observed a weep in a plug on the top of the block valve. The plug was replaced and the pipeline was placed back in service on 22 October 2018. On 23 October 2018, Kinder Morgan excavated an area around the block valve and petroleum hydrocarbons were detected in excavation confirmation soil samples.

GeoTracker Sites Data Download - Regulatory Activity

Date: 2025-03-01 00:00:00
Action: Sensitive Receptor Survey Report
Action Type: RESPONSE

Date: 2024-10-31 00:00:00
Action: Email Correspondence
Action Type: ENFORCEMENT

GeoTracker Sites Data Download - Status History

Status: Open - Active
Status Date: 2019-01-25 00:00:00

Status: Open - Site Assessment
Status Date: 2019-01-25 00:00:00

Status: Open - Case Begin Date
Status Date: 2018-10-22 00:00:00

GeoTracker Sites Data Download - Regulatory Contacts

Contact Type: Regional Board Caseworker - Primary Caseworker
Contact Name: JOSE LOPEZ
Organization Name: CENTRAL VALLEY RWQCB (REGION 5S)
Address: 11020 Sun Center Drive, #200
City: RANCHO CORDOVA
Email: jose.lopez@waterboards.ca.gov
Phone No: 9164644613

Contact Type: Local Agency Caseworker
Contact Name: TIM KRAUS
Organization Name: CONTRA COSTA COUNTY
Address: 2120 DIAMOND BOULEVARD, SUITE 100
City: CONCORD
Email: tim.kraus@cchealth.org
Phone No: 9256085549

Contact Type: Local Agency Caseworker
Contact Name: JEFF COOK
Organization Name: City of Antioch - Public Works Department
Address: 1201 W 4TH STREET

City:	ANTIOCH
Email:	jcook@ci.antioch.ca.us
Phone No:	9257796962
Contact Type:	Local Agency Caseworker
Contact Name:	PHIL HOFFMEISTER
Organization Name:	City of Antioch
Address:	1201 W 4TH STREET
City:	ANTIOCH
Email:	phoffmeister@antiochca.gov
Phone No:	

GeoTracker Search - Facilities (as of September 25, 2024)

Project Status:	
Cuf Claim No:	
CUF Priority Assign:	
CUF Amount Paid:	
Composting Method:	
Facility Type:	
WDR Place Type:	
WDR File No:	
WDR Order No:	
File Location:	ALL FILES ARE ON GEOTRACKER OR IN THE LOCAL AGENCY DATABASE
User Defined Beneficial Use:	
Designated Beneficial Use:	MUN, AGR, IND, PROC
Designated Beneficl Use Desc:	Municipal and Domestic Supply, Agricultural Supply, Industrial Service Supply, Industrial Process Supply
Project Oversight Agencies:	
Report Link:	https://geotracker.waterboards.ca.gov/profile_report?global_id=T10000012670
Cleanup Status Detail:	OPEN - SITE ASSESSMENT AS OF 1/25/2019
Potential COC:	BENZENE, DIESEL, ETHYLBENZENE, GASOLINE, NAPHTHALENE, TOLUENE, TOTAL PETROLEUM HYDROCARBONS (TPH), WASTE OIL / MOTOR / HYDRAULIC / LUBRICATING, XYLENE
Potential Media of Concern:	NONE SPECIFIED
Groundwater Monitoring Freq:	
DWR GW Sub Basin:	San Joaquin Valley - East Contra Costa (5-022.19)
CalWater Watershed Name:	San Joaquin Delta (544.00)
Post Closure Site Management:	
Future Land Use:	
Cleanup Oversight Agencies:	CENTRAL VALLEY RWQCB (REGION 5S) (LEAD) CASE MANAGER: JOSE LOPEZ
Cleanup History Link:	https://geotracker.waterboards.ca.gov/profile_report_include?global_id=T10000012670&tabname=regulatoryhistory

Site History:

On 22 October 2018, Kinder Morgan observed surface staining around a block valve on 12-inch diameter pipeline about 30 feet north of the railroad tracks. Kinder Morgan initiated spill response activities and observed a weep in a plug on the top of the block valve. The plug was replaced and the pipeline was placed back in service on 22 October 2018. On 23 October 2018, Kinder Morgan excavated an area around the block valve and petroleum hydrocarbons were detected in excavation confirmation soil samples.

GeoTracker Search - Regulatory Activities (as of September 25, 2024)

Action Type:	Response Requested - Reports
Action:	Soil and Water Investigation Report
Action Date:	3/1/2025
Received Issue Date:	
Doc Link:	
Title Description Comments:	

Investigation Report

Action Type:	Response Requested - Other
Action:	Time Schedule
Action Date:	3/11/2024
Received Issue Date:	3/7/2024
Doc Link:	https://geotracker.waterboards.ca.gov/view_documents_all?global_id=T10000012670&doc_id=6114020

Title Description Comments:

Schedule for Additional Investigation Activities

Action Type: Other Regulatory Actions
Action: Staff Letter
Action Date: 2/1/2024
Received Issue Date: 2/1/2024
Doc Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=T10000012670&enforcement_id=6571131&temptable=ENFORCEMENT
Title Description Comments:

Conditional Concurrence with Additional Investigation Work Plan

Action Type: Response Requested - Workplans
Action: Soil and Water Investigation Workplan
Action Date: 12/1/2023
Received Issue Date: 12/1/2023
Doc Link: https://geotracker.waterboards.ca.gov/view_documents_all?global_id=T10000012670&doc_id=6104479
Title Description Comments:

Additional Investigation Work Plan

Action Type: Other Regulatory Actions
Action: Staff Letter
Action Date: 9/11/2023
Received Issue Date: 9/11/2023
Doc Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=T10000012670&enforcement_id=6554045&temptable=ENFORCEMENT
Title Description Comments:

Response to Site Investigation Summary Report

Action Type: Other Regulatory Actions
Action: Annual Estimation Letter
Action Date: 6/30/2023
Received Issue Date: 6/30/2023
Doc Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=T10000012670&enforcement_id=6546799&temptable=ENFORCEMENT
Title Description Comments:

Annual Estimate For Cost Recovery Program

Action Type: Other Regulatory Actions
Action: Annual Estimation Letter
Action Date: 7/1/2022
Received Issue Date: 7/1/2022
Doc Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=T10000012670&enforcement_id=6499004&temptable=ENFORCEMENT
Title Description Comments:

Annual Estimate For Cost Recovery Program

Action Type: Other Regulatory Actions
Action: Staff Letter
Action Date: 2/4/2022
Received Issue Date: 2/4/2022
Doc Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=T10000012670&enforcement_id=6486704&temptable=ENFORCEMENT
Title Description Comments:

Case Worker Change

Action Type: Other Regulatory Actions

Action: Staff Letter
Action Date: 10/15/2020
Received Issue Date: 10/15/2020
Doc Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=T10000012670&enforcement_id=6449980&temptable=ENFORCEMENT
Title Description Comments:

Site Investigation Work Plan

Action Type: Other Regulatory Actions
Action: Staff Letter
Action Date: 3/27/2020
Received Issue Date: 3/27/2020
Doc Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=T10000012670&enforcement_id=6431160&temptable=ENFORCEMENT
Title Description Comments:

Site Investigation Summary Report

Action Type: Other Regulatory Actions
Action: Staff Letter
Action Date: 3/27/2020
Received Issue Date: 3/27/2020
Doc Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=T10000012670&enforcement_id=6431161&temptable=ENFORCEMENT
Title Description Comments:

Offsite Property Owner

Action Type: Other Regulatory Actions
Action: Staff Letter
Action Date: 10/28/2019
Received Issue Date: 10/28/2019
Doc Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=T10000012670&enforcement_id=6419249&temptable=ENFORCEMENT
Title Description Comments:

Letter to Property Owner

Action Type: Other Regulatory Actions
Action: Staff Letter
Action Date: 3/12/2019
Received Issue Date: 3/12/2019
Doc Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=T10000012670&enforcement_id=6396729&temptable=ENFORCEMENT
Title Description Comments:

Staff Letter

Action Type: Other Regulatory Actions
Action: Staff Letter
Action Date: 2/5/2019
Received Issue Date: 2/5/2019
Doc Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=T10000012670&enforcement_id=6384779&temptable=ENFORCEMENT
Title Description Comments:

Release Response Summary Report Letter

Action Type: Response Requested - Reports
Action: Site Assessment Report
Action Date: 1/24/2019
Received Issue Date: 1/24/2019
Doc Link: https://geotracker.waterboards.ca.gov/view_documents_all?global_id=T10000012670&doc_id=5983433
Title Description Comments:

Release Response Summary Report

Action Type: Leak Action
Action: Leak Discovery
Action Date: 10/22/2018
Received Issue Date:
Doc Link:
Title Description Comments:

Action Type: Leak Action
Action: Leak Stopped
Action Date: 10/22/2018
Received Issue Date:
Doc Link:
Title Description Comments:

Action Type: Leak Action
Action: Leak Reported
Action Date: 10/22/2018
Received Issue Date:
Doc Link:
Title Description Comments:

GeoTracker Search - Documents (as of September 25, 2024)

Document Type: Site Documents ***Document Date:*** 3/7/2024
Type: TIME SCHEDULE ***Submitted:***
Submitted By: JONI KROPF (AUTH_RP)
Title: SCHEDULE FOR ADDITIONAL SITE INVESTIGATION
Title Link: https://geotracker.waterboards.ca.gov/esi/uploads/geo_report/1394601762/T10000012670.PDF

Document Type: Site Documents ***Document Date:*** 2/1/2024
Type: STAFF LETTER ***Submitted:***
Submitted By: JOSE LOPEZ (REGULATOR)
Title: CONDITIONAL CONCURRENCE WITH ADDITIONAL INVESTIGATION WORK PLAN
Title Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=T10000012670&enforcement_id=6571131

Document Type: Site Documents ***Document Date:*** 12/1/2023
Type: SOIL AND WATER INVESTIGATION WORKPLAN ***Submitted:***
Submitted By: JONI KROPF (AUTH_RP)
Title: ADDITIONAL INVESTIGATION WORK PLAN
Title Link: https://geotracker.waterboards.ca.gov/esi/uploads/geo_report/8811787307/T10000012670.PDF

Document Type: Site Documents ***Document Date:*** 9/11/2023
Type: STAFF LETTER ***Submitted:***
Submitted By: JOSE LOPEZ (REGULATOR)
Title: RESPONSE TO SITE INVESTIGATION SUMMARY REPORT
Title Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=T10000012670&enforcement_id=6554045

Document Type: Site Documents ***Document Date:*** 6/30/2023
Type: ANNUAL ESTIMATION LETTER ***Submitted:***
Submitted By: JOSE LOPEZ (REGULATOR)
Title: ANNUAL ESTIMATE FOR COST RECOVERY PROGRAM
Title Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=T10000012670&enforcement_id=6546799

Document Type: Site Documents ***Document Date:*** 7/1/2022
Type: ANNUAL ESTIMATION LETTER ***Submitted:***
Submitted By: JOSE LOPEZ (REGULATOR)
Title: ANNUAL ESTIMATE FOR COST RECOVERY PROGRAM
Title Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=T10000012670&enforcement_id=6499004

Document Type: Site Documents ***Document Date:*** 2/4/2022
Type: STAFF LETTER ***Submitted:***

Submitted By: FRANCINE ANNE FUA (REGULATOR)
Title: CASE WORKER CHANGE
Title Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=T10000012670&enforcement_id=6486704

Document Type: Site Documents **Document Date:** 10/15/2021*
Type: SITE ASSESSMENT REPORT **Submitted:**
Submitted By: JONI KROPF (AUTH_RP)
Title: SITE INVESTIGATION SUMMARY REPORT
Title Link: https://geotracker.waterboards.ca.gov/esi/uploads/geo_report/8031939864/T10000012670.PDF

Document Type: Site Documents **Document Date:** 7/6/2021
Type: CORRESPONDENCE **Submitted:**
Submitted By: JONI KROPF (AUTH_RP)
Title: RWQCB EMAIL FIELD AND REPORTING SCHEDULE
Title Link: https://geotracker.waterboards.ca.gov/esi/uploads/geo_report/8399727582/T10000012670.PDF

Document Type: Site Documents **Document Date:** 6/2/2021
Type: CORRESPONDENCE **Submitted:**
Submitted By: JONI KROPF (AUTH_RP)
Title: RWQCB EMAIL SOIL AND GW INVESTIGATION UPDATE
Title Link: https://geotracker.waterboards.ca.gov/esi/uploads/geo_report/5912539839/T10000012670.PDF

Document Type: Site Documents **Document Date:** 5/10/2021
Type: CORRESPONDENCE **Submitted:**
Submitted By: JONI KROPF (AUTH_RP)
Title: RWQCB EMAIL SOIL AND GW INVESTIGATION FOLLOW-UP
Title Link: https://geotracker.waterboards.ca.gov/esi/uploads/geo_report/3289943993/T10000012670.PDF

Document Type: Site Documents **Document Date:** 2/11/2021
Type: CORRESPONDENCE **Submitted:**
Submitted By: JONI KROPF (AUTH_RP)
Title: RWQCB EMAIL SOIL & GW INVESTIGATION STATUS UPDATE
Title Link: https://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6535822987/T10000012670.PDF

Document Type: Site Documents **Document Date:** 10/15/2020
Type: STAFF LETTER **Submitted:**
Submitted By: KRISTIN SHELTON (REGULATOR)
Title: SITE INVESTIGATION WORK PLAN
Title Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=T10000012670&enforcement_id=6449980

Document Type: Site Documents **Document Date:** 6/26/2020
Type: SITE INVESTIGATION WORKPLAN **Submitted:**
Submitted By: JONI KROPF (AUTH_RP)
Title: SITE INVESTIGATION WORK PLAN
Title Link: https://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6856106102/T10000012670.PDF

Document Type: Site Documents **Document Date:** 3/27/2020
Type: STAFF LETTER **Submitted:**
Submitted By: KRISTIN SHELTON (REGULATOR)
Title: OFFSITE PROPERTY OWNER
Title Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=T10000012670&enforcement_id=6431161

Document Type: Site Documents **Document Date:** 3/27/2020
Type: STAFF LETTER **Submitted:**
Submitted By: KRISTIN SHELTON (REGULATOR)
Title: SITE INVESTIGATION SUMMARY REPORT
Title Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=T10000012670&enforcement_id=6431160

Document Type: Site Documents **Document Date:** 1/28/2020
Type: SITE INVESTIGATION **Submitted:**
Submitted By: JONI KROPF (AUTH_RP)
Title: SITE INVESTIGATION SUMMARY REPORT
Title Link: https://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4998480021/T10000012670.PDF

Document Type: Site Documents **Document Date:** 10/28/2019
Type: STAFF LETTER **Submitted:**
Submitted By: KRISTIN SHELTON (REGULATOR)
Title: LETTER TO PROPERTY OWNER
Title Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=T10000012670&enforcement_id=6419249

Document Type: Site Documents **Document Date:** 7/29/2019
Type: CORRESPONDENCE **Submitted:**
Submitted By: JONI KROPF (AUTH_RP)
Title: WORK PLAN IMPLEMENTATION STATUS UPDATE
Title Link: https://geotracker.waterboards.ca.gov/esi/uploads/geo_report/3804815471/T10000012670.PDF

Document Type: Site Documents **Document Date:** 6/14/2019
Type: CORRESPONDENCE **Submitted:**
Submitted By: JONI KROPF (AUTH_RP)
Title: WORK PLAN IMPLEMENTATION STATUS UPDATE
Title Link: https://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2380059301/T10000012670.PDF

Document Type: Site Documents **Document Date:** 5/9/2019
Type: EMAIL CORRESPONDENCE **Submitted:**
Submitted By: JONI KROPF (AUTH_RP)
Title: REPORTING EXTENSION REQUEST
Title Link: https://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2572211146/T10000012670.PDF

Document Type: Site Documents **Document Date:** 3/12/2019
Type: STAFF LETTER **Submitted:**
Submitted By: KRISTIN SHELTON (REGULATOR)
Title: STAFF LETTER
Title Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=T10000012670&enforcement_id=6396729

Document Type: Site Documents **Document Date:** 3/12/2019
Type: SITE INVESTIGATION WORKPLAN **Submitted:**
Submitted By: JONI KROPF (AUTH_RP)
Title: SITE INVESTIGATION WORK PLAN
Title Link: https://geotracker.waterboards.ca.gov/esi/uploads/geo_report/1637137293/T10000012670.PDF

Document Type: Site Documents **Document Date:** 2/5/2019
Type: STAFF LETTER **Submitted:**
Submitted By: KRISTIN SHELTON (REGULATOR)
Title: RELEASE RESPONSE SUMMARY REPORT LETTER
Title Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=T10000012670&enforcement_id=6384779

Document Type: Site Documents **Document Date:** 1/24/2019
Type: SITE ASSESSMENT REPORT **Submitted:**
Submitted By: KRISTIN SHELTON (REGULATOR)
Title: RELEASE RESPONSE SUMMARY REPORT
Title Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=T10000012670&document_id=5983433

GeoTracker Search - Cleanup Status History (as of September 25, 2024)

Status: Open - Active
Date: 1/25/2019

Status: Open - Site Assessment
Date: 1/25/2019

Status: Open - Case Begin Date
Date: 10/22/2018

13	1 of1	NE	0.34 / 1,772.10	41.76 / -30	El Pato General Auto and Truck Repair 3420 E 18TH ST ANTIOCH CA 94509	DELISTED HAZ

Siteid: 380603
Latitude: 38.004463
Longitude: -121.758232
Original Source: CHAZ
Record Date: 30-MAY-2017

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
14	1 of1	NNW	0.38 / 1,997.40	54.11 / -18	CLYDE PRICE DBA CJ PRICE TRUCKING ANTIOCH CA	PFAS IND

Status:	Active	**Fac Fips Code:**	06013
Fac Indian Cntry Flg:	No	**Compliance Status:**	No Violation Identified
Fac Derived Huc:	18040003	**EPA Programs:**	RCRA
Fac Derived Wbd:	180400030907	**Federal Facility:**	No
Fac Derived Cd113:	09	**Federal Agency:**	-
Fac Derived Cb2010:	060133060022047	**Fac Snc Flg:**	No
Fac Informal Count:	0	**AIR Flag:**	No
Last Informal Action:	-	**NPDES Flag:**	No
Formal Action Count:	0	**SDWIS Flag:**	No
Last Formal Action:	-	**RCRAFlag:**	Yes
Fac Total Penalties:	0	**TRI Flag:**	No
Fac Penalty Count:	-	**GHG Flag:**	No
Date Last Penalty:	-	**TRI IDs:**	-
Last Penalty Amt:	-	**TRI Releases Trnsfrs:**	-
Fac Qtrs With Nc:	0	**TRI on Site Releases:**	-
Programs With Snc:	0	**TRI off Site Trnsfrs:**	-
Fac Percent Minority:	58.357	**TRI Reporter:**	-
Fac Pop Den:	3490.03	**Fac Imp Water Flg:**	-
Count:	1	**Fac Major Flag:**	-
Fac County:	CONTRA COSTA	**Fac Active Flag:**	Yes
State Other :		**Fac Inspection Count:**	0
Region:	09	**Date Last Inspection:**	-
Latitude:	38.0049	**Days Last Inspection:**	-
Longitude:	-121.76568		

Fac Derived Tribes:	-
AIR IDs:	-
CAA Permit Types:	-
CAA NAICS:	-
CAA SICS:	-
NPDES IDs:	-
CWA Permit Types:	-
CWA NAICS:	-
CWA SICS:	-
RCRA IDs:	CAR000181172
RCRA Permit Types:	Transporter
RCRA NAICS:	562111 562112
SDWA IDs:	-
SDWA System Types:	-
SDWA Compliance Status:	-
SDWA Snc Flag:	No
Fac Collection Meth:	ADDRESS MATCHING-HOUSE NUMBER
EJSCREEN Flag Us:	Yes
EJSCREEN Report:	https://ejscreen.epa.gov/mapper/mobile/EJSCREEN_mobile.aspx?geometry=%7B%22x%22:-121.76568,%22y%22:38.0049,%22spatialReference%22:%7B%22wkid%22:4326%7D%7D&unit=9035&areatype=&areaid=&basemap=streets&distance=1
ECHO Facility Report:	https://echo.epa.gov/detailed-facility-report?fid=110031321709
Industry:	Waste Management

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
15	1 of1	NNE	0.38 / 2,013.04	42.13 / -30	Straight Up Kustoms LLC 3277 E 18TH ST ANTIOCH CA 94509	DELISTED HAZ

Siteid:	424539
Latitude:	38.005134
Longitude:	-121.760380
Original Source:	CHAZ
Record Date:	09-JUL-2018

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
16	1 of1	NNE	0.38 / 2,013.75	42.53 / -30	Spectrum Autoworx 3265 E 18TH ST	DELISTED HAZ

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
					ANTIOCH CA 94509	

Siteid: 274875
Latitude: 38.005121
Longitude: -121.760518
Original Source: CHAZ
Record Date: 30-MAY-2017

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
17	1 of1	NNW	0.44 / 2,302.37	49.18 / -23	SUN CHEMICAL ANTIOCH CA	PFAS IND

Status:	Unknown	**Fac Fips Code:**	06013
Fac Indian Cntry Flg:	No	**Compliance Status:**	-
Fac Derived Huc:	18040003	**EPA Programs:**	-
Fac Derived Wbd:	180400030907	**Federal Facility:**	No
Fac Derived Cd113:	09	**Federal Agency:**	-
Fac Derived Cb2010:	060133060022026	**Fac Snc Flg:**	No
Fac Informal Count:	0	**AIR Flag:**	No
Last Informal Action:	-	**NPDES Flag:**	No
Formal Action Count:	0	**SDWIS Flag:**	No
Last Formal Action:	-	**RCRAFlag:**	No
Fac Total Penalties:	0	**TRI Flag:**	No
Fac Penalty Count:	-	**GHG Flag:**	No
Date Last Penalty:	-	**TRI IDs:**	-
Last Penalty Amt:	-	**TRI Releases Trnsfrs:**	-
Fac Qtrs With Nc:	-	**TRI on Site Releases:**	-
Programs With Snc:	0	**TRI off Site Trnsfrs:**	-
Fac Percent Minority:	-	**TRI Reporter:**	-
Fac Pop Den:	-	**Fac Imp Water Flg:**	-
Count:	1	**Fac Major Flag:**	-
Fac County:	UNITED STATES	**Fac Active Flag:**	-
State Other :		**Fac Inspection Count:**	0
Region:	09	**Date Last Inspection:**	-
Latitude:	38.00558	**Days Last Inspection:**	-
Longitude:	-121.7667		

Fac Derived Tribes: -
AIR IDs: -
CAA Permit Types: -
CAA NAICS: -
CAA SICS: -
NPDES IDs: -
CWA Permit Types: -
CWA NAICS: -
CWA SICS: -
RCRA IDs: -
RCRA Permit Types: -
RCRA NAICS: -
SDWA IDs: -
SDWA System Types: -
SDWA Compliance Status: -
SDWA Snc Flag: No
Fac Collection Meth: ADDRESS MATCHING-HOUSE NUMBER
EJSCREEN Flag Us: Yes
EJSCREEN Report: https://ejscreen.epa.gov/mapper/mobile/EJSCREEN_mobile.aspx?geometry=%7B%22x%22:-121.7667,%22y%22:38.00558,%22spatialReference%22:%7B%22wkid%22:4326%7D%7D&unit=9035&areatype=&areaid=&basemap=streets&distance=1
ECHO Facility Report: https://echo.epa.gov/detailed-facility-report?fid=110071753030

Industry: Oil and Gas

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
18	1 of1	N	0.44 / 2,326.35	36.47 / -36	PECKHAM PROPERTY 3215 18TH ST E ANTIOCH CA 94509	LUST

Global ID: T0601300779 **Case Type (DL):** LUST Cleanup Site

Site Facility Type:	LUST CLEANUP SITE	**Oil Field (SRCH):**	
Site Fac Type (SRCH):	LUST CLEANUP SITE	**Oil Field Oper (SRCH):**	
Status:		**Census Tract (SRCH):**	6013306002
Status (SRCH):	COMPLETED - CASE CLOSED	**Latitude (DL):**	38.005953
Status (DL):	Completed - Case Closed	**Longitude (DL):**	-121.760986
Status Date (DL):	1/27/1997	**RWQCB Region (DL):**	CENTRAL VALLEY RWQCB (REGION 5S)
Cleanup Status:	COMPLETED - CASE CLOSED		

Site Facility Name (SRCH):	PECKHAM PROPERTY
Address (SRCH):	3215 18TH ST E
City (SRCH):	ANTIOCH
Zip (SRCH):	94509
County (SRCH):	CONTRA COSTA
Street No (DL):	3215
Street Name (DL):	18TH ST E
City (DL):	ANTIOCH
Zip (DL):	94509
County (DL):	Contra Costa
State (DL):	CA
Business Name (DL):	PECKHAM PROPERTY
Site Facility Name:	PECKHAM PROPERTY
Address :	3215 18TH ST E
City :	ANTIOCH
Zip :	94509
County :	CONTRA COSTA
Report Source:	LUST Cleanup Sites & Military UST Site from GeoTracker Project Search Results Export; LUST Cleanup Sites & Military UST Site from GeoTracker Cleanup Sites Data Download; LUST Cleanup Sites from GeoTracker Search (as of February 15, 2024)

GeoTracker Sites Data Download - Site Details

CUF Case:	
Lead Agency:	CONTRA COSTA COUNTY
Case Worker:	BRU
Local Agency:	CONTRA COSTA COUNTY
RB Case No:	070057
Local Case No:	
File Location:	
Potential COC:	Gasoline
Potential Media of Concern:	Soil
Begin Date:	10/11/1990
How Discovered:	
How Discovered Description:	
Stop Method:	
Stop Description:	
Calwater Watershed Name:	San Joaquin Delta (544.00)
DWR GW Subbasin Name:	San Joaquin Valley - East Contra Costa (5-022.19)
Disadvantaged Community:	
CalEnvScreen Score:	
Coordinate Source:	Google Map Move
Discharge Cause:	
Discharge Source:	
EPA Region:	9
Leak Reported Dt:	1990-10-16 00:00:00
Military DoD Site:	No
No Further Action Dt:	1997-01-27 00:00:00
Qty Rlsd Gallons:	
Facility Project Sub Type:	
Calenviroscreen 3 Score:	61-65%
Calenviroscreen 4 Score:	70-75%
Claim No:	
Claim Status:	
Site History:	

GeoTracker Sites Data Download - Regulatory Contacts

Contact Type:	Regional Board Caseworker

Contact Name: VERA FISCHER
Organization Name: CENTRAL VALLEY RWQCB (REGION 5S)
Address: 11020 SUN CENTER DRIVE #200
City: RANCHO CORDOVA
Email: vera.fischer@waterboards.ca.gov
Phone No:

Contact Type: Local Agency Caseworker - Primary Caseworker
Contact Name: BRUCE BENIKI
Organization Name: CONTRA COSTA COUNTY
Address:
City: r5 UNKNOWN
Email:
Phone No:

GeoTracker Sites Data Download - Status History

Status: Completed - Case Closed
Status Date: 1/27/1997

Status: Open - Case Begin Date
Status Date: 10/11/1990

Status: Open - Site Assessment
Status Date: 10/11/1990

GeoTracker Search - Regulatory Profile (as of September 25, 2024)

Site Facility Name: PECKHAM PROPERTY
Site Facility Type: LUST CLEANUP SITE
Cleanup Status: COMPLETED - CASE CLOSED
Address: 3215 18TH ST E
City: ANTIOCH
Zip: 94509
County: CONTRA COSTA
Report Link: https://geotracker.waterboards.ca.gov/profile_report?global_id=T0601300779
Cleanup Status Detail: COMPLETED - CASE CLOSED AS OF 1/27/1997
Project Status:
Cleanup History Link: https://geotracker.waterboards.ca.gov/profile_report_include?global_id=T0601300779&tabname=regulatoryhistory
Potential COC: GASOLINE
Potential Media of Concern: SOIL
File Location:
User Defined Beneficial Use:
Designated Beneficial Use: MUN, AGR, IND, PROC
DWR GW Sub Basin: San Joaquin Valley - East Contra Costa (5-022.19)
Calwater Watershed Name: San Joaquin Delta (544.00)
Post Closure Site Management:
Future Land Use:
Cleanup Oversight Agencies: CONTRA COSTA COUNTY (LEAD)
CASE MANAGER: BRUCE BENIKI
CENTRAL VALLEY RWQCB (REGION 5S) - CASE #: 070057
CASE MANAGER: VERA FISCHER
CUF Claim No:
CUF Priority Assig:
CUF Amount Paid:
WDR Place Type:
WDR File No:
WDR Order No:
Project Oversight Agencies:
Facility Type:
Composting Method:
Grndwtr Monitoring Frequency:
Designated Beneficial Use Desc: Municipal and Domestic Supply, Agricultural Supply, Industrial Service Supply, Industrial Process Supply
Site History:

No site history available

GeoTracker Search - Cleanup Status History (as of September 25, 2024)

Status: Completed - Case Closed
Date : 1/27/1997

Status: Open - Case Begin Date
Date : 10/11/1990

Status: Open - Site Assessment
Date : 10/11/1990

GeoTracker Search - Regulatory Activities (as of September 25, 2024)

Action Type: Other Regulatory Actions
Action: Closure/No Further Action Letter - #1/27/1997
Action Date: 1/27/1997
Received Issue Date: 1/27/1997
Doc Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=T0601300779&enforcement_id=6368978&temptable=ENFORCEMENT
Title Description Comments:

NFAR Check List

Action Type: Other Regulatory Actions
Action: Staff Letter - #3/4/1991
Action Date: 3/4/1991
Received Issue Date: 3/4/1991
Doc Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=T0601300779&enforcement_id=6368979&temptable=ENFORCEMENT
Title Description Comments:

Staff Letter

Action Type: Reports
Action: Other Report - #10/16/1990
Action Date: 10/16/1990
Received Issue Date: 10/16/1990
Doc Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=T0601300779&enforcement_id=6368976&temptable=ENFORCEMENT
Title Description Comments:

Subsurface Soil Sampling Report

Action Type: Leak Action
Action: Leak Reported
Action Date: 10/16/1990
Received Issue Date:
Doc Link:
Title Description Comments:

GeoTracker Search - Documents (as of September 25, 2024)

Document Type: Site Documents ***Document Date:*** 1/27/1997
Type: CLOSURE/NO FURTHER ACTION LETTER ***Submitted:***
Submitted By: CAMILLE HANG (REGULATOR)
Title: NFAR CHECK LIST
Title Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=T0601300779&enforcement_id=6368978

Document Type: Site Documents ***Document Date:*** 3/4/1991
Type: STAFF LETTER ***Submitted:***
Submitted By: CAMILLE HANG (REGULATOR)

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Title: STAFF LETTER
Title Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=T0601300779&enforcement_id=6368979

Document Type: Site Documents
Document Date: 10/16/1990
Type: OTHER REPORT
Submitted:
Submitted By: CAMILLE HANG (REGULATOR)
Title: SUBSURFACE SOIL SAMPLING REPORT
Title Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=T0601300779&enforcement_id=6368976

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
19	1 of2	NNE	0.44 / 2,338.43	36.33 / -36	VINEYARD TRACT E. 18TH STREET ANTIOCH CA 94509	VCP

Estor/EPA ID: 07010013
Acres: 24.79 ACRES
Nat Priority List: NO
Supervisor: BARBARA COOK
Census Tract: 6013306002
County: CONTRA COSTA
Permit Renewl Lead:
Latitude: 38.006
Project Manager:
Longitude: -121.7601
Site Code: 201533
Cleanup Status: CERTIFIED AS OF 12/19/2005
Cleanup Oversight Agencies: CONTRA COSTA COUNTY;DTSC - SITE CLEANUP PROGRAM - LEAD AGENCY;RWQCB 5S - CENTRAL VALLEY
Assembly District: 15
Senate District: 09
School District:
Office: CLEANUP BERKELEY
Public Participatn Spclst:
Special Program: DESIGNATION OF SINGLE AGENCY
Funding: SITE PROPONENT
Site Type: VOLUNTARY AGREEMENT
APN: 051-052-056-2
Past Use that Caused Contam: NONE
Potential Media Affected: NO MEDIA AFFECTED
Potential Contamin of Concern:

NO CONTAMINANTS FOUND

Site History:

This parcel has been used for agricultural purposes since the early 1900s. The Site contains a vineyard and small building that housed a meteorological monitoring station. Fly ash and possibly other materials from the former East Mill (2603 Wilbur Avenue) operations were reportedly managed on a portion of the property.

Status: CERTIFIED
Program Type: VOLUNTARY CLEANUP
CalEnviroScreen Score: 70-75%
Summary Link: https://www.envirostor.dtsc.ca.gov/public/profile_report?global_id=07010013

Completed Activities

Title: AB 2061 - Designation
Title Link: https://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=07010013&enforcement_id=5016248
Area Name:
Area Link:
Sub Area:
Sub Area Link:
Document Type: AB 2061 - Designation
Date Completed: 12/15/2003
Comments: Held site conference pursuant to H&SC Section 25398.2.

Title: Voluntary Cleanup Agreement
Title Link: https://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=07010013&enforcement_id=5016247
Area Name:
Area Link:
Sub Area:
Sub Area Link:

Document Type:	Standard Voluntary Agreement
Date Completed:	12/30/2003
Comments:	Voluntary Environmental Oversight Agreement Docket No. HSA-A 03/04-084 signed with Gaylord Container Corporation, d/b/a Inland Paperboard and Packaging, Antioch Mill.
Title:	Phase II Environmental Assessment
Title Link:	https://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=07010013&doc_id=6011414
Area Name:	
Area Link:	
Sub Area:	
Sub Area Link:	
Document Type:	Other Report
Date Completed:	7/1/2003
Comments:	DTSC reviewed this document as part of the development of the PEA Workplan.
Title:	Phase I Environmental Assessment for the Vineyard Tract
Title Link:	https://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=07010013&doc_id=6011413
Area Name:	
Area Link:	
Sub Area:	
Sub Area Link:	
Document Type:	Phase 1
Date Completed:	8/1/2002
Comments:	DTSC reviewed this document as part of the development of the PEA Workplan.
Title:	Public Participation Plan
Title Link:	https://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=07010013&doc_id=6011430
Area Name:	
Area Link:	
Sub Area:	
Sub Area Link:	
Document Type:	Public Participation Plan / Community Relations Plan
Date Completed:	10/25/2004
Comments:	Public Participation Plan approved that addresses nine Gaylord mill and non-mill properties in Antioch.
Title:	Certification
Title Link:	https://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=07010013&enforcement_id=5016240
Area Name:	
Area Link:	
Sub Area:	
Sub Area Link:	
Document Type:	Certification
Date Completed:	12/19/2005
Comments:	Site certified under the Site Designation Process.
Title:	Site Conferences for SB 923 Sites
Title Link:	
Area Name:	
Area Link:	
Sub Area:	
Sub Area Link:	
Document Type:	Site Conferences for SB 923 Sites
Date Completed:	1/29/2004
Comments:	
Title:	Preliminary Endangerment Assessment Report
Title Link:	https://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=07010013&doc_id=5016245
Area Name:	
Area Link:	
Sub Area:	
Sub Area Link:	
Document Type:	Preliminary Endangerment Assessment Report
Date Completed:	12/19/2005
Comments:	No metals, semivolatile organic compounds, polycyclic aromatic hydrocarbons, pesticides, herbicides and dioxins/furans detected above US Environmental Protection Agency, Region IX, residential preliminary remediation goals. The constituents detected in groundwater are below California drinking water standards (maximum contaminant levels, MCLs). Metals detected in groundwater were within background ranges in soil and therefore are believed to be present at background levels in the groundwater. Therefore, no release of a hazardous substance was detected at the Site that could pose a threat to public health and/or the environment and no

remediation is required. Using the methodology contained in the Preliminary Endangerment Assessment, the estimated carcinogenic risks from exposure to soil for the residential scenario are at or below the de minimis risk level of 1 x 10-6. The hazard index was less than the de minimis risk level of 1.

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19 | **2 of2** | **NNE** | **0.44 / 2,338.43** | **36.33 / -36** | **VINEYARD TRACT E. 18TH STREET ANTIOCH CA 94509** | **ENVIROSTOR**

Estor/EPA ID:	07010013	**Assembly District:**	15
Site Code:	201533	**Senate District:**	09
Nat Priority List:	NO	**Permit Renewal Lead:**	
APN:	051-052-056-2	**Public Partici Spclst:**	
Census Tract:	6013306002	**Project Manager:**	
Site Type:	VOLUNTARY AGREEMENT	**County:**	CONTRA COSTA
Address Description:	E. 18TH STREET	**Latitude:**	38.006
Office:	CLEANUP BERKELEY	**Longitude:**	-121.7601
Special Program:	DESIGNATION OF SINGLE AGENCY	**Acres:**	24.79 ACRES
Funding:	SITE PROPONENT	**Supervisor:**	BARBARA COOK

Cleanup Status: CERTIFIED AS OF 12/19/2005
Cleanup Oversight Agencies: CONTRA COSTA COUNTY;DTSC - SITE CLEANUP PROGRAM - LEAD AGENCY;RWQCB 5S - CENTRAL VALLEY
School District:
Past Use that Caused Contam: NONE
Potential Media Affected: NO MEDIA AFFECTED
Potential Contamin of Concern:

NO CONTAMINANTS FOUND

Site History:

This parcel has been used for agricultural purposes since the early 1900s. The Site contains a vineyard and small building that housed a meteorological monitoring station. Fly ash and possibly other materials from the former East Mill (2603 Wilbur Avenue) operations were reportedly managed on a portion of the property.

Status: CERTIFIED
Program Type: VOLUNTARY CLEANUP
CalEnviroScreen Score: 70-75%
Summary Link: https://www.envirostor.dtsc.ca.gov/public/profile_report?global_id=07010013

Completed Activities

Title: Phase I Environmental Assessment for the Vineyard Tract
Title Link: https://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=07010013&doc_id=6011413
Area Name:
Area Link:
Sub Area:
Sub Area Link:
Document Type: Phase 1
Date Completed: 8/1/2002
Comments: DTSC reviewed this document as part of the development of the PEA Workplan.

Title: Voluntary Cleanup Agreement
Title Link: https://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=07010013&enforcement_id=5016247
Area Name:
Area Link:
Sub Area:
Sub Area Link:
Document Type: Standard Voluntary Agreement
Date Completed: 12/30/2003
Comments: Voluntary Environmental Oversight Agreement Docket No. HSA-A 03/04-084 signed with Gaylord Container Corporation, d/b/a Inland Paperboard and Packaging, Antioch Mill.

Title: AB 2061 - Designation
Title Link: https://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=07010013&enforcement_id=5016248
Area Name:
Area Link:
Sub Area:

Sub Area Link:
Document Type: AB 2061 - Designation
Date Completed: 12/15/2003
Comments: Held site conference pursuant to H&SC Section 25398.2.

Title: Phase II Environmental Assessment
Title Link: https://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=07010013&doc_id=6011414
Area Name:
Area Link:
Sub Area:
Sub Area Link:
Document Type: Other Report
Date Completed: 7/1/2003
Comments: DTSC reviewed this document as part of the development of the PEA Workplan.

Title: Preliminary Endangerment Assessment Report
Title Link: https://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=07010013&doc_id=5016245
Area Name:
Area Link:
Sub Area:
Sub Area Link:
Document Type: Preliminary Endangerment Assessment Report
Date Completed: 12/19/2005
Comments: No metals, semivolatile organic compounds, polycyclic aromatic hydrocarbons, pesticides, herbicides and dioxins/furans detected above US Environmental Protection Agency, Region IX, residential preliminary remediation goals. The constituents detected in groundwater are below California drinking water standards (maximum contaminant levels, MCLs). Metals detected in groundwater were within background ranges in soil and therefore are believed to be present at background levels in the groundwater. Therefore, no release of a hazardous substance was detected at the Site that could pose a threat to public health and/or the environment and no remediation is required. Using the methodology contained in the Preliminary Endangerment Assessment, the estimated carcinogenic risks from exposure to soil for the residential scenario are at or below the de minimis risk level of 1 x 10-6. The hazard index was less than the de minimis risk level of 1.

Title: Public Participation Plan
Title Link: https://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=07010013&doc_id=6011430
Area Name:
Area Link:
Sub Area:
Sub Area Link:
Document Type: Public Participation Plan / Community Relations Plan
Date Completed: 10/25/2004
Comments: Public Participation Plan approved that addresses nine Gaylord mill and non-mill properties in Antioch.

Title: Site Conferences for SB 923 Sites
Title Link:
Area Name:
Area Link:
Sub Area:
Sub Area Link:
Document Type: Site Conferences for SB 923 Sites
Date Completed: 1/29/2004
Comments:

Title: Certification
Title Link: https://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=07010013&enforcement_id=5016240
Area Name:
Area Link:
Sub Area:
Sub Area Link:
Document Type: Certification
Date Completed: 12/19/2005
Comments: Site certified under the Site Designation Process.

20	1 of1	NE	0.50 / 2,628.46	32.07 / -40	ANTIOCH GAS & CARWASH 3629 E 18TH STREET ANTIOCH CA 94509	RCRA TSD

EPA Handler ID: CAL000421174

Gen Status Universe:	No Report
Contact Name:	SUDHARSHAN KADARI
Contact Address:	18861 PENDERGAST AVE , , CUPERTINO , CA, 95014 ,
Contact Phone No and Ext:	408-882-7687
Contact Email:	SKADARI@GMAIL.COM
Contact Country:	
Land Type:	
County Name:	CONTRA COSTA
EPA Region:	09
Receive Date:	20161014
Location Latitude:	38.005107
Location Longitude:	-121.754691
Recycler Activity?:	YES
Recycler Activity Note:	This facility has been identified as a Recycler Facility from the RCRA Handler Report Module with a 'Yes' for Recycler Activity with/or without Storage.

Violation/Evaluation Summary

Note:	NO RECORDS: As of Oct 2024, there are no Compliance Monitoring and Enforcement (violation) records associated with this facility (EPA ID).

Handler Summary

Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility:	No
Onsite Burner Exemption:	No
Smelting, Melting and Refining:	No
Underground Injection Control:	No
Commercial TSD:	No
Used Oil Transporter:	No
Used Oil Transfer Facility:	No
Used Oil Processor:	No
Used Oil Refiner:	No
Used Oil Burner:	No
Used Oil Market Burner:	No
Used Oil Spec Marketer:	No
Recycler Activity:	Yes
Recycler Activity W.O. Storage:	No

Hazardous Waste Handler Details

Sequence No:	1
Receive Date:	20161014
Handler Name:	ANTIOCH GAS & CARWASH
Federal Waste Generator Code:	N
Generator Code Description:	Not a Generator, Verified
Source Type:	Implementer
TSD Activity:	Y

Owner/Operator Details

Owner/Operator Ind:	Current Operator	**Street No:**	
Type:	Other	**Street 1:**	18861 PENDERGAST AVE
Name:	SUDHARSHAN KADARI	**Street 2:**	
Date Became Current:		**City:**	CUPERTINO
Date Ended Current:		**State:**	CA
Phone:	408-882-7687	**Country:**	
Source Type:	Implementer	**Zip Code:**	95014
Owner/Operator Ind:	Current Owner	**Street No:**	
Type:	Other	**Street 1:**	18861 PENDERGAST AVE
Name:	SUDHARSHAN KADARI	**Street 2:**	

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Date Became Current:		**City:**	CUPERTINO
Date Ended Current:		**State:**	CA
Phone:	408-882-7687	**Country:**	
Source Type:	Implementer	**Zip Code:**	95014

21 | **1 of1** | **WNW** | **0.80 / 4,244.64** | **45.77 / -26** | **ALMOND ORCHARD**
2101 E. 18TH STREET
ANTIOCH CA 94509 | **ENVIROSTOR**

Estor/EPA ID:	07010011	**Assembly District:**	15
Site Code:	201530	**Senate District:**	09
Nat Priority List:	NO	**Permit Renewal Lead:**	
APN:	051-100-022-6, 051-100-023-4, 051100022	**Public Partici Spclst:**	
Census Tract:	6013306004	**Project Manager:**	
Site Type:	VOLUNTARY AGREEMENT	**County:**	CONTRA COSTA
Address Description:	2101 E. 18TH STREET	**Latitude:**	38.0059911381088
Office:	CLEANUP BERKELEY	**Longitude:**	-121.77679920421
Special Program:	DESIGNATION OF SINGLE AGENCY	**Acres:**	8.78 ACRES
Funding:	SITE PROPONENT	**Supervisor:**	BARBARA COOK

Cleanup Status: CERTIFIED AS OF 6/13/2005
Cleanup Oversight Agencies: DTSC - SITE CLEANUP PROGRAM - LEAD AGENCY
School District:
Past Use that Caused Contam: AGRICULTURAL - ORCHARD
Potential Media Affected: SOIL
Potential Contamin of Concern:

NO CONTAMINANTS FOUND

Site History:

The property was historically used as an almond orchard and that use continues through the present time. A credit union was located on the southern part of the property near the entrance from East 18th Street from at least 1994 though 2000/2001. A groundwater supply well located on the property supplied water to the Gaylord Container Corporations West Mill and East Mill operations located on the northern side of Wilbur Avenue. It is located to the north of the intersection of East 18th Street and Wymore Way (a private road that bisects the property). No contaminants were detected above residential cleanup goals.

Status: CERTIFIED
Program Type: VOLUNTARY CLEANUP
CalEnviroScreen Score: 65-70%
Summary Link: https://www.envirostor.dtsc.ca.gov/public/profile_report?global_id=07010011

Completed Activities

Title: Certification
Title Link: https://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=07010011&enforcement_id=5017055
Area Name:
Area Link:
Sub Area:
Sub Area Link:
Document Type: Certification
Date Completed: 6/13/2005
Comments: Site certified under the Site Designation process.

Title: Preliminary Endangerment Assessment Report
Title Link: https://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=07010011&doc_id=5016227
Area Name:
Area Link:
Sub Area:
Sub Area Link:
Document Type: Preliminary Endangerment Assessment Report
Date Completed: 6/13/2005
Comments: Soil samples were collected in January and August 2004 which found that all metals, dioxins/furans, PAHs, pesticides and herbicides were either not detected or were detected at concentrations below residential screening goals. The risk evaluation determined that risks from chemicals in soil did not exceed the de minimis risk level under a single-family residential use scenario. Therefore, DTSC determined that no further action was required.

Title: Fact Sheet for the Preliminary Endangerment Assessment

Title Link: https://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=07010011&doc_id=6019543
Area Name:
Area Link:
Sub Area:
Sub Area Link:
Document Type: Fact Sheets
Date Completed: 4/18/2005
Comments: Based upon the results of the PEA, no further action is required for the northern and southern Almond Orchard.

Title: Phase I Environmental Assessment
Title Link: https://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=07010011&doc_id=6011434
Area Name:
Area Link:
Sub Area:
Sub Area Link:
Document Type: Phase 1
Date Completed: 9/1/2002
Comments: DTSC reviewed Phase I Environmental Assessment as part of its review of the PEA Workplan.

Title: Site Conferences for SB 923 Sites
Title Link:
Area Name:
Area Link:
Sub Area:
Sub Area Link:
Document Type: Site Conferences for SB 923 Sites
Date Completed: 1/29/2004
Comments:

Title: Order
Title Link: https://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=07010011&enforcement_id=5016229
Area Name:
Area Link:
Sub Area:
Sub Area Link:
Document Type: Standard Voluntary Agreement
Date Completed: 12/30/2003
Comments: Voluntary Environmental Oversight Agreement Docket No. HSA-A 03/04-084 signed with Gaylord Container Corporation, d/b/a Inland Paperboard and Packaging, Antioch Mill.

Title: CEQA
Title Link: https://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=07010011&enforcement_id=5017056
Area Name:
Area Link:
Sub Area:
Sub Area Link:
Document Type: CEQA - Notice of Exemption
Date Completed: 6/8/2005
Comments: NOE filed

Title: AB 2061 - Designation
Title Link: https://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=07010011&enforcement_id=5016230
Area Name:
Area Link:
Sub Area:
Sub Area Link:
Document Type: AB 2061 - Designation
Date Completed: 12/15/2003
Comments: Held site conference pursuant to H&SC Section 25398.2.

22	***1 of1***	***NNW***	***0.87 / 4,617.30***	***28.91 / -43***	***INDUSTRIAL LOT WITH RAILROAD SIDING 2600 WILBUR AVENUE ANTIOCH CA 94509***	***ENVIROSTOR***

Estor/EPA ID: 07990014
Site Code: 201534
Nat Priority List: NO
Assembly District: 15
Senate District: 09
Permit Renewal Lead:

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

APN:	051-032-009-6, 051032009	**Public Partici Spclst:**	
Census Tract:	6013306002	**Project Manager:**	
Site Type:	VOLUNTARY AGREEMENT	**County:**	CONTRA COSTA
Address Description:	2600 WILBUR AVENUE	**Latitude:**	38.011652
Office:	CLEANUP BERKELEY	**Longitude:**	-121.769107
Special Program:	DESIGNATION OF SINGLE AGENCY	**Acres:**	10.28 ACRES
Funding:	SITE PROPONENT	**Supervisor:**	BARBARA COOK

Cleanup Status: CERTIFIED AS OF 3/6/2006
Cleanup Oversight Agencies: CONTRA COSTA COUNTY;DTSC - SITE CLEANUP PROGRAM - LEAD AGENCY;RWQCB 5S - CENTRAL VALLEY
School District:
Past Use that Caused Contam: MANUFACTURING - PAPER
Potential Media Affected: SOIL
Potential Contamin of Concern:

TPH-MOTOR OIL
TPH-DIESEL

Site History:

The parcel is mostly undeveloped and unoccupied except for out-of-service railroad sidings and concrete pads. The railroad sidings were constructed in the late-1940s/early-1950s and were used until the early 1990s. They were used to transport products and materials to the East Mill (2603 Wilbur Avenue). A 50 foot high and 175 foot diameter aboveground storage tank was constructed at the Site in the early to mid-1970s and used to store fuel oil and possibly black liquor until 1992. The tank was closed and demolished in 1999. Concrete pads were constructed on the eastern side of the property during the mid to late-1980s as part of an experimental sludge composting operation. A credit union operated from the early to mid 1970s until the late 1990s.

Status: CERTIFIED
Program Type: VOLUNTARY CLEANUP
CalEnviroScreen Score: 70-75%
Summary Link: https://www.envirostor.dtsc.ca.gov/public/profile_report?global_id=07990014

Completed Activities

Title: Preliminary Endangerment Assessment
Title Link: https://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=07990014&doc_id=6009614
Area Name:
Area Link:
Sub Area:
Sub Area Link:
Document Type: Preliminary Endangerment Assessment Report
Date Completed: 3/6/2006
Comments: PEA completed and no further action is required. In accordance with Site Designation requirements, the site is certified.

Title: Certification
Title Link: https://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=07990014&enforcement_id=5016127
Area Name:
Area Link:
Sub Area:
Sub Area Link:
Document Type: Certification
Date Completed: 3/6/2006
Comments:

Title: Phase I Environmental Site Assessment
Title Link: https://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=07990014&doc_id=6021045
Area Name:
Area Link:
Sub Area:
Sub Area Link:
Document Type: Phase 1
Date Completed: 9/30/2002
Comments: Phase I Environmental Site Assessment submitted after site entered into Voluntary Cleanup Program. Document reviewed as part of PEA Workplan review.

Title: Site Conferences for SB 923 Sites
Title Link:

Area Name:
Area Link:
Sub Area:
Sub Area Link:
Document Type: Site Conferences for SB 923 Sites
Date Completed: 1/29/2004
Comments:

Title: AB 2061 - Designation
Title Link: https://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=07990014&enforcement_id=5016135
Area Name:
Area Link:
Sub Area:
Sub Area Link:
Document Type: AB 2061 - Designation
Date Completed: 12/15/2003
Comments: DTSC designated lead administering agency.

Title: Phase II Environmental Site Assessment
Title Link:
Area Name:
Area Link:
Sub Area:
Sub Area Link:
Document Type: Other Report
Date Completed: 7/31/2003
Comments: Report submitted once site entered into Voluntary Cleanup Agreement. Report reviewed as part of review of the PEA Workplan.

Title: Voluntary Environmental Oversight Agreement
Title Link: https://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=07990014&enforcement_id=5016134
Area Name:
Area Link:
Sub Area:
Sub Area Link:
Document Type: Standard Voluntary Agreement
Date Completed: 12/30/2003
Comments: Voluntary Environmental Oversight Agreement Docket No. HSA-A 03/04-084 signed with Gaylord Container Corporation, d/b/a Inland Paperboard and Packaging, Antioch Mill.

Title: Public Participation Plan
Title Link: https://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=07990014&doc_id=6011415
Area Name:
Area Link:
Sub Area:
Sub Area Link:
Document Type: Public Participation Plan / Community Relations Plan
Date Completed: 10/25/2004
Comments: Public Participation Plan approved for the nine Gaylord Mill and Non-Mill Properties.

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23 | ***1 of1*** | ***ENE*** | ***0.97 / 5,096.06*** | ***31.19 / -41*** | ***DELTA SCRAP & SALVAGE INC***
1371 MAIN ST
OAKLEY CA 945610000 | ***ENVIROSTOR***

Estor/EPA ID:	60003067	***Assembly District:***	11
Site Code:	202336	***Senate District:***	03
Nat Priority List:	NO	***Permit Renewal Lead:***	
APN:	037090017	***Public Partici Spclst:***	
Census Tract:	6013302005	***Project Manager:***	YANG DONG
Site Type:	CORRECTIVE ACTION	***County:***	CONTRA COSTA
Address Description:	1371 MAIN ST	***Latitude:***	38.004633
Office:	CLEANUP SACRAMENTO	***Longitude:***	-121.743539
Special Program:		***Acres:***	2.33 ACRES
Funding:	NOT APPLICABLE	***Supervisor:***	DUANE WHITE

Cleanup Status: INACTIVE - NEEDS EVALUATION AS OF 9/21/2023
Cleanup Oversight Agencies: DTSC - SITE CLEANUP PROGRAM - LEAD AGENCY
School District:
Past Use that Caused Contam: METAL RECYCLERS

Potential Media Affected: SOIL, UNDER INVESTIGATION
Potential Contamin of Concern:

COPPER AND COMPOUNDS
LEAD
TPH-MOTOR OIL
ZINC

Site History:

Status: INACTIVE - NEEDS EVALUATION
Program Type: CORRECTIVE ACTION
CalEnviroScreen Score: 65-70%
Summary Link: https://www.envirostor.dtsc.ca.gov/public/profile_report?global_id=60003067

Completed Activities

Title: Project Management for FY 21/22
Title Link:
Area Name:
Area Link:
Sub Area:
Sub Area Link:
Document Type: Project Management
Date Completed: 6/29/2022
Comments: Project management activities completed for FY 21/22.

Title: Project Management for FY 22/23
Title Link:
Area Name:
Area Link:
Sub Area:
Sub Area Link:
Document Type: Project Management
Date Completed: 6/30/2023
Comments:

Title: The September 9, 2019, Site Investigation Report
Title Link: https://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=60003067&doc_id=60537205
Area Name:
Area Link:
Sub Area:
Sub Area Link:
Document Type: Other Report
Date Completed: 1/9/2023
Comments:

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24 | ***1 of1*** | ***ENE*** | ***1.00 / 5,280.83*** | ***23.27 / -49*** | ***1B DU PONT B PLANT TI CONTRA COSTA COUNTY OAKLEY CA 94561*** | ***MRDS***

Dep ID: 10138392
Dev Status: PLANT
Code List: TI_P
Url: http://mrdata.usgs.gov/mrds/show-mrds.php?dep_id=10138392
I1: 29
Latitude: 38.008301
Longitude: -121.745422

Commodity

I1: 22
Code: TI_P
Commodity: Titanium, Pigment
Commodity Type: Metallic
Commodity Group: Mineral Pigments
Importance: Primary
Line: 1
Inserted By: MAS migration
Insert Date: 29-OCT-2002 09:00:24
Updated By: USGS
Update Date: 29-OCT-2002 09:01:28

Names

I1:	33	***Inserted By:***	MAS migration
Status:	Current	***Insert Date:***	29-OCT-02
Site Name:	1b Du Pont B Plant Ti	***Updated By:***	USGS
Line:	1	***Update Date:***	29-OCT-02

Unplottable Summary

Total: 2 Unplottable sites

DB	Company Name/Site Name	Address	City	Zip	ERIS ID
EMISSIONS	KERLEY CHEMICAL CORP	WILLOW AVENUE	ANTIOCH CA	94509	861217386
EMISSIONS	HICKSON KERLEY, INC	WILLOW AVENUE	ANTIOCH CA	94509	861225390

Unplottable Report

Site: ***KERLEY CHEMICAL CORP***
WILLOW AVENUE ANTIOCH CA 94509

EMISSIONS

1990 Criteria Data

Facility ID:	5129	***CERR Code:***	
Facility SIC Code:	2873	***TOGT:***	
CO:	7	***ROGT:***	
Air Basin:	SF	***COT:***	
District:	BA	***NOXT:***	
COID:	CC	***SOXT:***	
DISN:	BAY AREA AQMD	***PMT:***	.1
CHAPIS:		***PM10T:***	.09

1990 Toxic Data

Facility ID:	5129	***COID:***	CC
Facility SIC Code:	2873	***DISN:***	BAY AREA AQMD
CO:	7	***CHAPIS:***	
Air Basin:	SF	***CERR Code:***	
District:	BA		
TS:			
Health Risk Asmt:			
Non-Cancer Chronic Haz Ind:			
Non-Cancer Acute Haz Ind:			

Site: ***HICKSON KERLEY, INC***
WILLOW AVENUE ANTIOCH CA 94509

EMISSIONS

1995 Criteria Data

Facility ID:	5129	***CERR Code:***	
Facility SIC Code:	2873	***TOGT:***	0
CO:	7	***ROGT:***	0
Air Basin:	SF	***COT:***	0
District:	BA	***NOXT:***	.2
COID:	CC	***SOXT:***	.1
DISN:	BAY AREA AQMD	***PMT:***	3.6
CHAPIS:		***PM10T:***	3.24

1995 Toxic Data

Facility ID:	5129	***COID:***	CC
Facility SIC Code:	2873	***DISN:***	BAY AREA AQMD
CO:	7	***CHAPIS:***	
Air Basin:	SF	***CERR Code:***	
District:	BA		
TS:			
Health Risk Asmt:			
Non-Cancer Chronic Haz Ind:			
Non-Cancer Acute Haz Ind:			

1996 Criteria Data

Facility ID:	5129	***CERR Code:***	
Facility SIC Code:	2873	***TOGT:***	0
CO:	7	***ROGT:***	0
Air Basin:	SF	***COT:***	0
District:	BA	***NOXT:***	.2
COID:	CC	***SOXT:***	.1
DISN:	BAY AREA AQMD	***PMT:***	3.6
CHAPIS:		***PM10T:***	3.24

1996 Toxic Data

Facility ID:	5129	***COID:***	CC
Facility SIC Code:	2873	***DISN:***	BAY AREA AQMD
CO:	7	***CHAPIS:***	
Air Basin:	SF	***CERR Code:***	
District:	BA		
TS:			
Health Risk Asmt:			
Non-Cancer Chronic Haz Ind:			
Non-Cancer Acute Haz Ind:			

1997 Toxic Data

Facility ID:	5129	***COID:***	CC
Facility SIC Code:	2873	***DISN:***	BAY AREA AQMD
CO:	7	***CHAPIS:***	
Air Basin:	SF	***CERR Code:***	
District:	BA		
TS:			
Health Risk Asmt:			
Non-Cancer Chronic Haz Ind:			
Non-Cancer Acute Haz Ind:			

1998 Toxic Data

Facility ID:	5129	***COID:***	CC
Facility SIC Code:	2873	***DISN:***	BAY AREA AQMD
CO:	7	***CHAPIS:***	
Air Basin:	SF	***CERR Code:***	
District:	BA		
TS:			
Health Risk Asmt:			
Non-Cancer Chronic Haz Ind:			
Non-Cancer Acute Haz Ind:			

Appendix: Database Descriptions

Environmental Risk Information Services (ERIS) can search the following databases. The extent of historical information varies with each database and current information is determined by what is publicly available to ERIS at the time of update. ERIS updates databases as set out in ASTM Standard E1527-13 and E1527-21, Section 8.1.8 Sources of Standard Source Information:

"Government information from nongovernmental sources may be considered current if the source updates the information at least every 90 days, or, for information that is updated less frequently than quarterly by the government agency, within 90 days of the date the government agency makes the information available to the public."

Standard Environmental Record Sources

Federal

National Priority List: NPL

The U.S. Environmental Protection Agency (EPA)'s National Priorities List (NPL) includes the most serious uncontrolled or abandoned hazardous waste sites identified for possible long-term remedial action under the Superfund program, based primarily on the score a site receives from EPA's Hazard Ranking System. A site must be on the NPL to receive money from the Superfund Trust Fund for remedial action. This data includes NPL sites represented as polygons, where available, that can be sourced from the EPA NPL Superfund Site Boundaries dataset, refreshed by the Shared Enterprise Geodata and Services (SEGS). These site boundaries represent the footprint of a whole site, the sum of all the Operable Units (OUs) and the current understanding of the full extent of contamination; for Federal Facility sites, the total site polygon may be the Facility boundary. As site investigation and remediation progress, OUs may be added, modified or refined. Data provided by external parties is not independently verified by EPA. This boundary data is made available to the public strictly for informational purposes. Where there is no polygon boundary data available for a given site, the site is represented as a point.

Government Publication Date: Sep 25, 2024

National Priority List - Proposed: PROPOSED NPL

Sites proposed by the U.S. Environmental Protection Agency (EPA), the state agency, or concerned citizens for addition to the National Priorities List (NPL) due to contamination by hazardous waste and identified by the EPA as a candidate for cleanup because it poses a risk to human health and/or the environment. Sites represented as polygons, where available, can be sourced from the EPA NPL Superfund Site Boundaries dataset, refreshed by the Shared Enterprise Geodata and Services (SEGS). These site boundaries represent the footprint of a whole site, the sum of all the Operable Units (OUs) and the current understanding of the full extent of contamination; for Federal Facility sites, the total site polygon may be the Facility boundary. Data provided by external parties is not independently verified by EPA. This boundary data is made available to the public strictly for informational purposes. Where there is no polygon boundary data available for a given site, the site is represented as a point.

Government Publication Date: Sep 25, 2024

Deleted NPL: DELETED NPL

Sites deleted from the U.S. Environmental Protection Agency (EPA)'s National Priorities List (NPL). The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate. Sites represented as polygons, where available, can be sourced from the EPA NPL Superfund Site Boundaries dataset, refreshed by the Shared Enterprise Geodata and Services (SEGS). These site boundaries represent the footprint of a whole site, the sum of all the Operable Units (OUs) and the current understanding of the full extent of contamination; for Federal Facility sites, the total site polygon may be the Facility boundary. Data provided by external parties is not independently verified by EPA. This boundary data is made available to the public strictly for informational purposes. Where there is no polygon boundary data available for a given site, the site is represented as a point.

Government Publication Date: Sep 25, 2024

SEMS List 8R Active Site Inventory: SEMS

The U.S. Environmental Protection Agency's (EPA) Superfund Program has deployed the Superfund Enterprise Management System (SEMS), which integrates multiple legacy systems into a comprehensive tracking and reporting tool. This inventory contains active sites evaluated by the Superfund program that are either proposed to be or are on the National Priorities List (NPL) as well as sites that are in the screening and assessment phase for possible inclusion on the NPL. The Active Site Inventory Report displays site and location information at active SEMS sites. An active site is one at which site assessment, removal, remedial, enforcement, cost recovery, or oversight activities are being planned or conducted. This data includes SEMS sites from the List 8R Active file as well as applicable sites from the EPA's Facility Registry Service map tool.

Government Publication Date: Oct 24, 2024

Inventory of Open Dumps, June 1985: ODI

The Resource Conservation and Recovery Act (RCRA) provides for publication of an inventory of open dumps. The Act defines "open dumps" as facilities which do not comply with EPA's "Criteria for Classification of Solid Waste Disposal Facilities and Practices" (40 CFR 257).

Government Publication Date: Jun 1985

SEMS List 8R Archive Sites: SEMS ARCHIVE

The U.S. Environmental Protection Agency's (EPA) Superfund Enterprise Management System (SEMS) Archived Site Inventory displays site and location information at sites archived from SEMS. An archived site is one at which EPA has determined that assessment has been completed and no further remedial action is planned under the Superfund program at this time. This data includes sites from the List 8R Archived site file.

Government Publication Date: Oct 24, 2024

Comprehensive Environmental Response, Compensation and Liability Information System - CERCLIS: CERCLIS

Superfund is a program administered by the United States Environmental Protection Agency (EPA) to locate, investigate, and clean up the worst hazardous waste sites throughout the United States. CERCLIS is a database of potential and confirmed hazardous waste sites at which the EPA Superfund program has some involvement. It contains sites that are either proposed to be or are on the National Priorities List (NPL) as well as sites that are in the screening and assessment phase for possible inclusion on the NPL. The EPA administers the Superfund program in cooperation with individual states and tribal governments; this database is made available by the EPA.

Government Publication Date: Oct 25, 2013

EPA Report on the Status of Open Dumps on Indian Lands: IODI

Public Law 103-399, The Indian Lands Open Dump Cleanup Act of 1994, enacted October 22, 1994, identified congressional concerns that solid waste open dump sites located on American Indian or Alaska Native (AI/AN) lands threaten the health and safety of residents of those lands and contiguous areas. The purpose of the Act is to identify the location of open dumps on Indian lands, assess the relative health and environment hazards posed by those sites, and provide financial and technical assistance to Indian tribal governments to close such dumps in compliance with Federal standards and regulations or standards promulgated by Indian Tribal governments or Alaska Native entities.

Government Publication Date: Dec 31, 1998

CERCLIS - No Further Remedial Action Planned: CERCLIS NFRAP

An archived site is one at which EPA has determined that assessment has been completed and no further remedial action is planned under the Superfund program at this time. The Archive designation means that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list this site on the National Priorities List (NPL). This decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be a potential NPL site.

Government Publication Date: Oct 25, 2013

CERCLIS Liens: CERCLIS LIENS

A Federal Superfund lien exists at any property where EPA has incurred Superfund costs to address contamination ("Superfund site") and has provided notice of liability to the property owner. A Federal CERCLA ("Superfund") lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. This database is made available by the United States Environmental Protection Agency (EPA). This database was provided by the United States Environmental Protection Agency (EPA). Refer to SEMS LIEN as the current data source for Superfund Liens.

Government Publication Date: Jan 30, 2014

RCRA CORRACTS-Corrective Action: RCRA CORRACTS

RCRA Info is the U.S. Environmental Protection Agency's (EPA) comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. At these sites, the Corrective Action Program ensures that cleanups occur. EPA and state regulators work with facilities and communities to design remedies based on the contamination, geology, and anticipated use unique to each site.

Government Publication Date: Oct 21, 2024

RCRA non-CORRACTS TSD Facilities: RCRA TSD

RCRA Info is the U.S. Environmental Protection Agency's (EPA) comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. This database includes Non-Corrective Action sites that have indicated engagement in the treatment, storage, or disposal of hazardous waste which requires a RCRA hazardous waste permit.

Government Publication Date: Oct 21, 2024

RCRA Generator List: RCRA LQG

RCRA Info is the U.S. Environmental Protection Agency's (EPA) comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. RCRA Info replaces the data recording and reporting abilities of the Resource Conservation and Recovery Information System (RCRIS) and the Biennial Reporting System (BRS). A hazardous waste generator is any person or site whose processes and actions create hazardous waste (see 40 CFR 260.10). Large Quantity Generators (LQGs) generate 1,000 kilograms per month or more of hazardous waste or more than one kilogram per month of acutely hazardous waste.

Government Publication Date: Oct 21, 2024

RCRA Small Quantity Generators List: RCRA SQG

RCRA Info is the U.S. Environmental Protection Agency's (EPA) comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. RCRA Info replaces the data recording and reporting abilities of the Resource Conservation and Recovery Information System (RCRIS) and the Biennial Reporting System (BRS). A hazardous waste generator is any person or site whose processes and actions create hazardous waste (see 40 CFR 260.10). Small Quantity Generators (SQGs) generate more than 100 kilograms, but less than 1,000 kilograms, of hazardous waste per month.

Government Publication Date: Oct 21, 2024

RCRA Very Small Quantity Generators List: RCRA VSQG

RCRA Info is the U.S. Environmental Protection Agency's (EPA) comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. A hazardous waste generator is any person or site whose processes and actions create hazardous waste (see 40 CFR 260.10). Very Small Quantity Generators (VSQG) generate 100 kilograms or less per month of hazardous waste, or one kilogram or less per month of acutely hazardous waste. Additionally, VSQG may not accumulate more than 1,000 kilograms of hazardous waste at any time.

Government Publication Date: Oct 21, 2024

RCRA Non-Generators: RCRA NON GEN

RCRA Info is the U.S. Environmental Protection Agency's (EPA) comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. RCRA Info replaces the data recording and reporting abilities of the Resource Conservation and Recovery Information System (RCRIS) and the Biennial Reporting System (BRS). A hazardous waste generator is any person or site whose processes and actions create hazardous waste (see 40 CFR 260.10). Non-Generators do not presently generate hazardous waste.

Government Publication Date: Oct 21, 2024

RCRA Sites with Controls: RCRA CONTROLS

List of Resource Conservation and Recovery Act (RCRA) facilities with institutional controls in place. RCRA gives the U.S. Environmental Protection Agency (EPA) the authority to control hazardous waste from the "cradle-to-grave." This includes the generation, transportation, treatment, storage, and disposal of hazardous waste. RCRA also set forth a framework for the management of non-hazardous solid wastes. The 1986 amendments to RCRA enabled EPA to address environmental problems that could result from underground tanks storing petroleum and other hazardous substances.

Government Publication Date: Oct 21, 2024

Federal Engineering Controls-ECs: FED ENG

List of Engineering controls (ECs) made availabe by the United States Environmental Protection Agency (EPA). ECs encompass a variety of engineered and constructed physical barriers (e.g., soil capping, sub-surface venting systems, mitigation barriers, fences) to contain and/or prevent exposure to contamination on a property. The EC listing includes remedy component data from Superfund decision documents for applicable sites on the final or deleted on the National Priorities List (NPL); and sites with a Superfund Alternative Approach (SAA) Agreement in place. The only sites included that are not on the NPL; proposed for NPL; or removed from proposed NPL, are those with an SAA Agreement in place.

Government Publication Date: Nov 20, 2024

Federal Institutional Controls- ICs: FED INST

List of Institutional controls (ICs) made available by the United States Environmental Protection Agency (EPA). ICs are non-engineered instruments, such as administrative and legal controls, that help minimize the potential for human exposure to contamination and/or protect the integrity of the remedy. Although it is EPA's expectation that treatment or engineering controls will be used to address principal threat wastes and that groundwater will be returned to its beneficial use whenever practicable, ICs play an important role in site remedies because they reduce exposure to contamination by limiting land or resource use and guide human behavior at a site. The IC listing includes remedy component data from Superfund decision documents for applicable sites on the final or deleted on the National Priorities List (NPL); and sites with a Superfund Alternative Approach (SAA) Agreement in place. The only sites included that are not on the NPL; proposed for NPL; or removed from proposed NPL, are those with an SAA Agreement in place.

Government Publication Date: Nov 20, 2024

Land Use Control Information System: LUCIS

The LUCIS database is maintained by the U.S. Department of the Navy and contains information for former Base Realignment and Closure (BRAC) properties across the United States.

Government Publication Date: Sep 1, 2006

Institutional Control Boundaries at NPL sites: NPL IC

These boundaries of Institutional Control areas at sites on the U.S. Environmental Protection Agency's (EPA) National Priorities List (NPL), or as Proposed or Deleted, are sourced from the EPA NPL Superfund Site Boundaries dataset, refreshed by the Shared Enterprise Geodata and Services (SEGS). The EPA's NPL includes the most serious uncontrolled or abandoned hazardous waste sites identified for possible long-term remedial action under the Superfund program. Institutional controls are non-engineered instruments such as administrative and legal controls that help minimize the potential for human exposure to contamination and/or protect the integrity of the remedy. Data provided by external parties is not independently verified by EPA. This boundary data is made available to the public strictly for informational purposes.

Government Publication Date: Sep 25, 2024

Emergency Response Notification System: ERNS 1982 TO 1986

Database of oil and hazardous substances spill reports controlled by the National Response Center. The primary function of the National Response Center is to serve as the sole national point of contact for reporting oil, chemical, radiological, biological, and etiological discharges into the environment anywhere in the United States and its territories.

Government Publication Date: 1982-1986

Emergency Response Notification System: ERNS 1987 TO 1989

Database of oil and hazardous substances spill reports controlled by the National Response Center. The primary function of the National Response Center is to serve as the sole national point of contact for reporting oil, chemical, radiological, biological, and etiological discharges into the environment anywhere in the United States and its territories.

Government Publication Date: 1987-1989

Emergency Response Notification System: ERNS

Database of oil and hazardous substances spill reports made available by the United States Coast Guard National Response Center (NRC). The NRC fields initial reports for pollution and railroad incidents and forwards that information to appropriate federal/state agencies for response. These data contain initial incident data that has not been validated or investigated by a federal/state response agency.

Government Publication Date: Oct 15, 2024

The Assessment, Cleanup and Redevelopment Exchange System (ACRES) Brownfield Database: FED BROWNFIELDS

Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties protects the environment, reduces blight, and takes development pressures off greenspaces and working lands. This data is provided by the United States Environmental Protection Agency (EPA) and includes Brownfield sites from the Cleanups in My Community (CIMC) web application.

Government Publication Date: Feb 7, 2024

FEMA Underground Storage Tank Listing: FEMA UST

The Federal Emergency Management Agency (FEMA) of the Department of Homeland Security maintains a list of FEMA owned underground storage tanks.

Government Publication Date: Dec 31, 2017

Facility Response Plan: FRP

This listing contains facilities that have submitted Facility Response Plans (FRPs) to the U.S. Environmental Protection Agency (EPA). Facilities that could reasonably be expected to cause "substantial harm" to the environment by discharging oil into or on navigable waters are required to prepare and submit FRPs. Harm is determined based on total oil storage capacity, secondary containment and age of tanks, oil transfer activities, history of discharges, proximity to a public drinking water intake or sensitive environments. This listing includes FRP facilities from an applicable EPA FOIA file and Homeland Infrastructure Foundation-Level Data (HIFLD) data file.

Government Publication Date: Jan 9, 2024

Delisted Facility Response Plans: DELISTED FRP

Facilities that once appeared in - and have since been removed from - the list of facilities that have submitted Facility Response Plans (FRP) to EPA. Facilities that could reasonably be expected to cause "substantial harm" to the environment by discharging oil into or on navigable waters are required to prepare and submit Facility Response Plans (FRPs). Harm is determined based on total oil storage capacity, secondary containment and age of tanks, oil transfer activities, history of discharges, proximity to a public drinking water intake or sensitive environments.

Government Publication Date: Jan 9, 2024

Historical Gas Stations: HIST GAS STATIONS

This historic directory of service stations is provided by the Cities Service Company. The directory includes Cities Service filling stations that were located throughout the United States in 1930.

Government Publication Date: Jul 1, 1930

Petroleum Refineries: REFN

This list of petroleum refineries is sourced from the U.S. Energy Information Administration (EIA), Refinery Capacity Report. The listing includes operating and idle petroleum refineries (including new refineries under construction) and refineries shut down during the previous year. The geographic area the report covers is the 50 States, the District of Columbia, Puerto Rico, the U.S. Virgin Islands, Guam, and other U.S. possessions. Per the EIA, the facility location data represents the approximate location based on research of publicly available information from sources such as Federal agencies, company websites, and satellite images on public websites.

Government Publication Date: Oct 31, 2024

Petroleum Product and Crude Oil Rail Terminals: BULK TERMINAL

A list of petroleum product and crude oil rail terminals from the U.S. Energy Information Administration (EIA), as well as petroleum terminals sourced from Oak Ridge National Laboratory hosted by the Homeland Infrastructure Foundation-Level Database. Data includes operable bulk petroleum product terminals with a total bulk shell storage capacity of 50,000 barrels or more, and/or the ability to receive volumes from tanker, barge, or pipeline; also rail terminals handling the loading and unloading of crude oil with activity between 2017 and 2018. EIA petroleum product terminal data comes from the EIA-815 Bulk Terminal and Blender Report, which includes working, shell in operation, and shell idle for several major product groupings.

Government Publication Date: Oct 31, 2024

LIEN on Property: SEMS LIEN

The U.S. Environmental Protection Agency's (EPA) Superfund Enterprise Management System (SEMS) provides Lien details on applicable properties, such as the Superfund lien on property activity, the lien property information, and the parties associated with the lien.

Government Publication Date: Oct 24, 2024

Superfund Decision Documents: SUPERFUND ROD

This database contains a list of decision documents for Superfund sites. Decision documents serve to provide the reasoning for the choice of (or) changes to a Superfund Site cleanup plan. The decision documents include completed Records of Decision (ROD), ROD Amendments, Explanations of Significant Differences (ESD) for active and archived sites stored in the Superfund Enterprise Management System (SEMS), along with other associated memos and files. This information is maintained and made available by the U.S. Environmental Protection Agency.

Government Publication Date: Oct 24, 2024

Formerly Utilized Sites Remedial Action Program: DOE FUSRAP

The U.S. Department of Energy (DOE) established the Formerly Utilized Sites Remedial Action Program (FUSRAP) in 1974 to remediate sites where radioactive contamination remained from the Manhattan Project and early U.S. Atomic Energy Commission (AEC) operations. The DOE Office of Legacy Management (LM) established long-term surveillance and maintenance (LTS&M) requirements for remediated FUSRAP sites. DOE evaluates the final site conditions of a remediated site on the basis of risk for different future uses. DOE then confirms that LTS&M requirements will maintain protectiveness.

Government Publication Date: Mar 4, 2017

State

State Response Sites: RESPONSE

A list of identified confirmed release sites where the Department of Toxic Substances Control (DTSC) is involved in remediation, either in a lead or oversight capacity. These confirmed release sites are generally high-priority and high potential risk. This database serves a purpose similar to that of the federal NPL, functioning as a state-level counterpart for prioritizing cleanup efforts at hazardous substance release sites.

Government Publication Date: Sep 25, 2024

EnviroStor Database: ENVIROSTOR

The EnviroStor Data Management System is made available by the Department of Toxic Substances Control (DTSC). Includes Corrective Action sites, Tiered Permit sites, Historical Sites and Evaluation/Investigation sites. This database serves a purpose similar to that of the federal Superfund Enterprise Management System (SEMS), functioning as a state-level counterpart for tracking potential hazardous substance release sites.

Government Publication Date: Sep 25, 2024

Delisted State Response Sites: DELISTED ENVS

Sites removed from the list of State Response Sites made available by the EnviroStor Data Management System, Department of Toxic Substances Control (DTSC).

Government Publication Date: Sep 25, 2024

Solid Waste Information System (SWIS): SWF/LF

The Solid Waste Information System (SWIS) database made available by the Department of Resources Recycling and Recovery (CalRecycle) contains information on solid waste facilities, operations, and disposal sites throughout the State of California. The types of facilities found in this database include landfills, transfer stations, material recovery facilities, composting sites, transformation facilities, waste tire sites, and closed disposal sites.

Government Publication Date: Oct 26, 2024

Solid Waste Disposal Sites with Waste Constituents Above Hazardous Waste Levels: SWRCB SWF

This is a list of solid waste disposal sites identified by California State Water Resources Control Board with waste constituents above hazardous waste levels outside the waste management unit.

Government Publication Date: Sep 20, 2006

Waste Management Unit Database: WMUD

The Waste Management Unit Database System tracks and inventories waste management units. CCR Title 27 contains criteria stating that Waste Management Units are classified according to their ability to contain wastes. Containment shall be determined by geology, hydrology, topography, climatology, and other factors relating to the ability of the Unit to protect water quality. Water Code Section 13273.1 requires that operators submit a water quality solid waste assessment test (SWAT) report to address leak status. The WMUDS was last updated by the State Water Resources control board in 2000.

Government Publication Date: Jan 1, 2000

EnviroStor Hazardous Waste Facilities: HWP

A list of hazardous waste facilities including permitted, post-closure and historical facilities found in the Department of Toxic Substances Control (DTSC) EnviroStor database.

Government Publication Date: Sep 25, 2024

Sites Listed in the Solid Waste Assessment Test (SWAT) Program Report: SWAT

In a 1993 Memorandum of Understanding, the State Water Resources Control Board (SWRCB) agreed to submit a comprehensive report on the Solid Waste Assessment Test (SWAT) Program to the California Integrated Waste Management Board (CIWMB). This report summarizes the work completed to date on the SWAT Program, and addresses both the impacts that leakage from solid waste disposal sites (SWDS) may have upon waters of the State and the actions taken to address such leakage.

Government Publication Date: Dec 31, 1995

Construction and Demolition Debris Recyclers: C&D DEBRIS RECY

This listing of Construction and Demolition Debris Recyclers is maintained by the California Intergrated Waste Management Board-common C&D materials include lumber, drywall, metals, masonry (brick, concrete, etc.), carpet, plastic, pipe, rocks, dirt, paper, cardboard, or green waste related to land development.

Government Publication Date: Jun 20, 2018

Recycling Centers: RECYCLING

This list of Certified Recycling Centers that are operating under the state of California's Beverage Container Recycling Program is maintained by the California Department of Resources Recycling and Recovery.

Government Publication Date: Jan 2, 2025

Listing of Certified Processors: PROCESSORS

This list of Certified Processors that are operating under the state of California's Beverage Container Recycling Program is maintained by the California Department of Resources Recycling and Recovery.

Government Publication Date: Jan 2, 2025

Listing of Certified Dropoff, Collection, and Community Service Programs: CONTAINER RECY

This list of Certified Dropoff, Collection, and Community Service Programs (non-buyback) operating under the state of California's Beverage Container Recycling Program is maintained by the California Department of Resources Recycling and Recovery.

Government Publication Date: Jan 2, 2025

Land Disposal Sites: LDS

Land Disposal Sites in GeoTracker, the State Water Resources Control Board (SWRCB)'s data management system. The Land Disposal program regulates of waste discharge to land for treatment, storage and disposal in waste management units. Waste management units include waste piles, surface impoundments, and landfills.

Government Publication Date: Sep 25, 2024

Leaking Underground Fuel Tank Reports: LUST

List of Leaking Underground Storage Tanks within the Cleanup Sites data in GeoTracker database. GeoTracker is the State Water Resources Control Board's (SWRCB) data management system for managing sites that impact groundwater, especially those that require groundwater cleanup (Underground Storage Tanks, Department of Defense and Site Cleanup Program) as well as permitted facilities such as operating Underground Storage Tanks. The Leak Prevention Program that overlooks LUST sites is the SWRCB in California's Environmental Protection Agency.

Government Publication Date: Sep 25, 2024

Delisted Leaking Storage Tanks: DELISTED LST

List of Leaking Underground Storage Tanks (LUST) cleanup sites removed from GeoTracker, the State Water Resources Control Board (SWRCB)'s database system, as well as sites removed from the SWRCB's list of UST Case closures.

Government Publication Date: Jan 15, 2025

Permitted Underground Storage Tank (UST) in GeoTracker: UST

List of Permitted Underground Storage Tank (UST) sites made available by the State Water Resources Control Board (SWRCB) in California's Environmental Protection Agency (EPA).

Government Publication Date: Nov 17, 2024

Proposed Closure of Underground Storage Tank Cases: UST CLOSURE

This listing includes Proposed Closure of Underground Storage Tank (UST) Cases which are being considered for closure by either the State Water Resources Control Board at a Future Board Meeting or the Executive Director that have been posted for a 60-day public comment period, and Closure of UST Cases with Closure Denials and Approved Orders. The lists are provided by the California Water Boards.

Government Publication Date: Oct 26, 2024

Historical Hazardous Substance Storage Information Database: HHSS

The Historical Hazardous Substance Storage database contains information collected in the 1980s from facilities that stored hazardous substances. The information was originally collected on paper forms, was later transferred to microfiche, and recently indexed as a searchable database. When using this database, please be aware that it is based upon self-reported information submitted by facilities which has not been independently verified. It is unlikely that every facility responded to the survey and the database should not be expected to be a complete inventory of all facilities that were operating at that time. This database is maintained by the California State Water Resources Control Board's (SWRCB) Geotracker.

Government Publication Date: Aug 27, 2015

Statewide Environmental Evaluation and Planning System: UST SWEEPS

The Statewide Environmental Evaluation and Planning System (SWEEPS) is a historical listing of active and inactive underground storage tanks made available by the California State Water Resources Control Board (SWRCB).

Government Publication Date: Oct 1, 1994

Aboveground Storage Tanks: AST

A statewide list from 2009 of aboveground storage tanks (ASTs) made available by the Cal FIRE Office of the State Fire Marshal (OSFM). This list is no longer maintained or updated by the Cal FIRE OSFM.

Government Publication Date: Aug 31, 2009

SWRCB Historical Aboveground Storage Tanks: AST SWRCB

A list of aboveground storage tanks made available by the California State Water Resources Control Board (SWRCB). Effective January 1, 2008, the Certified Unified Program Agencies (CUPAs) are vested with the responsibility and authority to implement the Aboveground Petroleum Storage Act (APSA).

Government Publication Date: Dec 1, 2007

Oil and Gas Facility Tanks: TANK OIL GAS

Locations of oil and gas tanks that fall under the jurisdiction of the Geologic Energy Management Division of the California Department of Conservation (CalGEM) (CCR 1760). CalGEM was formerly the Division of Oil, Gas, and Geothermal Resources (DOGGR).

Government Publication Date: Nov 14, 2024

Delisted Storage Tanks: DELISTED TNK

This database contains a list of storage tank sites that were removed by the State Water Resources Control Board (SWRCB) in California's Environmental Protection Agency (EPA) and the Cal FIRE Office of State Fire Marshal (OSFM).

Government Publication Date: Nov 14, 2024

California Environmental Reporting System (CERS) Tanks: CERS TANK

List of sites in the California Environmental Protection Agency (CalEPA) Regulated Site Portal which fall under the Aboveground Petroleum Storage and Underground Storage Tank regulatory programs. The CalEPA oversees the statewide implementation of the Unified Program which applies regulatory standards to protect Californians from hazardous waste and materials.

Government Publication Date: Oct 28, 2024

Delisted California Environmental Reporting System (CERS) Tanks: DELISTED CTNK

This database contains a list of Aboveground Petroleum Storage and Underground Storage Tank sites that were removed from in the California Environmental Protection Agency (CalEPA) Regulated Site Portal.

Government Publication Date: Oct 28, 2024

Historical Hazardous Substance Storage Container Information - Facility Summary: HIST TANK

The State Water Resources Control Board maintained the Hazardous Substance Storage Containers listing and inventory in th 1980s. This facility summary lists historic tank sites where the following container types were present: farm motor vehicle fuel tanks; waste tanks; sumps; pits, ponds, lagoons, and others; and all other product tanks. This set, published in May 1988, lists facility and owner information, as well as the number of containers. This data is historic and will not be updated.

Government Publication Date: May 27, 1988

Site Mitigation and Brownfields Reuse Program Facility Sites with Land Use Restrictions: LUR

The Department of Toxic Substances Control (DTSC) Site Mitigation and Brownfields Reuse Program (SMBRP) list includes sites cleaned up under the program's oversight and generally does not include current or former hazardous waste facilities that required a hazardous waste facility permit. The list represents land use restrictions that are active. Some sites have multiple land use restrictions.

Government Publication Date: Sep 25, 2024

CALSITES Database: CALSITES

This historical database was maintained by the Department of Toxic Substance Control (DTSC) for more than a decade. CALSITES contains information on Brownfield properties with confirmed or potential hazardous contamination. In 2006, DTSC introduced EnviroStor as the latest Brownfields site database.

Government Publication Date: May 1, 2004

Hazardous Waste Management Program Facility Sites with Deed / Land Use Restrictions: HLUR

The Department of Toxic Substances Control (DTSC) Hazardous Waste Management Program (HWMP) has developed a list of current or former hazardous waste facilities that have a recorded land use restriction at the local county recorder's office. The land use restrictions on this list were required by the DTSC HWMP as a result of the presence of hazardous substances that remain on site after the facility (or part of the facility) has been closed or cleaned up. The types of land use restriction include deed notice, deed restriction, or a land use restriction that binds current and future owners.

Government Publication Date: Feb 18, 2021

Deed Restrictions and Land Use Restrictions: DEED

List of Deed Restrictions, Land Use Restrictions and Covenants in GeoTracker made available by the State Water Resources Control Board (SWRCB) in California's Environmental Protection Agency. A deed restriction (land use covenant) may be required to facilitate the remediation of past environmental contamination and to protect human health and the environment by reducing the risk of exposure to residual hazardous materials.

Government Publication Date: Jan 15, 2025

Voluntary Cleanup Program: VCP

List of sites in the Voluntary Cleanup Program made available by the Department of Toxic Substances and Control (DTSC). The Voluntary Cleanup Program was designed to respond to lower priority sites. Under the Voluntary Cleanup Program, DTSC enters site-specific agreements with project proponents for DTSC oversight of site assessment, investigation, and/or removal or remediation activities, and the project proponents agree to pay DTSC's reasonable costs for those services.

Government Publication Date: Sep 25, 2024

GeoTracker Cleanup Program Sites: CLEANUP SITES

A list of Cleanup Program sites in the state of California made available by The State Water Resources Control Board (SWRCB) of the California Environmental Protection Agency (EPA). SWRCB tracks leaking underground storage tank cleanups as well as other water board cleanups.

Government Publication Date: Sep 25, 2024

Delisted Cleanup Program Sites: DELISTED CLEANUP

A list of Cleanup Program sites which were once included - and have since been removed from - the list of Cleanup Program Sites in GeoTracker. GeoTracker is the State Water Resource Control Boards' data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Government Publication Date: Jan 15, 2025

Delisted County Records: DELISTED COUNTY

Records removed from county or CUPA databases. Records may be removed from the county lists made available by the respective county departments because they are inactive, or because they have been deemed to be below reportable thresholds.

Government Publication Date: Oct 28, 2024

Tribal

Leaking Underground Storage Tanks on Tribal/Indian Lands: INDIAN LUST

This list of leaking underground storage tanks (LUSTs) on Tribal/Indian Lands in Region 9, which includes California, is made available by the United States Environmental Protection Agency (EPA).

Government Publication Date: May 7, 2024

Underground Storage Tanks on Tribal/Indian Lands: INDIAN UST

This list of underground storage tanks (USTs) on Tribal/Indian Lands in Region 9, which includes California, is made available by the United States Environmental Protection Agency (EPA).

Government Publication Date: May 7, 2024

Delisted Tribal Leaking Storage Tanks: DELISTED INDIAN LST

Leaking Underground Storage Tank (LUST) facilities which once appeared on - and have since been removed from - the Regional Tribal/Indian LUST lists made available by the United States Environmental Protection Agency (EPA).

Government Publication Date: Jan 22, 2025

Delisted Tribal Underground Storage Tanks: DELISTED INDIAN UST

Underground Storage Tank (UST) facilities which once appeared on - and have since been removed from - the Regional Tribal/Indian UST lists made available by the United States Environmental Protection Agency (EPA).

Government Publication Date: Jan 22, 2025

County

Contra Costa County - CUPA List: CUPA CONTRACO

A list of facilities associated with various Certified Unified Program Agency (CUPA) programs in the County of Contra Costa. This list is made available by Contra Costa County which has been certified by CalEPA to implement the Unified program as a CUPA.

Government Publication Date: Oct 1, 2024

Additional Environmental Record Sources

Federal

PFAS Greenhouse Gas Emissions Data: PFAS GHG

The U.S. Environmental Protection Agency's Greenhouse Gas Reporting Program (GHGRP) collects Greenhouse Gas (GHG) data from large emitting facilities (25,000 metric tons of carbon dioxide equivalent (CO2e) per year), and suppliers of fossil fuels and industrial gases that results in GHG emissions when used. Includes GHG emissions data for facilities that emit or have emitted since 2010 chemicals identified in EPA's CompTox Chemicals Dashboard list of PFAS without explicit structures and list of PFAS structures by DSSTox. PFAS emissions data has been identified for facilities engaged in the following industrial processes: Aluminum Production (GHGRP Subpart F), HCFC-22 Production and HFC-23 Destruction (Subpart O), Electronics Manufacturing (Subpart I), Fluorinated Gas Production (Subpart L), Magnesium Production (Subpart T), Electrical Transmission and Distribution Equipment Use (Subpart DD), and Manufacture of Electric Transmission and Distribution Equipment (Subpart SS). Over time, other industrial processes with required GHGRP reporting may include PFAS emissions data and the list of reportable gases may change over time.

Government Publication Date: Aug 5, 2024

On-Scene Coordinator Response Sites: OSC RESPONSE

This list of On-Scene Coordinator (OSC) Response Sites is provided by the U.S. Environmental Protection Agency (EPA). OSCs are the federal officials responsible for monitoring or directing responses to all oil spills and hazardous substance releases reported to the federal government. OSCs coordinate all federal efforts with, and provide support and information to local, state, and regional response communities. An OSC is an agent of either EPA or the U.S. Coast Guard (USCG), depending on where the incident occurs. EPA's OSCs have primary responsibility for spills and releases to inland areas and waters. USCG OSCs have responsibility for coastal waters and the Great Lakes. In general, an OSC has the following key responsibilities during and after a response: Assessment, Monitoring, Response Assistance, and Evaluation.

Government Publication Date: Apr 4, 2024

Facility Registry Service/Facility Index: FINDS/FRS

The Facility Registry Service (FRS) is a centrally managed database that identifies facilities, sites, or places subject to environmental regulations or of environmental interest. FRS creates high-quality, accurate, and authoritative facility identification records through rigorous verification and management procedures that incorporate information from program national systems, state master facility records, and data collected from EPA's Central Data Exchange registrations and data management personnel. This list is made available by the U.S. Environmental Protection Agency (EPA).

Government Publication Date: Aug 1, 2024

Toxics Release Inventory (TRI) Program: TRIS

The U.S. Environmental Protection Agency's Toxics Release Inventory (TRI) is a database containing data on disposal or other releases of toxic chemicals from U.S. facilities and information about how facilities manage those chemicals through recycling, energy recovery, and treatment. There are currently 770 individually listed chemicals and 33 chemical categories covered by the TRI Program. Facilities that manufacture, process or otherwise use these chemicals in amounts above established levels must submit annual reporting forms for each chemical. Note that the TRI chemical list does not include all toxic chemicals used in the U.S. One of TRI's primary purposes is to inform communities about toxic chemical releases to the environment. This database includes TRI Reporting Data for calendar years 1987 through 2021 and Preliminary Data for 2022.

Government Publication Date: Sep 20, 2023

PFOA/PFOS Contaminated Sites: PFAS NPL

This list of Superfund Sites with Per- and Polyfluoroalkyl Substances (PFAS) detections is made available by the U.S. Environmental Protection Agency (EPA) in their PFAS Analytic Tools data, previously the list was obtained by EPA FOIA requests. EPA's Office of Land and Emergency Management and EPA Regional Offices maintain what is known about site investigations, contamination, and remedial actions under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) where PFAS is present in the environment. Limitations: Detections of PFAS at National Priorities List (NPL) sites do not mean that people are at risk from PFAS, are exposed to PFAS, or that the site is the source of the PFAS. The information in the Superfund NPL and Superfund Alternative Agreement (SAA) PFAS detection site list is years old and may not be accurate today. Site information such as site name, site ID, and location has been confirmed for accuracy; however, PFAS-related information such as media sampled, drinking water being above the health advisory, or mitigation efforts has not been verified. For Federal Facilities data, the other Federal agencies (OFA) are the lead agency for their data and provided them to EPA.

Government Publication Date: Dec 17, 2024

Federal Agency Locations with Known or Suspected PFAS Detections: PFAS FED SITES

This list of federal agency locations with known or suspected detections of Per- and Polyfluoroalkyl Substances (PFAS) is made available by the U.S. Environmental Protection Agency's (EPA) PFAS Analytic Tools data. The EPA outlines that these data are gathered from several federal entities, such as the federal Superfund program, Department of Defense (DOD), National Aeronautics and Space Administration (NASA), Department of Transportation (DOT), and Department of Energy (DOE). The dates this data was extracted for the PFAS Analytic Tools range from 2022 to 2024. Sites on this list do not necessarily reflect the source/s of PFAS contamination and detections do not indicate level of risk or human exposure at the site. Agricultural notifications in this data are limited to DOD sites only. At this time, the EPA is aware that this list is not comprehensive of all Federal agencies.

Government Publication Date: Oct 24, 2024

SSEHRI PFAS Contamination Sites: PFAS SSEHRI

This PFAS Contamination Site Tracker database is compiled by the PFAS Project Lab, part of the Social Science Environmental Health Research Institute (SSEHRI) at Northeastern University. According to the SSEHRI, the database records qualitative and quantitative data from each known site of PFAS contamination, including timeline of discovery, sources, levels, health impacts, community response, and government response. The goal of this database is to compile information and support public understanding of the rapidly unfolding issue of PFAS contamination. All data presented was extracted from government websites, news articles, or publicly available documents. Locations for the Known PFAS Contamination Sites are sourced from the PFAS Sites and Community Resources Map by the PFAS-REACH team, credited to PFAS Project Lab, Silent Spring Institute, and PFAS Exchange. Disclaimer: The source conveys the data undergoes regular updates as new information becomes available, some sites may be missing and/or contain information that is incorrect or outdated, as well as their information represents all contamination sites SSEHRI is aware of, not all possible contamination sites. This data is not intended to be used for legal purposes. Access the following source link for the most current information: https://pfasproject.com/pfas-sites-and-community-resources/

Government Publication Date: Jun 27, 2024

National Response Center PFAS Spills: PFAS ERNS

This Per- and Poly-Fluoroalkyl Substances (PFAS) Spills dataset is made available via the U.S. Environmental Protection Agency's (EPA) PFAS Analytic Tools. The National Response Center (NRC), operated by the U.S. Coast Guard, is the designated federal point of contact for reporting all oil, chemical, and other discharges into the environment, for the United States and its territories. This dataset contains NRC spill information from 1990 to the present that is restricted to records associated with PFAS and PFAS-containing materials. Incidents are filtered to include only records with a "Material Involved" or "Incident Description" related to Aqueous Film Forming Foam (AFFF). The keywords used to filter the data included "AFFF," "Fire Fighting Foam," "Aqueous Film Forming Foam," "Fire Suppressant Foam, "PFAS," "PERFL," "PFOA," "PFOS," and "Genx." Limitations: The data from the NRC website contains initial incident data that has not been validated or investigated by a federal/state response agency. Keyword searches may misidentify some incident reports that do not contain PFAS. This dataset should also not be considered to be exhaustive of all PFAS spills/release incidents.

Government Publication Date: Dec 9, 2024

PFAS NPDES Discharge Monitoring: PFAS NPDES

This list of National Pollutant Discharge Elimination System (NPDES) permitted facilities with required monitoring for Per- and Polyfluoroalkyl (PFAS) Substances is made available via the U.S. Environmental Protection Agency (EPA)'s PFAS Analytic Tools. Any point-source wastewater discharger to waters of the United States must have a NPDES permit, which defines a set of parameters for pollutants and monitoring to ensure that the discharge does not degrade water quality or impair human health. This list includes NPDES permitted facilities associated with permits that monitor for Per- and Polyfluoroalkyl Substances (PFAS), limited to the years 2007 - present. EPA further advises the following regarding these data: currently, fewer than half of states have required PFAS monitoring for at least one of their permittees, and fewer states have established PFAS effluent limits for permittees. For states that may have required monitoring, some reporting and data transfer issues may exist on a state-by-state basis.

Government Publication Date: Dec 16, 2024

Perfluorinated Alkyl Substances (PFAS) from Toxic Release Inventory: PFAS TRI

List of Toxics Release Inventory (TRI) facilities at which the reported chemical is a per- or polyfluoroalkyl (PFAS) substance included in the U.S. Environmental Protection Agency's (EPA) consolidated PFAS Master List of PFAS Substances. Encompasses Toxics Release Inventory records included in the EPA PFAS Analytic Tools. The EPA's TRI database currently tracks information on disposal or releases of 770 individually listed toxic chemicals and 33 chemical categories from thousands of U.S. facilities and details about how facilities manage those chemicals through recycling, energy recovery, and treatment. This listing includes TRI Reporting Data for calendar years 1987 through 2021 and Preliminary Data for 2022.

Government Publication Date: Sep 20, 2023

PFAS Water Quality Portal Sampling Data: PFAS WATER

This Per- and Poly-Fluoroalkyl Substances (PFAS) Environmental Media Sampling Data is made available via the U.S. Environmental Protection Agency's (EPA) PFAS Analytic Tools. The Water Quality Portal (WQP), as a cooperative service sponsored by the United States Geological Survey, the EPA, and the National Water Quality Monitoring Council, is part of a modernized repository storing ambient sampling data for all environmental media and tissue samples. A wide range of federal, state, tribal and local governments, academic and non-governmental organizations, and individuals submit project details and sampling results to this public repository. Limitations: EPA did not carry out the sampling or testing of a majority of the data in the WQP PFAS dataset. EPA can only speak to the accuracy and completeness of the data from projects like the National Aquatic Resource Surveys for which EPA is the data owner/organization. Data may exist within the file on Quality Assurance Project Plans (QAPPs) and the approving agency of the QAPP, if a QAPP is entered.

Government Publication Date: Jul 22, 2024

PFAS TSCA Manufacture and Import Facilities: PFAS TSCA

The U.S. Environmental Protection Agency (EPA) issued the Chemical Data Reporting (CDR) Rule under the Toxic Substances Control Act (TSCA) and requires chemical manufacturers and facilities that manufacture or import chemical substances to report data to EPA. This list is specific only to TSCA Manufacture and Import Facilities with reported per- and poly-fluoroalkyl (PFAS) substances. Data file is sourced from EPA's PFAS Analytic Tools TSCA dataset which includes CDR/Inventory Update Reporting data from 1998 up to 2020. Disclaimer: This data file includes production and importation data for chemicals identified in EPA's CompTox Chemicals Dashboard list of PFAS without explicit structures and list of PFAS structures in DSSTox. Note that some regulations have specific chemical structure requirements that define PFAS differently than the lists in EPA's CompTox Chemicals Dashboard. Reporting information on manufactured or imported chemical substance amounts should not be compared between facilities, as some companies claim Chemical Data Reporting Rule data fields for PFAS information as Confidential Business Information.

Government Publication Date: Jan 5, 2023

PFAS Waste Transfers from RCRA e-Manifest : PFAS E-MANIFEST

This Per- and Poly-Fluoroalkyl Substances (PFAS) Waste Transfers dataset is made available via the U.S. Environmental Protection Agency's (EPA) PFAS Analytic Tools. Every shipment of hazardous waste in the U.S. must be accompanied by a shipment manifest, which is a critical component of the cradle-to-grave tracking of wastes mandated by the Resource Conservation and Recovery Act (RCRA). According to the EPA, currently no Federal Waste Code exists for any PFAS compounds. To work around the lack of PFAS waste codes in the RCRA database, EPA developed the PFAS Transfers dataset by mining e-Manifest records containing at least one of these common PFAS keywords: • PFAS • PFOA • PFOS • PERFL • AFFF • GENX • GEN-X (plus the Vermont state-specific waste codes). Limitations: Amount or concentration of PFAS being transferred cannot be determined from the manifest information. Keyword searches may misidentify some manifest records that do not contain PFAS. This dataset should also not be considered to be exhaustive of all PFAS waste transfers.

Government Publication Date: Dec 15, 2024

PFAS Industry Sectors: PFAS IND

This Per- and Poly-Fluoroalkyl Substances (PFAS) Industry Sectors dataset is made available via the U.S. Environmental Protection Agency's (EPA) PFAS Analytic Tools. The EPA developed the dataset from various sources that show which industries may be handling PFAS including: EPA's Enforcement and Compliance History Online (ECHO) records restricted to potential PFAS-handling industry sectors; ECHO records for Fire Training Sites identified where fire-fighting foam may have been used in training exercises; and 14 CFR Part 139 Airports compiled from historic and current records from the FAA Airport Data and Information Portal. Since July 2006, all certificated Part 139 Airports are required to have fire-fighting foam onsite that meet certain military specifications, which to date have been fluorinated (Aqueous Film Forming Foam). Limitations: Inclusion in this dataset does not indicate that PFAS are being manufactured, processed, used, or released by the facility. Listed facilities potentially handle PFAS based on their industrial profile, but are unconfirmed by the EPA. Keyword searches in ECHO for Fire Training sites may misidentify some facilities and should not be considered to be an exhaustive list of fire training facilities in the U.S.

Government Publication Date: Dec 16, 2024

Hazardous Materials Information Reporting System: HMIRS

The Hazardous Materials Incident Reporting System (HMIRS) database contains unintentional hazardous materials release information reported to the U.S. Department of Transportation, Pipeline and Hazardous Materials Safety Administration.

Government Publication Date: May 29, 2024

National Clandestine Drug Labs: NCDL

The U.S. Department of Justice ("the Department"), Drug Enforcement Administration (DEA), provides this data as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy.

Government Publication Date: Nov 30, 2023

Toxic Substances Control Act: TSCA

The U.S. Environmental Protection Agency (EPA) is amending the Toxic Substances Control Act (TSCA) section 8(a) Inventory Update Reporting (IUR) rule and changing its name to the Chemical Data Reporting (CDR) rule. The CDR enables EPA to collect and publish information on the manufacturing, processing, and use of commercial chemical substances and mixtures (referred to hereafter as chemical substances) on the TSCA Chemical Substance Inventory (TSCA Inventory). This includes current information on chemical substance production volumes, manufacturing sites, and how the chemical substances are used. This information helps the Agency determine whether people or the environment are potentially exposed to reported chemical substances. EPA publishes submitted CDR data that is not Confidential Business Information (CBI). EPA CDR collections occur approximately every four years and reporting requirements change per collection.

Government Publication Date: May 12, 2022

Hist TSCA: HIST TSCA

The Environmental Protection Agency (EPA) is amending the Toxic Substances Control Act (TSCA) section 8(a) Inventory Update Reporting (IUR) rule and changing its name to the Chemical Data Reporting (CDR) rule.
The 2006 IUR data summary report includes information about chemicals manufactured or imported in quantities of 25,000 pounds or more at a single site during calendar year 2005. In addition to the basic manufacturing information collected in previous reporting cycles, the 2006 cycle is the first time EPA collected information to characterize exposure during manufacturing, processing and use of organic chemicals. The 2006 cycle also is the first time manufacturers of inorganic chemicals were required to report basic manufacturing information.
Government Publication Date: Dec 31, 2006

FTTS Administrative Case Listing: FTTS ADMIN
An administrative case listing from the Federal Insecticide, Fungicide, & Rodenticide Act (FIFRA) and Toxic Substances Control Act (TSCA), together known as FTTS. This database was obtained from the Environmental Protection Agency's (EPA) National Compliance Database (NCDB). The FTTS and NCDB was shut down in 2006.
Government Publication Date: Jan 19, 2007

FTTS Inspection Case Listing: FTTS INSP
An inspection case listing from the Federal Insecticide, Fungicide, & Rodenticide Act (FIFRA) and Toxic Substances Control Act (TSCA), together known as FTTS. This database was obtained from the Environmental Protection Agency's (EPA) National Compliance Database (NCDB). The FTTS and NCDB was shut down in 2006.
Government Publication Date: Jan 19, 2007

Potentially Responsible Parties List: PRP
Early in the site cleanup process, the U.S. Environmental Protection Agency (EPA) conducts a search to find the Potentially Responsible Parties (PRPs). The EPA looks for evidence to determine liability by matching wastes found at the site with parties that may have contributed wastes to the site. This listing contains PRPs, Noticed Parties, at sites in the EPA's Superfund Enterprise Management System (SEMS).
Government Publication Date: Nov 20, 2024

State Coalition for Remediation of Drycleaners Listing: SCRD DRYCLEANER
The State Coalition for Remediation of Drycleaners (SCRD) was established in 1998, with support from the U.S. Environmental Protection Agency (EPA) Office of Superfund Remediation and Technology Innovation. Coalition members are states with mandated programs and funding for drycleaner site remediation. Current members are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin. Since 2017, the SCRD no longer maintains this data, refer to applicable state source data where available.
Government Publication Date: Nov 08, 2017

Integrated Compliance Information System (ICIS): ICIS
The Integrated Compliance Information System (ICIS) database contains integrated enforcement and compliance information across most of U.S. Environmental Protection Agency's (EPA) programs. The vision for ICIS is to replace EPA's independent databases that contain enforcement data with a single repository for that information. Currently, ICIS contains all Federal Administrative and Judicial enforcement actions and a subset of the Permit Compliance System (PCS), which supports the National Pollutant Discharge Elimination System (NPDES). This information is maintained by the EPA Headquarters and at the Regional offices. A future release of ICIS will completely replace PCS and will integrate that information with Federal actions already in the system. ICIS also has the capability to track other activities that support compliance and enforcement programs, including incident tracking, compliance assistance, and compliance monitoring.
Government Publication Date: Apr 13, 2024

Drycleaner Facilities: FED DRYCLEANERS
A list of drycleaner facilities from Enforcement and Compliance History Online (ECHO) data as made available by the U.S. Environmental Protection Agency (EPA), sourced from the ECHO Exporter file. The EPA tracks facilities that possess NAIC and SIC codes that classify businesses as drycleaner establishments.
Government Publication Date: May 5, 2024

Delisted Drycleaner Facilities: DELISTED FED DRY
List of sites removed from the list of Drycleaner Facilities (sites in the EPA's Integrated Compliance Information System (ICIS) with NAIC or SIC codes identifying the business as a drycleaner establishment).
Government Publication Date: May 5, 2024

Formerly Used Defense Sites: FUDS
Formerly Used Defense Sites (FUDS) are properties that were formerly owned by, leased to, or otherwise possessed by and under the jurisdiction of the Secretary of Defense prior to October 1986, where the Department of Defense (DOD) is responsible for an environmental restoration. The FUDS Annual Report to Congress (ARC) is published by the U.S. Army Corps of Engineers (USACE). This data is compiled from the USACE's Geospatial FUDS data layers and Homeland Infrastructure Foundation-Level Data (HIFLD) FUDS dataset which applies to the Fiscal Year 2021 FUDS Inventory.

Government Publication Date: May 15, 2023

FUDS Munitions Response Sites: FUDS MRS

Boundaries of Munitions Response Sites (MRS), published with the Formerly Used Defense Sites (FUDS) Annual Report to Congress (ARC) by the U.S. Army Corps of Engineers (USACE). An MRS is a discrete location within a Munitions response area (MRA) that is known to require a munitions response. An MRA means any area on a defense site that is known or suspected to contain unexploded ordnance (UXO), discarded military munitions (DMM), or munitions constituents (MC). This data is compiled from the USACE's Geospatial MRS data layers and Homeland Infrastructure Foundation-Level Data (HIFLD) MRS dataset.

Government Publication Date: May 15, 2023

Former Military Nike Missile Sites: FORMER NIKE

This information was taken from report DRXTH-AS-IA-83A016 (Historical Overview of the Nike Missile System, 12/1984) which was performed by Environmental Science and Engineering, Inc. for the U.S. Army Toxic and Hazardous Materials Agency Assessment Division. The Nike system was deployed between 1954 and the mid-1970's. Among the substances used or stored on Nike sites were liquid missile fuel (JP-4); starter fluids (UDKH, aniline, and furfuryl alcohol); oxidizer (IRFNA); hydrocarbons (motor oil, hydraulic fluid, diesel fuel, gasoline, heating oil); solvents (carbon tetrachloride, trichloroethylene, trichloroethane, stoddard solvent); and battery electrolyte. The quantities of material a disposed of and procedures for disposal are not documented in published reports. Virtually all information concerning the potential for contamination at Nike sites is confined to personnel who were assigned to Nike sites. During deactivation most hardware was shipped to depot-level supply points. There were reportedly instances where excess materials were disposed of on or near the site itself at closure. There was reportedly no routine site decontamination.

Government Publication Date: Dec 2, 1984

PHMSA Pipeline Safety Flagged Incidents: PIPELINE INCIDENT

This list of flagged pipeline incidents is made available by the U.S. Department of Transportation (US DOT) Pipeline and Hazardous Materials Safety Administration (PHMSA). PHMSA regulations require incident and accident reports for five different pipeline system types. Accidents reported on hazardous liquid gravity lines (§195.13) and reporting-regulated-only hazardous liquid gathering lines (§195.15) and incidents reported on Type R gas gathering (§192.8(c)) are not included in the flagged incident file data.

Government Publication Date: May 6, 2024

Material Licensing Tracking System (MLTS): MLTS

A list of sites that store radioactive material subject to the Nuclear Regulatory Commission (NRC) licensing requirements. This list is maintained by the NRC. As of September 2016, the NRC no longer releases location information for sites. Site locations were last received in July 2016.

Government Publication Date: May 11, 2021

Historic Material Licensing Tracking System (MLTS) sites: HIST MLTS

A historic list of sites that have inactive licenses and/or removed from the Material Licensing Tracking System (MLTS). In some cases, a site is removed from the MLTS when the state becomes an "Agreement State". An Agreement State is a State that has signed an agreement with the Nuclear Regulatory Commission (NRC) authorizing the State to regulate certain uses of radioactive materials within the State.

Government Publication Date: Jan 31, 2010

Mines Master Index File: MINES

The Master Index File (MIF) is provided by the United States Department of Labor, Mine Safety and Health Administration (MSHA). This file, which was originally created in the 1970's, contained many Mine-IDs that were invalid. MSHA removes invalid IDs from the MIF upon discovery. MSHA applicable data includes the following: all Coal and Metal/Non-Metal mines under MSHA's jurisdiction since 1/1/1970; mine addresses for all mines in the database except for Abandoned mines prior to 1998 from MSHA's legacy system (addresses may or may not correspond with the physical location of the mine itself); violations that have been assessed penalties as a result of MSHA inspections beginning on 1/1/2000; and violations issued as a result of MSHA inspections conducted beginning on 1/1/2000.

Government Publication Date: Feb 5, 2024

Surface Mining Control and Reclamation Act Sites: SMCRA

This inventory of land and water impacted by past mining (primarily legacy coal mining operations) is maintained by the U.S. Department of the Interior's Office of Surface Mining Reclamation and Enforcement (OSMRE), as it provides information needed to implement the Surface Mining Control and Reclamation Act of 1977 (SMCRA). This inventory contains information on the type and extent of Abandoned Mine Land (AML) Problems, as well as information on the cost associated with the reclamation of those problems. The data is based upon field surveys by State, Tribal, and OSMRE program officials. It is dynamic to the extent that it is modified as new problems are identified and existing problems are reclaimed. Disclaimer: Per the OSMRE, States and tribes who enter their data into e-AMLIS (AML Inventory System) may truncate their latitude and longitude so the precise location of usually dangerous AMLs is not revealed in an effort to protect the public from searching for these AMLs, most of which are on private property. If more precise location information is needed, please contact the applicable state/tribe of interest.

Government Publication Date: May 20, 2024

Mineral Resource Data System: MRDS

The Mineral Resource Data System (MRDS) is a collection of reports describing metallic and nonmetallic mineral resources throughout the world. Included are deposit name, location, commodity, deposit description, geologic characteristics, production, reserves, resources, and references. This database contains the records previously provided in the Mineral Resource Data System (MRDS) of USGS and the Mineral Availability System/Mineral Industry Locator System (MAS/MILS) originated in the U.S. Bureau of Mines, which is now part of USGS. The USGS has ceased systematic updates of the MRDS database with their focus more recently on deposits of critical minerals while providing a well-documented baseline of historical mine locations from USGS topographic maps.

Government Publication Date: Mar 15, 2016

DOE Legacy Management Sites: LM SITES

The U.S. Department of Energy (DOE) Office of Legacy Management (LM) currently manages radioactive and chemical waste, environmental contamination, and hazardous material at over 100 sites across the U.S. The LM manages sites with diverse regulatory drivers (statutes or programs that direct cleanup and management requirements at DOE sites) or as part of internal DOE or congressionally-recognized programs, such as but not limited to: Formerly Utilized Sites Remedial Action Program (FUSRAP), Uranium Mill Tailings Radiation Control Act (UMTRCA Title I, Tile II), Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), Resource Conservation and Recovery Act (RCRA), Decontamination and Decommissioning (D&D), Nuclear Waste Policy Act (NWPA). This site listing includes data exported from the DOE Office of LM's Geospatial Environmental Mapping System (GEMS). GEMS Data disclaimer: The DOE Office of LM makes no representation or warranty, expressed or implied, regarding the use, accuracy, availability, or completeness of the data presented herein.

Government Publication Date: Dec 12, 2023

Alternative Fueling Stations: ALT FUELS

This list of alternative fueling stations is sourced from the Alternative Fuels Data Center (AFDC). The U.S. Department of Energy's Office of Energy Efficiency & Renewable Energy launched the AFDC in 1991 as a repository for alternative fuel vehicle performance data, which provides a wealth of information and data on alternative and renewable fuels, advanced vehicles, fuel-saving strategies, and emerging transportation technologies. The data includes Biodiesel (B20 and above), Compressed Natural Gas (CNG), Electric, Ethanol (E85), Hydrogen, Liquefied Natural Gas (LNG), Propane (LPG), and Renewable Diesel (R20 and above) fuel type locations.

Government Publication Date: Aug 29, 2024

Superfunds Consent Decrees: CONSENT DECREES

This list of Superfund consent decrees is provided by the Department of Justice, Environment & Natural Resources Division (ENRD) through a Freedom of Information Act (FOIA) applicable file. This listing includes Cases filed since 2010 limited to the following: Consent Decrees for CERCLA or Superfund Sites filed and/or as proposed within the ENRD's Case Management System (CMS); and applicable ENRD's Environmental Defense Section (EDS) CERCLA Cases with "Consent" in History Note. CMS may not reflect the latest developments in a case, nor can the agency guarantee the accuracy of the data. ENRD Disclaimer: Congress excluded three discrete categories of law enforcement and national security records from the requirements of the FOIA; response is limited to those records that are subject to the requirements of the FOIA; however, this should not be taken as an indication that excluded records do, or do not, exist.

Government Publication Date: Jun 26, 2024

Air Facility System: AFS

This EPA retired Air Facility System (AFS) dataset contains emissions, compliance, and enforcement data on stationary sources of air pollution. Regulated sources cover a wide spectrum; from large industrial facilities to relatively small operations such as dry cleaners. AFS does not contain data on facilities that are solely asbestos demolition and/or renovation contractors, or landfills. ECHO Clean Air Act data from AFS are frozen and reflect data as of October 17, 2014; the EPA retired this system for Clean Air Act stationary sources and transitioned to ICIS-Air.

Government Publication Date: Oct 17, 2014

Registered Pesticide Establishments: SSTS

This national list of active EPA-registered foreign and domestic pesticide and/or device-producing establishments is based on data from the Section Seven Tracking System (SSTS). The Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Section 7 requires that each producing establishment must place its EPA establishment number on the label or immediate container of each pesticide, active ingredient or device produced. An EPA establishment number on a pesticide product label identifies the EPA registered location where the product was produced. The list of establishments is made available by the U.S. Environmental Protection Agency (EPA).

Government Publication Date: Feb 29, 2024

Polychlorinated Biphenyl (PCB) Transformers: PCBT

Locations of Transformers Containing Polychlorinated Biphenyls (PCBs) registered with the United States Environmental Protection Agency. PCB transformer owners must register their transformer(s) with EPA. Although not required, PCB transformer owners who have removed and properly disposed of a registered PCB transformer may notify EPA to have their PCB transformer de-registered. Data made available by EPA.

Government Publication Date: Oct 15, 2019

Polychlorinated Biphenyl (PCB) Notifiers: PCB

Facilities included in the national list of facilities that have notified the United States Environmental Protection Agency (EPA) of Polychlorinated Biphenyl (PCB) activities. Any company or person storing, transporting or disposing of PCBs or conducting PCB research and development must notify the EPA and receive an identification number.

Government Publication Date: May 23, 2024

Power Plants: POWER PLANTS

This list of power plants is provided by the U.S. Energy Information Administration (EIA). The listing includes operable electric generating plants in the United States by energy source, originating from the EIA-860, Annual Electric Generator Report; EIA-860M, Monthly Update to the Annual Electric Generator Report; and EIA-923, Power Plant Operations Report. It includes all operable plants by energy source with a combined nameplate capacity of 1 megawatt or more that are operating, are on standby, or out of service for short- or long-term.

Government Publication Date: Apr 15, 2024

State

PFAS Sampling Locations: PFAS SAMPLING

This data is sourced from the State Water Board's GeoTracker Per- and Polyfluoroalkyl Substances (PFAS) Map tool which contains individual sampling points (i.e., soil boring, groundwater monitoring well, drinking water well for municipal drinking water systems, etc.) or a site location with PFAS analytical data. Includes analytical results that are finalized and submitted electronically by the Responsible Parties via GeoTracker's Electronic Submittal of Information Portal, and after it's accepted by a Regional Water Quality Control Board.

Government Publication Date: Dec 6, 2024

Dry Cleaning Facilities: DRYCLEANERS

A list of drycleaner related facilities that have EPA ID numbers. These are facilities with certain SIC codes: power laundries, family and commercial, linen supply, commercial laundry, dry cleaning and pressing machines - Coin Operated Laundry and Dry Cleaning. This is provided by the Department of Toxic Substance Control.

Government Publication Date: Dec 20, 2021

Delisted Drycleaners: DELISTED DRYCLEANERS

Sites removed from the list of drycleaner related facilities that have EPA ID numbers, made available by the California Department of Toxic Substance Control.

Government Publication Date: Jan 31, 2022

Non-Toxic Dry Cleaning Incentive Program: DRYC GRANT

A list of grant recipients of the Non-Toxic Dry Cleaning Incentive Program made available by the California Air Resources Board (CARB). The program provides grants to eligible dry cleaning businesses to assist them in transitioning away from PERC machines to alternative non-toxic and non-smog forming technologies.

Government Publication Date: Jan 31, 2022

PFAS GeoTracker Cleanup Sites: PFAS GT CLEANUPS

A list of applicable cleanup sites from the State Water Resources Control Board's (SWRCB) GeoTracker data management system where one or more of the potential contaminants of concern are identified in the PFAS Structure List and/or PFAS Chemicals Without Explicit Structure List made available by the United States Environmental Protection Agency (US EPA).

Government Publication Date: Jan 15, 2025

PFOA/PFOS Groundwater: PFAS GW

A list of water wells from the Groundwater Ambient Monitoring and Assessment Program (GAMA) Groundwater Information System with the groundwater chemical perfluorooctanoic acid (PFOA) (NL = 0.014 UG/L) or perfluorooctanoic sulfonate (PFOS) (NL = 0.013 UG/L). The GAMA Groundwater Information System search is made available by California Water Boards.

Government Publication Date: Dec 1, 2024

PFAS Investigations: PFAS INVEST

This list of potential Per- and Polyfluoroalkyl Substance (PFAS) sites is compiled from the California State Water Resources Control Board's (SWRCB) PFAS Investigations Map tool. The SWRCB issued investigative orders, per California Water Code (CWC) Section 13267 and/or 13383, to these sites. Orders were also issued to the public water systems to sample wells in the vicinity of these locations. Military facilities have been identified by the Department of Defense (DOD) as part of their efforts to investigate PFAS per the Defense Environmental Restoration Program (DERP) under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). The data includes locations for Airports, Chrome Plating Facilities, Landfills, Publicly Owned Treatment Works, Refineries and Bulk Terminals, DOD Facilities, and Monitored Drinking Water Wells being investigated for potential PFAS.

Government Publication Date: Jan 23, 2024

Hazardous Waste and Substances Site List - Site Cleanup: HWSS CLEANUP

The Hazardous Waste and Substances Sites (Cortese) List is a planning document used by the State, local agencies and developers to comply with the California Environmental Quality Act requirements in providing information about the location of hazardous materials release sites. This list is published by California Department of Toxic Substance Control.

Government Publication Date: Mar 15, 2023

Toxic Pit Cleanup Act Sites: TOXIC PITS

The Toxic Pits Cleanup Act (TPCA) list identifies sites suspected of containing hazardous substances where cleanup has not yet been completed. This list was maintained by the State Water Resources Control Board (SWRCB), is not longer maintained, and updates are not planned.

Government Publication Date: Jul 1, 1995

List of Hazardous Waste Facilities Subject to Corrective Action: DTSC HWF

This is a list of hazardous waste facilities identified in Health and Safety Code (HSC) § 25187.5. These facilities are those where Department of Toxic Substances Control (DTSC) has taken or contracted for corrective action because a facility owner/operator has failed to comply with a date for taking corrective action in an order issued under HSC § 25187, or because DTSC determined that immediate corrective action was necessary to abate an imminent or substantial endangerment.

Government Publication Date: Jul 18, 2016

EnviroStor Inspection, Compliance, and Enforcement: INSP COMP ENF

A list of permitted facilities with inspections and enforcements tracked by the California Department of Toxic Substance Control's (DTSC) EnviroStor data management system.

Government Publication Date: Nov 23, 2023

School Property Evaluation Program Sites: SCH

A list of sites registered with The Department of Toxic Substances Control (DTSC) School Property Evaluation and Cleanup (SPEC) Division. SPEC is responsible for assessing, investigating and cleaning up proposed school sites. The Division ensures that selected properties are free of contamination or, if the properties were previously contaminated, that they have been cleaned up to a level that protects the students and staff who will occupy the new school.

Government Publication Date: Sep 25, 2024

California Hazardous Material Incident Report System (CHMIRS): CHMIRS

A list of reported hazardous material incidents, spills, and releases from the California Hazardous Material Incident Report System (CHMIRS). This listing has been made available by the California Governor's Office of Emergency Services (Cal OES).

Government Publication Date: Oct 21, 2024

Historical California Hazardous Material Incident Report System (CHMIRS): HIST CHMIRS

A list of reported hazardous material incidents, spills, and releases from the California Hazardous Material Incident Report System (CHMIRS) prior to 1993. This list has been made available by the California Office of Emergency Services (OES).

Government Publication Date: Jan 1, 1993

Handlers from Hazardous Waste Manifest Data: HAZNET

A list of handlers not otherwise classified as Treatment, Storage, Disposal facilities (TSDF) or generators from the facilities and manifests data made available by the California Department of Toxic Substances Control (DTSC) in their Hazardous Waste Tracking System (HWTS).

Government Publication Date: Oct 24, 2016

Generators from Hazardous Waste Manifest Data: HAZ GEN

List of handlers listed as having generated waste from the facilities and manifests data made available by the California Department of Toxic Substances Control (DTSC) in their Hazardous Waste Tracking System (HWTS).

Government Publication Date: Dec 31, 2017

TSDF from Hazardous Waste Manifest Data: HAZ TSD

List of Treatment, Storage, and Disposal Facilities (TSDFs) from the facilities and manifests data made available by the California Department of Toxic Substances Control (DTSC) in their Hazardous Waste Tracking System (HWTS).

Government Publication Date: Dec 31, 2017

Historical Hazardous Waste Manifest Data: HIST MANIFEST

A list of historic hazardous waste manifests received by the Department of Toxic Substances Control (DTSC) from year the 1980 to 1992. The volume of manifests is typically 900,000 - 1,000,000 annually, representing approximately 450,000 - 500,000 shipments.

Government Publication Date: Dec 31, 1992

DTSC Registered Hazardous Waste Transporters: HW TRANSPORT

The California Department of Toxic Substances Control (DTSC) maintains this list of Registered Hazardous Waste Transporters.

Government Publication Date: Jan 2, 2025

Registered Waste Tire Haulers: WASTE TIRE

This list of registered waste tire haulers is maintained by the California Department of Resources Recycling and Recovery.

Government Publication Date: Oct 28, 2024

California Medical Waste Management Program Facility List: MEDICAL WASTE

This list of Medical Waste Management Program Facilities is maintained by the California Department of Public Health. The Medical Waste Management Program (MWMP) regulates the generation, handling, storage, treatment, and disposal of medical waste by providing oversight for the implementation of the Medical Waste Management Act (MWMA). The MWMP permits and inspects all medical waste off-site treatment facilities, medical waste transporters, and medical waste transfer stations. This list contains transporters, treatment, and transfer facilities.

Government Publication Date: Sep 5, 2024

Historical Cortese List: HIST CORTESE

List of sites which were once included on the Cortese list. The Hazardous Waste and Substances Sites (Cortese) List is a planning document used by the State, local agencies and developers to comply with the California Environmental Quality Act requirements for providing information about the location of hazardous sites.

Government Publication Date: Nov 13, 2008

Cease and Desist Orders and Cleanup and Abatement Orders: CDO/CAO

The California Environment Protection Agency "Cortese List" of active Cease and Desist Orders (CDO) and Cleanup and Abatement Orders (CAO). This list contains many CDOs and CAOs that do NOT concern the discharge of wastes that are hazardous materials. Many of the listed orders concern, as examples, discharges of domestic sewage, food processing wastes, or sediment that do not contain hazardous materials, but the Water Boards' database does not distinguish between these types of orders.

Government Publication Date: Dec 6, 2021

California Environmental Reporting System (CERS) Hazardous Waste Sites: CERS HAZ

List of sites in the California Environmental Protection Agency (CalEPA) Regulated Site Portal which fall under the following regulatory programs: Hazardous Chemical Management, Hazardous Waste Onsite Treatment, Household Hazardous Waste Collection, Hazardous Waste Generator, RCRA LQ HW Generator. The CalEPA oversees the statewide implementation of the Unified Program which applies regulatory standards to protect Californians from hazardous waste and materials.

Government Publication Date: Oct 28, 2024

Delisted Environmental Reporting System (CERS) Hazardous Waste Sites: DELISTED HAZ

This database contains a list of sites that were removed from the California Environmental Protection Agency (CalEPA) in the following regulatory programs: Hazardous Chemical Management, Hazardous Waste Onsite Treatment, Household Hazardous Waste Collection, Hazardous Waste Generator, RCRA LQ HW Generator.

Government Publication Date: Nov 29, 2018

Sites in GeoTracker: GEOTRACKER

GeoTracker is the State Water Resource Control Boards' data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater. This is a list of sites in GeoTracker that aren't otherwise categorized as LUST, Land Disposal Sites (LDS), Cleanup Sites, or sites having Waste Discharge Requirements (WDR). This listing includes program types such as Underground Injection Control (UIC), Confined Animal Facilities (CAF), Irrigated Lands Regulatory Program, plans, and non-case information.

Government Publication Date: Sep 25, 2024

Mines Listing: MINE

This list includes mine site locations extracted from the Mines Online database, maintained by the California Department of Conservation. Mines Online (MOL) is an interactive web map designed with GIS features that provide information such as the mine name, mine status, commodity sold, location, and other mine specific data. Please note: Mine location information is provided to assist experts in determining the location of mine operators in accordance with California Civil Code section 1103.4 and reflects information reported by mine operators in annual reports provided under Public Resources Code section 2207. While the Division of Mine Reclamation (DMR) attempts to populate MOL with accurate location information, the DMR cannot guarantee the accuracy of operator reported location information.

Government Publication Date: Oct 3, 2024

Recorded Environmental Cleanup Liens: LIEN

The California Department of Toxic Substance Control (DTSC) maintains this list of liens placed upon real properties. A lien is utilized by the DTSC to obtain reimbursement from responsible parties for costs associated with the remediation of contaminated properties.

Government Publication Date: Dec 18, 2023

Waste Discharge Requirements: WASTE DISCHG

List of sites in California State Water Resources Control Board (SWRCB) Waste Discharge Requirements (WDRs) Program in California, made available by the SWRCB via GeoTracker. The WDR program regulates point discharges that are exempt pursuant to Subsection 20090 of Title 27 and not subject to the Federal Water Pollution Control Act. The scope of the WDRs Program also includes the discharge of wastes classified as inert, pursuant to section 20230 of Title 27.

Government Publication Date: Sep 25, 2024

Toxic Pollutant Emissions Facilities: EMISSIONS

A list of criteria and toxic pollutant emissions data for facilities in California made available by the California Environmental Protection Agency - Air Resources Board (ARB). Risk data may be based on previous inventory submittals. The toxics data are submitted to the ARB by the local air districts as requirement of the Air Toxics "Hot Spots" Program.

Government Publication Date: Dec 31, 2021

Clandestine Drug Lab Sites: CDL

The Department of Toxic Substances Control (DTSC) maintains a listing of drug lab sites. DTSC is responsible for removal and disposal of hazardous substances discovered by law enforcement officials while investigating illegal/clandestine drug laboratories.

Government Publication Date: Jan 19, 2021

Tribal

No Tribal additional environmental record sources available for this State.

County

Definitions

Database Descriptions: This section provides a detailed explanation for each database including: source, information available, time coverage, and acronyms used. They are listed in alphabetic order.

Detail Report: This is the section of the report which provides the most detail for each individual record. Records are summarized by location, starting with the project property followed by records in closest proximity.

Distance: The distance value is the distance between plotted points, not necessarily the distance between the sites' boundaries. All values are an approximation.

Direction: The direction value is the compass direction of the site in respect to the project property and/or center point of the report.

Elevation: The elevation value is taken from the location at which the records for the site address have been plotted. All values are an approximation. Source: Google Elevation API.

Executive Summary: This portion of the report is divided into 3 sections:

'Report Summary'- Displays a chart indicating how many records fall on the project property and, within the report search radii.

'Site Report Summary'-Project Property'- This section lists all the records which fall on the project property. For more details, see the 'Detail Report' section.

'Site Report Summary-Surrounding Properties'- This section summarizes all records on adjacent properties, listing them in order of proximity from the project property. For more details, see the 'Detail Report' section.

Map Key: The map key number is assigned according to closest proximity from the project property. Map Key numbers always start at #1. The project property will always have a map key of '1' if records are available. If there is a number in brackets beside the main number, this will indicate the number of records on that specific property. If there is no number in brackets, there is only one record for that property.

The symbol and colour used indicates 'elevation': the red inverted triangle will dictate 'ERIS Sites with Lower Elevation', the yellow triangle will dictate 'ERIS Sites with Higher Elevation' and the orange square will dictate 'ERIS Sites with Same Elevation.'

Unplottables: These are records that could not be mapped due to various reasons, including limited geographic information. These records may or may not be in your study area, and are included as reference.

APPENDIX F

LIMITED PHASE II ENVIRONMENTAL SITE ASSESSMENT

LIMITED PHASE II ENVIRONMENTAL SITE ASSESSMENT

Property:

BrightSky Development
3001 Oakley Road, Antioch, California

Original Preparation Date:
April 11, 2023

Prepared for:

Resmark Equity Partners
12396 World Trade Drive, Suite 308
San Diego, California 92128

Prepared By:

APEX COMPANIES, LLC
1962 Freeman Avenue
Signal Hill, California 90755

Apex Project No: RES012-0313063-22012535

Jennifer Woods
Assistant Project Manager

Shannon Gillespie
Program Manager

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1.0 - INTRODUCTION

1.1 - Site Description and Background

At the request of Resmark Equity Partners, Apex Companies, LLC (Apex) completed a Limited Phase II Environmental Site Assessment (Phase II ESA) on a property hereinafter referred to as the "Site." The Site is located at 3001 Oakley Road, Antioch, Contra Costa County, California. A Topographic Map inclusive of the Site is presented as **Figure 1** and a Site Vicinity Map is provided as **Figure 2**.

Apex completed a Draft Phase I ESA at the Site dated December 27, 2022. The Phase I ESA identified the following recognized environmental conditions (RECs) that were included in this investigation:

Adjoining Cleanup Site -The southeast adjoining, upgradient property located at 3302 Oakley Road is currently in operation as a Pacific Gas & Electric Company facility and was formerly in operation as The Oakley Road Metering Site. The facility was utilized for routine operations that involved handling of natural gas well liquids containing water and petroleum hydrocarbons until the mid-1970s. The facility has been used for natural gas pipeline equipment storage by the Pacific Gas and Electric Company since 1992. The site is currently undergoing remediation under the oversight of the Contra Costa County Health Services Department and Regional Water Quality Control Board. In 1991, a soil and groundwater investigation found elevated levels of BTEX and TPH onsite. Since then, various site investigations, groundwater extraction events, and AS/SVE remediation activities have been conducted onsite. It was determined that the AS/SVE system had reached its maximum removal potential in 2018 and its use was discontinued. Soil vapor samples from 2018 were reviewed and were determined to be below applicable screening levels with the highest levels being approximately 215 feet away from the subject property.

The most recent groundwater sampling event was conducted in July 2022. BTEX constituents were not detected in any groundwater samples collected from onsite and offsite. Gasoline, diesel, and oil were detected in the majority of groundwater samples collected. Based on figures provided, the highest concentrations appeared to be limited to the site with minor concentrations migrating offsite towards to the north-northwest. One groundwater monitoring well (MW-9) is located on the eastern portion of the subject property in association with this site. No constituents were detected in the most recent monitoring event with the exception of diesel at 88 µg/L which is below the Tier 1 ESL of 100 µg/L. Historically, low levels of diesel, oil, gasoline, and xylenes have been detected in this well; however, no concentrations have ever been over the applicable screening levels.

Since contaminated groundwater is migrating onto the subject property, this is considered a recognized environmental condition.

The REC described above represent potential contaminants and/or pathways to the subsurface.

1.2 - Scope of Services

The objective of Apex's Limited Phase II ESA was to evaluate the potential presence of chemicals of concern (COCs) including volatile organic compounds (VOCs) in soil vapor. Soil vapor samples were collected from the southeast portion of the Site nearest to the adjoining property.

1.3 - Standard of Care and Limitations

Apex's services were performed in accordance with standards customarily provided by a firm rendering the same or similar services in the area during the same period. Apex makes no warranties, expressed or implied, as to the services performed hereunder. Additionally, Apex does not warrant the work of third parties supplying information used in the report (e.g., laboratories, regulatory agencies, or other third parties). This scope of services was performed in accordance with the scope of work agreed upon with the client, as detailed in Apex's cost proposal.

Findings, conclusions, and recommendations resulting from these services are based on information derived from the on-site activities and other services performed under this scope of work, and it should be noted that this information is subject to change over time. Certain indicators of the presence of hazardous substances, petroleum products, or other constituents may have been latent, inaccessible, unobservable, or not present during these services, and Apex cannot represent that the Site contains no hazardous substances, toxic materials, petroleum products, or other latent conditions beyond those identified during these activities. Environmental conditions at other areas or portions of the Site may vary from those encountered at actual sample locations. Apex's findings and recommendations are based solely upon data available to Apex at the time of these services. The scope of services was not intended to identify every chemical possibly associated with the Site. Similarly, the proposed scope was not intended to determine the extent or magnitude of any existing contamination.

2.0 - FIELD ACTIVITIES

2.1 - Soil Vapor Investigation

A total of eight (8) soil borings, SVP-1 through SVP-8, were advanced on-site on March 2, 2023, by Mr. Gabe Villanueva, an Apex environmental scientist, via hand auger drilling methods. Due to the proximity of, and the potential for, subsurface pipelines and storm drains, a ground-penetrating radar (GPR) survey of the proposed soil boring locations was completed prior to soil boring advancement on March 2, 2023.

The borings were advanced to a depth of five (5) feet below ground surface (bgs). Soil was screened approximately every foot. Soil was observed continuously for visual and olfactory observations, for recordation of VOCs field screening results, and for the examination and notation of soil lithology. The head space of the soil samples was field- screened using a calibrated photoionization detector (PID) to detect VOCs, if present. PID readings were non-detect (0.0 parts per million).

A Sample Location Map that indicates the approximate locations of the eight (8) soil borings in relation to pertinent structures and general site boundaries is included as **Figure 3**.

2.2 - Soil Vapor Sampling

Temporary soil vapor sampling probes were installed in each of the eight (8) borings at a depth of approximately 5 feet bgs. The sample locations are depicted on **Figure 3**.

Each sample location was advanced using a hand auger. Soil vapor samples were collected on March 9, 2023 by Harlow Newton, an Apex environmental scientist, using Summa canisters. Soil vapor samples were analyzed for VOCs utilizing TO-15. Three purge volumes were used (a default of three purge volumes was used as recommended by July 2015 Department of Toxic Substances Control [DTSC]/Regional Water Quality Control Board [RWQCB] guidance documents).

Prior to purging and sampling of soil vapor at each point, a shut-in test was conducted to check for leaks in the aboveground fittings. The shut-in test was performed on the aboveground apparatus by evacuating the line to a vacuum of 100 inches of water, sealing the entire system and watching the vacuum for some length of time. A vacuum gauge attached in parallel to the apparatus measured the vacuum. If there was any observable loss of vacuum, the fittings were adjusted as needed until the vacuum did not change noticeably. The soil vapor samples were then collected.

Upon completion of the sampling, the vapor probes were removed and the borings were backfilled with bentonite grout/hydrated chips and capped to match the existing surface.

3.0 – SOIL VAPOR RESULTS

All soil vapor samples were analyzed for VOCS by TO-15 analysis.

All laboratory-reported analytical results are provided in **Appendix 1**.

Table 1 lists the analytical results for the soil vapor investigated during the Limited Phase II ESA in comparison to the following regulatory levels:

- California Department of Toxic Substance Control (DTSC) Human and Ecological Risk Office (HERO) Human Health Risk Assessment (HHRA) Note Number 3 Screening Levels for Commercial/Industrial Air. The soil vapor screening levels (SLs) are calculated by dividing the commercial/industrial air screening levels by the USEPA default attenuation factor of 0.03.
- USEPA Vapor Intrusion Screening Levels (VISL) for a Commercial/Industrial Scenario – Target Sub-Slab and Near Source Soil Gas Concentrations.
- San Francisco Regional Water Quality Control Board (SFRWQCB) Tier 1 Environmental Screening Levels (ESLs).

Several VOCs were detected in all of the soil vapor samples collected. Based on the comparison with the RSLs, ESLs, and SLs, no compound concentrations were found above their respective RSLs, ESLs, and/or SLs.

4.0 - CONCLUSIONS

Several VOCs were detected in all of the soil vapor samples collected. Based on the comparison with the RSLs, ESLs, and SLs, no compound concentrations were found above their respective RSLs, ESLs, and/or SLs.

5.0 - RECOMMENDATIONS

Based on the findings of this Limited Phase II ESA and in response to the project objective, no further action is considered necessary.

6.0 - RELIANCE

This report documents the findings of the services performed by Apex in accordance with our contractual agreement with Resmark Equity Partners. The findings, opinions, and conclusions of this report are for the exclusive use of Resmark Equity Partners and its successors and assigns. This report shall not be provided to any other person, entity, or public or governmental agency (unless otherwise mandated by law) without the written consent of Resmark Equity Partners. Reliance on this report for any use or by parties other than specifically stated herein is prohibited without the expressed written consent of Apex or Resmark Equity Partners. This document is not intended for any purposes other than those expressly set forth herein or as described in Apex's proposal or for use by parties other than for whom it has been prepared and reliance provided for as described herein.

TABLE

TABLE 1
Soil Vapor Analytical Results
BrightSky Development
3001 Oakley Road
Antioch, California
Project No. RES012-0313063-22012535

COMPOUNDS	SFRWQCB Tier 1 Enviornmental Screening Level (µg/m3)	USEPA Residential Soil Vapor Screening Level (µg/m3)	DTSC Residential Soil Vapor Screening Level [1] (µg/m3)	SAMPLE LOCATION DEPTH (feet) DATE (m/d/yy) RESULT (µg/m^3)							
				SV-1 5 feet 3/9/23	SV-2 5 feet 3/9/23	SV-3 5 feet 3/9/23	SV-4 5 feet 3/9/23	SV-5 5 feet 3/9/23	SV-6 5 feet 3/9/23	SV-7 5 feet 3/9/23	SV-8 5 feet 3/9/23
VOCs											
Acetone	1,000,000	-	-	**12**	**14**	**9.6**	**10**	**22**	**29**	**180**	**28**
2-Butanone	170,000	174,000	-	ND	ND	ND	ND	ND	ND	**13**	ND
Carbon disulfide	-	24,300	-	**7.3**	ND	ND	ND	**2.1**	**1.0**	**2.4**	**1.5**
1,3-Dichlorobenzene	-	-	-	**18**	**34**	**26**	**22**	ND	ND	ND	ND
1,1-Dichloroethene	58	6,950	2,433	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	280	1,390	277	ND	ND	ND	ND	ND	ND	ND	ND
Freon 12	-	3,480	-	**1.9**	**1.7**	**1.7**	**1.7**	**1.8**	**1.7**	ND	**1.6**
n-Hexane	-	24,300	-	ND	ND	ND	ND	ND	ND	ND	ND
Isopropanol (IPA)	-	6,950	-	**40**	**49**	**17**	**26**	**4.0**	**7.4**	**11**	ND
Methylene chloride	34	3,380	33	ND	ND	**1.2**	ND	**1.2**	**1.1**	**1.4**	**1.1**
4-Methyl-2-Pentanone	14,000	104,000	-	ND	**2.0**	ND	ND	ND	ND	ND	ND
Tetrachloroethene	15	360	15	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	10,000	174,000	10,333	**4.6**	**1.5**	**1.6**	**1.6**	**2.3**	**3**	**3.1**	**3.1**
Trichloroethene	16	15.9	-	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes (total)	3,500	3,480	-	ND	**4.2**	ND	ND	ND	ND	**6.2**	**4.8**
m,p-Xylene	3,500	3,480	-	ND	**2.9**	ND	ND	ND	ND	**4.3**	**3.2**
o-Xylene	3,500	3,480	-	ND	**1.3**	ND	ND	ND	ND	**1.9**	**1.6**

NOTES:

ug/m3 =micrograms per cubic meter

VOCs =Volatile Organic Compounds via Method 8260B

- = Screening level not established

Only detected compounds are shown. See laboratory report for a complete list of VOCs.

Value exceeds residential soil vapor screening levels

ND = Not detected

[1]The soil vapor screening level is calculated by dividing the residential air screening levels by the United States Enivronmental Protection Agency (USEPA) default attenuation factor and California Environmental Protection Agency (CalEPA) proposed attenuation factor of 0.03.

EPA =Environmental Protection Agency

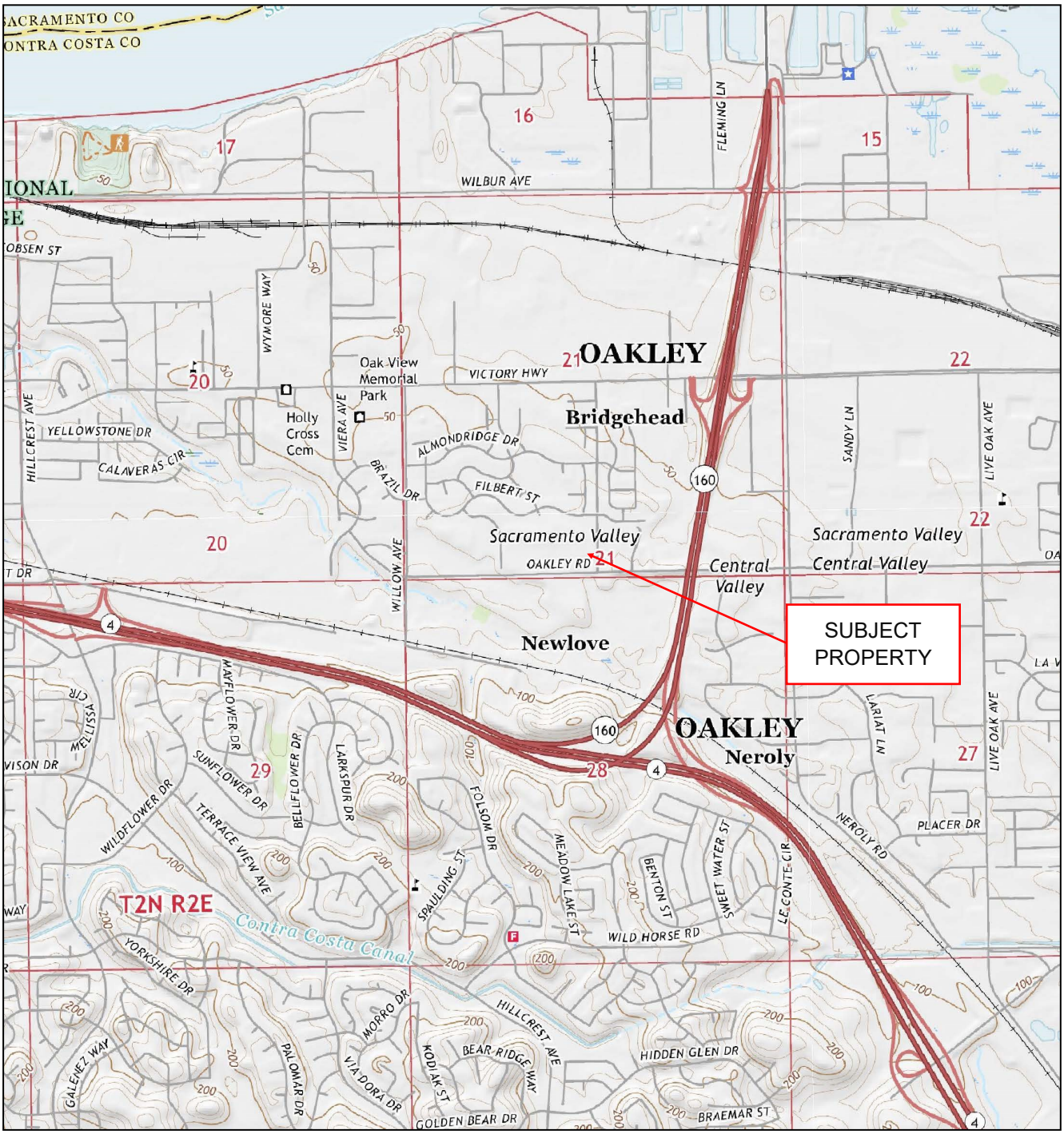
References:

San Francisco Regional Water Quality Control Board (SFRWQCB) Tier 1 Environmental Screening Levels (ESLs), 2019 (Rev. 2)

DTSC, Human and Ecological Risk Office (HERO) Human Health Risk Assessment (HHRA) Note Number 3, Screening Levels for Residential Air, Cancer Endpoint (Noncancer Endpoint used when Cancer Endpoint not available), June 2021

USEPA Vapor Intrusion Screening Levels (VISL) Calculator for Residential Scenario, Target Sub-Slab and Near-source Soil Gas Concentration (Target Risk [TR] = 1E-06, Hazard Quotient [HQ] = 1), May 2022

FIGURES



PORTION OF 7.5-MINUTE
(TOPOGRAPHIC) MAP
UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

ANTIOCH SOUTH-BRENTWOOD-ANTIOCH NORTH,
JERSEY ISLAND, CA QUADRANGLE (2021)

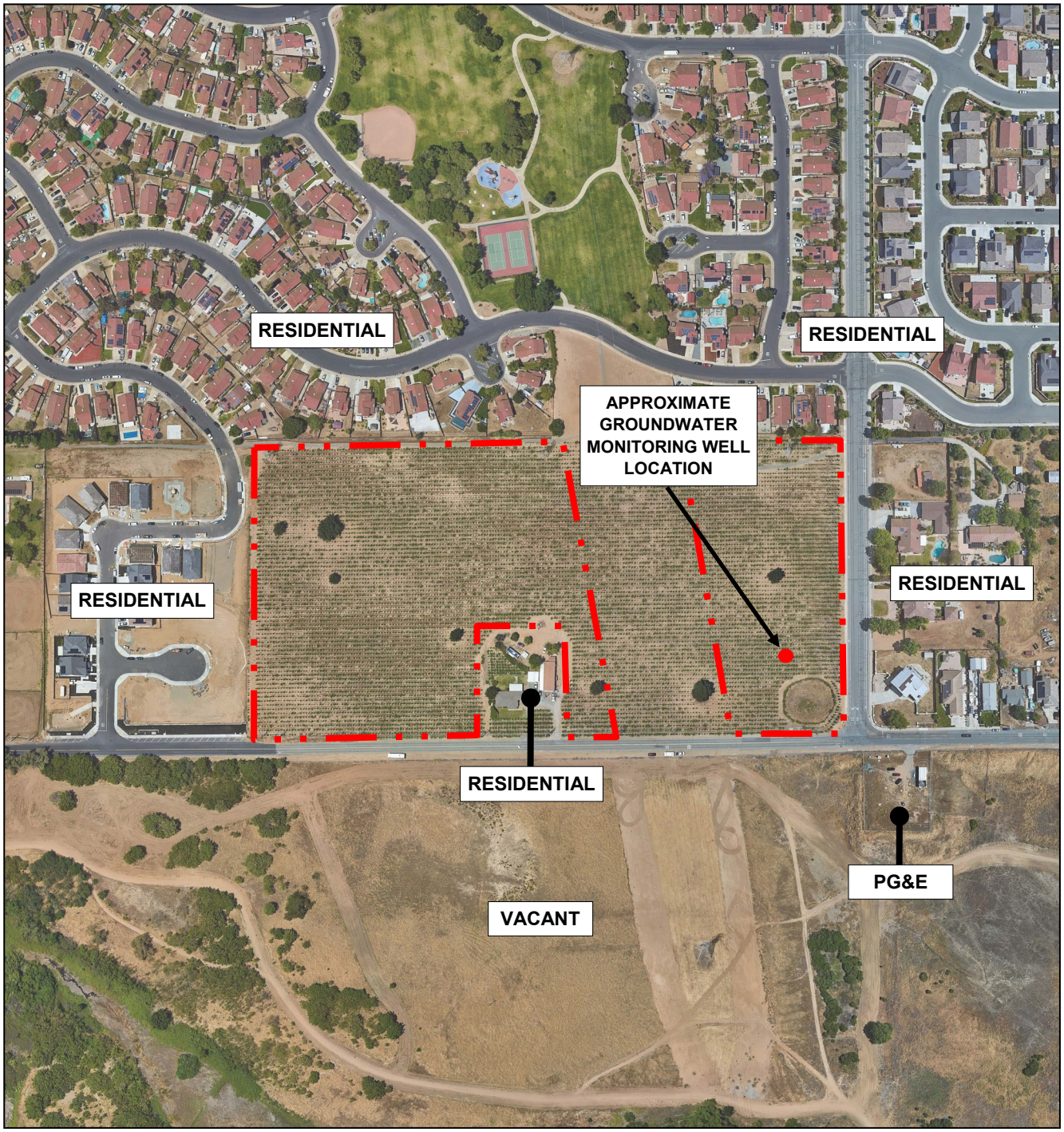
N

SCALE	NOT TO SCALE
DATE	DEC. 14, 2022
PRJ NO.	RES012-0313063-22012535

SITE LOCATION
BRIGHTSKY DEVELOPMENT
3001 OAKLEY ROAD
ANTIOCH, CA 94509

APEX

FIGURE
1



LEGEND

SUBJECT PROPERTY BOUNDARY

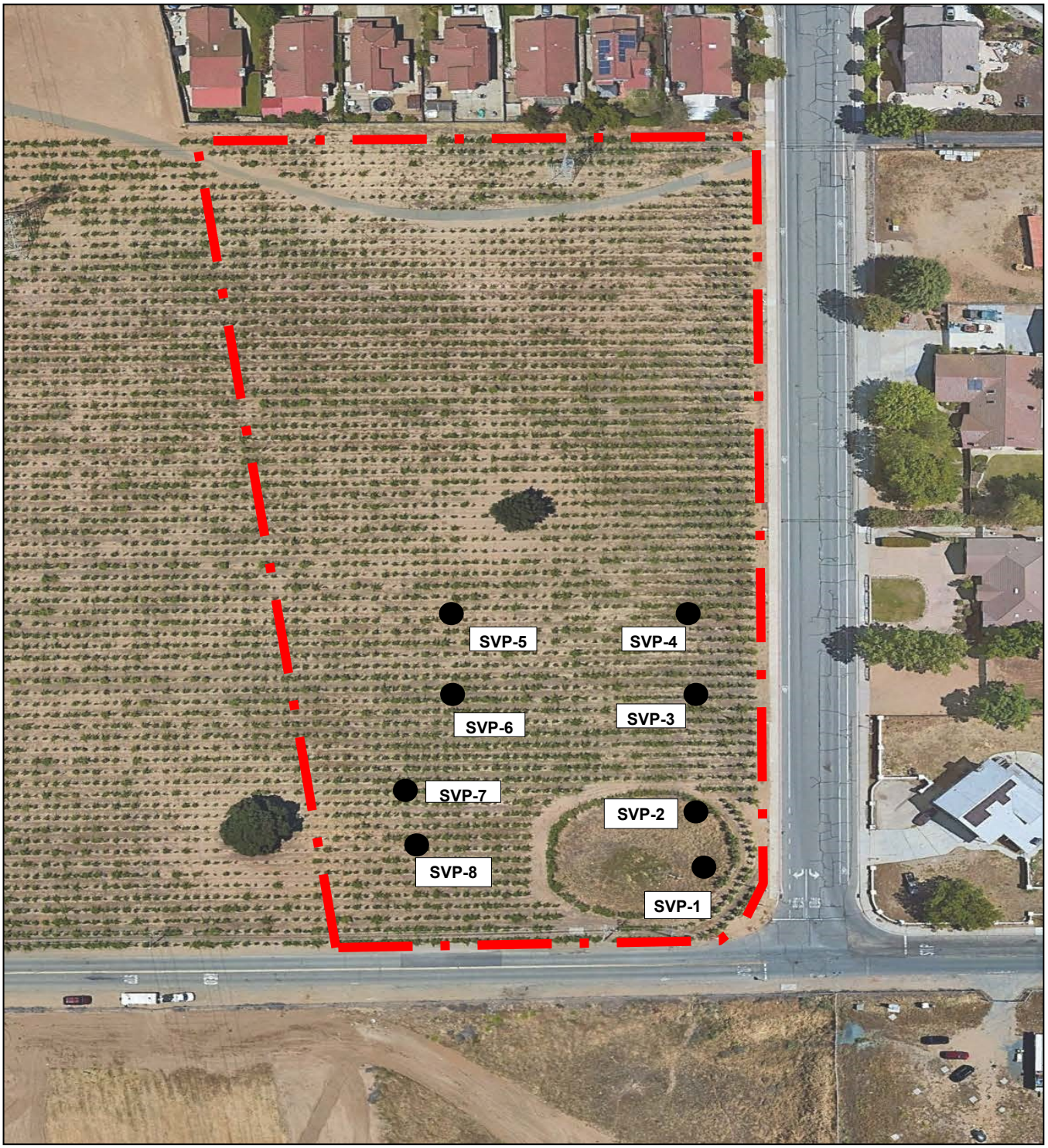
N

SCALE	NOT TO SCALE
DATE	DEC. 15, 2022
PRJ NO.	RES012-0313063-22012535

SITE VICINITY & SURROUNDING PROPERTIES
BRIGHTSKY DEVELOPMENT
3001 OAKLEY ROAD
ANTIOCH, CA 94509

APEX

FIGURE
2



LEGEND

SUBJECT PROPERTY BOUNDARY

SOIL VAPOR SAMPLING LOCATIONS

N

SCALE	NOT TO SCALE
DATE	MARCH 14, 2023
PRJ NO.	RES012-0313063-22012535

SOIL VAPOR SAMPLING LOCATIONS
BRIGHTSKY DEVELOPMENT
3001 OAKLEY ROAD
ANTIOCH, CA 94509

APEX

FIGURE
3

LABORATORY DATA REPORT

Enthalpy Analytical
931 West Barkley Ave
Orange, CA 92868
(714) 771-6900

enthalpy.com

Lab Job Number: 481201
Report Level: II
Report Date: 03/28/2023

Analytical Report *prepared for:*

Gabe Villanueva
Apex Companies, LLC
3480 Buskirk Ave
Suite 210
Pleasant Hill, CA 94523

Location: Resmark Antioch

Authorized for release by:



Diane Galvan, Project Manager
714-771-9928
diane.galvan@enthalpy.com

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the above signature which applies to this PDF file as well as any associated electronic data deliverable files. The results contained in this report meet all requirements of NELAP and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

CA ELAP# 1338, NELAP# 4038, SCAQMD LAP# 18LA0518, LACSD ID# 10105

ENTHALPY ANALYTICAL

Sample Summary

Gabe Villanueva
Apex Companies, LLC
3480 Buskirk Ave
Suite 210
Pleasant Hill, CA 94523

Lab Job #: 481201
Location: Resmark Antioch
Date Received: 03/10/23

Sample ID	Lab ID	Collected	Matrix
SV-5	481201-001	03/09/23 07:32	Air
SV-6	481201-002	03/09/23 07:32	Air
SV-7	481201-003	03/09/23 07:53	Air
SV-8	481201-004	03/09/23 07:55	Air
SV-1	481201-005	03/09/23 08:24	Air
SV-2	481201-006	03/09/23 08:27	Air
SV-3	481201-007	03/09/23 08:50	Air
SV-4	481201-008	03/09/23 08:50	Air

481201

931 W. Barkley Ave., Orange, CA 92868
Phone: (714) 771-6900 Fax: (714) 538-1209

ENTHALPY ANALYTICAL

Air Chain of Custody Record

Lab Job No. _____

Page 1 of 1

CUSTOMER INFORMATION		PROJECT INFORMATION		PO Number:
Company:	Apex	Name:	Resmark Antioch	RES012-0313063-22012535
Report To:	Gabe Villanueva	Number:		Lab Quote Number:
Email:	gabe.villanueva@apexcos.com	Address:	30001 Oakley Road	
Address:	3480 Buskirk Ave		Antioch, CA	
	Pleasant Hill, CA	Global ID:		
Phone:	Fax:	Sampled By:	Harlow Newton	

Special Instructions:

Analysis Request: VOCs TO-15

Required Turnaround Time: Standard ☒ | 5 Day ☐ | 3 Day ☐ | 2 Day ☐ | 1 Day ☐ | Custom TAT: ____

	Sample ID	Air Type (I) Indoor (A) Ambient (SV) Soil Vapor	Equipment Information: Canister ID	Canister Size (6L or 1L)	Flow Controller ID	Start Sampling Information: Date	Time	Canister Pressure (in. Hg)	Stop Sampling Information: Date	Time	Canister Pressure (in. Hg)	Comments
1	SV-5	SV	C11481	1L	A10118	3-9-23	0724	-30	3-9-23	0732	-6	
2	SV-6		C11485		A10612		0725	-28		0732	-6	
3	SV-7		C11145		A10841		0746	-26		0753	-6	
4	SV-8		C11380		A10271		0748	-28		0755	-6	
5	SV-1		C11092		A10685		0817	-30		0824	-6	
6	SV-2		C11023		A10669		0820	-28		0827	-6	
7	SV-3		C11524		A10403		0843	-28		0850	-6	
8	SV-4		C11351		A10568		0843	-28		0850	-6	
9												
10												

	SIGNATURE	PRINT NAME	COMPANY/TITLE	DATE / TIME
RELINQUISHED BY:		Harlow Newton	Apex	3/10/23 10:20
RECEIVED BY:	Audrey Hudson	AUDREY HUDSON	ENTHALPY	3/10/23 10:20
RELINQUISHED BY:	Audrey Hudson	"	"	3/10/23 15:00
RECEIVED BY		Marcus Li & P	EA	3/10/23 15:00
RELINQUISHED BY:		Lisa Fong	EA	3/10/23 15:41
RECEIVED BY		Annaleja Smallcomb	EA	3/14/23 0953

ENTHALPY ANALYTICAL

SAMPLE ACCEPTANCE CHECKLIST

Section 1

Client: Apex Project: Resmark Antioch

Date Received: 3/14/23 Sampler's Name Present: [X] Yes [ ] No

Section 2

Sample(s) received in a cooler? [ ] Yes, How many? _____ [X] No (skip section 2) Sample Temp (°C) (No Cooler): Amb

Sample Temp (°C), One from each cooler: #1: _____ #2: _____ #3: _____ #4: _____

(Acceptance range is < 6°C but not frozen (for Microbiology samples, acceptance range is < 10°C but not frozen). It is acceptable for samples collected the same day as sample receipt to have a higher temperature as long as there is evidence that cooling has begun.)

Shipping Information: _____

Section 3

Was the cooler packed with: [ ] Ice [ ] Ice Packs [ ] Bubble Wrap [ ] Styrofoam [ ] Paper [ ] None [ ] Other _____

Cooler Temp (°C): #1: _____ #2: _____ #3: _____ #4: _____

Section 4	YES	NO	N/A	
Was a COC received?	X			
Are sample IDs present?	X			
Are sampling dates & times present?	X			
Is a relinquished signature present?	X			
Are the tests required clearly indicated on the COC?	X			
Are custody seals present?	X	X		AS 3/14/23
If custody seals are present, were they intact?	X		X	AS 3/14/23
Are all samples sealed in plastic bags? (Recommended for Microbiology samples)			X	
Did all samples arrive intact? If no, indicate in Section 4 below.	X			
Did all bottle labels agree with COC? (ID, dates and times)	X			
Were the samples collected in the correct containers for the required tests?	X			
Are the containers labeled with the correct preservatives?			X	
Is there headspace in the VOA vials greater than 5-6 mm in diameter?			X	
Was a sufficient amount of sample submitted for the requested tests?	X			

Section 5 Explanations/Comments

Section 6

For discrepancies, how was the Project Manager notified? [ ] Verbal PM Initials: _____ Date/Time _____

[ ] Email (email sent to/on): _____ / _____

Project Manager's response:

Completed By: _____ Date: 3/14/23

953

526 | OAK | 85556483

526 - 85556483

Shipper's Name and Address	Shipper's Account Number
ENTHALPY ANALYTICAL, LLC 931 W BARKLEY AVE ORANGE, CA 92868 US +1 (714) 771-6900	103977 - 1

Not Negotiable / Issued by

52685556483

Southwest Cargo

swacargo.com (800) 533-1222

Consignee's Name and Address	Consignee's Account Number
ENTHALPY ANALYTICAL, LLC 931 W BARKLEY AVE ORANGE, CA 92868 US +1 (714) 771-6900	103977 - 1

Copies 1, 2 and 3 of this Air Waybill are originals and have the same validity.

It is agreed that the goods described herein are accepted in apparent good order and condition (except as noted) for carriage **subject to Southwest Airlines' Contract of Carriage which is www.swacargo.com and any location where air waybills are available. Shipper's attention is drawn to the terms of the contract which includes, among other things; (1) Limits on Carriers' liability for loss, damage, or delay of goods, including fragile or perishable goods; (2) Claim restrictions, including time within which shippers or consignees must file a claim or bring an action against the carrier for its acts or omissions or those of its agents; (3) Right of the carrier to change the terms of the contract; (4) Rules about refusal to carry; and (5) Rights of the carrier and limitations, concerning delay or failure to perform service, including schedule changes, rerouting, substitution of an alternate carrier or aircraft, or means of carriage including road unless specific contrary instructions are given hereon by shipper, and shipper agrees the shipment may be carried via intermediate stopping places the carrier deems appropriate.** Shipper may increase liability limits by declaring a higher value for carriage and paying a supplemental charge if required.

Issuing Carrier's Agent Name and City

Accounting Information

Billed on 03/13/2023 18:00 PDT SWA ACCOUNT 103977

Agent's IATA Code	Account No.

Airport of Departure (Addr. of First Carrier) and Requested Routing

OAKLAND

Service Level - S

To	By First Carrier	To	By	To	By	Currency	CHGS Code	WT.VAL PPD	WT.VAL COLL	Other PPD	Other COLL	Declared Value for Carriage	Declared Value for Customs
SNA	SOUTHWEST AIRLINES					USD	PP	X		X		NVD	

Airport of Destination	Flight Date (For Carrier Use Only)	Flight Date	Amount of Insurance	INSURANCE - If carrier offers insurance, and such insurance is requested in accordance with the conditions thereof, indicate amount to be insured in figures in box marked "Amount of Insurance".
SNA	WN1582 / 13MAR			

HANDLING INFORMATION -

SCI

No. of Pieces RCP	Gross Weight	kg lb	Rate Class	Commodity Item No.	Chargeable Weight	Rate / Charge	Total	Nature and Quantity of Goods (Inc. Dimensions or Volume)
2	75	L	N	0000	75	As Agreed	*******	SOIL/WATER/AIR SAMPLES DIMS IN INCHES: 1 = 24 X 15 X 14 1 = 19 X 19 X 13
2	75						*******	

Prepaid	Weight Charge	Collect	Other Charges and Description
			MYC 0.00 SCC 0.00

Valuation Charge	

Tax	

Total Other Charges Due Agent	

Total Other Charges Due Carrier	

Shipper certifies that the particulars on the face hereof are correct and that **insofar as any part of the consignment contains dangerous goods, such part is properly described by name and is in proper condition for carriage by air according to the applicable Dangerous Goods Regulations.** I consent that this shipment shall be subject to search by the Carrier.

AUDREY HUDSON

Signature of Shipper or his Agent

Total Prepaid	Total Collect
*******	

Currency Conversion Rates	CC Charges in Dest.Currency	Executed on (date and time)	At (place)	Signature of Issuing Carrier or its Agent
		03/13/2023 18:01 PDT	OAK	E35693

For Carriers Use only at Destination	Charges at Destination	Total Collect Charges

526 - 85556483

ORIGINAL 2 (FOR CONSIGNEE)

ENTHALPY ANALYTICAL

Analysis Results for 481201

Gabe Villanueva
Apex Companies, LLC
3480 Buskirk Ave
Suite 210
Pleasant Hill, CA 94523

Lab Job #: 481201
Location: Resmark Antioch
Date Received: 03/10/23

Sample ID: SV-5 **Lab ID: 481201-001** **Collected: 03/09/23 07:32**
Matrix: Air

481201-001 Analyte	Result	Qual	Units	RL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA TO-15 Prep Method: METHOD									
1,1-Difluoroethane	ND		ppbv	1.5	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
1,1-Difluoroethane	ND		ug/m3	4.1	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
Freon 12	**0.35**		ppbv	0.30	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
Freon 12	**1.8**		ug/m3	1.5	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
Freon 114	ND		ppbv	0.30	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
Freon 114	ND		ug/m3	2.1	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
Chloromethane	ND		ppbv	0.30	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
Chloromethane	ND		ug/m3	0.62	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
Vinyl Chloride	ND		ppbv	0.30	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
Vinyl Chloride	ND		ug/m3	0.77	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
Bromomethane	ND		ppbv	0.30	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
Bromomethane	ND		ug/m3	1.2	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
Chloroethane	ND		ppbv	0.30	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
Chloroethane	ND		ug/m3	0.79	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
Trichlorofluoromethane	ND		ppbv	0.30	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
Trichlorofluoromethane	ND		ug/m3	1.7	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
1,1-Dichloroethene	ND		ppbv	0.30	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
1,1-Dichloroethene	ND		ug/m3	1.2	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
Freon 113	ND		ppbv	0.30	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
Freon 113	ND		ug/m3	2.3	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
Acetone	**9.2**		ppbv	1.5	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
Acetone	**22**		ug/m3	3.6	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
Carbon Disulfide	**0.67**		ppbv	0.30	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
Carbon Disulfide	**2.1**		ug/m3	0.93	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
Isopropanol (IPA)	**1.6**		ppbv	1.5	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
Isopropanol (IPA)	**4.0**		ug/m3	3.7	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
Methylene Chloride	**0.35**		ppbv	0.30	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
Methylene Chloride	**1.2**		ug/m3	1.0	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
trans-1,2-Dichloroethene	ND		ppbv	0.30	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
trans-1,2-Dichloroethene	ND		ug/m3	1.2	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
MTBE	ND		ppbv	0.30	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
MTBE	ND		ug/m3	1.1	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
n-Hexane	ND		ppbv	0.30	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
n-Hexane	ND		ug/m3	1.1	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ

Results for any subcontracted analyses are not included in this section.

ENTHALPY ANALYTICAL

Analysis Results for 481201

481201-001 Analyte	Result	Qual	Units	RL	DF	Batch	Prepared	Analyzed	Chemist
1,1-Dichloroethane	ND		ppbv	0.30	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
1,1-Dichloroethane	ND		ug/m3	1.2	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
Vinyl Acetate	ND		ppbv	1.5	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
Vinyl Acetate	ND		ug/m3	5.3	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
cis-1,2-Dichloroethene	ND		ppbv	0.30	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
cis-1,2-Dichloroethene	ND		ug/m3	1.2	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
2-Butanone	ND		ppbv	1.5	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
2-Butanone	ND		ug/m3	4.4	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
Chloroform	ND		ppbv	0.30	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
Chloroform	ND		ug/m3	1.5	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
1,1,1-Trichloroethane	ND		ppbv	0.30	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
1,1,1-Trichloroethane	ND		ug/m3	1.6	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
Carbon Tetrachloride	ND		ppbv	0.30	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
Carbon Tetrachloride	ND		ug/m3	1.9	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
Benzene	ND		ppbv	0.30	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
Benzene	ND		ug/m3	0.96	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
1,2-Dichloroethane	ND		ppbv	0.30	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
1,2-Dichloroethane	ND		ug/m3	1.2	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
Trichloroethene	ND		ppbv	0.30	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
Trichloroethene	ND		ug/m3	1.6	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
1,2-Dichloropropane	ND		ppbv	0.30	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
1,2-Dichloropropane	ND		ug/m3	1.4	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
Bromodichloromethane	ND		ppbv	0.30	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
Bromodichloromethane	ND		ug/m3	2.0	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
cis-1,3-Dichloropropene	ND		ppbv	0.30	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
cis-1,3-Dichloropropene	ND		ug/m3	1.4	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
4-Methyl-2-Pentanone	ND		ppbv	0.30	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
4-Methyl-2-Pentanone	ND		ug/m3	1.2	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
Toluene	**0.60**		ppbv	0.30	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
Toluene	**2.3**		ug/m3	1.1	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
trans-1,3-Dichloropropene	ND		ppbv	0.30	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
trans-1,3-Dichloropropene	ND		ug/m3	1.4	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
1,1,2-Trichloroethane	ND		ppbv	0.30	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
1,1,2-Trichloroethane	ND		ug/m3	1.6	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
Tetrachloroethene	ND		ppbv	0.30	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
Tetrachloroethene	ND		ug/m3	2.0	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
2-Hexanone	ND		ppbv	0.75	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
2-Hexanone	ND		ug/m3	3.1	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
Dibromochloromethane	ND		ppbv	0.30	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
Dibromochloromethane	ND		ug/m3	2.6	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
1,2-Dibromoethane	ND		ppbv	0.30	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
1,2-Dibromoethane	ND		ug/m3	2.3	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
Chlorobenzene	ND		ppbv	0.30	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
Chlorobenzene	ND		ug/m3	1.4	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
Ethylbenzene	ND		ppbv	0.30	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
Ethylbenzene	ND		ug/m3	1.3	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ

Results for any subcontracted analyses are not included in this section.

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Analysis Results for 481201

481201-001 Analyte	Result	Qual	Units	RL	DF	Batch	Prepared	Analyzed	Chemist
m,p-Xylenes	ND		ppbv	0.60	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
m,p-Xylenes	ND		ug/m3	2.6	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
o-Xylene	ND		ppbv	0.30	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
o-Xylene	ND		ug/m3	1.3	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
Styrene	ND		ppbv	0.30	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
Styrene	ND		ug/m3	1.3	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
Bromoform	ND		ppbv	0.30	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
Bromoform	ND		ug/m3	3.1	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
1,1,2,2-Tetrachloroethane	ND		ppbv	0.30	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
1,1,2,2-Tetrachloroethane	ND		ug/m3	2.1	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
1,1,1,2-Tetrachloroethane	ND		ppbv	0.30	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
1,1,1,2-Tetrachloroethane	ND		ug/m3	2.1	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
4-Ethyltoluene	ND		ppbv	0.30	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
4-Ethyltoluene	ND		ug/m3	1.5	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
1,3,5-Trimethylbenzene	ND		ppbv	0.30	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
1,3,5-Trimethylbenzene	ND		ug/m3	1.5	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
1,2,4-Trimethylbenzene	ND		ppbv	0.30	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
1,2,4-Trimethylbenzene	ND		ug/m3	1.5	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
1,3-Dichlorobenzene	ND		ppbv	0.30	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
1,3-Dichlorobenzene	ND		ug/m3	1.8	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
1,4-Dichlorobenzene	ND		ppbv	0.30	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
1,4-Dichlorobenzene	ND		ug/m3	1.8	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
Benzyl chloride	ND		ppbv	0.30	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
Benzyl chloride	ND		ug/m3	1.6	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
1,2-Dichlorobenzene	ND		ppbv	0.30	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
1,2-Dichlorobenzene	ND		ug/m3	1.8	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
1,2,4-Trichlorobenzene	ND		ppbv	0.30	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
1,2,4-Trichlorobenzene	ND		ug/m3	2.2	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
Hexachlorobutadiene	ND		ppbv	0.30	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
Hexachlorobutadiene	ND		ug/m3	3.2	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
Xylene (total)	ND		ppbv	0.30	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
Xylene (total)	ND		ug/m3	1.3	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ
Surrogates				**Limits**					
Bromofluorobenzene	100%		%REC	60-140	1.5	309542	03/14/23 15:34	03/14/23 15:34	ZNZ

Results for any subcontracted analyses are not included in this section.

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Analysis Results for 481201

Sample ID: SV-6	Lab ID: 481201-002	Collected: 03/09/23 07:32
	Matrix: Air	

481201-002 Analyte	Result	Qual	Units	RL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA TO-15 Prep Method: METHOD									
1,1-Difluoroethane	ND		ppbv	1.5	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
1,1-Difluoroethane	ND		ug/m3	4.1	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
Freon 12	**0.33**		ppbv	0.30	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
Freon 12	**1.7**		ug/m3	1.5	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
Freon 114	ND		ppbv	0.30	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
Freon 114	ND		ug/m3	2.1	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
Chloromethane	ND		ppbv	0.30	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
Chloromethane	ND		ug/m3	0.62	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
Vinyl Chloride	ND		ppbv	0.30	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
Vinyl Chloride	ND		ug/m3	0.77	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
Bromomethane	ND		ppbv	0.30	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
Bromomethane	ND		ug/m3	1.2	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
Chloroethane	ND		ppbv	0.30	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
Chloroethane	ND		ug/m3	0.79	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
Trichlorofluoromethane	ND		ppbv	0.30	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
Trichlorofluoromethane	ND		ug/m3	1.7	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
1,1-Dichloroethene	ND		ppbv	0.30	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
1,1-Dichloroethene	ND		ug/m3	1.2	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
Freon 113	ND		ppbv	0.30	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
Freon 113	ND		ug/m3	2.3	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
Acetone	**12**		ppbv	1.5	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
Acetone	**29**		ug/m3	3.6	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
Carbon Disulfide	**0.33**		ppbv	0.30	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
Carbon Disulfide	**1.0**		ug/m3	0.93	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
Isopropanol (IPA)	**3.0**		ppbv	1.5	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
Isopropanol (IPA)	**7.4**		ug/m3	3.7	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
Methylene Chloride	**0.31**		ppbv	0.30	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
Methylene Chloride	**1.1**		ug/m3	1.0	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
trans-1,2-Dichloroethene	ND		ppbv	0.30	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
trans-1,2-Dichloroethene	ND		ug/m3	1.2	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
MTBE	ND		ppbv	0.30	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
MTBE	ND		ug/m3	1.1	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
n-Hexane	ND		ppbv	0.30	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
n-Hexane	ND		ug/m3	1.1	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
1,1-Dichloroethane	ND		ppbv	0.30	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
1,1-Dichloroethane	ND		ug/m3	1.2	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
Vinyl Acetate	ND		ppbv	1.5	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
Vinyl Acetate	ND		ug/m3	5.3	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
cis-1,2-Dichloroethene	ND		ppbv	0.30	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
cis-1,2-Dichloroethene	ND		ug/m3	1.2	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ

Results for any subcontracted analyses are not included in this section.

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Analysis Results for 481201

481201-002 Analyte	Result	Qual	Units	RL	DF	Batch	Prepared	Analyzed	Chemist
2-Butanone	ND		ppbv	1.5	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
2-Butanone	ND		ug/m3	4.4	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
Chloroform	ND		ppbv	0.30	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
Chloroform	ND		ug/m3	1.5	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
1,1,1-Trichloroethane	ND		ppbv	0.30	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
1,1,1-Trichloroethane	ND		ug/m3	1.6	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
Carbon Tetrachloride	ND		ppbv	0.30	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
Carbon Tetrachloride	ND		ug/m3	1.9	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
Benzene	ND		ppbv	0.30	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
Benzene	ND		ug/m3	0.96	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
1,2-Dichloroethane	ND		ppbv	0.30	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
1,2-Dichloroethane	ND		ug/m3	1.2	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
Trichloroethene	ND		ppbv	0.30	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
Trichloroethene	ND		ug/m3	1.6	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
1,2-Dichloropropane	ND		ppbv	0.30	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
1,2-Dichloropropane	ND		ug/m3	1.4	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
Bromodichloromethane	ND		ppbv	0.30	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
Bromodichloromethane	ND		ug/m3	2.0	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
cis-1,3-Dichloropropene	ND		ppbv	0.30	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
cis-1,3-Dichloropropene	ND		ug/m3	1.4	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
4-Methyl-2-Pentanone	ND		ppbv	0.30	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
4-Methyl-2-Pentanone	ND		ug/m3	1.2	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
Toluene	**0.77**		ppbv	0.30	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
Toluene	**2.9**		ug/m3	1.1	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
trans-1,3-Dichloropropene	ND		ppbv	0.30	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
trans-1,3-Dichloropropene	ND		ug/m3	1.4	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
1,1,2-Trichloroethane	ND		ppbv	0.30	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
1,1,2-Trichloroethane	ND		ug/m3	1.6	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
Tetrachloroethene	ND		ppbv	0.30	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
Tetrachloroethene	ND		ug/m3	2.0	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
2-Hexanone	ND		ppbv	0.75	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
2-Hexanone	ND		ug/m3	3.1	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
Dibromochloromethane	ND		ppbv	0.30	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
Dibromochloromethane	ND		ug/m3	2.6	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
1,2-Dibromoethane	ND		ppbv	0.30	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
1,2-Dibromoethane	ND		ug/m3	2.3	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
Chlorobenzene	ND		ppbv	0.30	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
Chlorobenzene	ND		ug/m3	1.4	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
Ethylbenzene	ND		ppbv	0.30	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
Ethylbenzene	ND		ug/m3	1.3	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
m,p-Xylenes	ND		ppbv	0.60	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
m,p-Xylenes	ND		ug/m3	2.6	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
o-Xylene	ND		ppbv	0.30	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
o-Xylene	ND		ug/m3	1.3	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
Styrene	ND		ppbv	0.30	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
Styrene	ND		ug/m3	1.3	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ

Results for any subcontracted analyses are not included in this section.

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Analysis Results for 481201

481201-002 Analyte	Result	Qual	Units	RL	DF	Batch	Prepared	Analyzed	Chemist
Bromoform	ND		ppbv	0.30	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
Bromoform	ND		ug/m3	3.1	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
1,1,2,2-Tetrachloroethane	ND		ppbv	0.30	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
1,1,2,2-Tetrachloroethane	ND		ug/m3	2.1	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
1,1,1,2-Tetrachloroethane	ND		ppbv	0.30	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
1,1,1,2-Tetrachloroethane	ND		ug/m3	2.1	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
4-Ethyltoluene	ND		ppbv	0.30	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
4-Ethyltoluene	ND		ug/m3	1.5	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
1,3,5-Trimethylbenzene	ND		ppbv	0.30	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
1,3,5-Trimethylbenzene	ND		ug/m3	1.5	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
1,2,4-Trimethylbenzene	ND		ppbv	0.30	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
1,2,4-Trimethylbenzene	ND		ug/m3	1.5	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
1,3-Dichlorobenzene	ND		ppbv	0.30	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
1,3-Dichlorobenzene	ND		ug/m3	1.8	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
1,4-Dichlorobenzene	ND		ppbv	0.30	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
1,4-Dichlorobenzene	ND		ug/m3	1.8	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
Benzyl chloride	ND		ppbv	0.30	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
Benzyl chloride	ND		ug/m3	1.6	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
1,2-Dichlorobenzene	ND		ppbv	0.30	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
1,2-Dichlorobenzene	ND		ug/m3	1.8	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
1,2,4-Trichlorobenzene	ND		ppbv	0.30	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
1,2,4-Trichlorobenzene	ND		ug/m3	2.2	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
Hexachlorobutadiene	ND		ppbv	0.30	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
Hexachlorobutadiene	ND		ug/m3	3.2	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
Xylene (total)	ND		ppbv	0.30	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
Xylene (total)	ND		ug/m3	1.3	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ
Surrogates				**Limits**					
Bromofluorobenzene	98%		%REC	60-140	1.5	309542	03/14/23 16:07	03/14/23 16:07	ZNZ

Results for any subcontracted analyses are not included in this section.

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Analysis Results for 481201

Sample ID: SV-7	Lab ID: 481201-003	Collected: 03/09/23 07:53
	Matrix: Air	

481201-003 Analyte	Result	Qual	Units	RL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA TO-15 Prep Method: METHOD									
1,1-Difluoroethane	ND		ppbv	1.9	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
1,1-Difluoroethane	ND		ug/m3	5.1	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
Freon 12	ND		ppbv	0.38	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
Freon 12	ND		ug/m3	1.9	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
Freon 114	ND		ppbv	0.38	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
Freon 114	ND		ug/m3	2.6	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
Chloromethane	ND		ppbv	0.38	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
Chloromethane	ND		ug/m3	0.77	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
Vinyl Chloride	ND		ppbv	0.38	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
Vinyl Chloride	ND		ug/m3	0.96	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
Bromomethane	ND		ppbv	0.38	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
Bromomethane	ND		ug/m3	1.5	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
Chloroethane	ND		ppbv	0.38	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
Chloroethane	ND		ug/m3	0.99	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
Trichlorofluoromethane	ND		ppbv	0.38	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
Trichlorofluoromethane	ND		ug/m3	2.1	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
1,1-Dichloroethene	ND		ppbv	0.38	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
1,1-Dichloroethene	ND		ug/m3	1.5	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
Freon 113	ND		ppbv	0.38	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
Freon 113	ND		ug/m3	2.9	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
Acetone	**75**		ppbv	1.9	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
Acetone	**180**		ug/m3	4.5	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
Carbon Disulfide	**0.78**		ppbv	0.38	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
Carbon Disulfide	**2.4**		ug/m3	1.2	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
Isopropanol (IPA)	**4.3**		ppbv	1.9	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
Isopropanol (IPA)	**11**		ug/m3	4.6	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
Methylene Chloride	**0.41**		ppbv	0.38	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
Methylene Chloride	**1.4**		ug/m3	1.3	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
trans-1,2-Dichloroethene	ND		ppbv	0.38	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
trans-1,2-Dichloroethene	ND		ug/m3	1.5	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
MTBE	ND		ppbv	0.38	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
MTBE	ND		ug/m3	1.4	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
n-Hexane	ND		ppbv	0.38	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
n-Hexane	ND		ug/m3	1.3	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
1,1-Dichloroethane	ND		ppbv	0.38	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
1,1-Dichloroethane	ND		ug/m3	1.5	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
Vinyl Acetate	ND		ppbv	1.9	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
Vinyl Acetate	ND		ug/m3	6.6	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
cis-1,2-Dichloroethene	ND		ppbv	0.38	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
cis-1,2-Dichloroethene	ND		ug/m3	1.5	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ

Results for any subcontracted analyses are not included in this section.

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Analysis Results for 481201

481201-003 Analyte	Result	Qual	Units	RL	DF	Batch	Prepared	Analyzed	Chemist
2-Butanone	**4.3**		ppbv	1.9	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
2-Butanone	**13**		ug/m3	5.5	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
Chloroform	ND		ppbv	0.38	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
Chloroform	ND		ug/m3	1.8	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
1,1,1-Trichloroethane	ND		ppbv	0.38	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
1,1,1-Trichloroethane	ND		ug/m3	2.0	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
Carbon Tetrachloride	ND		ppbv	0.38	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
Carbon Tetrachloride	ND		ug/m3	2.4	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
Benzene	ND		ppbv	0.38	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
Benzene	ND		ug/m3	1.2	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
1,2-Dichloroethane	ND		ppbv	0.38	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
1,2-Dichloroethane	ND		ug/m3	1.5	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
Trichloroethene	ND		ppbv	0.38	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
Trichloroethene	ND		ug/m3	2.0	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
1,2-Dichloropropane	ND		ppbv	0.38	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
1,2-Dichloropropane	ND		ug/m3	1.7	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
Bromodichloromethane	ND		ppbv	0.38	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
Bromodichloromethane	ND		ug/m3	2.5	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
cis-1,3-Dichloropropene	ND		ppbv	0.38	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
cis-1,3-Dichloropropene	ND		ug/m3	1.7	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
4-Methyl-2-Pentanone	ND		ppbv	0.38	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
4-Methyl-2-Pentanone	ND		ug/m3	1.5	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
Toluene	**0.83**		ppbv	0.38	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
Toluene	**3.1**		ug/m3	1.4	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
trans-1,3-Dichloropropene	ND		ppbv	0.38	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
trans-1,3-Dichloropropene	ND		ug/m3	1.7	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
1,1,2-Trichloroethane	ND		ppbv	0.38	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
1,1,2-Trichloroethane	ND		ug/m3	2.0	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
Tetrachloroethene	ND		ppbv	0.38	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
Tetrachloroethene	ND		ug/m3	2.5	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
2-Hexanone	ND		ppbv	0.94	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
2-Hexanone	ND		ug/m3	3.8	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
Dibromochloromethane	ND		ppbv	0.38	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
Dibromochloromethane	ND		ug/m3	3.2	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
1,2-Dibromoethane	ND		ppbv	0.38	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
1,2-Dibromoethane	ND		ug/m3	2.9	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
Chlorobenzene	ND		ppbv	0.38	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
Chlorobenzene	ND		ug/m3	1.7	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
Ethylbenzene	ND		ppbv	0.38	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
Ethylbenzene	ND		ug/m3	1.6	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
m,p-Xylenes	**0.99**		ppbv	0.75	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
m,p-Xylenes	**4.3**		ug/m3	3.3	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
o-Xylene	**0.44**		ppbv	0.38	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
o-Xylene	**1.9**		ug/m3	1.6	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
Styrene	ND		ppbv	0.38	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
Styrene	ND		ug/m3	1.6	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ

Results for any subcontracted analyses are not included in this section.

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Analysis Results for 481201

481201-003 Analyte	Result	Qual	Units	RL	DF	Batch	Prepared	Analyzed	Chemist
Bromoform	ND		ppbv	0.38	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
Bromoform	ND		ug/m3	3.9	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
1,1,2,2-Tetrachloroethane	ND		ppbv	0.38	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
1,1,2,2-Tetrachloroethane	ND		ug/m3	2.6	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
1,1,1,2-Tetrachloroethane	ND		ppbv	0.38	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
1,1,1,2-Tetrachloroethane	ND		ug/m3	2.6	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
4-Ethyltoluene	ND		ppbv	0.38	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
4-Ethyltoluene	ND		ug/m3	1.8	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
1,3,5-Trimethylbenzene	ND		ppbv	0.38	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
1,3,5-Trimethylbenzene	ND		ug/m3	1.8	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
1,2,4-Trimethylbenzene	ND		ppbv	0.38	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
1,2,4-Trimethylbenzene	ND		ug/m3	1.8	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
1,3-Dichlorobenzene	ND		ppbv	0.38	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
1,3-Dichlorobenzene	ND		ug/m3	2.3	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
1,4-Dichlorobenzene	ND		ppbv	0.38	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
1,4-Dichlorobenzene	ND		ug/m3	2.3	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
Benzyl chloride	ND		ppbv	0.38	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
Benzyl chloride	ND		ug/m3	1.9	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
1,2-Dichlorobenzene	ND		ppbv	0.38	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
1,2-Dichlorobenzene	ND		ug/m3	2.3	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
1,2,4-Trichlorobenzene	ND		ppbv	0.38	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
1,2,4-Trichlorobenzene	ND		ug/m3	2.8	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
Hexachlorobutadiene	ND		ppbv	0.38	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
Hexachlorobutadiene	ND		ug/m3	4.0	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
Xylene (total)	**1.4**		ppbv	0.38	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
Xylene (total)	**6.2**		ug/m3	1.6	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ
Surrogates				**Limits**					
Bromofluorobenzene	99%		%REC	60-140	1.9	309542	03/14/23 17:39	03/14/23 17:39	ZNZ

Results for any subcontracted analyses are not included in this section.

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Analysis Results for 481201

Sample ID: SV-8	Lab ID: 481201-004	Collected: 03/09/23 07:55
	Matrix: Air	

481201-004 Analyte	Result	Qual	Units	RL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA TO-15 Prep Method: METHOD									
1,1-Difluoroethane	ND		ppbv	1.5	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
1,1-Difluoroethane	ND		ug/m3	4.1	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
Freon 12	**0.33**		ppbv	0.30	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
Freon 12	**1.6**		ug/m3	1.5	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
Freon 114	ND		ppbv	0.30	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
Freon 114	ND		ug/m3	2.1	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
Chloromethane	ND		ppbv	0.30	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
Chloromethane	ND		ug/m3	0.62	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
Vinyl Chloride	ND		ppbv	0.30	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
Vinyl Chloride	ND		ug/m3	0.77	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
Bromomethane	ND		ppbv	0.30	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
Bromomethane	ND		ug/m3	1.2	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
Chloroethane	ND		ppbv	0.30	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
Chloroethane	ND		ug/m3	0.79	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
Trichlorofluoromethane	ND		ppbv	0.30	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
Trichlorofluoromethane	ND		ug/m3	1.7	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
1,1-Dichloroethene	ND		ppbv	0.30	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
1,1-Dichloroethene	ND		ug/m3	1.2	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
Freon 113	ND		ppbv	0.30	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
Freon 113	ND		ug/m3	2.3	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
Acetone	**12**		ppbv	1.5	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
Acetone	**28**		ug/m3	3.6	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
Carbon Disulfide	**0.47**		ppbv	0.30	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
Carbon Disulfide	**1.5**		ug/m3	0.93	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
Isopropanol (IPA)	ND		ppbv	1.5	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
Isopropanol (IPA)	ND		ug/m3	3.7	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
Methylene Chloride	**0.32**		ppbv	0.30	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
Methylene Chloride	**1.1**		ug/m3	1.0	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
trans-1,2-Dichloroethene	ND		ppbv	0.30	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
trans-1,2-Dichloroethene	ND		ug/m3	1.2	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
MTBE	ND		ppbv	0.30	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
MTBE	ND		ug/m3	1.1	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
n-Hexane	ND		ppbv	0.30	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
n-Hexane	ND		ug/m3	1.1	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
1,1-Dichloroethane	ND		ppbv	0.30	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
1,1-Dichloroethane	ND		ug/m3	1.2	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
Vinyl Acetate	ND		ppbv	1.5	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
Vinyl Acetate	ND		ug/m3	5.3	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
cis-1,2-Dichloroethene	ND		ppbv	0.30	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
cis-1,2-Dichloroethene	ND		ug/m3	1.2	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ

Results for any subcontracted analyses are not included in this section.

ENTHALPY ANALYTICAL

Analysis Results for 481201

481201-004 Analyte	Result	Qual	Units	RL	DF	Batch	Prepared	Analyzed	Chemist
2-Butanone	ND		ppbv	1.5	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
2-Butanone	ND		ug/m3	4.4	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
Chloroform	ND		ppbv	0.30	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
Chloroform	ND		ug/m3	1.5	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
1,1,1-Trichloroethane	ND		ppbv	0.30	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
1,1,1-Trichloroethane	ND		ug/m3	1.6	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
Carbon Tetrachloride	ND		ppbv	0.30	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
Carbon Tetrachloride	ND		ug/m3	1.9	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
Benzene	ND		ppbv	0.30	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
Benzene	ND		ug/m3	0.96	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
1,2-Dichloroethane	ND		ppbv	0.30	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
1,2-Dichloroethane	ND		ug/m3	1.2	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
Trichloroethene	ND		ppbv	0.30	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
Trichloroethene	ND		ug/m3	1.6	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
1,2-Dichloropropane	ND		ppbv	0.30	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
1,2-Dichloropropane	ND		ug/m3	1.4	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
Bromodichloromethane	ND		ppbv	0.30	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
Bromodichloromethane	ND		ug/m3	2.0	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
cis-1,3-Dichloropropene	ND		ppbv	0.30	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
cis-1,3-Dichloropropene	ND		ug/m3	1.4	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
4-Methyl-2-Pentanone	ND		ppbv	0.30	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
4-Methyl-2-Pentanone	ND		ug/m3	1.2	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
Toluene	**0.82**		ppbv	0.30	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
Toluene	**3.1**		ug/m3	1.1	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
trans-1,3-Dichloropropene	ND		ppbv	0.30	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
trans-1,3-Dichloropropene	ND		ug/m3	1.4	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
1,1,2-Trichloroethane	ND		ppbv	0.30	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
1,1,2-Trichloroethane	ND		ug/m3	1.6	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
Tetrachloroethene	ND		ppbv	0.30	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
Tetrachloroethene	ND		ug/m3	2.0	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
2-Hexanone	ND		ppbv	0.75	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
2-Hexanone	ND		ug/m3	3.1	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
Dibromochloromethane	ND		ppbv	0.30	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
Dibromochloromethane	ND		ug/m3	2.6	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
1,2-Dibromoethane	ND		ppbv	0.30	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
1,2-Dibromoethane	ND		ug/m3	2.3	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
Chlorobenzene	ND		ppbv	0.30	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
Chlorobenzene	ND		ug/m3	1.4	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
Ethylbenzene	ND		ppbv	0.30	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
Ethylbenzene	ND		ug/m3	1.3	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
m,p-Xylenes	**0.73**		ppbv	0.60	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
m,p-Xylenes	**3.2**		ug/m3	2.6	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
o-Xylene	**0.38**		ppbv	0.30	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
o-Xylene	**1.6**		ug/m3	1.3	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
Styrene	ND		ppbv	0.30	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
Styrene	ND		ug/m3	1.3	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ

Results for any subcontracted analyses are not included in this section.

ENTHALPY ANALYTICAL

Analysis Results for 481201

481201-004 Analyte	Result	Qual	Units	RL	DF	Batch	Prepared	Analyzed	Chemist
Bromoform	ND		ppbv	0.30	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
Bromoform	ND		ug/m3	3.1	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
1,1,2,2-Tetrachloroethane	ND		ppbv	0.30	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
1,1,2,2-Tetrachloroethane	ND		ug/m3	2.1	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
1,1,1,2-Tetrachloroethane	ND		ppbv	0.30	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
1,1,1,2-Tetrachloroethane	ND		ug/m3	2.1	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
4-Ethyltoluene	ND		ppbv	0.30	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
4-Ethyltoluene	ND		ug/m3	1.5	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
1,3,5-Trimethylbenzene	ND		ppbv	0.30	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
1,3,5-Trimethylbenzene	ND		ug/m3	1.5	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
1,2,4-Trimethylbenzene	ND		ppbv	0.30	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
1,2,4-Trimethylbenzene	ND		ug/m3	1.5	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
1,3-Dichlorobenzene	ND		ppbv	0.30	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
1,3-Dichlorobenzene	ND		ug/m3	1.8	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
1,4-Dichlorobenzene	ND		ppbv	0.30	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
1,4-Dichlorobenzene	ND		ug/m3	1.8	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
Benzyl chloride	ND		ppbv	0.30	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
Benzyl chloride	ND		ug/m3	1.6	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
1,2-Dichlorobenzene	ND		ppbv	0.30	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
1,2-Dichlorobenzene	ND		ug/m3	1.8	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
1,2,4-Trichlorobenzene	ND		ppbv	0.30	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
1,2,4-Trichlorobenzene	ND		ug/m3	2.2	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
Hexachlorobutadiene	ND		ppbv	0.30	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
Hexachlorobutadiene	ND		ug/m3	3.2	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
Xylene (total)	**1.1**		ppbv	0.30	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
Xylene (total)	**4.8**		ug/m3	1.3	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ
Surrogates				**Limits**					
Bromofluorobenzene	98%		%REC	60-140	1.5	309542	03/14/23 19:16	03/14/23 19:16	ZNZ

Results for any subcontracted analyses are not included in this section.

ENTHALPY ANALYTICAL

Analysis Results for 481201

Sample ID: SV-1	Lab ID: 481201-005	Collected: 03/09/23 08:24
	Matrix: Air	

481201-005 Analyte	Result	Qual	Units	RL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA TO-15 Prep Method: METHOD									
1,1-Difluoroethane	ND		ppbv	1.5	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
1,1-Difluoroethane	ND		ug/m3	4.1	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
Freon 12	**0.38**		ppbv	0.30	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
Freon 12	**1.9**		ug/m3	1.5	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
Freon 114	ND		ppbv	0.30	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
Freon 114	ND		ug/m3	2.1	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
Chloromethane	ND		ppbv	0.30	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
Chloromethane	ND		ug/m3	0.62	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
Vinyl Chloride	ND		ppbv	0.30	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
Vinyl Chloride	ND		ug/m3	0.77	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
Bromomethane	ND		ppbv	0.30	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
Bromomethane	ND		ug/m3	1.2	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
Chloroethane	ND		ppbv	0.30	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
Chloroethane	ND		ug/m3	0.79	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
Trichlorofluoromethane	ND		ppbv	0.30	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
Trichlorofluoromethane	ND		ug/m3	1.7	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
1,1-Dichloroethene	ND		ppbv	0.30	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
1,1-Dichloroethene	ND		ug/m3	1.2	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
Freon 113	ND		ppbv	0.30	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
Freon 113	ND		ug/m3	2.3	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
Acetone	**5.1**		ppbv	1.5	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
Acetone	**12**		ug/m3	3.6	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
Carbon Disulfide	**2.3**		ppbv	0.30	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
Carbon Disulfide	**7.3**		ug/m3	0.93	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
Isopropanol (IPA)	**16**		ppbv	1.5	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
Isopropanol (IPA)	**40**		ug/m3	3.7	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
Methylene Chloride	ND		ppbv	0.30	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
Methylene Chloride	ND		ug/m3	1.0	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
trans-1,2-Dichloroethene	ND		ppbv	0.30	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
trans-1,2-Dichloroethene	ND		ug/m3	1.2	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
MTBE	ND		ppbv	0.30	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
MTBE	ND		ug/m3	1.1	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
n-Hexane	ND		ppbv	0.30	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
n-Hexane	ND		ug/m3	1.1	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
1,1-Dichloroethane	ND		ppbv	0.30	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
1,1-Dichloroethane	ND		ug/m3	1.2	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
Vinyl Acetate	ND		ppbv	1.5	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
Vinyl Acetate	ND		ug/m3	5.3	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
cis-1,2-Dichloroethene	ND		ppbv	0.30	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
cis-1,2-Dichloroethene	ND		ug/m3	1.2	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ

Results for any subcontracted analyses are not included in this section.

ENTHALPY ANALYTICAL

Analysis Results for 481201

481201-005 Analyte	Result	Qual	Units	RL	DF	Batch	Prepared	Analyzed	Chemist
2-Butanone	ND		ppbv	1.5	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
2-Butanone	ND		ug/m3	4.4	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
Chloroform	ND		ppbv	0.30	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
Chloroform	ND		ug/m3	1.5	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
1,1,1-Trichloroethane	ND		ppbv	0.30	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
1,1,1-Trichloroethane	ND		ug/m3	1.6	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
Carbon Tetrachloride	ND		ppbv	0.30	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
Carbon Tetrachloride	ND		ug/m3	1.9	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
Benzene	ND		ppbv	0.30	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
Benzene	ND		ug/m3	0.96	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
1,2-Dichloroethane	ND		ppbv	0.30	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
1,2-Dichloroethane	ND		ug/m3	1.2	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
Trichloroethene	ND		ppbv	0.30	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
Trichloroethene	ND		ug/m3	1.6	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
1,2-Dichloropropane	ND		ppbv	0.30	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
1,2-Dichloropropane	ND		ug/m3	1.4	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
Bromodichloromethane	ND		ppbv	0.30	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
Bromodichloromethane	ND		ug/m3	2.0	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
cis-1,3-Dichloropropene	ND		ppbv	0.30	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
cis-1,3-Dichloropropene	ND		ug/m3	1.4	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
4-Methyl-2-Pentanone	ND		ppbv	0.30	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
4-Methyl-2-Pentanone	ND		ug/m3	1.2	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
Toluene	**1.2**		ppbv	0.30	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
Toluene	**4.6**		ug/m3	1.1	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
trans-1,3-Dichloropropene	ND		ppbv	0.30	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
trans-1,3-Dichloropropene	ND		ug/m3	1.4	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
1,1,2-Trichloroethane	ND		ppbv	0.30	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
1,1,2-Trichloroethane	ND		ug/m3	1.6	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
Tetrachloroethene	ND		ppbv	0.30	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
Tetrachloroethene	ND		ug/m3	2.0	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
2-Hexanone	ND		ppbv	0.75	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
2-Hexanone	ND		ug/m3	3.1	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
Dibromochloromethane	ND		ppbv	0.30	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
Dibromochloromethane	ND		ug/m3	2.6	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
1,2-Dibromoethane	ND		ppbv	0.30	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
1,2-Dibromoethane	ND		ug/m3	2.3	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
Chlorobenzene	ND		ppbv	0.30	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
Chlorobenzene	ND		ug/m3	1.4	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
Ethylbenzene	ND		ppbv	0.30	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
Ethylbenzene	ND		ug/m3	1.3	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
m,p-Xylenes	ND		ppbv	0.60	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
m,p-Xylenes	ND		ug/m3	2.6	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
o-Xylene	ND		ppbv	0.30	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
o-Xylene	ND		ug/m3	1.3	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
Styrene	ND		ppbv	0.30	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
Styrene	ND		ug/m3	1.3	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ

Results for any subcontracted analyses are not included in this section.

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Analysis Results for 481201

481201-005 Analyte	Result	Qual	Units	RL	DF	Batch	Prepared	Analyzed	Chemist
Bromoform	ND		ppbv	0.30	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
Bromoform	ND		ug/m3	3.1	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
1,1,2,2-Tetrachloroethane	ND		ppbv	0.30	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
1,1,2,2-Tetrachloroethane	ND		ug/m3	2.1	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
1,1,1,2-Tetrachloroethane	ND		ppbv	0.30	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
1,1,1,2-Tetrachloroethane	ND		ug/m3	2.1	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
4-Ethyltoluene	ND		ppbv	0.30	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
4-Ethyltoluene	ND		ug/m3	1.5	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
1,3,5-Trimethylbenzene	ND		ppbv	0.30	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
1,3,5-Trimethylbenzene	ND		ug/m3	1.5	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
1,2,4-Trimethylbenzene	ND		ppbv	0.30	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
1,2,4-Trimethylbenzene	ND		ug/m3	1.5	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
1,3-Dichlorobenzene	**2.9**		ppbv	0.30	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
1,3-Dichlorobenzene	**18**		ug/m3	1.8	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
1,4-Dichlorobenzene	ND		ppbv	0.30	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
1,4-Dichlorobenzene	ND		ug/m3	1.8	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
Benzyl chloride	ND		ppbv	0.30	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
Benzyl chloride	ND		ug/m3	1.6	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
1,2-Dichlorobenzene	ND		ppbv	0.30	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
1,2-Dichlorobenzene	ND		ug/m3	1.8	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
1,2,4-Trichlorobenzene	ND		ppbv	0.30	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
1,2,4-Trichlorobenzene	ND		ug/m3	2.2	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
Hexachlorobutadiene	ND		ppbv	0.30	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
Hexachlorobutadiene	ND		ug/m3	3.2	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
Xylene (total)	ND		ppbv	0.30	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
Xylene (total)	ND		ug/m3	1.3	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ
Surrogates				**Limits**					
Bromofluorobenzene	99%		%REC	60-140	1.5	309542	03/14/23 19:49	03/14/23 19:49	ZNZ

Results for any subcontracted analyses are not included in this section.

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Analysis Results for 481201

Sample ID: SV-2	Lab ID: 481201-006	Collected: 03/09/23 08:27
	Matrix: Air	

481201-006 Analyte	Result	Qual	Units	RL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA TO-15 Prep Method: METHOD									
1,1-Difluoroethane	ND		ppbv	1.5	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
1,1-Difluoroethane	ND		ug/m3	4.1	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
Freon 12	**0.35**		ppbv	0.30	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
Freon 12	**1.7**		ug/m3	1.5	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
Freon 114	ND		ppbv	0.30	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
Freon 114	ND		ug/m3	2.1	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
Chloromethane	ND		ppbv	0.30	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
Chloromethane	ND		ug/m3	0.62	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
Vinyl Chloride	ND		ppbv	0.30	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
Vinyl Chloride	ND		ug/m3	0.77	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
Bromomethane	ND		ppbv	0.30	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
Bromomethane	ND		ug/m3	1.2	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
Chloroethane	ND		ppbv	0.30	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
Chloroethane	ND		ug/m3	0.79	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
Trichlorofluoromethane	ND		ppbv	0.30	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
Trichlorofluoromethane	ND		ug/m3	1.7	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
1,1-Dichloroethene	ND		ppbv	0.30	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
1,1-Dichloroethene	ND		ug/m3	1.2	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
Freon 113	ND		ppbv	0.30	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
Freon 113	ND		ug/m3	2.3	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
Acetone	**5.9**		ppbv	1.5	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
Acetone	**14**		ug/m3	3.6	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
Carbon Disulfide	ND		ppbv	0.30	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
Carbon Disulfide	ND		ug/m3	0.93	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
Isopropanol (IPA)	**20**		ppbv	1.5	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
Isopropanol (IPA)	**49**		ug/m3	3.7	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
Methylene Chloride	ND		ppbv	0.30	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
Methylene Chloride	ND		ug/m3	1.0	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
trans-1,2-Dichloroethene	ND		ppbv	0.30	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
trans-1,2-Dichloroethene	ND		ug/m3	1.2	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
MTBE	ND		ppbv	0.30	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
MTBE	ND		ug/m3	1.1	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
n-Hexane	ND		ppbv	0.30	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
n-Hexane	ND		ug/m3	1.1	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
1,1-Dichloroethane	ND		ppbv	0.30	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
1,1-Dichloroethane	ND		ug/m3	1.2	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
Vinyl Acetate	ND		ppbv	1.5	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
Vinyl Acetate	ND		ug/m3	5.3	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
cis-1,2-Dichloroethene	ND		ppbv	0.30	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
cis-1,2-Dichloroethene	ND		ug/m3	1.2	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ

Results for any subcontracted analyses are not included in this section.

ENTHALPY ANALYTICAL

Analysis Results for 481201

481201-006 Analyte	Result	Qual	Units	RL	DF	Batch	Prepared	Analyzed	Chemist
2-Butanone	ND		ppbv	1.5	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
2-Butanone	ND		ug/m3	4.4	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
Chloroform	ND		ppbv	0.30	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
Chloroform	ND		ug/m3	1.5	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
1,1,1-Trichloroethane	ND		ppbv	0.30	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
1,1,1-Trichloroethane	ND		ug/m3	1.6	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
Carbon Tetrachloride	ND		ppbv	0.30	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
Carbon Tetrachloride	ND		ug/m3	1.9	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
Benzene	ND		ppbv	0.30	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
Benzene	ND		ug/m3	0.96	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
1,2-Dichloroethane	ND		ppbv	0.30	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
1,2-Dichloroethane	ND		ug/m3	1.2	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
Trichloroethene	ND		ppbv	0.30	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
Trichloroethene	ND		ug/m3	1.6	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
1,2-Dichloropropane	ND		ppbv	0.30	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
1,2-Dichloropropane	ND		ug/m3	1.4	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
Bromodichloromethane	ND		ppbv	0.30	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
Bromodichloromethane	ND		ug/m3	2.0	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
cis-1,3-Dichloropropene	ND		ppbv	0.30	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
cis-1,3-Dichloropropene	ND		ug/m3	1.4	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
4-Methyl-2-Pentanone	**0.50**		ppbv	0.30	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
4-Methyl-2-Pentanone	**2.0**		ug/m3	1.2	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
Toluene	**0.39**		ppbv	0.30	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
Toluene	**1.5**		ug/m3	1.1	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
trans-1,3-Dichloropropene	ND		ppbv	0.30	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
trans-1,3-Dichloropropene	ND		ug/m3	1.4	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
1,1,2-Trichloroethane	ND		ppbv	0.30	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
1,1,2-Trichloroethane	ND		ug/m3	1.6	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
Tetrachloroethene	ND		ppbv	0.30	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
Tetrachloroethene	ND		ug/m3	2.0	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
2-Hexanone	ND		ppbv	0.75	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
2-Hexanone	ND		ug/m3	3.1	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
Dibromochloromethane	ND		ppbv	0.30	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
Dibromochloromethane	ND		ug/m3	2.6	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
1,2-Dibromoethane	ND		ppbv	0.30	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
1,2-Dibromoethane	ND		ug/m3	2.3	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
Chlorobenzene	ND		ppbv	0.30	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
Chlorobenzene	ND		ug/m3	1.4	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
Ethylbenzene	ND		ppbv	0.30	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
Ethylbenzene	ND		ug/m3	1.3	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
m,p-Xylenes	**0.67**		ppbv	0.60	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
m,p-Xylenes	**2.9**		ug/m3	2.6	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
o-Xylene	**0.30**		ppbv	0.30	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
o-Xylene	**1.3**		ug/m3	1.3	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
Styrene	ND		ppbv	0.30	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
Styrene	ND		ug/m3	1.3	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ

Results for any subcontracted analyses are not included in this section.

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Analysis Results for 481201

481201-006 Analyte	Result	Qual	Units	RL	DF	Batch	Prepared	Analyzed	Chemist
Bromoform	ND		ppbv	0.30	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
Bromoform	ND		ug/m3	3.1	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
1,1,2,2-Tetrachloroethane	ND		ppbv	0.30	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
1,1,2,2-Tetrachloroethane	ND		ug/m3	2.1	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
1,1,1,2-Tetrachloroethane	ND		ppbv	0.30	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
1,1,1,2-Tetrachloroethane	ND		ug/m3	2.1	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
4-Ethyltoluene	ND		ppbv	0.30	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
4-Ethyltoluene	ND		ug/m3	1.5	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
1,3,5-Trimethylbenzene	ND		ppbv	0.30	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
1,3,5-Trimethylbenzene	ND		ug/m3	1.5	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
1,2,4-Trimethylbenzene	ND		ppbv	0.30	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
1,2,4-Trimethylbenzene	ND		ug/m3	1.5	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
1,3-Dichlorobenzene	**5.7**		ppbv	0.30	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
1,3-Dichlorobenzene	**34**		ug/m3	1.8	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
1,4-Dichlorobenzene	ND		ppbv	0.30	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
1,4-Dichlorobenzene	ND		ug/m3	1.8	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
Benzyl chloride	ND		ppbv	0.30	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
Benzyl chloride	ND		ug/m3	1.6	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
1,2-Dichlorobenzene	ND		ppbv	0.30	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
1,2-Dichlorobenzene	ND		ug/m3	1.8	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
1,2,4-Trichlorobenzene	ND		ppbv	0.30	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
1,2,4-Trichlorobenzene	ND		ug/m3	2.2	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
Hexachlorobutadiene	ND		ppbv	0.30	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
Hexachlorobutadiene	ND		ug/m3	3.2	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
Xylene (total)	**0.97**		ppbv	0.30	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
Xylene (total)	**4.2**		ug/m3	1.3	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ
Surrogates				**Limits**					
Bromofluorobenzene	96%		%REC	60-140	1.5	309542	03/14/23 20:21	03/14/23 20:21	ZNZ

Results for any subcontracted analyses are not included in this section.

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Analysis Results for 481201

Sample ID: SV-3	Lab ID: 481201-007	Collected: 03/09/23 08:50
	Matrix: Air	

481201-007 Analyte	Result	Qual	Units	RL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA TO-15 Prep Method: METHOD									
1,1-Difluoroethane	ND		ppbv	1.6	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
1,1-Difluoroethane	ND		ug/m3	4.3	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
Freon 12	**0.34**		ppbv	0.32	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
Freon 12	**1.7**		ug/m3	1.6	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
Freon 114	ND		ppbv	0.32	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
Freon 114	ND		ug/m3	2.2	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
Chloromethane	ND		ppbv	0.32	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
Chloromethane	ND		ug/m3	0.66	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
Vinyl Chloride	ND		ppbv	0.32	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
Vinyl Chloride	ND		ug/m3	0.82	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
Bromomethane	ND		ppbv	0.32	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
Bromomethane	ND		ug/m3	1.2	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
Chloroethane	ND		ppbv	0.32	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
Chloroethane	ND		ug/m3	0.84	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
Trichlorofluoromethane	ND		ppbv	0.32	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
Trichlorofluoromethane	ND		ug/m3	1.8	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
1,1-Dichloroethene	ND		ppbv	0.32	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
1,1-Dichloroethene	ND		ug/m3	1.3	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
Freon 113	ND		ppbv	0.32	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
Freon 113	ND		ug/m3	2.5	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
Acetone	**4.0**		ppbv	1.6	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
Acetone	**9.6**		ug/m3	3.8	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
Carbon Disulfide	ND		ppbv	0.32	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
Carbon Disulfide	ND		ug/m3	1.0	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
Isopropanol (IPA)	**6.8**		ppbv	1.6	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
Isopropanol (IPA)	**17**		ug/m3	3.9	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
Methylene Chloride	**0.33**		ppbv	0.32	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
Methylene Chloride	**1.2**		ug/m3	1.1	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
trans-1,2-Dichloroethene	ND		ppbv	0.32	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
trans-1,2-Dichloroethene	ND		ug/m3	1.3	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
MTBE	ND		ppbv	0.32	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
MTBE	ND		ug/m3	1.2	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
n-Hexane	ND		ppbv	0.32	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
n-Hexane	ND		ug/m3	1.1	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
1,1-Dichloroethane	ND		ppbv	0.32	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
1,1-Dichloroethane	ND		ug/m3	1.3	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
Vinyl Acetate	ND		ppbv	1.6	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
Vinyl Acetate	ND		ug/m3	5.6	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
cis-1,2-Dichloroethene	ND		ppbv	0.32	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
cis-1,2-Dichloroethene	ND		ug/m3	1.3	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC

Results for any subcontracted analyses are not included in this section.

ENTHALPY ANALYTICAL

Analysis Results for 481201

481201-007 Analyte	Result	Qual	Units	RL	DF	Batch	Prepared	Analyzed	Chemist
2-Butanone	ND		ppbv	1.6	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
2-Butanone	ND		ug/m3	4.7	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
Chloroform	ND		ppbv	0.32	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
Chloroform	ND		ug/m3	1.6	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
1,1,1-Trichloroethane	ND		ppbv	0.32	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
1,1,1-Trichloroethane	ND		ug/m3	1.7	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
Carbon Tetrachloride	ND		ppbv	0.32	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
Carbon Tetrachloride	ND		ug/m3	2.0	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
Benzene	ND		ppbv	0.32	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
Benzene	ND		ug/m3	1.0	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
1,2-Dichloroethane	ND		ppbv	0.32	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
1,2-Dichloroethane	ND		ug/m3	1.3	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
Trichloroethene	ND		ppbv	0.32	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
Trichloroethene	ND		ug/m3	1.7	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
1,2-Dichloropropane	ND		ppbv	0.32	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
1,2-Dichloropropane	ND		ug/m3	1.5	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
Bromodichloromethane	ND		ppbv	0.32	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
Bromodichloromethane	ND		ug/m3	2.1	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
cis-1,3-Dichloropropene	ND		ppbv	0.32	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
cis-1,3-Dichloropropene	ND		ug/m3	1.5	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
4-Methyl-2-Pentanone	ND		ppbv	0.32	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
4-Methyl-2-Pentanone	ND		ug/m3	1.3	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
Toluene	**0.43**		ppbv	0.32	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
Toluene	**1.6**		ug/m3	1.2	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
trans-1,3-Dichloropropene	ND		ppbv	0.32	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
trans-1,3-Dichloropropene	ND		ug/m3	1.5	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
1,1,2-Trichloroethane	ND		ppbv	0.32	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
1,1,2-Trichloroethane	ND		ug/m3	1.7	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
Tetrachloroethene	ND		ppbv	0.32	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
Tetrachloroethene	ND		ug/m3	2.2	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
2-Hexanone	ND		ppbv	0.80	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
2-Hexanone	ND		ug/m3	3.3	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
Dibromochloromethane	ND		ppbv	0.32	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
Dibromochloromethane	ND		ug/m3	2.7	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
1,2-Dibromoethane	ND		ppbv	0.32	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
1,2-Dibromoethane	ND		ug/m3	2.5	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
Chlorobenzene	ND		ppbv	0.32	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
Chlorobenzene	ND		ug/m3	1.5	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
Ethylbenzene	ND		ppbv	0.32	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
Ethylbenzene	ND		ug/m3	1.4	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
m,p-Xylenes	ND		ppbv	0.64	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
m,p-Xylenes	ND		ug/m3	2.8	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
o-Xylene	ND		ppbv	0.32	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
o-Xylene	ND		ug/m3	1.4	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
Styrene	ND		ppbv	0.32	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
Styrene	ND		ug/m3	1.4	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC

Results for any subcontracted analyses are not included in this section.

ENTHALPY ANALYTICAL

Analysis Results for 481201

481201-007 Analyte	Result	Qual	Units	RL	DF	Batch	Prepared	Analyzed	Chemist
Bromoform	ND		ppbv	0.32	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
Bromoform	ND		ug/m3	3.3	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
1,1,2,2-Tetrachloroethane	ND		ppbv	0.32	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
1,1,2,2-Tetrachloroethane	ND		ug/m3	2.2	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
1,1,1,2-Tetrachloroethane	ND		ppbv	0.32	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
1,1,1,2-Tetrachloroethane	ND		ug/m3	2.2	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
4-Ethyltoluene	ND		ppbv	0.32	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
4-Ethyltoluene	ND		ug/m3	1.6	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
1,3,5-Trimethylbenzene	ND		ppbv	0.32	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
1,3,5-Trimethylbenzene	ND		ug/m3	1.6	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
1,2,4-Trimethylbenzene	ND		ppbv	0.32	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
1,2,4-Trimethylbenzene	ND		ug/m3	1.6	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
1,3-Dichlorobenzene	**4.3**		ppbv	0.32	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
1,3-Dichlorobenzene	**26**		ug/m3	1.9	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
1,4-Dichlorobenzene	ND		ppbv	0.32	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
1,4-Dichlorobenzene	ND		ug/m3	1.9	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
Benzyl chloride	ND		ppbv	0.32	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
Benzyl chloride	ND		ug/m3	1.7	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
1,2-Dichlorobenzene	ND		ppbv	0.32	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
1,2-Dichlorobenzene	ND		ug/m3	1.9	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
1,2,4-Trichlorobenzene	ND		ppbv	0.32	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
1,2,4-Trichlorobenzene	ND		ug/m3	2.4	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
Hexachlorobutadiene	ND		ppbv	0.32	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
Hexachlorobutadiene	ND		ug/m3	3.4	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
Xylene (total)	ND		ppbv	0.32	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
Xylene (total)	ND		ug/m3	1.4	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC
Surrogates				**Limits**					
Bromofluorobenzene	100%		%REC	60-140	1.6	310380	03/24/23 13:21	03/24/23 13:21	MBC

Results for any subcontracted analyses are not included in this section.

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Analysis Results for 481201

Sample ID: SV-4	Lab ID: 481201-008	Collected: 03/09/23 08:50
	Matrix: Air	

481201-008 Analyte	Result	Qual	Units	RL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA TO-15 Prep Method: METHOD									
1,1-Difluoroethane	ND		ppbv	1.5	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
1,1-Difluoroethane	ND		ug/m3	4.1	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
Freon 12	**0.35**		ppbv	0.30	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
Freon 12	**1.7**		ug/m3	1.5	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
Freon 114	ND		ppbv	0.30	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
Freon 114	ND		ug/m3	2.1	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
Chloromethane	ND		ppbv	0.30	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
Chloromethane	ND		ug/m3	0.62	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
Vinyl Chloride	ND		ppbv	0.30	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
Vinyl Chloride	ND		ug/m3	0.77	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
Bromomethane	ND		ppbv	0.30	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
Bromomethane	ND		ug/m3	1.2	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
Chloroethane	ND		ppbv	0.30	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
Chloroethane	ND		ug/m3	0.79	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
Trichlorofluoromethane	ND		ppbv	0.30	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
Trichlorofluoromethane	ND		ug/m3	1.7	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
1,1-Dichloroethene	ND		ppbv	0.30	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
1,1-Dichloroethene	ND		ug/m3	1.2	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
Freon 113	ND		ppbv	0.30	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
Freon 113	ND		ug/m3	2.3	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
Acetone	**4.4**		ppbv	1.5	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
Acetone	**10**		ug/m3	3.6	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
Carbon Disulfide	ND		ppbv	0.30	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
Carbon Disulfide	ND		ug/m3	0.93	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
Isopropanol (IPA)	**11**		ppbv	1.5	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
Isopropanol (IPA)	**26**		ug/m3	3.7	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
Methylene Chloride	ND		ppbv	0.30	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
Methylene Chloride	ND		ug/m3	1.0	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
trans-1,2-Dichloroethene	ND		ppbv	0.30	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
trans-1,2-Dichloroethene	ND		ug/m3	1.2	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
MTBE	ND		ppbv	0.30	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
MTBE	ND		ug/m3	1.1	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
n-Hexane	ND		ppbv	0.30	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
n-Hexane	ND		ug/m3	1.1	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
1,1-Dichloroethane	ND		ppbv	0.30	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
1,1-Dichloroethane	ND		ug/m3	1.2	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
Vinyl Acetate	ND		ppbv	1.5	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
Vinyl Acetate	ND		ug/m3	5.3	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
cis-1,2-Dichloroethene	ND		ppbv	0.30	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
cis-1,2-Dichloroethene	ND		ug/m3	1.2	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ

Results for any subcontracted analyses are not included in this section.

ENTHALPY ANALYTICAL

Analysis Results for 481201

481201-008 Analyte	Result	Qual	Units	RL	DF	Batch	Prepared	Analyzed	Chemist
2-Butanone	ND		ppbv	1.5	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
2-Butanone	ND		ug/m3	4.4	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
Chloroform	ND		ppbv	0.30	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
Chloroform	ND		ug/m3	1.5	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
1,1,1-Trichloroethane	ND		ppbv	0.30	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
1,1,1-Trichloroethane	ND		ug/m3	1.6	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
Carbon Tetrachloride	ND		ppbv	0.30	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
Carbon Tetrachloride	ND		ug/m3	1.9	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
Benzene	ND		ppbv	0.30	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
Benzene	ND		ug/m3	0.96	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
1,2-Dichloroethane	ND		ppbv	0.30	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
1,2-Dichloroethane	ND		ug/m3	1.2	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
Trichloroethene	ND		ppbv	0.30	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
Trichloroethene	ND		ug/m3	1.6	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
1,2-Dichloropropane	ND		ppbv	0.30	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
1,2-Dichloropropane	ND		ug/m3	1.4	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
Bromodichloromethane	ND		ppbv	0.30	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
Bromodichloromethane	ND		ug/m3	2.0	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
cis-1,3-Dichloropropene	ND		ppbv	0.30	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
cis-1,3-Dichloropropene	ND		ug/m3	1.4	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
4-Methyl-2-Pentanone	ND		ppbv	0.30	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
4-Methyl-2-Pentanone	ND		ug/m3	1.2	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
Toluene	**0.43**		ppbv	0.30	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
Toluene	**1.6**		ug/m3	1.1	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
trans-1,3-Dichloropropene	ND		ppbv	0.30	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
trans-1,3-Dichloropropene	ND		ug/m3	1.4	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
1,1,2-Trichloroethane	ND		ppbv	0.30	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
1,1,2-Trichloroethane	ND		ug/m3	1.6	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
Tetrachloroethene	ND		ppbv	0.30	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
Tetrachloroethene	ND		ug/m3	2.0	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
2-Hexanone	ND		ppbv	0.75	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
2-Hexanone	ND		ug/m3	3.1	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
Dibromochloromethane	ND		ppbv	0.30	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
Dibromochloromethane	ND		ug/m3	2.6	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
1,2-Dibromoethane	ND		ppbv	0.30	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
1,2-Dibromoethane	ND		ug/m3	2.3	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
Chlorobenzene	ND		ppbv	0.30	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
Chlorobenzene	ND		ug/m3	1.4	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
Ethylbenzene	ND		ppbv	0.30	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
Ethylbenzene	ND		ug/m3	1.3	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
m,p-Xylenes	ND		ppbv	0.60	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
m,p-Xylenes	ND		ug/m3	2.6	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
o-Xylene	ND		ppbv	0.30	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
o-Xylene	ND		ug/m3	1.3	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
Styrene	ND		ppbv	0.30	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
Styrene	ND		ug/m3	1.3	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ

Results for any subcontracted analyses are not included in this section.

ENTHALPY ANALYTICAL

Analysis Results for 481201

481201-008 Analyte	Result	Qual	Units	RL	DF	Batch	Prepared	Analyzed	Chemist
Bromoform	ND		ppbv	0.30	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
Bromoform	ND		ug/m3	3.1	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
1,1,2,2-Tetrachloroethane	ND		ppbv	0.30	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
1,1,2,2-Tetrachloroethane	ND		ug/m3	2.1	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
1,1,1,2-Tetrachloroethane	ND		ppbv	0.30	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
1,1,1,2-Tetrachloroethane	ND		ug/m3	2.1	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
4-Ethyltoluene	ND		ppbv	0.30	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
4-Ethyltoluene	ND		ug/m3	1.5	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
1,3,5-Trimethylbenzene	ND		ppbv	0.30	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
1,3,5-Trimethylbenzene	ND		ug/m3	1.5	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
1,2,4-Trimethylbenzene	ND		ppbv	0.30	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
1,2,4-Trimethylbenzene	ND		ug/m3	1.5	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
1,3-Dichlorobenzene	**3.7**		ppbv	0.30	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
1,3-Dichlorobenzene	**22**		ug/m3	1.8	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
1,4-Dichlorobenzene	ND		ppbv	0.30	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
1,4-Dichlorobenzene	ND		ug/m3	1.8	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
Benzyl chloride	ND		ppbv	0.30	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
Benzyl chloride	ND		ug/m3	1.6	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
1,2-Dichlorobenzene	ND		ppbv	0.30	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
1,2-Dichlorobenzene	ND		ug/m3	1.8	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
1,2,4-Trichlorobenzene	ND		ppbv	0.30	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
1,2,4-Trichlorobenzene	ND		ug/m3	2.2	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
Hexachlorobutadiene	ND		ppbv	0.30	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
Hexachlorobutadiene	ND		ug/m3	3.2	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
Xylene (total)	ND		ppbv	0.30	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
Xylene (total)	ND		ug/m3	1.3	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ
Surrogates				**Limits**					
Bromofluorobenzene	99%		%REC	60-140	1.5	309737	03/15/23 09:16	03/15/23 09:16	ZNZ

ND Not Detected

Results for any subcontracted analyses are not included in this section.

ENTHALPY ANALYTICAL

Batch QC

Type:	**Lab Control Sample**	**Lab ID:**	**QC1051530**	**Batch:**	**309542**
Matrix:	**Air**	**Method:**	**EPA TO-15**	**Prep Method:**	**METHOD**

QC1051530 Analyte	Result	Spiked	Units	Recovery	Qual	Limits
1,1-Difluoroethane	9.953	10.00	ppbv	100%		70-130
Freon 12	9.502	10.00	ppbv	95%		70-130
Freon 114	9.325	10.00	ppbv	93%		70-130
Chloromethane	9.115	10.00	ppbv	91%		70-130
Vinyl Chloride	9.257	10.00	ppbv	93%		70-130
Bromomethane	9.299	10.00	ppbv	93%		70-130
Chloroethane	9.147	10.00	ppbv	91%		70-130
Trichlorofluoromethane	9.278	10.00	ppbv	93%		70-130
1,1-Dichloroethene	9.343	10.00	ppbv	93%		70-130
Freon 113	9.283	10.00	ppbv	93%		70-130
Acetone	9.085	10.00	ppbv	91%		70-130
Carbon Disulfide	9.155	10.00	ppbv	92%		70-130
Isopropanol (IPA)	9.403	10.00	ppbv	94%		70-130
Methylene Chloride	8.131	10.00	ppbv	81%		70-130
trans-1,2-Dichloroethene	9.317	10.00	ppbv	93%		70-130
MTBE	9.251	10.00	ppbv	93%		70-130
n-Hexane	9.905	10.00	ppbv	99%		70-130
1,1-Dichloroethane	9.204	10.00	ppbv	92%		70-130
Vinyl Acetate	9.266	10.00	ppbv	93%		70-130
cis-1,2-Dichloroethene	9.509	10.00	ppbv	95%		70-130
2-Butanone	9.532	10.00	ppbv	95%		70-130
Chloroform	9.329	10.00	ppbv	93%		70-130
1,1,1-Trichloroethane	9.392	10.00	ppbv	94%		70-130
Carbon Tetrachloride	9.363	10.00	ppbv	94%		70-130
Benzene	9.551	10.00	ppbv	96%		70-130
1,2-Dichloroethane	9.308	10.00	ppbv	93%		70-130
Trichloroethene	9.328	10.00	ppbv	93%		70-130
1,2-Dichloropropane	8.978	10.00	ppbv	90%		70-130
Bromodichloromethane	9.185	10.00	ppbv	92%		70-130
cis-1,3-Dichloropropene	9.498	10.00	ppbv	95%		70-130
4-Methyl-2-Pentanone	10.07	10.00	ppbv	101%		70-130
Toluene	9.762	10.00	ppbv	98%		70-130
trans-1,3-Dichloropropene	9.660	10.00	ppbv	97%		70-130
1,1,2-Trichloroethane	9.068	10.00	ppbv	91%		70-130
Tetrachloroethene	9.110	10.00	ppbv	91%		70-130
2-Hexanone	10.26	10.00	ppbv	103%		70-130
Dibromochloromethane	9.249	10.00	ppbv	92%		70-130
1,2-Dibromoethane	9.135	10.00	ppbv	91%		70-130
Chlorobenzene	9.106	10.00	ppbv	91%		70-130
Ethylbenzene	9.617	10.00	ppbv	96%		70-130
m,p-Xylenes	19.20	20.00	ppbv	96%		70-130
o-Xylene	9.614	10.00	ppbv	96%		70-130

ENTHALPY ANALYTICAL

Batch QC

QC1051530 Analyte	Result	Spiked	Units	Recovery	Qual	Limits
Styrene	9.828	10.00	ppbv	98%		70-130
Bromoform	8.864	10.00	ppbv	89%		70-130
1,1,2,2-Tetrachloroethane	8.410	10.00	ppbv	84%		70-130
1,1,1,2-Tetrachloroethane	8.762	10.00	ppbv	88%		70-130
4-Ethyltoluene	9.884	10.00	ppbv	99%		70-130
1,3,5-Trimethylbenzene	9.427	10.00	ppbv	94%		70-130
1,2,4-Trimethylbenzene	9.488	10.00	ppbv	95%		70-130
1,3-Dichlorobenzene	8.968	10.00	ppbv	90%		70-130
1,4-Dichlorobenzene	8.918	10.00	ppbv	89%		70-130
Benzyl chloride	8.944	10.00	ppbv	89%		70-130
1,2-Dichlorobenzene	8.889	10.00	ppbv	89%		70-130
1,2,4-Trichlorobenzene	9.341	10.00	ppbv	93%		70-130
Hexachlorobutadiene	7.561	10.00	ppbv	76%		70-130
Surrogates						
Bromofluorobenzene	9.643	10.00	ppbv	96%		60-140

ENTHALPY ANALYTICAL

Batch QC

Type:	**Lab Control Sample Duplicate**	**Lab ID:**	**QC1051531**	**Batch:**	**309542**
Matrix:	**Air**	**Method:**	**EPA TO-15**	**Prep Method:**	**METHOD**

QC1051531 Analyte	Result	Spiked	Units	Recovery	Qual	Limits	RPD	RPD Lim
1,1-Difluoroethane	9.860	10.00	ppbv	99%		70-130	1	25
Freon 12	9.448	10.00	ppbv	94%		70-130	1	25
Freon 114	9.156	10.00	ppbv	92%		70-130	2	25
Chloromethane	9.084	10.00	ppbv	91%		70-130	0	25
Vinyl Chloride	9.152	10.00	ppbv	92%		70-130	1	25
Bromomethane	9.152	10.00	ppbv	92%		70-130	2	25
Chloroethane	9.076	10.00	ppbv	91%		70-130	1	25
Trichlorofluoromethane	9.291	10.00	ppbv	93%		70-130	0	25
1,1-Dichloroethene	9.292	10.00	ppbv	93%		70-130	1	25
Freon 113	9.039	10.00	ppbv	90%		70-130	3	25
Acetone	9.134	10.00	ppbv	91%		70-130	1	25
Carbon Disulfide	8.928	10.00	ppbv	89%		70-130	3	25
Isopropanol (IPA)	9.417	10.00	ppbv	94%		70-130	0	25
Methylene Chloride	7.993	10.00	ppbv	80%		70-130	2	25
trans-1,2-Dichloroethene	9.279	10.00	ppbv	93%		70-130	0	25
MTBE	9.598	10.00	ppbv	96%		70-130	4	25
n-Hexane	9.824	10.00	ppbv	98%		70-130	1	25
1,1-Dichloroethane	9.176	10.00	ppbv	92%		70-130	0	25
Vinyl Acetate	9.237	10.00	ppbv	92%		70-130	0	25
cis-1,2-Dichloroethene	9.423	10.00	ppbv	94%		70-130	1	25
2-Butanone	9.156	10.00	ppbv	92%		70-130	4	25
Chloroform	9.211	10.00	ppbv	92%		70-130	1	25
1,1,1-Trichloroethane	9.256	10.00	ppbv	93%		70-130	1	25
Carbon Tetrachloride	9.295	10.00	ppbv	93%		70-130	1	25
Benzene	9.467	10.00	ppbv	95%		70-130	1	25
1,2-Dichloroethane	9.245	10.00	ppbv	92%		70-130	1	25
Trichloroethene	9.226	10.00	ppbv	92%		70-130	1	25
1,2-Dichloropropane	8.885	10.00	ppbv	89%		70-130	1	25
Bromodichloromethane	9.095	10.00	ppbv	91%		70-130	1	25
cis-1,3-Dichloropropene	9.599	10.00	ppbv	96%		70-130	1	25
4-Methyl-2-Pentanone	10.16	10.00	ppbv	102%		70-130	1	25
Toluene	9.675	10.00	ppbv	97%		70-130	1	25
trans-1,3-Dichloropropene	9.453	10.00	ppbv	95%		70-130	2	25
1,1,2-Trichloroethane	9.003	10.00	ppbv	90%		70-130	1	25
Tetrachloroethene	8.995	10.00	ppbv	90%		70-130	1	25
2-Hexanone	10.19	10.00	ppbv	102%		70-130	1	25
Dibromochloromethane	9.139	10.00	ppbv	91%		70-130	1	25
1,2-Dibromoethane	9.124	10.00	ppbv	91%		70-130	0	25
Chlorobenzene	8.933	10.00	ppbv	89%		70-130	2	25
Ethylbenzene	9.547	10.00	ppbv	95%		70-130	1	25
m,p-Xylenes	19.05	20.00	ppbv	95%		70-130	1	25

ENTHALPY ANALYTICAL

Batch QC

QC1051531 Analyte	Result	Spiked	Units	Recovery	Qual	Limits	RPD	RPD Lim
o-Xylene	9.505	10.00	ppbv	95%		70-130	1	25
Styrene	9.839	10.00	ppbv	98%		70-130	0	25
Bromoform	8.747	10.00	ppbv	87%		70-130	1	25
1,1,2,2-Tetrachloroethane	8.485	10.00	ppbv	85%		70-130	1	25
1,1,1,2-Tetrachloroethane	8.800	10.00	ppbv	88%		70-130	0	25
4-Ethyltoluene	9.852	10.00	ppbv	99%		70-130	0	25
1,3,5-Trimethylbenzene	9.405	10.00	ppbv	94%		70-130	0	25
1,2,4-Trimethylbenzene	9.525	10.00	ppbv	95%		70-130	0	25
1,3-Dichlorobenzene	8.906	10.00	ppbv	89%		70-130	1	25
1,4-Dichlorobenzene	8.878	10.00	ppbv	89%		70-130	0	25
Benzyl chloride	8.901	10.00	ppbv	89%		70-130	0	25
1,2-Dichlorobenzene	8.818	10.00	ppbv	88%		70-130	1	25
1,2,4-Trichlorobenzene	9.315	10.00	ppbv	93%		70-130	0	25
Hexachlorobutadiene	7.569	10.00	ppbv	76%		70-130	0	25
Surrogates								
Bromofluorobenzene	9.763	10.00	ppbv	98%		60-140		

ENTHALPY ANALYTICAL

Batch QC

Type:	**Blank**	**Lab ID:**	**QC1051532**	**Batch:**	**309542**
Matrix:	**Air**	**Method:**	**EPA TO-15**	**Prep Method:**	**METHOD**

QC1051532 Analyte	Result	Qual	Units	RL	Prepared	Analyzed
1,1-Difluoroethane	ND		ppbv	1.0	03/13/23 22:23	03/13/23 22:23
Freon 12	ND		ppbv	0.20	03/13/23 22:23	03/13/23 22:23
Freon 114	ND		ppbv	0.20	03/13/23 22:23	03/13/23 22:23
Chloromethane	ND		ppbv	0.20	03/13/23 22:23	03/13/23 22:23
Vinyl Chloride	ND		ppbv	0.20	03/13/23 22:23	03/13/23 22:23
Bromomethane	ND		ppbv	0.20	03/13/23 22:23	03/13/23 22:23
Chloroethane	ND		ppbv	0.20	03/13/23 22:23	03/13/23 22:23
Trichlorofluoromethane	ND		ppbv	0.20	03/13/23 22:23	03/13/23 22:23
1,1-Dichloroethene	ND		ppbv	0.20	03/13/23 22:23	03/13/23 22:23
Freon 113	ND		ppbv	0.20	03/13/23 22:23	03/13/23 22:23
Acetone	ND		ppbv	1.0	03/13/23 22:23	03/13/23 22:23
Carbon Disulfide	ND		ppbv	0.20	03/13/23 22:23	03/13/23 22:23
Isopropanol (IPA)	ND		ppbv	1.0	03/13/23 22:23	03/13/23 22:23
Methylene Chloride	ND		ppbv	0.20	03/13/23 22:23	03/13/23 22:23
trans-1,2-Dichloroethene	ND		ppbv	0.20	03/13/23 22:23	03/13/23 22:23
MTBE	ND		ppbv	0.20	03/13/23 22:23	03/13/23 22:23
n-Hexane	ND		ppbv	0.20	03/13/23 22:23	03/13/23 22:23
1,1-Dichloroethane	ND		ppbv	0.20	03/13/23 22:23	03/13/23 22:23
Vinyl Acetate	ND		ppbv	1.0	03/13/23 22:23	03/13/23 22:23
cis-1,2-Dichloroethene	ND		ppbv	0.20	03/13/23 22:23	03/13/23 22:23
2-Butanone	ND		ppbv	1.0	03/13/23 22:23	03/13/23 22:23
Chloroform	ND		ppbv	0.20	03/13/23 22:23	03/13/23 22:23
1,1,1-Trichloroethane	ND		ppbv	0.20	03/13/23 22:23	03/13/23 22:23
Carbon Tetrachloride	ND		ppbv	0.20	03/13/23 22:23	03/13/23 22:23
Benzene	ND		ppbv	0.20	03/13/23 22:23	03/13/23 22:23
1,2-Dichloroethane	ND		ppbv	0.20	03/13/23 22:23	03/13/23 22:23
Trichloroethene	ND		ppbv	0.20	03/13/23 22:23	03/13/23 22:23
1,2-Dichloropropane	ND		ppbv	0.20	03/13/23 22:23	03/13/23 22:23
Bromodichloromethane	ND		ppbv	0.20	03/13/23 22:23	03/13/23 22:23
cis-1,3-Dichloropropene	ND		ppbv	0.20	03/13/23 22:23	03/13/23 22:23
4-Methyl-2-Pentanone	ND		ppbv	0.20	03/13/23 22:23	03/13/23 22:23
Toluene	ND		ppbv	0.20	03/13/23 22:23	03/13/23 22:23
trans-1,3-Dichloropropene	ND		ppbv	0.20	03/13/23 22:23	03/13/23 22:23
1,1,2-Trichloroethane	ND		ppbv	0.20	03/13/23 22:23	03/13/23 22:23
Tetrachloroethene	ND		ppbv	0.20	03/13/23 22:23	03/13/23 22:23
2-Hexanone	ND		ppbv	0.50	03/13/23 22:23	03/13/23 22:23
Dibromochloromethane	ND		ppbv	0.20	03/13/23 22:23	03/13/23 22:23
1,2-Dibromoethane	ND		ppbv	0.20	03/13/23 22:23	03/13/23 22:23
Chlorobenzene	ND		ppbv	0.20	03/13/23 22:23	03/13/23 22:23
Ethylbenzene	ND		ppbv	0.20	03/13/23 22:23	03/13/23 22:23
m,p-Xylenes	ND		ppbv	0.40	03/13/23 22:23	03/13/23 22:23
o-Xylene	ND		ppbv	0.20	03/13/23 22:23	03/13/23 22:23

ENTHALPY ANALYTICAL

Batch QC

QC1051532 Analyte	Result	Qual	Units	RL	Prepared	Analyzed
Styrene	ND		ppbv	0.20	03/13/23 22:23	03/13/23 22:23
Bromoform	ND		ppbv	0.20	03/13/23 22:23	03/13/23 22:23
1,1,2,2-Tetrachloroethane	ND		ppbv	0.20	03/13/23 22:23	03/13/23 22:23
1,1,1,2-Tetrachloroethane	ND		ppbv	0.20	03/13/23 22:23	03/13/23 22:23
4-Ethyltoluene	ND		ppbv	0.20	03/13/23 22:23	03/13/23 22:23
1,3,5-Trimethylbenzene	ND		ppbv	0.20	03/13/23 22:23	03/13/23 22:23
1,2,4-Trimethylbenzene	ND		ppbv	0.20	03/13/23 22:23	03/13/23 22:23
1,3-Dichlorobenzene	ND		ppbv	0.20	03/13/23 22:23	03/13/23 22:23
1,4-Dichlorobenzene	ND		ppbv	0.20	03/13/23 22:23	03/13/23 22:23
Benzyl chloride	ND		ppbv	0.20	03/13/23 22:23	03/13/23 22:23
1,2-Dichlorobenzene	ND		ppbv	0.20	03/13/23 22:23	03/13/23 22:23
1,2,4-Trichlorobenzene	ND		ppbv	0.20	03/13/23 22:23	03/13/23 22:23
Hexachlorobutadiene	ND		ppbv	0.20	03/13/23 22:23	03/13/23 22:23
Xylene (total)	ND		ppbv	0.20	03/13/23 22:23	03/13/23 22:23
Surrogates				**Limits**		
Bromofluorobenzene	91%		%REC	60-140	03/13/23 22:23	03/13/23 22:23

ENTHALPY ANALYTICAL

Batch QC

Type:	**Lab Control Sample**	**Lab ID:**	**QC1052087**	**Batch:**	**309737**
Matrix:	**Air**	**Method:**	**EPA TO-15**	**Prep Method:**	**METHOD**

QC1052087 Analyte	Result	Spiked	Units	Recovery	Qual	Limits
1,1-Difluoroethane	10.21	10.00	ppbv	102%		70-130
Freon 12	11.11	10.00	ppbv	111%		70-130
Freon 114	9.982	10.00	ppbv	100%		70-130
Chloromethane	10.11	10.00	ppbv	101%		70-130
Vinyl Chloride	9.461	10.00	ppbv	95%		70-130
Bromomethane	9.431	10.00	ppbv	94%		70-130
Chloroethane	9.069	10.00	ppbv	91%		70-130
Trichlorofluoromethane	10.77	10.00	ppbv	108%		70-130
1,1-Dichloroethene	9.971	10.00	ppbv	100%		70-130
Freon 113	9.653	10.00	ppbv	97%		70-130
Acetone	9.384	10.00	ppbv	94%		70-130
Carbon Disulfide	8.904	10.00	ppbv	89%		70-130
Isopropanol (IPA)	10.26	10.00	ppbv	103%		70-130
Methylene Chloride	7.956	10.00	ppbv	80%		70-130
trans-1,2-Dichloroethene	9.829	10.00	ppbv	98%		70-130
MTBE	9.476	10.00	ppbv	95%		70-130
n-Hexane	9.977	10.00	ppbv	100%		70-130
1,1-Dichloroethane	9.588	10.00	ppbv	96%		70-130
Vinyl Acetate	9.928	10.00	ppbv	99%		70-130
cis-1,2-Dichloroethene	9.598	10.00	ppbv	96%		70-130
2-Butanone	8.513	10.00	ppbv	85%		70-130
Chloroform	9.837	10.00	ppbv	98%		70-130
1,1,1-Trichloroethane	10.32	10.00	ppbv	103%		70-130
Carbon Tetrachloride	10.65	10.00	ppbv	107%		70-130
Benzene	8.803	10.00	ppbv	88%		70-130
1,2-Dichloroethane	10.67	10.00	ppbv	107%		70-130
Trichloroethene	9.595	10.00	ppbv	96%		70-130
1,2-Dichloropropane	9.045	10.00	ppbv	90%		70-130
Bromodichloromethane	10.14	10.00	ppbv	101%		70-130
cis-1,3-Dichloropropene	9.685	10.00	ppbv	97%		70-130
4-Methyl-2-Pentanone	10.29	10.00	ppbv	103%		70-130
Toluene	9.614	10.00	ppbv	96%		70-130
trans-1,3-Dichloropropene	9.756	10.00	ppbv	98%		70-130
1,1,2-Trichloroethane	9.184	10.00	ppbv	92%		70-130
Tetrachloroethene	9.729	10.00	ppbv	97%		70-130
2-Hexanone	10.41	10.00	ppbv	104%		70-130
Dibromochloromethane	10.35	10.00	ppbv	104%		70-130
1,2-Dibromoethane	9.608	10.00	ppbv	96%		70-130
Chlorobenzene	9.216	10.00	ppbv	92%		70-130
Ethylbenzene	9.619	10.00	ppbv	96%		70-130
m,p-Xylenes	20.35	20.00	ppbv	102%		70-130
o-Xylene	10.36	10.00	ppbv	104%		70-130

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Batch QC

QC1052087 Analyte	Result	Spiked	Units	Recovery	Qual	Limits
Styrene	10.06	10.00	ppbv	101%		70-130
Bromoform	10.05	10.00	ppbv	100%		70-130
1,1,2,2-Tetrachloroethane	8.838	10.00	ppbv	88%		70-130
1,1,1,2-Tetrachloroethane	9.668	10.00	ppbv	97%		70-130
4-Ethyltoluene	10.70	10.00	ppbv	107%		70-130
1,3,5-Trimethylbenzene	10.53	10.00	ppbv	105%		70-130
1,2,4-Trimethylbenzene	10.72	10.00	ppbv	107%		70-130
1,3-Dichlorobenzene	10.20	10.00	ppbv	102%		70-130
1,4-Dichlorobenzene	10.01	10.00	ppbv	100%		70-130
Benzyl chloride	10.74	10.00	ppbv	107%		70-130
1,2-Dichlorobenzene	10.01	10.00	ppbv	100%		70-130
1,2,4-Trichlorobenzene	10.89	10.00	ppbv	109%		70-130
Hexachlorobutadiene	9.209	10.00	ppbv	92%		70-130
Surrogates						
Bromofluorobenzene	10.55	10.00	ppbv	106%		60-140

ENTHALPY ANALYTICAL

Batch QC

Type:	**Lab Control Sample Duplicate**	**Lab ID:**	**QC1052088**	**Batch:**	**309737**
Matrix:	**Air**	**Method:**	**EPA TO-15**	**Prep Method:**	**METHOD**

QC1052088 Analyte	Result	Spiked	Units	Recovery	Qual	Limits	RPD	RPD Lim
1,1-Difluoroethane	10.75	10.00	ppbv	107%		70-130	5	25
Freon 12	11.38	10.00	ppbv	114%		70-130	2	25
Freon 114	10.40	10.00	ppbv	104%		70-130	4	25
Chloromethane	10.43	10.00	ppbv	104%		70-130	3	25
Vinyl Chloride	9.928	10.00	ppbv	99%		70-130	5	25
Bromomethane	9.817	10.00	ppbv	98%		70-130	4	25
Chloroethane	9.297	10.00	ppbv	93%		70-130	2	25
Trichlorofluoromethane	10.72	10.00	ppbv	107%		70-130	0	25
1,1-Dichloroethene	9.925	10.00	ppbv	99%		70-130	0	25
Freon 113	9.535	10.00	ppbv	95%		70-130	1	25
Acetone	9.395	10.00	ppbv	94%		70-130	0	25
Carbon Disulfide	8.922	10.00	ppbv	89%		70-130	0	25
Isopropanol (IPA)	10.42	10.00	ppbv	104%		70-130	2	25
Methylene Chloride	7.943	10.00	ppbv	79%		70-130	0	25
trans-1,2-Dichloroethene	9.709	10.00	ppbv	97%		70-130	1	25
MTBE	9.551	10.00	ppbv	96%		70-130	1	25
n-Hexane	9.907	10.00	ppbv	99%		70-130	1	25
1,1-Dichloroethane	9.529	10.00	ppbv	95%		70-130	1	25
Vinyl Acetate	10.01	10.00	ppbv	100%		70-130	1	25
cis-1,2-Dichloroethene	9.578	10.00	ppbv	96%		70-130	0	25
2-Butanone	8.556	10.00	ppbv	86%		70-130	0	25
Chloroform	9.785	10.00	ppbv	98%		70-130	1	25
1,1,1-Trichloroethane	10.29	10.00	ppbv	103%		70-130	0	25
Carbon Tetrachloride	10.54	10.00	ppbv	105%		70-130	1	25
Benzene	8.811	10.00	ppbv	88%		70-130	0	25
1,2-Dichloroethane	10.45	10.00	ppbv	105%		70-130	2	25
Trichloroethene	9.555	10.00	ppbv	96%		70-130	0	25
1,2-Dichloropropane	8.980	10.00	ppbv	90%		70-130	1	25
Bromodichloromethane	10.06	10.00	ppbv	101%		70-130	1	25
cis-1,3-Dichloropropene	9.552	10.00	ppbv	96%		70-130	1	25
4-Methyl-2-Pentanone	10.19	10.00	ppbv	102%		70-130	1	25
Toluene	9.462	10.00	ppbv	95%		70-130	2	25
trans-1,3-Dichloropropene	9.622	10.00	ppbv	96%		70-130	1	25
1,1,2-Trichloroethane	9.229	10.00	ppbv	92%		70-130	0	25
Tetrachloroethene	9.672	10.00	ppbv	97%		70-130	1	25
2-Hexanone	10.11	10.00	ppbv	101%		70-130	3	25
Dibromochloromethane	10.27	10.00	ppbv	103%		70-130	1	25
1,2-Dibromoethane	9.484	10.00	ppbv	95%		70-130	1	25
Chlorobenzene	8.983	10.00	ppbv	90%		70-130	3	25
Ethylbenzene	9.428	10.00	ppbv	94%		70-130	2	25
m,p-Xylenes	19.72	20.00	ppbv	99%		70-130	3	25

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Batch QC

QC1052088 Analyte	Result	Spiked	Units	Recovery	Qual	Limits	RPD	RPD Lim
o-Xylene	10.03	10.00	ppbv	100%		70-130	3	25
Styrene	9.783	10.00	ppbv	98%		70-130	3	25
Bromoform	9.774	10.00	ppbv	98%		70-130	3	25
1,1,2,2-Tetrachloroethane	8.694	10.00	ppbv	87%		70-130	2	25
1,1,1,2-Tetrachloroethane	9.408	10.00	ppbv	94%		70-130	3	25
4-Ethyltoluene	10.39	10.00	ppbv	104%		70-130	3	25
1,3,5-Trimethylbenzene	10.22	10.00	ppbv	102%		70-130	3	25
1,2,4-Trimethylbenzene	10.47	10.00	ppbv	105%		70-130	2	25
1,3-Dichlorobenzene	9.877	10.00	ppbv	99%		70-130	3	25
1,4-Dichlorobenzene	9.639	10.00	ppbv	96%		70-130	4	25
Benzyl chloride	10.49	10.00	ppbv	105%		70-130	2	25
1,2-Dichlorobenzene	9.694	10.00	ppbv	97%		70-130	3	25
1,2,4-Trichlorobenzene	10.37	10.00	ppbv	104%		70-130	5	25
Hexachlorobutadiene	8.860	10.00	ppbv	89%		70-130	4	25
Surrogates								
Bromofluorobenzene	10.30	10.00	ppbv	103%		60-140		

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Batch QC

Type:	**Blank**	**Lab ID:**	**QC1052089**	**Batch:**	**309737**
Matrix:	**Air**	**Method:**	**EPA TO-15**	**Prep Method:**	**METHOD**

QC1052089 Analyte	Result	Qual	Units	RL	Prepared	Analyzed
1,1-Difluoroethane	ND		ppbv	1.0	03/14/23 23:42	03/14/23 23:42
Freon 12	ND		ppbv	0.20	03/14/23 23:42	03/14/23 23:42
Freon 114	ND		ppbv	0.20	03/14/23 23:42	03/14/23 23:42
Chloromethane	ND		ppbv	0.20	03/14/23 23:42	03/14/23 23:42
Vinyl Chloride	ND		ppbv	0.20	03/14/23 23:42	03/14/23 23:42
Bromomethane	ND		ppbv	0.20	03/14/23 23:42	03/14/23 23:42
Chloroethane	ND		ppbv	0.20	03/14/23 23:42	03/14/23 23:42
Trichlorofluoromethane	ND		ppbv	0.20	03/14/23 23:42	03/14/23 23:42
1,1-Dichloroethene	ND		ppbv	0.20	03/14/23 23:42	03/14/23 23:42
Freon 113	ND		ppbv	0.20	03/14/23 23:42	03/14/23 23:42
Acetone	ND		ppbv	1.0	03/14/23 23:42	03/14/23 23:42
Carbon Disulfide	ND		ppbv	0.20	03/14/23 23:42	03/14/23 23:42
Isopropanol (IPA)	ND		ppbv	1.0	03/14/23 23:42	03/14/23 23:42
Methylene Chloride	ND		ppbv	0.20	03/14/23 23:42	03/14/23 23:42
trans-1,2-Dichloroethene	ND		ppbv	0.20	03/14/23 23:42	03/14/23 23:42
MTBE	ND		ppbv	0.20	03/14/23 23:42	03/14/23 23:42
n-Hexane	ND		ppbv	0.20	03/14/23 23:42	03/14/23 23:42
1,1-Dichloroethane	ND		ppbv	0.20	03/14/23 23:42	03/14/23 23:42
Vinyl Acetate	ND		ppbv	1.0	03/14/23 23:42	03/14/23 23:42
cis-1,2-Dichloroethene	ND		ppbv	0.20	03/14/23 23:42	03/14/23 23:42
2-Butanone	ND		ppbv	1.0	03/14/23 23:42	03/14/23 23:42
Chloroform	ND		ppbv	0.20	03/14/23 23:42	03/14/23 23:42
1,1,1-Trichloroethane	ND		ppbv	0.20	03/14/23 23:42	03/14/23 23:42
Carbon Tetrachloride	ND		ppbv	0.20	03/14/23 23:42	03/14/23 23:42
Benzene	ND		ppbv	0.20	03/14/23 23:42	03/14/23 23:42
1,2-Dichloroethane	ND		ppbv	0.20	03/14/23 23:42	03/14/23 23:42
Trichloroethene	ND		ppbv	0.20	03/14/23 23:42	03/14/23 23:42
1,2-Dichloropropane	ND		ppbv	0.20	03/14/23 23:42	03/14/23 23:42
Bromodichloromethane	ND		ppbv	0.20	03/14/23 23:42	03/14/23 23:42
cis-1,3-Dichloropropene	ND		ppbv	0.20	03/14/23 23:42	03/14/23 23:42
4-Methyl-2-Pentanone	ND		ppbv	0.20	03/14/23 23:42	03/14/23 23:42
Toluene	ND		ppbv	0.20	03/14/23 23:42	03/14/23 23:42
trans-1,3-Dichloropropene	ND		ppbv	0.20	03/14/23 23:42	03/14/23 23:42
1,1,2-Trichloroethane	ND		ppbv	0.20	03/14/23 23:42	03/14/23 23:42
Tetrachloroethene	ND		ppbv	0.20	03/14/23 23:42	03/14/23 23:42
2-Hexanone	ND		ppbv	0.50	03/14/23 23:42	03/14/23 23:42
Dibromochloromethane	ND		ppbv	0.20	03/14/23 23:42	03/14/23 23:42
1,2-Dibromoethane	ND		ppbv	0.20	03/14/23 23:42	03/14/23 23:42
Chlorobenzene	ND		ppbv	0.20	03/14/23 23:42	03/14/23 23:42
Ethylbenzene	ND		ppbv	0.20	03/14/23 23:42	03/14/23 23:42
m,p-Xylenes	ND		ppbv	0.40	03/14/23 23:42	03/14/23 23:42
o-Xylene	ND		ppbv	0.20	03/14/23 23:42	03/14/23 23:42

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Batch QC

QC1052089 Analyte	Result	Qual	Units	RL	Prepared	Analyzed
Styrene	ND		ppbv	0.20	03/14/23 23:42	03/14/23 23:42
Bromoform	ND		ppbv	0.20	03/14/23 23:42	03/14/23 23:42
1,1,2,2-Tetrachloroethane	ND		ppbv	0.20	03/14/23 23:42	03/14/23 23:42
1,1,1,2-Tetrachloroethane	ND		ppbv	0.20	03/14/23 23:42	03/14/23 23:42
4-Ethyltoluene	ND		ppbv	0.20	03/14/23 23:42	03/14/23 23:42
1,3,5-Trimethylbenzene	ND		ppbv	0.20	03/14/23 23:42	03/14/23 23:42
1,2,4-Trimethylbenzene	ND		ppbv	0.20	03/14/23 23:42	03/14/23 23:42
1,3-Dichlorobenzene	ND		ppbv	0.20	03/14/23 23:42	03/14/23 23:42
1,4-Dichlorobenzene	ND		ppbv	0.20	03/14/23 23:42	03/14/23 23:42
Benzyl chloride	ND		ppbv	0.20	03/14/23 23:42	03/14/23 23:42
1,2-Dichlorobenzene	ND		ppbv	0.20	03/14/23 23:42	03/14/23 23:42
1,2,4-Trichlorobenzene	ND		ppbv	0.20	03/14/23 23:42	03/14/23 23:42
Hexachlorobutadiene	ND		ppbv	0.20	03/14/23 23:42	03/14/23 23:42
Xylene (total)	ND		ppbv	0.20	03/14/23 23:42	03/14/23 23:42
Surrogates				**Limits**		
Bromofluorobenzene	90%		%REC	60-140	03/14/23 23:42	03/14/23 23:42

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Batch QC

Type:	**Lab Control Sample**	**Lab ID:**	**QC1053965**	**Batch:**	**310380**
Matrix:	**Air**	**Method:**	**EPA TO-15**	**Prep Method:**	**METHOD**

QC1053965 Analyte	Result	Spiked	Units	Recovery	Qual	Limits
1,1-Difluoroethane	10.40	10.00	ppbv	104%		70-130
Freon 12	11.15	10.00	ppbv	111%		70-130
Freon 114	10.31	10.00	ppbv	103%		70-130
Chloromethane	9.408	10.00	ppbv	94%		70-130
Vinyl Chloride	9.520	10.00	ppbv	95%		70-130
Bromomethane	9.612	10.00	ppbv	96%		70-130
Chloroethane	9.167	10.00	ppbv	92%		70-130
Trichlorofluoromethane	11.02	10.00	ppbv	110%		70-130
1,1-Dichloroethene	10.09	10.00	ppbv	101%		70-130
Freon 113	9.999	10.00	ppbv	100%		70-130
Acetone	9.338	10.00	ppbv	93%		70-130
Carbon Disulfide	9.326	10.00	ppbv	93%		70-130
Isopropanol (IPA)	10.00	10.00	ppbv	100%		70-130
Methylene Chloride	8.395	10.00	ppbv	84%		70-130
trans-1,2-Dichloroethene	10.05	10.00	ppbv	101%		70-130
MTBE	10.14	10.00	ppbv	101%		70-130
n-Hexane	9.879	10.00	ppbv	99%		70-130
1,1-Dichloroethane	9.898	10.00	ppbv	99%		70-130
Vinyl Acetate	10.18	10.00	ppbv	102%		70-130
cis-1,2-Dichloroethene	9.766	10.00	ppbv	98%		70-130
2-Butanone	8.957	10.00	ppbv	90%		70-130
Chloroform	9.948	10.00	ppbv	99%		70-130
1,1,1-Trichloroethane	10.59	10.00	ppbv	106%		70-130
Carbon Tetrachloride	10.79	10.00	ppbv	108%		70-130
Benzene	9.180	10.00	ppbv	92%		70-130
1,2-Dichloroethane	10.58	10.00	ppbv	106%		70-130
Trichloroethene	9.528	10.00	ppbv	95%		70-130
1,2-Dichloropropane	8.865	10.00	ppbv	89%		70-130
Bromodichloromethane	9.859	10.00	ppbv	99%		70-130
cis-1,3-Dichloropropene	9.993	10.00	ppbv	100%		70-130
4-Methyl-2-Pentanone	9.703	10.00	ppbv	97%		70-130
Toluene	9.744	10.00	ppbv	97%		70-130
trans-1,3-Dichloropropene	10.04	10.00	ppbv	100%		70-130
1,1,2-Trichloroethane	9.326	10.00	ppbv	93%		70-130
Tetrachloroethene	10.11	10.00	ppbv	101%		70-130
2-Hexanone	9.859	10.00	ppbv	99%		70-130
Dibromochloromethane	9.994	10.00	ppbv	100%		70-130
1,2-Dibromoethane	9.641	10.00	ppbv	96%		70-130
Chlorobenzene	9.195	10.00	ppbv	92%		70-130
Ethylbenzene	9.824	10.00	ppbv	98%		70-130
m,p-Xylenes	20.10	20.00	ppbv	101%		70-130
o-Xylene	10.11	10.00	ppbv	101%		70-130

ENTHALPY ANALYTICAL

Batch QC

QC1053965 Analyte	Result	Spiked	Units	Recovery	Qual	Limits
Styrene	10.11	10.00	ppbv	101%		70-130
Bromoform	9.848	10.00	ppbv	98%		70-130
1,1,2,2-Tetrachloroethane	8.577	10.00	ppbv	86%		70-130
1,1,1,2-Tetrachloroethane	9.518	10.00	ppbv	95%		70-130
4-Ethyltoluene	10.42	10.00	ppbv	104%		70-130
1,3,5-Trimethylbenzene	10.30	10.00	ppbv	103%		70-130
1,2,4-Trimethylbenzene	10.34	10.00	ppbv	103%		70-130
1,3-Dichlorobenzene	9.755	10.00	ppbv	98%		70-130
1,4-Dichlorobenzene	9.672	10.00	ppbv	97%		70-130
Benzyl chloride	10.45	10.00	ppbv	104%		70-130
1,2-Dichlorobenzene	9.599	10.00	ppbv	96%		70-130
1,2,4-Trichlorobenzene	10.47	10.00	ppbv	105%		70-130
Hexachlorobutadiene	8.782	10.00	ppbv	88%		70-130
Surrogates						
Bromofluorobenzene	10.23	10.00	ppbv	102%		60-140

ENTHALPY ANALYTICAL

Batch QC

Type:	**Lab Control Sample Duplicate**	**Lab ID:**	**QC1053966**	**Batch:**	**310380**
Matrix:	**Air**	**Method:**	**EPA TO-15**	**Prep Method:**	**METHOD**

QC1053966 Analyte	Result	Spiked	Units	Recovery	Qual	Limits	RPD	RPD Lim
1,1-Difluoroethane	10.43	10.00	ppbv	104%		70-130	0	25
Freon 12	11.19	10.00	ppbv	112%		70-130	0	25
Freon 114	10.30	10.00	ppbv	103%		70-130	0	25
Chloromethane	9.455	10.00	ppbv	95%		70-130	1	25
Vinyl Chloride	9.506	10.00	ppbv	95%		70-130	0	25
Bromomethane	9.625	10.00	ppbv	96%		70-130	0	25
Chloroethane	9.189	10.00	ppbv	92%		70-130	0	25
Trichlorofluoromethane	10.88	10.00	ppbv	109%		70-130	1	25
1,1-Dichloroethene	9.888	10.00	ppbv	99%		70-130	2	25
Freon 113	9.842	10.00	ppbv	98%		70-130	2	25
Acetone	9.274	10.00	ppbv	93%		70-130	1	25
Carbon Disulfide	9.171	10.00	ppbv	92%		70-130	2	25
Isopropanol (IPA)	9.945	10.00	ppbv	99%		70-130	1	25
Methylene Chloride	8.138	10.00	ppbv	81%		70-130	3	25
trans-1,2-Dichloroethene	9.903	10.00	ppbv	99%		70-130	2	25
MTBE	10.33	10.00	ppbv	103%		70-130	2	25
n-Hexane	9.899	10.00	ppbv	99%		70-130	0	25
1,1-Dichloroethane	9.896	10.00	ppbv	99%		70-130	0	25
Vinyl Acetate	10.15	10.00	ppbv	101%		70-130	0	25
cis-1,2-Dichloroethene	9.858	10.00	ppbv	99%		70-130	1	25
2-Butanone	8.878	10.00	ppbv	89%		70-130	1	25
Chloroform	9.961	10.00	ppbv	100%		70-130	0	25
1,1,1-Trichloroethane	10.65	10.00	ppbv	106%		70-130	1	25
Carbon Tetrachloride	10.83	10.00	ppbv	108%		70-130	0	25
Benzene	9.139	10.00	ppbv	91%		70-130	0	25
1,2-Dichloroethane	10.62	10.00	ppbv	106%		70-130	0	25
Trichloroethene	9.525	10.00	ppbv	95%		70-130	0	25
1,2-Dichloropropane	8.697	10.00	ppbv	87%		70-130	2	25
Bromodichloromethane	9.848	10.00	ppbv	98%		70-130	0	25
cis-1,3-Dichloropropene	9.858	10.00	ppbv	99%		70-130	1	25
4-Methyl-2-Pentanone	10.11	10.00	ppbv	101%		70-130	4	25
Toluene	9.714	10.00	ppbv	97%		70-130	0	25
trans-1,3-Dichloropropene	10.01	10.00	ppbv	100%		70-130	0	25
1,1,2-Trichloroethane	9.139	10.00	ppbv	91%		70-130	2	25
Tetrachloroethene	10.16	10.00	ppbv	102%		70-130	0	25
2-Hexanone	9.828	10.00	ppbv	98%		70-130	0	25
Dibromochloromethane	10.09	10.00	ppbv	101%		70-130	1	25
1,2-Dibromoethane	9.637	10.00	ppbv	96%		70-130	0	25
Chlorobenzene	9.191	10.00	ppbv	92%		70-130	0	25
Ethylbenzene	9.758	10.00	ppbv	98%		70-130	1	25
m,p-Xylenes	20.06	20.00	ppbv	100%		70-130	0	25

ENTHALPY ANALYTICAL

Batch QC

QC1053966 Analyte	Result	Spiked	Units	Recovery	Qual	Limits	RPD	RPD Lim
o-Xylene	10.10	10.00	ppbv	101%		70-130	0	25
Styrene	9.991	10.00	ppbv	100%		70-130	1	25
Bromoform	9.827	10.00	ppbv	98%		70-130	0	25
1,1,2,2-Tetrachloroethane	8.522	10.00	ppbv	85%		70-130	1	25
1,1,1,2-Tetrachloroethane	9.457	10.00	ppbv	95%		70-130	1	25
4-Ethyltoluene	10.35	10.00	ppbv	104%		70-130	1	25
1,3,5-Trimethylbenzene	10.07	10.00	ppbv	101%		70-130	2	25
1,2,4-Trimethylbenzene	10.34	10.00	ppbv	103%		70-130	0	25
1,3-Dichlorobenzene	9.841	10.00	ppbv	98%		70-130	1	25
1,4-Dichlorobenzene	9.500	10.00	ppbv	95%		70-130	2	25
Benzyl chloride	10.54	10.00	ppbv	105%		70-130	1	25
1,2-Dichlorobenzene	9.562	10.00	ppbv	96%		70-130	0	25
1,2,4-Trichlorobenzene	10.44	10.00	ppbv	104%		70-130	0	25
Hexachlorobutadiene	8.759	10.00	ppbv	88%		70-130	0	25
Surrogates								
Bromofluorobenzene	10.29	10.00	ppbv	103%		60-140		

ENTHALPY ANALYTICAL

Batch QC

Type:	**Blank**	**Lab ID:**	**QC1053967**	**Batch:**	**310380**
Matrix:	**Air**	**Method:**	**EPA TO-15**	**Prep Method:**	**METHOD**

QC1053967 Analyte	Result	Qual	Units	RL	Prepared	Analyzed
1,1-Difluoroethane	ND		ppbv	1.0	03/24/23 00:23	03/24/23 00:23
Freon 12	ND		ppbv	0.20	03/24/23 00:23	03/24/23 00:23
Freon 114	ND		ppbv	0.20	03/24/23 00:23	03/24/23 00:23
Chloromethane	ND		ppbv	0.20	03/24/23 00:23	03/24/23 00:23
Vinyl Chloride	ND		ppbv	0.20	03/24/23 00:23	03/24/23 00:23
Bromomethane	ND		ppbv	0.20	03/24/23 00:23	03/24/23 00:23
Chloroethane	ND		ppbv	0.20	03/24/23 00:23	03/24/23 00:23
Trichlorofluoromethane	ND		ppbv	0.20	03/24/23 00:23	03/24/23 00:23
1,1-Dichloroethene	ND		ppbv	0.20	03/24/23 00:23	03/24/23 00:23
Freon 113	ND		ppbv	0.20	03/24/23 00:23	03/24/23 00:23
Acetone	ND		ppbv	1.0	03/24/23 00:23	03/24/23 00:23
Carbon Disulfide	ND		ppbv	0.20	03/24/23 00:23	03/24/23 00:23
Isopropanol (IPA)	ND		ppbv	1.0	03/24/23 00:23	03/24/23 00:23
Methylene Chloride	ND		ppbv	0.20	03/24/23 00:23	03/24/23 00:23
trans-1,2-Dichloroethene	ND		ppbv	0.20	03/24/23 00:23	03/24/23 00:23
MTBE	ND		ppbv	0.20	03/24/23 00:23	03/24/23 00:23
n-Hexane	ND		ppbv	0.20	03/24/23 00:23	03/24/23 00:23
1,1-Dichloroethane	ND		ppbv	0.20	03/24/23 00:23	03/24/23 00:23
Vinyl Acetate	ND		ppbv	1.0	03/24/23 00:23	03/24/23 00:23
cis-1,2-Dichloroethene	ND		ppbv	0.20	03/24/23 00:23	03/24/23 00:23
2-Butanone	ND		ppbv	1.0	03/24/23 00:23	03/24/23 00:23
Chloroform	ND		ppbv	0.20	03/24/23 00:23	03/24/23 00:23
1,1,1-Trichloroethane	ND		ppbv	0.20	03/24/23 00:23	03/24/23 00:23
Carbon Tetrachloride	ND		ppbv	0.20	03/24/23 00:23	03/24/23 00:23
Benzene	ND		ppbv	0.20	03/24/23 00:23	03/24/23 00:23
1,2-Dichloroethane	ND		ppbv	0.20	03/24/23 00:23	03/24/23 00:23
Trichloroethene	ND		ppbv	0.20	03/24/23 00:23	03/24/23 00:23
1,2-Dichloropropane	ND		ppbv	0.20	03/24/23 00:23	03/24/23 00:23
Bromodichloromethane	ND		ppbv	0.20	03/24/23 00:23	03/24/23 00:23
cis-1,3-Dichloropropene	ND		ppbv	0.20	03/24/23 00:23	03/24/23 00:23
4-Methyl-2-Pentanone	ND		ppbv	0.20	03/24/23 00:23	03/24/23 00:23
Toluene	ND		ppbv	0.20	03/24/23 00:23	03/24/23 00:23
trans-1,3-Dichloropropene	ND		ppbv	0.20	03/24/23 00:23	03/24/23 00:23
1,1,2-Trichloroethane	ND		ppbv	0.20	03/24/23 00:23	03/24/23 00:23
Tetrachloroethene	ND		ppbv	0.20	03/24/23 00:23	03/24/23 00:23
2-Hexanone	ND		ppbv	0.50	03/24/23 00:23	03/24/23 00:23
Dibromochloromethane	ND		ppbv	0.20	03/24/23 00:23	03/24/23 00:23
1,2-Dibromoethane	ND		ppbv	0.20	03/24/23 00:23	03/24/23 00:23
Chlorobenzene	ND		ppbv	0.20	03/24/23 00:23	03/24/23 00:23
Ethylbenzene	ND		ppbv	0.20	03/24/23 00:23	03/24/23 00:23
m,p-Xylenes	ND		ppbv	0.40	03/24/23 00:23	03/24/23 00:23
o-Xylene	ND		ppbv	0.20	03/24/23 00:23	03/24/23 00:23

ENTHALPY ANALYTICAL

Batch QC

QC1053967 Analyte	Result	Qual	Units	RL	Prepared	Analyzed
Styrene	ND		ppbv	0.20	03/24/23 00:23	03/24/23 00:23
Bromoform	ND		ppbv	0.20	03/24/23 00:23	03/24/23 00:23
1,1,2,2-Tetrachloroethane	ND		ppbv	0.20	03/24/23 00:23	03/24/23 00:23
1,1,1,2-Tetrachloroethane	ND		ppbv	0.20	03/24/23 00:23	03/24/23 00:23
4-Ethyltoluene	ND		ppbv	0.20	03/24/23 00:23	03/24/23 00:23
1,3,5-Trimethylbenzene	ND		ppbv	0.20	03/24/23 00:23	03/24/23 00:23
1,2,4-Trimethylbenzene	ND		ppbv	0.20	03/24/23 00:23	03/24/23 00:23
1,3-Dichlorobenzene	ND		ppbv	0.20	03/24/23 00:23	03/24/23 00:23
1,4-Dichlorobenzene	ND		ppbv	0.20	03/24/23 00:23	03/24/23 00:23
Benzyl chloride	ND		ppbv	0.20	03/24/23 00:23	03/24/23 00:23
1,2-Dichlorobenzene	ND		ppbv	0.20	03/24/23 00:23	03/24/23 00:23
1,2,4-Trichlorobenzene	ND		ppbv	0.20	03/24/23 00:23	03/24/23 00:23
Hexachlorobutadiene	ND		ppbv	0.20	03/24/23 00:23	03/24/23 00:23
Xylene (total)	ND		ppbv	0.20	03/24/23 00:23	03/24/23 00:23
Surrogates				**Limits**		
Bromofluorobenzene	90%		%REC	60-140	03/24/23 00:23	03/24/23 00:23

ND Not Detected

APPENDIX G

TRANSPORTATION ANALYSIS

HEXAGON TRANSPORTATION CONSULTANTS, INC.

Vineyard Crossing Residential Development

Transportation Analysis

Prepared for:

Raney Planning & Management, Inc.

June 6, 2025

Hexagon Transportation Consultants, Inc.
Hexagon Office: 100 Century Center Court, Suite 501
San Jose, CA 95112
Hexagon Job Number: 25TD04
Phone: 408.971.6100
Client Name: Raney Planning & Management, Inc.

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Executive Summary

This report presents the results of the transportation analysis conducted for the proposed Vineyard Crossing residential development at 3001 Oakley Road in Antioch, California. The project site is located on the northwest corner of the Phillips Drive/Oakley Road intersection. The project would construct 45 single-family residences, 40 ADUs, on the west side and 52 duplexes on the east side on a 14.64-acre site currently developed with a vineyard. Access to the site would be provided via driveways on Oakley Road and Phillips Lane.

The purpose of the transportation analysis is to estimate the effects of the project on key intersections in the immediate vicinity of the site and evaluate the proposed site circulation and access. The general plan land use designation for the project site is Medium Density Residential and Medium Low Density Residential. The proposed residential use is consistent with the general plan land use designation for the project site and therefore qualified for the CEQA 15183 Exemption Process, which allows the previously certified General Plan EIR to maintain its validity. Thus, the project would not be required to analyze VMT impacts.

Project Trip Estimates

Vehicle trips that would be generated by the proposed project were estimated using the trip generation rates published in the Institute of Transportation Engineers (ITE) *Trip Generation Manual*, 11th Edition.

Based on the ITE trip generation rates, it is estimated that the proposed project would generate 1,068 daily trips, with 73 trips (20 inbound and 53 outbound) occurring during the AM peak hour and 92 trips (56 inbound and 36 outbound) occurring during the PM peak hour.

Intersection Level of Service Analysis

The analysis determined that under existing and background conditions, with and without the project, when measured against the City of Antioch and ECAP level of service standards, all of the study intersections are expected to operate at acceptable levels (high-level LOS D or better for signalized intersections and a delay of less than 35 seconds for unsignalized intersections).

Under cumulative conditions, the results of the level of service analysis show that the signalized intersections of EB SR 4 Off Ramp/Hillcrest Avenue and Hillcrest Avenue/Slatten Ranch Road/Sunset Drive would operate at unacceptable levels of service during the PM peak hour. The EB SR 4 Off Ramp/Hillcrest Avenue intersection would operate at unacceptable LOS F and Hillcrest Avenue/Slatten Ranch Road/Sunset Drive would operate at unacceptable LOS E, with and without the project. However, as the project would add less than 3 seconds of delay, no intersection improvements are recommended. The stop-controlled intersections, including the project driveway intersections on Phillips

Lane and Oakley Road, would continue to operate with an average or worst approach delay less than 35 seconds.

Under cumulative conditions, the City should consider fine-tuning signal timings at the intersections of SR 160 northbound off-ramp/Main Street, SR 4 eastbound off-ramp/Hillcrest Avenue and Slatten Ranch Road/Hillcrest Avenue to better serve the increase in traffic levels on E 18th Street and Hillcrest Avenue.

The results of the intersection level of service analysis are summarized in Table ES-1.

Other Transportation Issues

The proposed site plan shows adequate site access and on-site circulation, and no adverse traffic operational issues are expected to occur at the project driveways. The project would not have an adverse effect on the existing transit, pedestrian, or bicycle facilities in the study area.

Hexagon has the following recommendations resulting from the on-site circulation evaluation.

Recommendations

- To ensure compliance with the City of Antioch's safety regulations for new intersections, no objects should be placed within the clear vision zones to maintain unobstructed sightlines for drivers, cyclists, and pedestrians.
- The project should provide at least one ADA space within the guest parking lot along Oak Grove Place.

Table ES 1
Intersection Level of Service Summary

					Existing				Background				Cumulative			
					No Project		with Project		No Project		with Project		No Project		with Project	
	Intersection	Peak Hour	Count Date	Control Type	Avg. Delay[1]	LOS	Avg. Delay	LOS	Avg. Delay[1]	LOS	Avg. Delay[1]	LOS	Avg. Delay[1]	LOS	Avg. Delay[1]	LOS
1	NB SR 160 Ramps and Main Street*	AM	4/10/25	Signal	10.9	B	11.0	B	19.5	B	20.2	C	18.0	B	18.5	B
		PM	4/10/25		10.6	B	10.6	B	12.7	B	12.8	B	24.6	C	24.9	C
2	SB SR 160 Ramps and Main Street/E 18th Street*	AM	4/10/25	Signal	18.0	B	18.8	B	28.3	C	30.2	C	26.1	C	27.6	C
		PM	4/10/25		16.6	B	16.7	B	26.7	C	28.0	C	28.3	C	30.0	C
3	EB SR 4 Off Ramp and Hillcrest Avenue*	AM	4/10/25	Signal	30.6	C	30.6	C	29.7	C	29.7	C	29.2	C	29.2	C
		PM	4/10/25		33.6	C	33.6	C	33.5	C	33.5	C	**94.8**	**F**	**95.1**	**F**
4	WB SR 4 Ramps and Slatten Ranch Road[2]	AM	4/10/25	Signal	10.5	B	10.5	B	10.5	B	10.5	B	19.0	B	19.1	B
		PM	4/10/25		10.6	B	10.6	B	10.6	B	10.6	B	17.4	B	17.4	B
5	Hillcrest Avenue and Slatten Ranch Road/Sunset Drive*	AM	4/10/25	Signal	20.2	C	20.3	C	20.3	C	20.3	C	32.5	C	32.7	C
		PM	4/10/25		21.6	C	21.7	C	23.5	C	23.6	C	**58.6**	**E**	**58.8**	**E**
6	Willow Avenue and Oakley Road	AM	4/10/25	AWSC	7.3	A	7.4	A	7.3	A	7.4	A	9.2	A	9.2	A
		PM	4/10/25		7.1	A	7.3	A	7.1	A	7.3	A	10.1	B	10.3	B
7	Willow Avenue and E 18th Street	AM	4/10/25	OWSC	17.3	C	17.8	C	28.0	D	29.0	D	21.9	C	22.5	C
		PM	4/10/25		18.4	C	19.1	C	29.4	D	30.9	D	30.4	D	31.9	D
8	Phillips Lane and Oakley Road	AM	4/10/25	AWSC	8.9	A	9.1	A	9.1	A	9.3	A	9.0	A	9.2	A
		PM	4/10/25		8.0	A	8.1	A	8.2	A	8.3	A	9.8	A	10.1	B
9	Phillips Lane and E 18th Street*	AM	4/10/25	Signal	11.4	B	12.1	B	21.8	C	22.4	C	20.2	C	20.7	C
		PM	4/10/25		12.0	B	13.1	B	32.9	C	35.3	D	31.2	C	33.1	C
10	(N) Site Driveway and Phillips Lane	AM	-	OWSC	-	-	9.9	A	-	-	10.0	B	-	-	10.5	B
		PM	-		-	-	9.9	A	-	-	10.1	B	-	-	10.7	B
11	(S) Site Driveway and Oakley Road	AM	-	OWSC	-	-	9.9	A	-	-	9.9	A	-	-	10.3	B
		PM	-		-	-	9.6	A	-	-	9.6	A	-	-	11.5	B

Notes:

AWSC = All-Way Stop Control, OWSC = One-Way Stop Control

1. Overall weighted average control delay (seconds per vehicle) is reported for signalized intersections. Worst approach delay (seconds per vehicle) and level of service are reported for the OWSC intersections.

2. The intersection level of service (LOS) for the WB SR 4 Ramps and Slatten Ranch Road intersection is calculated using the HCM 2000 methodology. Since the intersection contains a bike signal, there is non-standard signal phasing operations that cannot be analyzed by the HCM 7th edition methodology (latest edition).

* Denotes an intersection on a Route of Regional Significance

Bold indicates unacceptable level of service.

1. Introduction

This report presents the results of the transportation analysis conducted for the proposed Vineyard Crossing residential development at 3001 Oakley Road in Antioch, California. The project site is located on the northwest corner of the Phillips Drive/Oakley Road intersection (see Figure 1). The project would construct 45 single-family residences, 40 ADUs, on the west side and 52 duplexes on the east side on a 14.64-acre site currently developed with a vineyard. Access to the site would be provided via driveways on Oakley Road and Phillips Lane. The project site plan is shown on Figure 2.

Scope of Study

The purpose of the study is to satisfy the requirements of the City of Antioch and the Contra Costa Transportation Authority (CCTA), which serves as the Congestion Management Agency (CMA) for Contra Costa County.

The purpose of the transportation analysis is to estimate the effects of the project on key intersections in the immediate vicinity of the project site and evaluate the proposed site circulation and access. The general plan land use designation for the project site is Medium Density Residential and Medium Low Density Residential. The proposed residential use is consistent with the general plan land use designation for the project site and therefore qualified for the CEQA 15183 Exemption Process, which allows the previously certified General Plan EIR to maintain its validity. Thus, the project would not be required to analyze VMT impacts.

Local Transportation Analysis

The Local Transportation Analysis (LTA) includes an analysis of the traffic operational effects of the project on the key intersections in the project area. The LTA also includes an evaluation of transit, bicycle, and pedestrian access, a site plan review, and parking analysis.

Although not required by CEQA, the City still requires all projects to measure intersection operations (LOS) and to provide improvements or address project related operational deficiencies. Thus, this report contains a local transportation analysis to evaluate the project's consistency with the level of service standards set forth by the City and to identify feasible improvements to remedy any deficiencies. In addition, vehicle queuing was evaluated at selected locations where the project would add a significant number of left-turn vehicles.

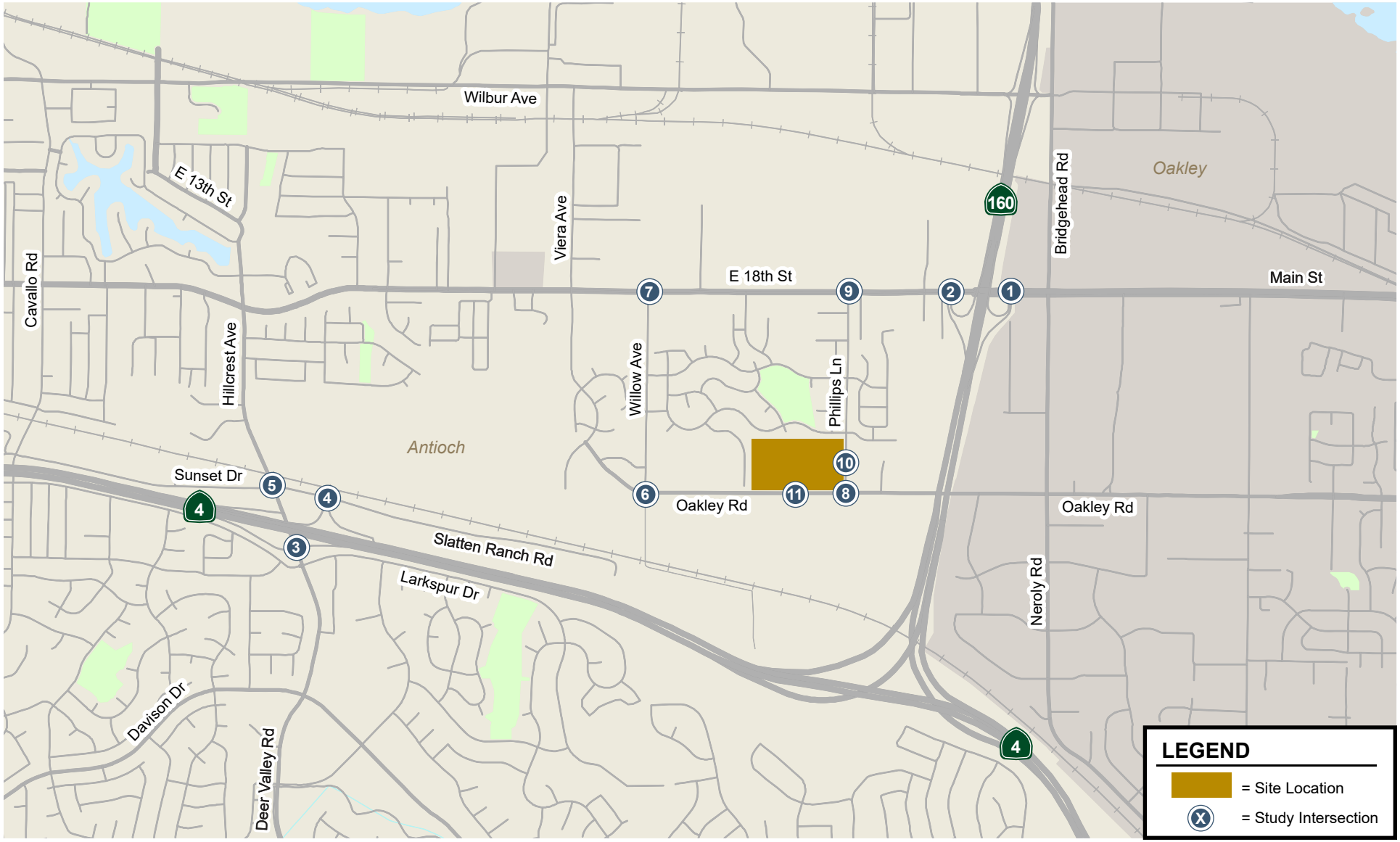


Figure 1
Site Location and Study Intersections

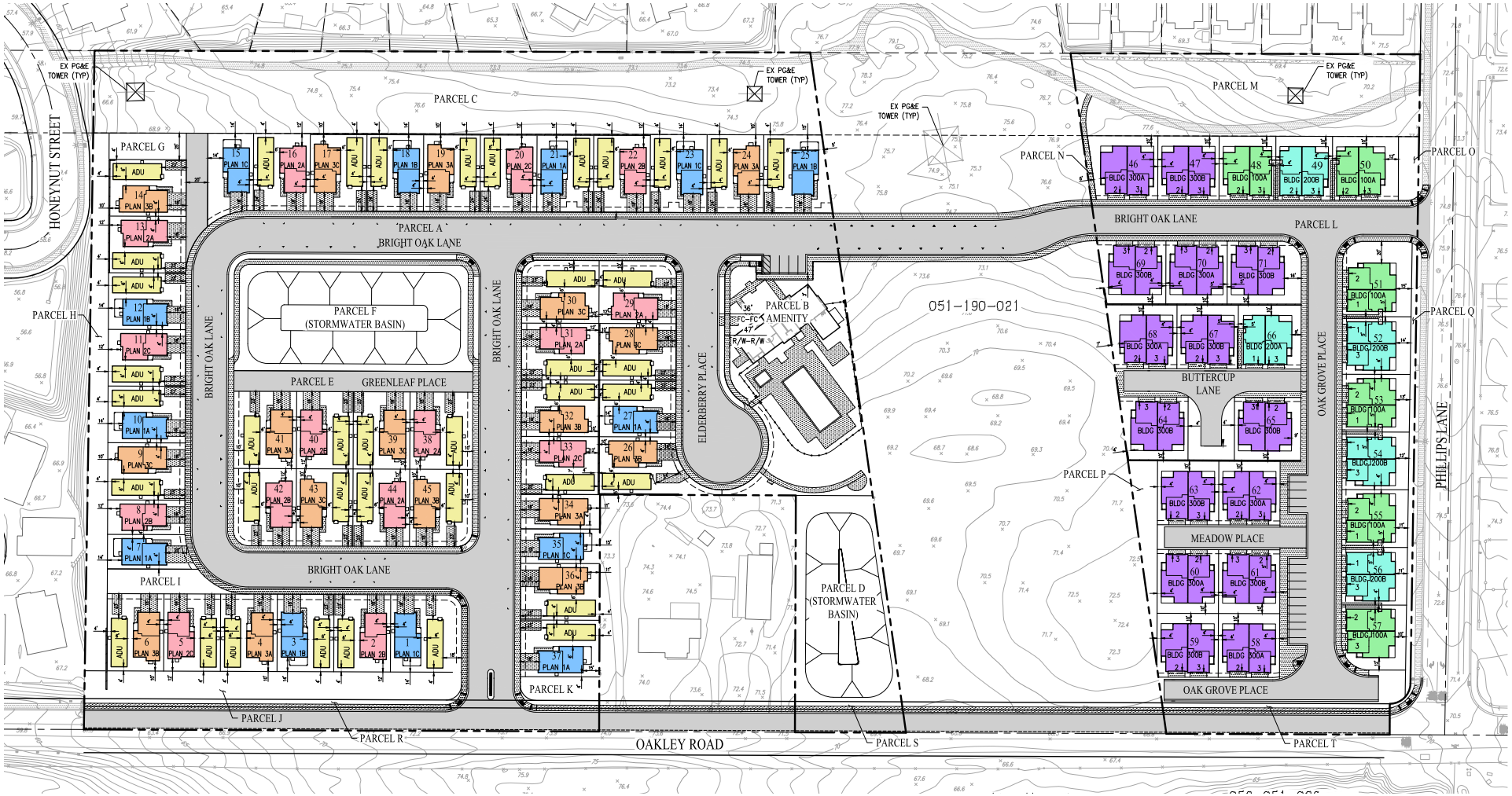


Figure 2
Project Site Plan

NORTH
Not to Scale

Study Intersections

Eleven study intersections were selected in accordance with the Contra Costa County Transportation Authority (CCTA) *Technical Procedures*, and in consultation with City of Antioch staff. The study includes those intersections that provide primary access to the project area and intersections that would experience a noticeable increase in traffic volume. The study intersections are listed below and shown on Figure 1.

1. NB State Route (SR) 160 On/Off Ramps and Main Street (signal)
2. SB SR Route 160 On/Off Ramps and E 18th Street/Main Street (signal)
3. EB SR 4 Off Ramp and Hillcrest Avenue (signal)
4. WB SR 4 On/Off Ramps and Slatten Ranch Road (signal)
5. Hillcrest Avenue and Slatten Ranch Road/Sunset Drive (signal)
6. Willow Avenue and Oakley Road (unsignalized)
7. Willow Avenue and E 18th Street (unsignalized)
8. Phillips Lane and Oakley Road (unsignalized)
9. Phillips Lane and E 18th Street (signalized)
10. Site Driveway and Phillips Lane (future, unsignalized)
11. Site Driveway and Oakley Road (future, unsignalized)

Traffic conditions at the study intersections were analyzed for the weekday AM and PM peak hours of traffic. Locally, the AM peak hour of traffic is usually between 7:00 and 9:00 AM, and the PM peak hour is typically between 4:00 and 6:00 PM. It is during these periods that the most congested traffic conditions occur on an average weekday.

A County Congestion Management Program (CMP) analysis is not required because none of the study intersections are part of the CMP network. However, E 18th Street and Hillcrest Avenue are considered routes of regional significance by CCTA. The suburban arterial routes within the study area, including E 18th Street and Hillcrest Avenue, were evaluated in accordance with the East County Action Plan (ECAP).

Traffic conditions at the study intersections were evaluated for the following scenarios:

- ***Existing Conditions.*** Existing traffic volumes at study intersections were based on traffic counts conducted in April 2025. The study intersections were evaluated with a level of service analysis using Synchro software in accordance with the latest *Highway Capacity Manual* methodology.
- ***Existing Plus Project Conditions.*** Existing plus project traffic volumes were estimated by adding the traffic generated by the project to existing traffic volumes. Existing plus project conditions were evaluated relative to existing conditions in order to determine potential project adverse effects.
- ***Background Conditions*.** Background traffic volumes were estimated by adding to existing traffic volumes the projected volumes from approved but not yet constructed developments in the vicinity of the project. A list of approved but not yet constructed developments was provided by the City of Antioch.
- ***Background Plus Project Conditions.*** Background plus project traffic volumes were estimated by adding the traffic generated by the project to the background traffic volumes. Background plus project conditions were evaluated relative to background conditions in order to determine potential project adverse effects.

- ***Cumulative Conditions.*** Cumulative traffic volumes represent traffic growth through the year 2040. Cumulative no project traffic volumes were estimated based on the available year 2040 forecasts from the CCTA travel demand forecast model.
- ***Cumulative Plus Project Conditions.*** Cumulative plus project conditions were estimated by adding to the cumulative traffic volumes the traffic estimated to be generated by the proposed project. Cumulative plus project conditions were evaluated relative to cumulative conditions to determine potential project adverse effects.

Intersection Operations Analysis Methodology

This section presents the methods used to evaluate traffic conditions at the study intersections. It includes descriptions of the data requirements, the analysis methodologies, and the applicable level of service standards.

Data Requirements

The data required for the analysis were obtained from new traffic counts, City of Antioch, Google Earth, previous transportation studies, and field observations. The following data were collected from these sources:

- Intersection traffic volumes (new traffic counts and previous transportation studies),
- Lane geometries (field observations and Google Earth),
- Signal timing and phasing (City of Antioch and field observations),
- A list of approved but not yet constructed developments (City of Antioch),
- Year 2040 traffic volumes (CCTA travel demand forecast model and previous transportation studies),
- Peak hour factors (new traffic counts), and
- Heavy vehicle percentages (new traffic counts).

Intersection Level of Service Analysis Methodologies and Standards

Traffic conditions at the study intersections were evaluated using level of service (LOS). Level of service is a qualitative description of operating conditions ranging from LOS A, or free-flow conditions with little or no delay, to LOS F, or jammed conditions with excessive delays.

Signalized Intersections

The City of Antioch evaluates level of service at signalized intersections based on the latest *Highway Capacity Manual (HCM)* level of service methodology using Synchro software. The HCM method evaluates signalized intersection operations on the basis of average control delay time for all vehicles at the intersection. Based on the City's Traffic Impact Analysis (TIA) guidelines, the level of service standard for signalized study intersections is high-level LOS D or better (average delay of 55 seconds or less), except for intersections located on residential and arterial roadways in non-regional commercial areas, where the standard is mid-level LOS D or better (average delay of 50 seconds or less).

E 18th Street and Hillcrest Avenue are routes of regional significance. According to the ECAP, the multi-modal transportation service objective (MTSO) for suburban arterial routes is to maintain LOS D or better (average delay of 55 seconds or less) at all signalized intersections. Thus, all of the signalized study intersections along E 18th Street (intersections #1, #2, and #9) and Hillcrest Avenue (intersections #3 and #5) are subject to the high-level LOS D standard. The signalized intersection of

WB SR 4 On/Off Ramps and Slatten Ranch Road is also subject to the City's LOS standard, high-level D or better (average delay of 55 seconds or less).

The correlation between average control delay and level of service is shown in Table 1.

Table 1
Signalized Intersection Level of Service Definitions Based on Average Control Delay

Level of Service	Description	Average Control Delay Per Vehicle (sec.)
A	Signal progression is extremely favorable. Most vehicles arrive during the green phase and do not stop at all. Short cycle lengths may also contribute to the very low vehicle delay.	10.0 or less
B	Operations characterized by good signal progression and/or short cycle lengths. More vehicles stop than with LOS A, causing higher levels of average vehicle delay.	10.1 to 20.0
C	Higher delays may result from fair signal progression and/or longer cycle lengths. Individual cycle failures may begin to appear at this level. The number of vehicles stopping is significant, though some vehicles may still pass through the intersection without stopping.	20.1 to 35.0
D	The influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable signal progression, long cycle lengths, or high volume-to-capacity (V/C) ratios. Many vehicles stop and individual cycle failures are noticeable.	35.1 to 55.0
E	This is considered to be the limit of acceptable delay. These high delay values generally indicate poor signal progression, long cycle lengths, and high volume-to-capacity (V/C) ratios. Individual cycle failures occur frequently.	55.1 to 80.0
F	This level of delay is considered unacceptable by most drivers. This condition often occurs with oversaturation, that is, when arrival flow rates exceed the capacity of the intersection. Poor progression and long cycle lengths may also be major contributing causes of such delay levels.	Greater than 80.0

Source: Transportation Research Board, *Highway Capacity Manual, 7th Edition* (Washington, D.C., 2022).

Unsignalized Intersection

Level of service at the unsignalized study intersections were based on the latest HCM method using the Synchro software. This method is applicable for both side street stop-controlled and all-way stop-controlled intersections. The level of service reported for the intersection is based on the average delay of the intersection for all-way stop-controlled intersections, average delay for the worst stop-controlled approach for two-way stop-controlled intersections, and the average delay for the stop-controlled approach for T-intersections. All unsignalized study intersections are subject to LOS D standard (average delay of 35 seconds or less). The correlation between average control delay and LOS for unsignalized intersections is shown in Table 2.

Table 2
Unsignalized Intersection Level of Service Definitions Based on Average Delay

Level of Service	Description	Average Delay Per Vehicle (Sec.)
A	Little or no traffic delay	10.0 or less
B	Short traffic delays	10.1 to 15.0
C	Average traffic delays	15.1 to 25.0
D	Long traffic delays	25.1 to 35.0
E	Very long traffic delays	35.1 to 50.0
F	Extreme traffic delays	Greater than 50.0

Source: Transportation Research Board, *Highway Capacity Manual, 7th Edition* (Washington, D.C., 2022).

Intersection Vehicle Queuing Analysis

The analysis of intersection operations was supplemented with a vehicle queuing analysis at intersections where the project would add a substantial number of trips to the left-turn movements or stop-controlled approaches. The vehicle queuing analysis is used to determine the appropriate storage lengths for the high demand turn lanes where the project would add a substantial number of trips. Vehicle queues were estimated using Synchro software, which accounts for the intersection signal timing.

The basis of the analysis is as follows: (1) the Synchro software is used to estimate the 95th percentile number of queued vehicles for a particular movement; (2) the estimated 95th percentile number of vehicles in the queue is translated into a queue length, assuming 25 feet per vehicle; and (3) the estimated 95th percentile queue length is compared to the existing or planned available storage capacity for the left-turn movement. This analysis thus provides a basis for estimating future turn pocket storage requirements at intersections.

The 95th percentile queue length value indicates that during the peak hour, a queue of this length or less would occur on 95 percent of the signal cycles, or a queue length larger than the 95th percentile queue would only occur on 5 percent of the signal cycles (about 3 cycles during the peak hour for a signal with a 60-second cycle length). Thus, turn pocket storage designs based on the 95th percentile queue length would ensure that storage space would be exceeded only 5 percent of the time for a movement.

Definition of Adverse Intersection Operational Effects

Adverse effects on study intersections are based on the adverse effect criteria and level of service standards of the jurisdiction in which the intersection is located. For this analysis, adverse effects on study intersections are based on the City of Antioch and the ECAP level of service standards.

For intersections located on Routes of Regional Significance, according to the City of Antioch TIA Guidelines and the ECAP, a development is said to create an adverse effect on traffic conditions at a study intersection if for either peak hour, any of the following conditions occur:

1. Signalized intersection - The level of service at a signalized intersection on a route of regional significance degrades from an acceptable level (high-level LOS D or better with an average delay of 55 seconds or less) under no-project conditions to an unacceptable level (LOS E or F) under project conditions.
2. Signalized intersection - The project would deteriorate already unacceptable operations at a signalized intersection (LOS E or F) on a route of regional significance by adding three or more seconds of vehicle delay by adding traffic.
3. Unsignalized intersection – The project would cause the operations of an unsignalized intersection on a route of regional significance to decline from acceptable LOS D to unacceptable LOS E or F with the addition of project traffic, with traffic signal warrants being met.

For study intersections that are not located on a route of regional significance, a development is said to create an adverse effect on traffic conditions at an intersection if for either peak hour, any of the following conditions occur:

1. Signalized intersection – For intersections within 1,000 feet (ft) of a freeway interchange, if the LOS declines from a low LOS E (an average delay of 65 seconds for signalized intersections) or better to a high LOS E or LOS F, with the addition of project traffic.
2. Signalized intersection – If the LOS declines from a high LOS D (an average delay of 55 seconds for signalized intersections) or better to LOS E or LOS F, with the addition of project traffic.
3. Signalized intersection – For intersections on residential and arterial roadways, if the LOS declines from a mid LOS D (an average delay of 50 seconds for signalized intersections) or better to high LOS D, LOS E or LOS F, with the addition of project traffic.
4. Signalized intersection – If the project deteriorates already unacceptable traffic operations by increasing the average intersection delay by three or more seconds with the addition of project traffic.
5. Unsignalized intersection – The project would cause the operations of an unsignalized intersection to decline from acceptable LOS D to unacceptable LOS E or F with the addition of project traffic, with traffic signal warrants being met.

Report Organization

This report has a total of four chapters. Chapter 2 describes existing conditions including the existing roadway network, transit service, bicycle and pedestrian facilities, and existing intersection level of service. Chapter 3 presents the intersection operational analysis including the method by which project traffic is estimated, the results of intersection level of service analysis, any adverse effects to intersection level of service and queuing caused by the project. Chapter 4 presents the analyses of other transportation-related issues, including site access and on-site circulation, potential effects on bicycle, pedestrian, and transit facilities, and parking.

2. Existing Conditions

This chapter describes the existing conditions for transportation facilities in the vicinity of the site, including the roadway network, transit service, pedestrian and bicycle facilities.

Existing Roadway Network

Regional access to the project site is provided via State Route 160 (SR 160) and SR 4.

SR 160 is a north/south freeway that extends from SR 4 in Contra Costa County to Business 80 in Sacramento County. In Antioch, SR 160 is a six-lane roadway (three lanes in each direction). SR 160 provides access to and from the project site via an interchange at E 18th Street.

SR 4 is an east-west freeway that extends from Hercules in the west to Stockton and beyond in the east. In Antioch, SR 4 is a six-lane roadway (three lanes in each direction) and is separated by the BART tracks in the median. SR 4 provides access to and from the project site via an interchange at Hillcrest Avenue and its connection with SR 160.

Local access to the site is provided on E 18th Street, Hillcrest Avenue, Willow Avenue, Phillips Lane, and Oakley Road. These roadways are described below.

E 18th Street is an east-west arterial roadway that extends from "L" Street to SR 160. E 18th Street is a designated route of regional significance between "A" Street and SR 160. It is a four-lane roadway with a landscaped median and turn pockets at intersections between Wilson Street and SR 160. In the westbound direction, west of Wilson Drive, it narrows down from two lanes to one lane and widens back to two lanes west of Hargrove Street. West of Blossom Drive and between Hargrove Street and Viera Avenue, E 18th Street has a two-way left-turn lane. The posted speed limit is 45 miles per hour (mph). Parking is prohibited along both sides of the street. Sidewalks exist along most of the street with some gaps in the project vicinity. E 18th Street provides access to the project site via Willow Avenue, Phillips Lane, and Oakley Road.

Hillcrest Avenue is a north-south two- to four-lane street in the project vicinity. Hillcrest Avenue is a designated route of regional significance between Slatten Ranch Road and Lone Tree Way. Hillcrest Avenue extends from Jacobsen Street in the north to Sand Creek Road in the south. North of E 18th Street, Hillcrest Avenue is a two-lane street. South of E 18th Street, Hillcrest Avenue is a four-lane street with a landscaped median and left-turn pockets at intersections. The posted speed limit is 25 mph north of E 18th Street and 40 mph south of E 18th Street. Parking is prohibited along both sides of the street. Sidewalks exist along both sides of the street. Bike lanes are present along both sides of the street south of E 18th Street. Hillcrest Avenue provides access to the project site via E 18th Street, Willow Avenue, Phillips Lane, and Oakley Road.

Willow Avenue is a north-south two-lane roadway that extends from Oakley Road to E 18th Street. The posted speed limit is 30 mph. Parking is permitted along both sides of the street. Sidewalks exist along both sides of the street. Willow Avenue provides access to the project site via Oakley Road.

Phillips Lane is a north-south local roadway that extends from Oakley Road to E 18th Street. Phillips Lane has two lanes with a two-way left-turn lane. The posted speed limit is 25 mph. Parking is prohibited along both sides of the street. Sidewalks and bicycle lanes exist along both sides of the street. Phillips Lane would provide direct access to the project via a new street that would extend from the west side of Phillips Lane, approximately 400 feet north of Oakley Road.

Oakley Road is a north-south local roadway that extends from Viera Avenue to Empire Avenue. The posted speed limit is 45 mph. Parking is prohibited along both sides of the street. Sidewalks are missing along the south side of Oakley Road and are missing along the existing project frontage. Oakley Road would provide direct access to the project via a new street that would extend from the north side of Oakley Road, approximately 800 feet west of Philips Lane.

Existing Transit Services

Existing transit service near the project site is provided by the Eastern Contra Costa Transit Authority (Tri Delta Transit). The study area is served directly by two local bus routes, Routes 383 and 391. Both Routes 383 and 391 stop at the Antioch BART Station near the SR 4/Hillcrest Avenue interchange. Bus lines that run through the study area are summarized in Table 3 and illustrated in Figure 3. The bus stops in the project vicinity, serving both routes, are on E 18th Street with the nearest stop approximately 0.7-mile walking distance from the project site near the intersection of Drive-In Way/Holub Lane.

Table 3
Existing Transit Services

Route	Route Description	Weekday Hours of Operation[1]	Headways[2] (minutes)	Nearby Bus Stops
Tri Delta Bus Routes				
Route 383	Blue Goose Park in Brentwood - Antioch BART Station	7:00 AM - 6:45 PM	60	18th Street east of Drive-In Way and west of Wilson Street
Route 391	Brentwood Park & Ride - Antioch BART Station - Pittsburg Center Station	4:00 AM - 1:30 AM (next day)	30	18th Street east of Drive-In Way and west of Wilson Street

Notes:
1. Approximate weekday hours of operation as of May 2025
2. Approximate headways during weekday peak periods as of May 2025

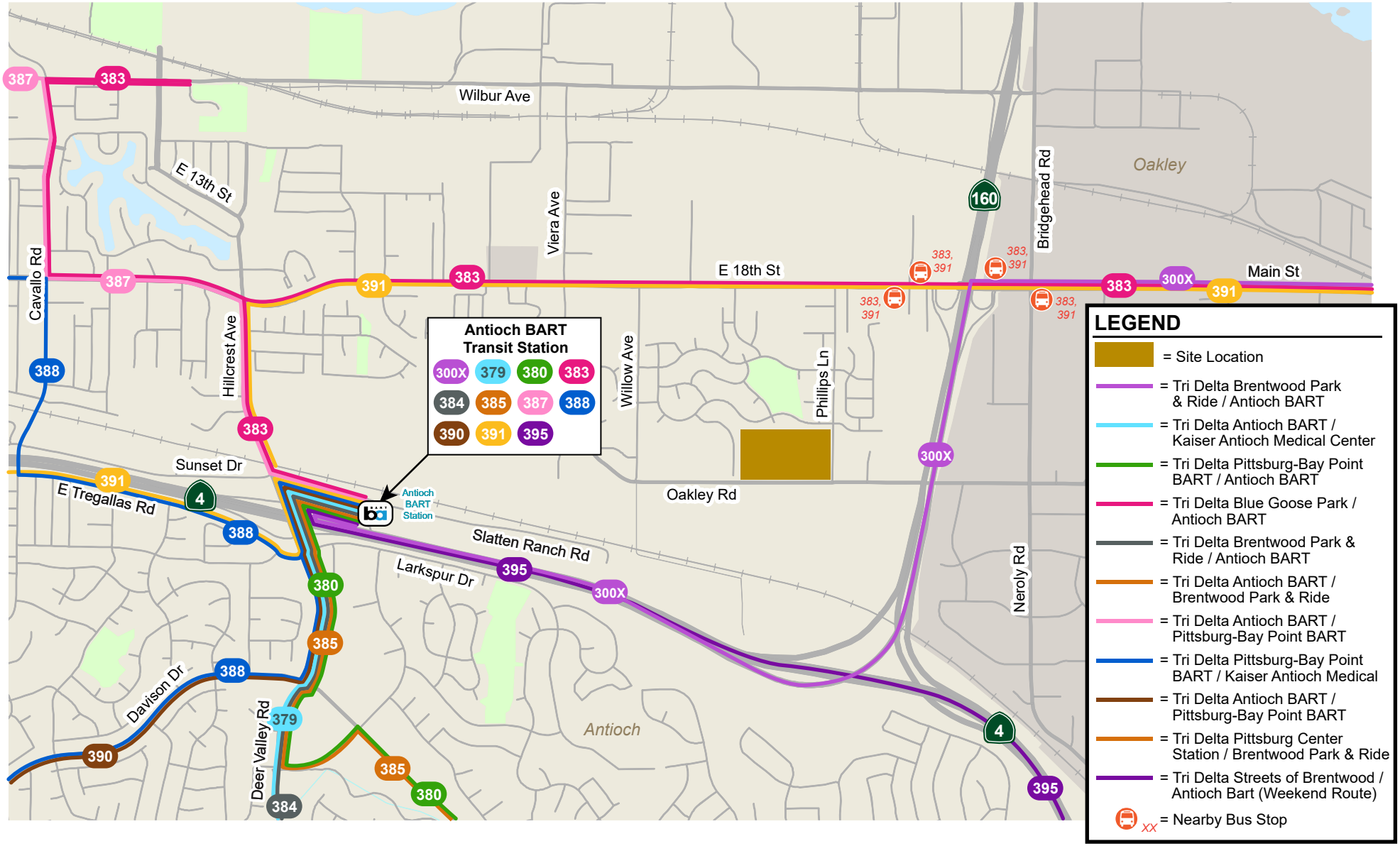


Figure 3
Existing Transit Services

Existing Pedestrian Facilities

Pedestrian facilities consist of sidewalks, crosswalks, and pedestrian signals at signalized intersections. In the project vicinity, intermittent sidewalks are present along the north side of Oakley Road. Marked crosswalks with pedestrian signal heads and push buttons are provided along the east and south legs of the signalized intersection at Phillips Lane and E 18th Street. Sidewalks are missing along the frontages of undeveloped parcels along Oakley Road. A continuous sidewalk along Phillips Lane connect the project site to the E 18th Street corridor and transit services operating along that corridor.

Existing Bicycle Facilities

The bicycle facilities that exist in the project vicinity (see Figure 4) include striped bike lanes (Class II bikeway). Class II Bike Lanes are lanes on roadways designated for use by bicycles with special lane markings. In the project vicinity, striped bike lanes are present along the following roadway segments:

- Hillcrest Avenue, south of E 18th Street
- Viera Avenue, north of E 18th Street
- Phillips Lane, for the entire street
- Holub Lane, for a 200-foot segment south of E 18th Street

Oakley Road does not have striped bike lanes and is a street with a high-speed limit. Therefore, bicyclists need to ride on Oakley Road with caution. Other local streets, such as Willow Avenue and other neighborhood streets, carry low traffic volumes with low vehicle travel speeds and are conducive to bicyclists although they do not have striped bike lanes or bike route signs.

Field Observations

At all study intersections, traffic cleared on all approaches within the same cycle except at the following intersections.

Hillcrest Avenue and SR 4 EB Ramps – Long queues were observed during the PM peak hour for the right-turn movement on the SR 4 eastbound off-ramp. The off-ramp consists of two left-turn lanes and three-right turn lanes. Right turns are not permitted on red. Long queues were observed for the eastbound right-turning traffic on the off-ramp due to the high volume (1,017 vehicles per hour based on April 2025 counts). When the eastbound off-ramp received the green signal, it was observed that the eastbound right-turning traffic on the off-ramp could not proceed through the intersection due to the downstream traffic queue on Hillcrest Avenue, that extended from the intersection of E Tregallas Road/Larkspur Drive. However, traffic gradually cleared due to the long green time (more than 60 seconds) given to the eastbound right turns. Sometimes, it took more than one cycle for vehicles at the end of the queue to turn onto southbound Hillcrest Avenue.

E 18th Street and SR 160 NB Ramps – Long queues were observed during the PM peak hour for the right-turn movement on the SR 160 northbound off-ramp. The off-ramp consists of one left-turn lane and two right-turn lanes. Right turns are not permitted on red. Long queues were observed for the northbound right-turning traffic on the off-ramp due to the high volume (818 vehicles per hour based on April 2025 counts). When the northbound off-ramp received the green signal, it was observed that the northbound right-turning traffic on the off-ramp could not proceed through the intersection due to the downstream traffic queue on eastbound Main Street, that extended from the intersection of Neroly Road/Bridgehead Road. However, traffic gradually cleared due to the long green time (approximately 60 seconds) given to the northbound right-turns. Sometimes, it took more than one cycle for vehicles at the end of the queue to turn onto eastbound Main Street.

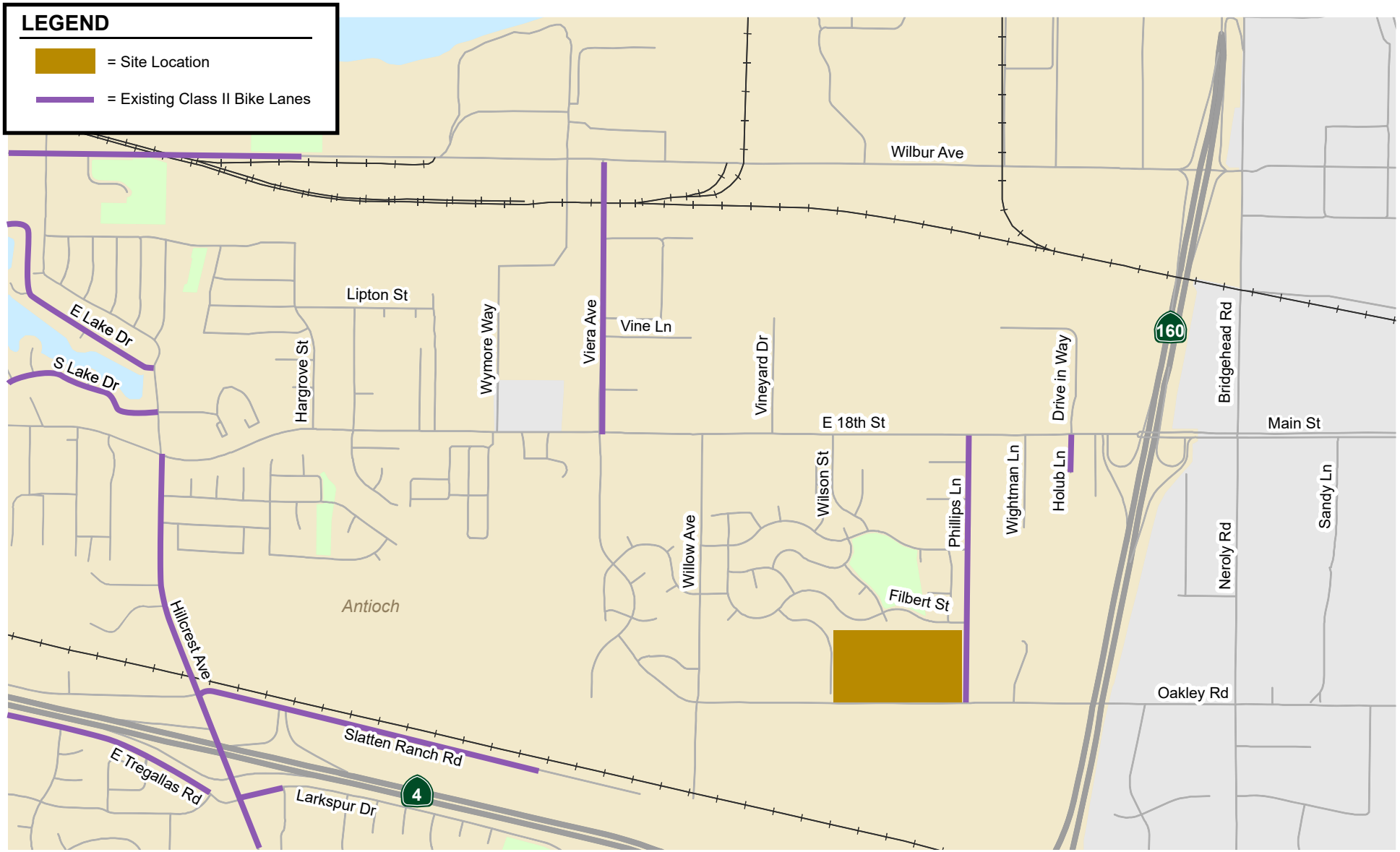


Figure 4
Existing Bicycle Facilities

Existing Lane Configurations and Traffic Volumes

The existing lane configurations at the study intersections were determined by Google Earth satellite imagery and observations in the field (see Figure 5).

Existing AM and PM peak-hour traffic volumes (see Figure 6) were obtained from new traffic count data (see Appendix A).

Existing Intersection Levels of Service

The results of the intersection level of service analysis show that all of the signalized study intersections currently operate at an acceptable level of service (high-level LOS D or better), during both the AM and PM peak hours (see Table 4). The stop-controlled intersections of Willow Avenue and Oakley Road, Willow Avenue and E 18th Street, and Phillips Lane and Oakley Road currently operate with an average or worst approach delay of less than 35 seconds. Therefore, all study intersections currently meet the City's LOS standards.

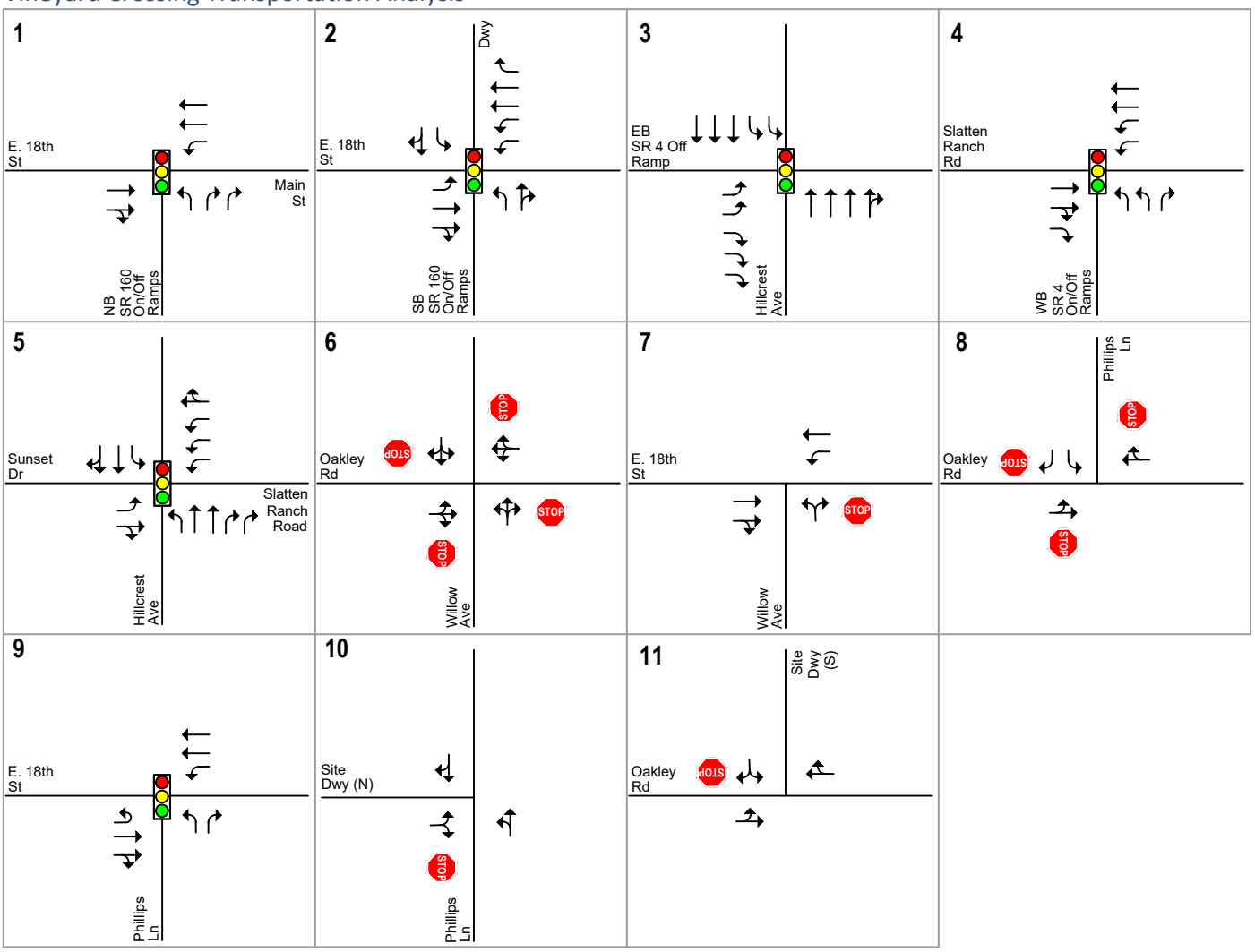
Note that the intersections are analyzed in isolation. While the analysis results show an acceptable delay and LOS for the NB SR 160 Ramps/Main Street and EB SR 4 Off Ramp/Hillcrest Avenue intersections, field observations showed long queues for vehicles turning right from both off-ramps. Although the right-turn movements at both the ramp intersections received a long green signal, queues from the closely spaced downstream intersections extended back into these study intersections, thus constraining the capacity for the right turn lanes.

The intersection levels of service calculation sheets are included in Appendix B.

Table 4
Existing Intersection Levels of Service

	Intersection	Peak Hour	Count Date	Control Type	Existing Conditions Average Delay[1]	Existing Conditions LOS
1	NB SR 160 Ramps and Main Street*	AM	04/10/25	Signal	10.9	B
		PM	04/10/25		10.6	B
2	SB SR 160 Ramps and Main Street/E 18th Street*	AM	04/10/25	Signal	18.0	B
		PM	04/10/25		16.6	B
3	EB SR 4 Off Ramp and Hillcrest Avenue*	AM	04/10/25	Signal	30.6	C
		PM	04/10/25		33.6	C
4	WB SR 4 Ramps and Slatten Ranch Road[2]	AM	04/10/25	Signal	10.5	B
		PM	04/10/25		10.6	B
5	Hillcrest Avenue and Slatten Ranch Road/Sunset Drive*	AM	04/10/25	Signal	20.2	C
		PM	04/10/25		21.6	C
6	Willow Avenue and Oakley Road	AM	04/10/25	AWSC	7.3	A
		PM	04/10/25		7.1	A
7	Willow Avenue and E 18th Street	AM	04/10/25	OWSC	17.3	C
		PM	04/10/25		18.4	C
8	Phillips Lane and Oakley Road	AM	04/10/25	AWSC	8.9	A
		PM	04/10/25		8.0	A
9	Phillips Lane and E 18th Street*	AM	04/10/25	Signal	11.4	B
		PM	04/10/25		12.0	B

Notes:
AWSC = All-Way Stop Control, OWSC = One-Way Stop Control
1. Overall weighted average control delay (seconds per vehicle) is reported for signalized intersections. Worst approach delay (seconds per vehicle) and level of service are reported for the OWSC intersections.
2. The intersection level of service (LOS) for the WB SR 4 Ramps and Slatten Ranch Road intersection is calculated using the HCM 2000 methodology. Since the intersection contains a bike signal, there is non-standard signal phasing operations that cannot be analyzed by the HCM 7th edition methodology (latest edition).
* Denotes an intersection on a Route of Regional Significance
Bold indicates unacceptable level of service.

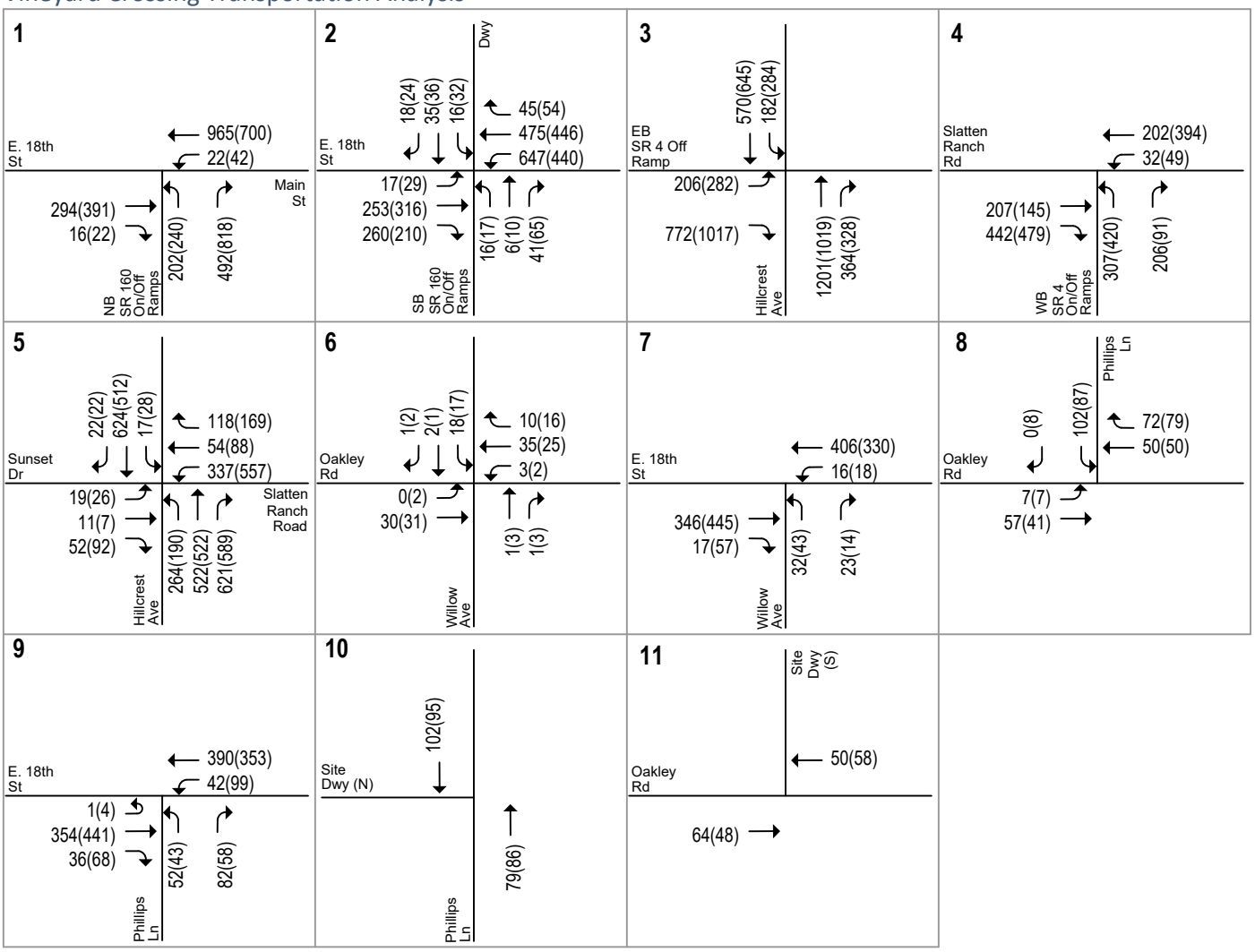


LEGEND

= Signalized Intersection

= Stop Controlled Intersection Approach

Figure 5
Existing Lane Configurations



LEGEND

XX(XX) = AM(PM) Peak-Hour Traffic Volumes

Figure 6
Existing Traffic Volumes

NORTH
Not to Scale

3. Intersection Operations Analysis

This chapter presents the intersection operations analysis including the method by which project traffic is estimated, the results of intersection level of service analysis for background and cumulative conditions, any adverse effects to intersection level of service caused by the project, and an intersection vehicle queuing analysis. A potential adverse effect on a study intersection is not considered a CEQA impact.

Project Trip Estimates

The magnitude of traffic produced by a new development and the locations where that traffic would appear were estimated using a three-step process: (1) trip generation, (2) trip distribution, and (3) trip assignment. In determining project trip generation, the magnitude of traffic traveling to and from the proposed project was estimated for the AM and PM peak hours. As part of the project trip distribution, the directions to and from which the project trips would travel were estimated. In the project trip assignment, the project trips were assigned to specific streets and intersections. These procedures are described below.

Trip Generation

Through empirical research, data have been collected that quantify the amount of traffic produced by many types of land uses. This research is compiled in the *Trip Generation Manual, 11th Edition* published by the Institute of Transportation Engineers (ITE). The magnitude of traffic added to the roadway system by a particular development is estimated by multiplying the applicable trip generation rate(s) by the size of the development. Trips that would be generated by the proposed project were estimated using the ITE trip rates for Single-Family Detached Housing (ITE 210), Multifamily Housing (Low-Rise) Not Close to Rail Transit (ITE 220), and Single-Family Attached Housing (ITE 215). Based on the ITE trip generation rates, it is estimated that the proposed project would generate 1,068 daily trips, with 73 trips (20 inbound and 53 outbound) occurring during the AM peak hour and 92 trips (56 inbound and 36 outbound) occurring during the PM peak hour (see Table 5).

Table 5
Project Trip Generation Estimates

Land Use	Size	Daily		AM Peak Hour				PM Peak Hour			
				Total				Total			
		Rate	Trips	Rate	Trips	In	Out	Rate	Trips	In	Out
Proposed Use											
Single Family Homes (Detached)[1]	45 units	9.43	424	0.70	32	8	24	0.94	42	26	16
ADUs[2]	40 units	6.74	270	0.40	16	4	12	0.51	20	13	7
Duplexes[3]	52 units	7.20	374	0.48	25	8	17	0.57	30	17	13
Total	**137 units**		**1,068**		**73**	**20**	**53**		**92**	**56**	**36**

Notes
[1] Based on ITE Trip Generation, 11th Edition Average Rates for Single-Family Detached Housing (ITE 210).
[2] Based on ITE Trip Generation, 11th Edition Average Rates for Multifamily Housing (Low-Rise) Not Close to Rail Transit (ITE 220). This land use is consistent with other projects in the area containing accessory dwelling units (ADUs) per City staff.
[3] Based on ITE Trip Generation, 11th Edition Average Rates for Single-Family Attached Housing (ITE 215).

Trip Distribution and Assignment

The trip distribution pattern for the project (see Figure 7) was estimated based on existing travel patterns on the surrounding roadway system, freeway access, and the locations of complementary land uses. It is expected that most of the trips to/from the proposed project would use SR 160 to access the site. Some trips traveling eastbound on SR 4 would access the site via the SR 4/Hillcrest Avenue interchange.

The peak-hour vehicle trips associated with the project were assigned to the roadway network in accordance with the trip distribution pattern. Figure 8 shows the assignment of the project traffic at the study intersections. It is estimated that about half of the project trips would utilize the driveway on Oakley Road and half would utilize the driveway on Phillips Lane based on the site design and parking lot layout.

Roadway Network

The roadway network under existing plus project conditions would be the same as existing conditions. Under background and cumulative conditions, a driveway for the E 18th Street Industrial Development would be added to the north leg of the Phillips Lane/E 18th Street intersection. The background and cumulative scenarios assume split phases for the northbound and southbound approaches and left-turn protected phases for the eastbound-westbound approaches at the intersection.

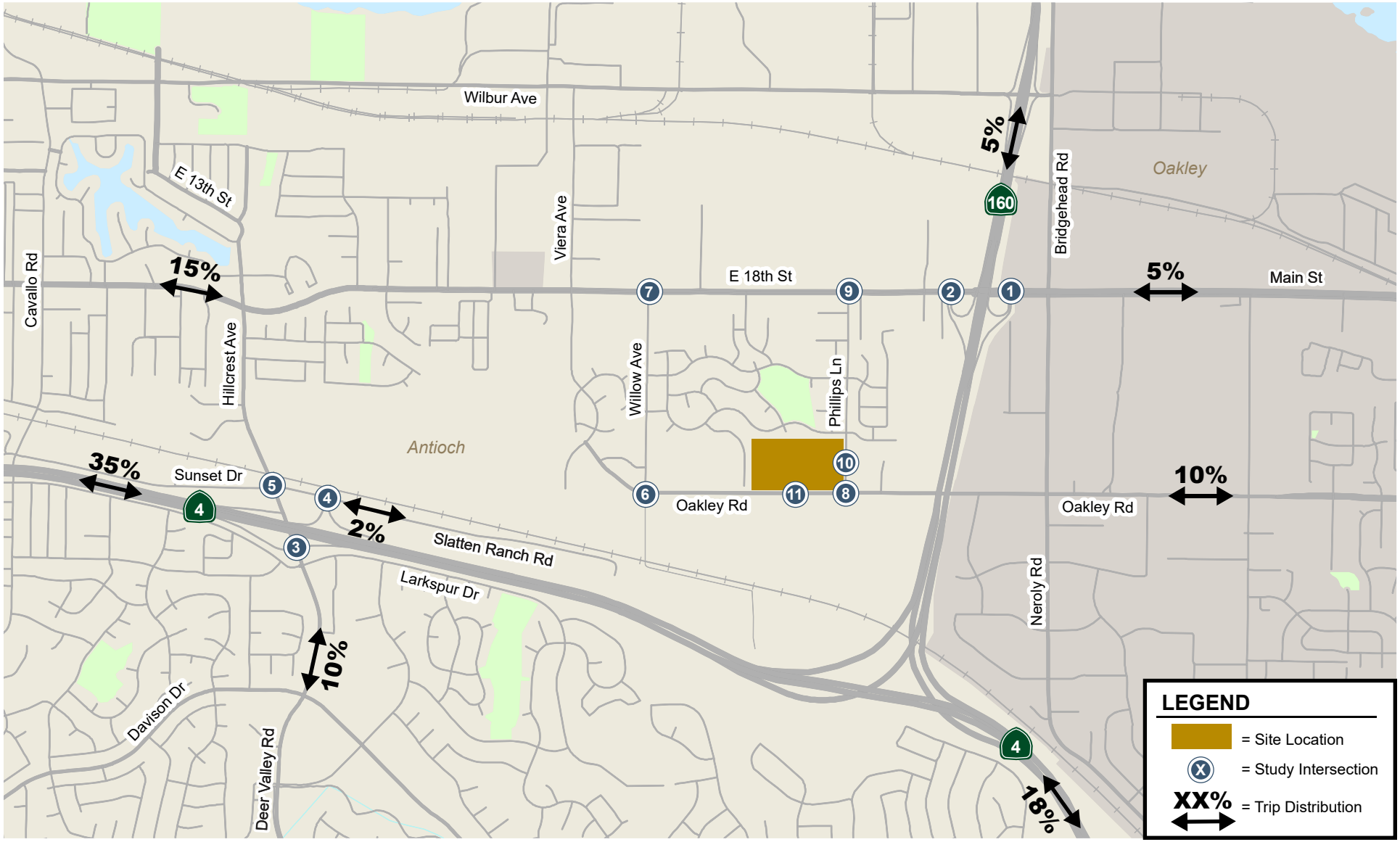
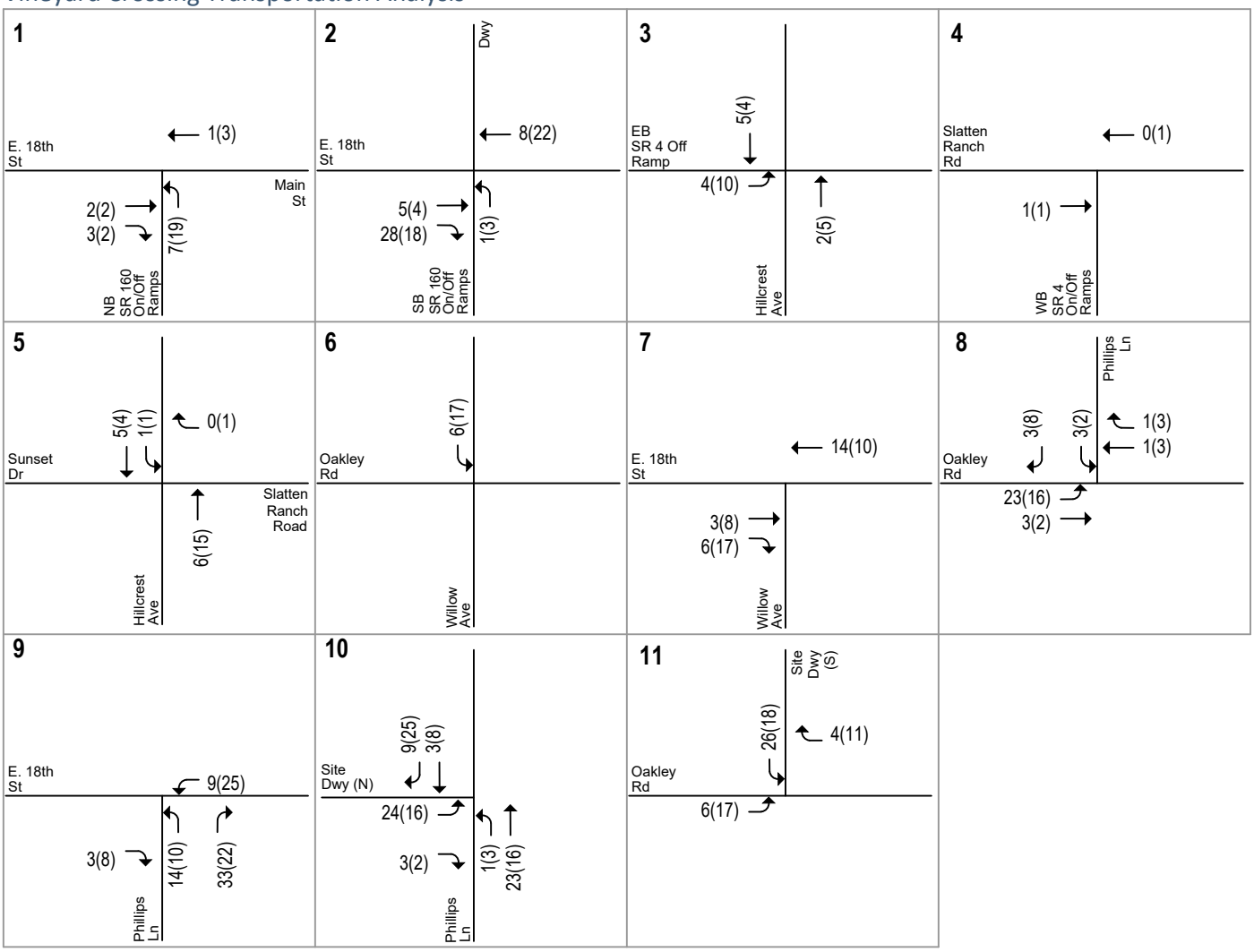


Figure 7
Project Trip Distribution



LEGEND

XX(XX) = AM(PM) Peak-Hour Traffic Volumes

Figure 8
Project Trip Assignment

NORTH
Not to Scale

Traffic Volumes

Existing Plus Project Traffic Volumes

Project trips, as represented in the above project trip assignment, were added to existing traffic volumes to obtain existing plus project traffic volumes. The existing plus project traffic volumes are shown on Figure 9.

Background Traffic Volumes

Background traffic volumes for the study intersections (see Figure 10) were estimated by adding to the existing traffic volumes the trips generated by nearby approved/pending projects that have not been constructed or occupied.

The trips associated with the following approved/pending projects provided by the City of Antioch were included in background conditions.

- Acorn Business Park on the northwest corner of Drive-In Way and E 18th Street (approved).
- E 18th Street Industrial Development (East and West Sites) on the north side of E 18th Street between Vineyard Drive and Philips Lane (approved).
- Jessica Court Apartments on a site west of SR 160 between Oakley Road and Filbert Street (pending but likely to be approved before the proposed Vineyard Crossing residential project goes to public hearing).

Vehicle trips from the approved/pending projects were obtained from the project's traffic study, if available. For projects without a traffic study, trip estimates were developed using rates published in the *Trip Generation Manual*. The estimated trips were assigned to the study intersections according to distributions identified in the developments' traffic studies, if available, or knowledge of the study area. The approved trips and traffic volumes for all components of traffic are tabulated in Appendix C.

Background Plus Project Traffic Volumes

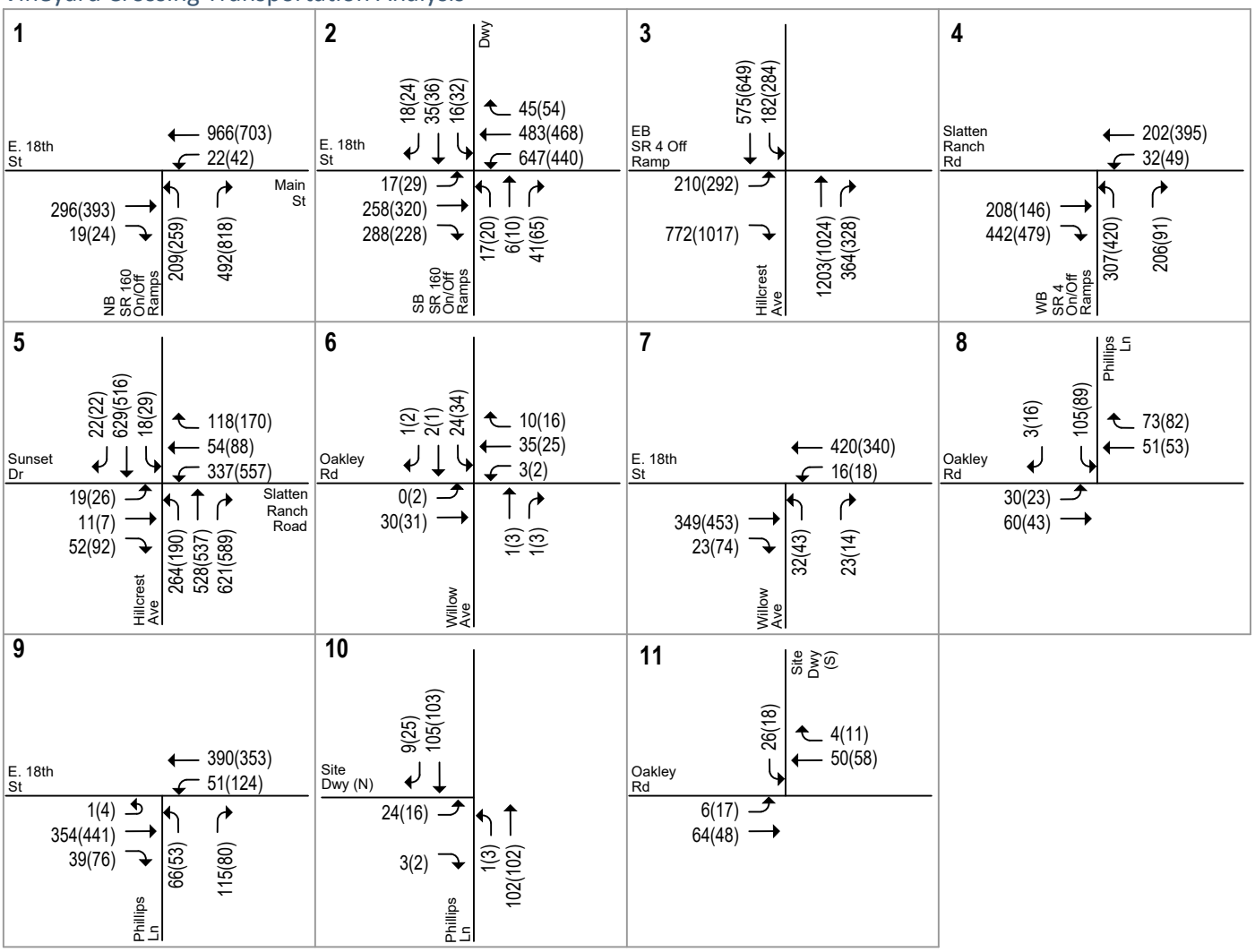
Project trips, as represented in the above project trip assignment, were added to background traffic volumes to obtain background plus project traffic volumes (see Figure 11).

Cumulative Traffic Volumes

Cumulative volumes (see Figure 12) at all study intersections were estimated by adding the model growth in traffic volumes between the year 2025 and model year 2040 from the CCTA's travel demand forecasting model to existing 2025 traffic volumes except for the SR 4 ramp intersections and Hillcrest Avenue/Slatten Ranch Road. The model growth by approach was converted to turning movements based on the counts. Cumulative traffic volumes at the intersections of Hillcrest Avenue/SR 4 Eastbound Ramps, SR 4 Westbound Ramps/Slatten Ranch Road, and Hillcrest Avenue/Sunset Drive/Slatten Ranch Road (intersections #3, #4 and #5) were obtained from the "Transportation" chapter for *The Ranch Project Environmental Impact Report*, dated December 2019. In addition to the model growth, estimated traffic from the Rancho Meadows Subdivision Residential Development that is proposed on a site east of Santa Fe and Walnut Avenue intersection was included under cumulative conditions.

Cumulative Plus Project Traffic Volumes

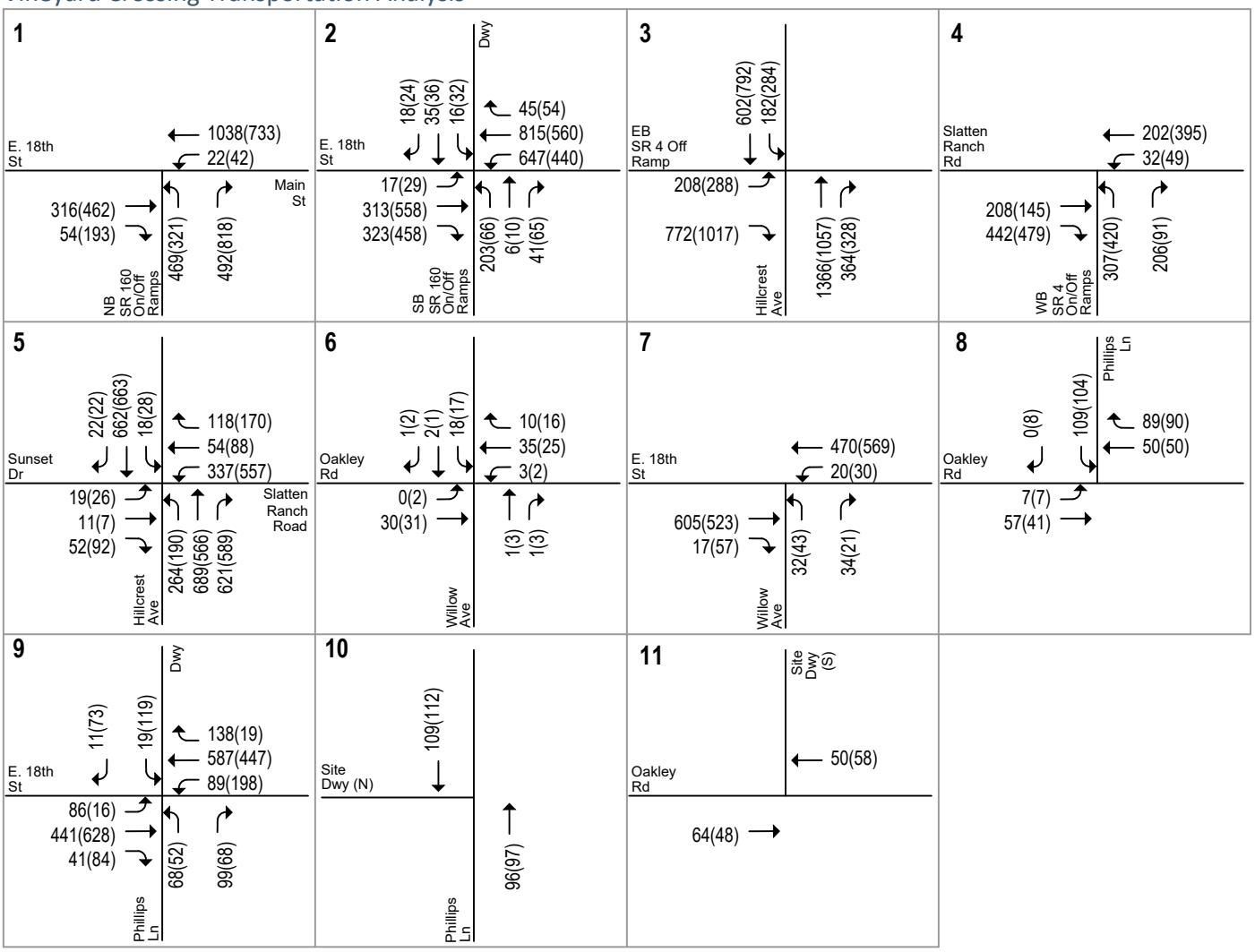
Project trips, as represented in the above project trip assignment, were added to cumulative traffic volumes to obtain cumulative plus project traffic volumes (see Figure 13).



LEGEND

XX(XX) = AM(PM) Peak-Hour Traffic Volumes

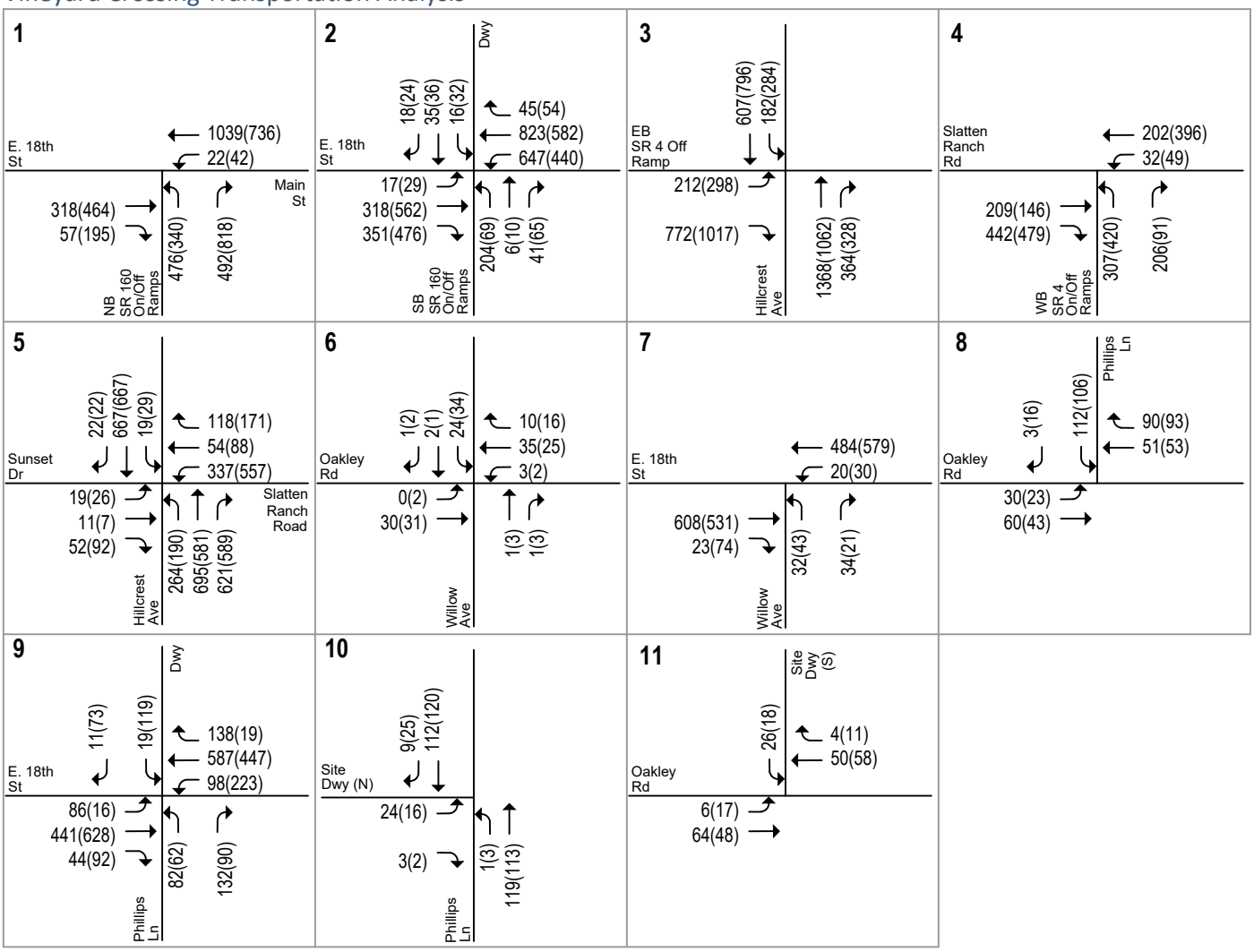
Figure 9
Existing Plus Project Traffic Volumes



LEGEND

XX(XX) = AM(PM) Peak-Hour Traffic Volumes

Figure 10
Background Traffic Volumes

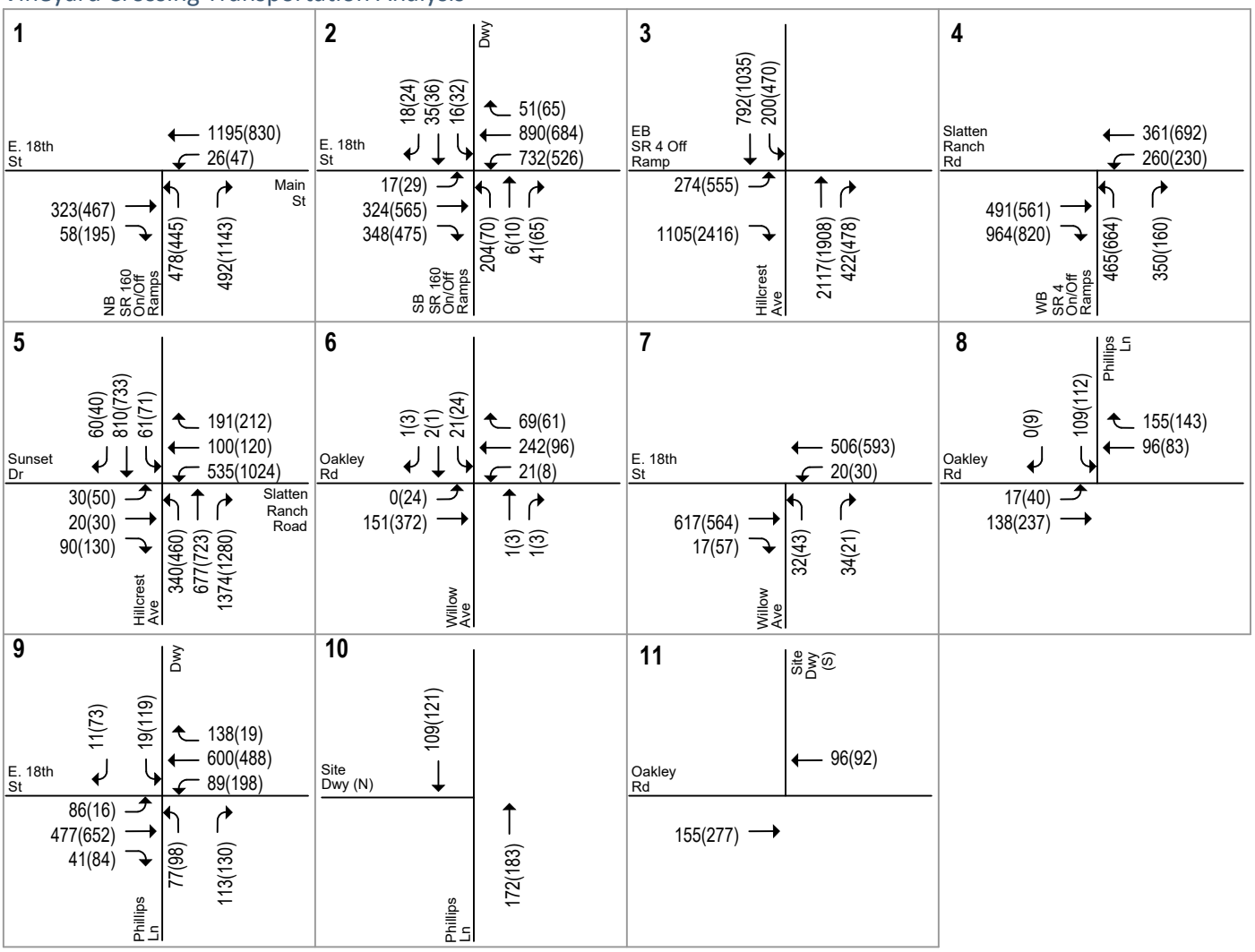


LEGEND

XX(XX) = AM(PM) Peak-Hour Traffic Volumes

Figure 11
Background Plus Project Traffic Volumes

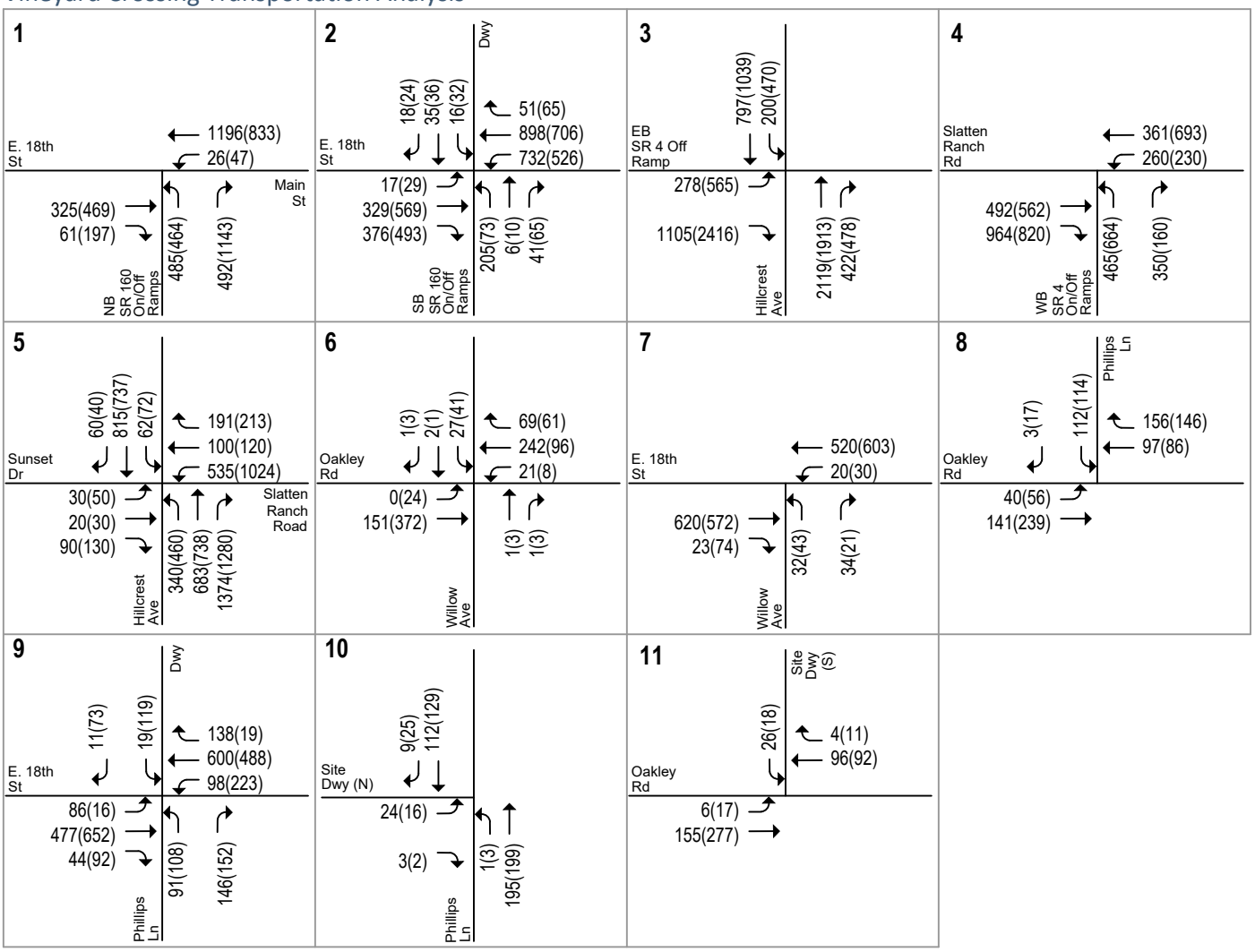
NORTH
Not to Scale



LEGEND

XX(XX) = AM(PM) Peak-Hour Traffic Volumes

Figure 12
Cumulative Traffic Volumes



LEGEND

XX(XX) = AM(PM) Peak-Hour Traffic Volumes

Figure 13
Cumulative Plus Project Traffic Volumes

Intersection Level of Service Analysis

The results of the level of service analysis show that all of the signalized study intersections would continue to operate at acceptable levels of service (high-level LOS D or better) under existing conditions with the project (see Table 6) and background conditions, with and without the project (see Table 7). The stop-controlled intersections, including the project driveway intersections on Phillips Lane and Oakley Road, would operate with an average or worst approach delay less than 35 seconds. Therefore, all study intersections would continue to meet the City's LOS standards.

Under cumulative conditions, the results of the level of service analysis show that the signalized intersections of EB SR 4 Off Ramp/Hillcrest Avenue and Hillcrest Avenue/Slatten Ranch Road/Sunset Drive would operate at unacceptable levels of service during the PM peak hour. The EB SR 4 Off Ramp/Hillcrest Avenue intersection would operate at unacceptable LOS F and Hillcrest Avenue/Slatten Ranch Road/Sunset Drive would operate at unacceptable LOS E, with and without the project (see Table 8). However, the project would add less than 3 seconds of delay to these intersections and would not have an adverse effect on the traffic operations at these intersections. Therefore, no intersection improvements are recommended. The stop-controlled intersections, including the project driveway intersections on Phillips Lane and Oakley Road, would continue to operate with an average or worst approach delay less than 35 seconds.

The intersection level of service calculation sheets are included in Appendix B.

Table 6
Existing Plus Project Intersection Levels of Service

	Intersection	Peak Hour	Control Type	Existing Conditions			
				No Project		With Project	
				Average Delay[1]	LOS	Average Delay[1]	LOS
1	NB SR 160 Ramps and Main Street*	AM	Signal	10.9	B	11.0	B
		PM		10.6	B	10.6	B
2	SB SR 160 Ramps and Main Street/E 18th Street*	AM	Signal	18.0	B	18.8	B
		PM		16.6	B	16.7	B
3	EB SR 4 Off Ramp and Hillcrest Avenue*	AM	Signal	30.6	C	30.6	C
		PM		33.6	C	33.6	C
4	WB SR 4 Ramps and Slatten Ranch Road[2]	AM	Signal	10.5	B	10.5	B
		PM		10.6	B	10.6	B
5	Hillcrest Avenue and Slatten Ranch Road/Sunset Drive*	AM	Signal	20.2	C	20.3	C
		PM		21.6	C	21.7	C
6	Willow Avenue and Oakley Road	AM	AWSC	7.3	A	7.4	A
		PM		7.1	A	7.3	A
7	Willow Avenue and E 18th Street	AM	OWSC	17.3	C	17.8	C
		PM		18.4	C	19.1	C
8	Phillips Lane and Oakley Road	AM	AWSC	8.9	A	9.1	A
		PM		8.0	A	8.1	A
9	Phillips Lane and E 18th Street*	AM	Signal	11.4	B	12.1	B
		PM		12.0	B	13.1	B
10	(N) Site Driveway and Phillips Lane	AM	OWSC	-	-	9.9	A
		PM		-	-	9.9	A
11	(S) Site Driveway and Oakley Road	AM	OWSC	-	-	9.9	A
		PM		-	-	9.6	A

Notes:
AWSC = All-Way Stop Control, OWSC = One-Way Stop Control
1. Overall weighted average control delay (seconds per vehicle) is reported for signalized intersections. Worst approach delay (seconds per vehicle) and level of service are reported for the OWSC intersections.

2. The intersection level of service (LOS) for the WB SR 4 Ramps and Slatten Ranch Road intersection is calculated using the HCM 2000 methodology. Since the intersection contains a bike signal, there is non-standard signal phasing operations that cannot be analyzed by the HCM 7th edition methodology (latest edition).

* Denotes an intersection on a Route of Regional Significance

Bold indicates unacceptable level of service.

Table 7
Background Plus Project Intersection Levels of Service

	Intersection	Peak Hour	Control Type	Background Conditions			
				No Project		With Project	
				Average Delay[1]	LOS	Average Delay[1]	LOS
1	NB SR 160 Ramps and Main Street*	AM	Signal	19.5	B	20.2	C
		PM		12.7	B	12.8	B
2	SB SR 160 Ramps and Main Street/E 18th Street*	AM	Signal	28.3	C	30.2	C
		PM		26.7	C	28.0	C
3	EB SR 4 Off Ramp and Hillcrest Avenue*	AM	Signal	29.7	C	29.7	C
		PM		33.5	C	33.5	C
4	WB SR 4 Ramps and Slatten Ranch Road[2]	AM	Signal	10.5	B	10.5	B
		PM		10.6	B	10.6	B
5	Hillcrest Avenue and Slatten Ranch Road/Sunset Drive*	AM	Signal	20.3	C	20.3	C
		PM		23.5	C	23.6	C
6	Willow Avenue and Oakley Road	AM	AWSC	7.3	A	7.4	A
		PM		7.1	A	7.3	A
7	Willow Avenue and E 18th Street	AM	OWSC	28.0	D	29.0	D
		PM		29.4	D	30.9	D
8	Phillips Lane and Oakley Road	AM	AWSC	9.1	A	9.3	A
		PM		8.2	A	8.3	A
9	Phillips Lane and E 18th Street*	AM	Signal	21.8	C	22.4	C
		PM		32.9	C	35.3	D
10	(N) Site Driveway and Phillips Lane	AM	OWSC	-	-	10.0	B
		PM		-	-	10.1	B
11	(S) Site Driveway and Oakley Road	AM	OWSC	-	-	9.9	A
		PM		-	-	9.6	A

Notes:

AWSC = All-Way Stop Control, OWSC = One-Way Stop Control

1. Overall weighted average control delay (seconds per vehicle) is reported for signalized intersections. Worst approach delay (seconds per vehicle) and level of service are reported for the OWSC intersections.

2. The intersection level of service (LOS) for the WB SR 4 Ramps and Slatten Ranch Road intersection is calculated using the HCM 2000 methodology. Since the intersection contains a bike signal, there is non-standard signal phasing operations that cannot be analyzed by the HCM 7th edition methodology (latest edition).

* Denotes an intersection on a Route of Regional Significance

Bold indicates unacceptable level of service.

Table 8
Cumulative Plus Project Intersection Levels of Service

	Intersection	Peak Hour	Control Type	Cumulative Conditions			
				No Project		With Project	
				Average Delay[1]	LOS	Average Delay[1]	LOS
1	NB SR 160 Ramps and Main Street*	AM	Signal	18.0	B	18.5	B
		PM		24.6	C	24.9	C
2	SB SR 160 Ramps and Main Street/E 18th Street*	AM	Signal	26.1	C	27.6	C
		PM		28.3	C	30.0	C
3	EB SR 4 Off Ramp and Hillcrest Avenue*	AM	Signal	29.2	C	29.2	C
		PM		**94.8**	**F**	**95.1**	**F**
4	WB SR 4 Ramps and Slatten Ranch Road[2]	AM	Signal	19.0	B	19.1	B
		PM		17.4	B	17.4	B
5	Hillcrest Avenue and Slatten Ranch Road/Sunset Drive*	AM	Signal	32.5	C	32.7	C
		PM		**58.6**	**E**	**58.8**	**E**
6	Willow Avenue and Oakley Road	AM	AWSC	9.2	A	9.2	A
		PM		10.1	B	10.3	B
7	Willow Avenue and E 18th Street	AM	OWSC	21.9	C	22.5	C
		PM		30.4	D	31.9	D
8	Phillips Lane and Oakley Road	AM	AWSC	9.0	A	9.2	A
		PM		9.8	A	10.1	B
9	Phillips Lane and E 18th Street*	AM	Signal	20.2	C	20.7	C
		PM		31.2	C	33.1	C
10	(N) Site Driveway and Phillips Lane	AM	OWSC	-	-	10.5	B
		PM		-	-	10.7	B
11	(S) Site Driveway and Oakley Road	AM	OWSC	-	-	10.3	B
		PM		-	-	11.5	B

Notes:

AWSC = All-Way Stop Control, OWSC = One-Way Stop Control

1. Overall weighted average control delay (seconds per vehicle) is reported for signalized intersections. Worst approach delay (seconds per vehicle) and level of service are reported for the OWSC intersections.

2. The intersection level of service (LOS) for the WB SR 4 Ramps and Slatten Ranch Road intersection is calculated using the HCM 2000 methodology. Since the intersection contains a bike signal, there is non-standard signal phasing operations that cannot be analyzed by the HCM 7th edition methodology (latest edition).

* Denotes an intersection on a Route of Regional Significance

Bold indicates unacceptable level of service.

Intersection Vehicle Queuing Analysis

The analysis of intersection operations was supplemented with a vehicle queuing analysis for intersections where the project would add a substantial number of trips to the left-turn movements or stop-controlled movements. This analysis provides a basis for estimating future storage requirements at the intersections under existing, background, cumulative, and project conditions. Vehicle queues were estimated using Synchro software, described in Chapter 1. The following left-turn movements were evaluated, and the results of the queuing analysis are summarized in Table 9.

- Northbound left turn from SR 160 Northbound Off Ramp to E 18th Street
- Eastbound left turn from SR 4 Eastbound Off Ramp to Hillcrest Avenue
- Southbound left turn from Willow Avenue to Oakley Road
- Eastbound left turn from Oakley Road to Phillips Lane
- Westbound left turn from E 18th Street to Phillips Lane
- Northbound left turn from Phillips Lane to E 18th Street

The queuing analysis indicates that the left-turn storage length from the northbound SR 160 Off Ramp to E 18th Street is currently sufficient during the PM peak hour, but would be expected to increase beyond the available storage with the addition of project trips. The storage length would be insufficient during the AM and PM peak hours under background and cumulative conditions, and the project trips would further increase the 95th percentile queue during the PM peak hour under background and cumulative conditions.

The left-turn storage length from westbound E 18th Street to Phillips Lane would be insufficient during the PM peak hour under background and cumulative conditions, and the project trips would further increase the 95th percentile queue.

The left-turn storage length from northbound Phillips Lane to E 18th Street would be sufficient during the PM peak hour under cumulative conditions, but would be expected to increase beyond the available storage with the addition of project trips.

The vehicle queuing calculations are included in Appendix B.

Table 9
Intersection Queuing Analysis Summary

Analysis Scenario	SR 160 NB Ramp & E 18th St		SR 4 EB Ramp & Hillcrest Ave		Willow Ave & Oakley Rd	
	NBL		EBL		SBL	
	AM	PM	AM	PM	AM	PM
Existing						
95th % Queue (veh/ln)	5	5	5	7	1	1
95th % Queue[1] (ft/ln)	125	125	125	175	25	25
Storage[2] (ft/ln)	125	125	700	700	260	260
Adequate (Y/N)	Y	Y	Y	Y	Y	Y
Existing Plus Project						
95th % Queue (veh/ln)	5	6	5	7	1	1
95th % Queue[1] (ft/ln)	125	150	125	175	25	25
Storage[2] (ft/ln)	125	125	700	700	260	260
Adequate (Y/N)	Y	**N**	Y	Y	Y	Y
Background						
95th % Queue (veh/ln)	16	8	5	7	1	1
95th % Queue[1] (ft/ln)	400	200	125	175	25	25
Storage[2] (ft/ln)	125	125	700	700	260	260
Adequate (Y/N)	**N**	**N**	Y	Y	Y	Y
Background Plus Project						
95th % Queue (veh/ln)	16	9	5	7	1	1
95th % Queue[1] (ft/ln)	400	225	125	175	25	25
Storage[2] (ft/ln)	125	125	700	700	260	260
Adequate (Y/N)	**N**	**N**	Y	Y	Y	Y
Cumulative						
95th % Queue (veh/ln)	16	19	6	15	1	1
95th % Queue[1] (ft/ln)	400	475	150	375	25	25
Storage[2] (ft/ln)	125	125	700	700	260	260
Adequate (Y/N)	**N**	**N**	Y	Y	Y	Y
Cumulative Plus Project						
95th % Queue (veh/ln)	16	21	6	16	1	1
95th % Queue[1] (ft/ln)	400	525	150	400	25	25
Storage[2] (ft/ln)	125	125	700	700	260	260
Adequate (Y/N)	**N**	**N**	Y	Y	Y	Y

Notes:
NBL = northbound left-turn movement; EBL = eastbound left-turn movement; SBL = southbound left-turn movement
1. Based on Synchro queue calculation rounded up to the nearest 25-foot increment.
2. Storage length measures the existing turn pocket or the distance to the upstream intersection.

Table 9 (continued)
Intersection Queuing Analysis Summary

Analysis Scenario	Oakley Rd & Phillips Ln		Phillips Ln & E 18th Street			
	EBL		WBL		NBL	
	AM	PM	AM	PM	AM	PM
Existing						
95th % Queue (veh/ln)	1	1	2	4	2	2
95th % Queue[1] (ft/ln)	25	25	50	100	50	50
Storage[2] (ft/ln)	900	900	140	140	125	125
Adequate (Y/N)	Y	Y	Y	Y	Y	Y
Existing Plus Project						
95th % Queue (veh/ln)	1	1	2	4	3	2
95th % Queue[1] (ft/ln)	25	25	50	100	75	50
Storage[2] (ft/ln)	900	900	140	140	125	125
Adequate (Y/N)	Y	Y	Y	Y	Y	Y
Background						
95th % Queue (veh/ln)	1	1	5	9	4	3
95th % Queue[1] (ft/ln)	25	25	125	225	100	75
Storage[2] (ft/ln)	900	900	140	140	125	125
Adequate (Y/N)	Y	Y	Y	**N**	Y	Y
Background Plus Project						
95th % Queue (veh/ln)	1	1	5	10	4	4
95th % Queue[1] (ft/ln)	25	25	125	250	100	100
Storage[2] (ft/ln)	900	900	140	140	125	125
Adequate (Y/N)	Y	Y	Y	**N**	Y	Y
Cumulative						
95th % Queue (veh/ln)	1	2	4	9	4	5
95th % Queue[1] (ft/ln)	25	50	100	225	100	125
Storage[2] (ft/ln)	900	900	140	140	125	125
Adequate (Y/N)	Y	Y	Y	**N**	Y	Y
Cumulative Plus Project						
95th % Queue (veh/ln)	1	2	5	10	5	6
95th % Queue[1] (ft/ln)	25	50	125	250	125	150
Storage[2] (ft/ln)	900	900	140	140	125	125
Adequate (Y/N)	Y	Y	Y	**N**	Y	**N**

Notes:
EBL = eastbound left-turn movement; WBL = westbound left-turn movement; NBL = northbound left-turn movement
1. Based on Synchro queue calculation rounded up to the nearest 25-foot increment.
2. Storage length measures the existing turn pocket or the distance to the upstream intersection.

SR 160 Northbound Off Ramp Left Turn to Westbound E 18th Street

The vehicle storage capacity for the left turn from the SR 160 northbound off ramp to westbound E 18th Street is approximately 5 vehicles (125 feet). The estimated 95th percentile vehicle queue for the left-turn movement is approximately 5 vehicles during the AM and PM peak hours under existing conditions. The project trips would increase the PM peak-hour queue by one vehicle, causing the 95th percentile vehicle queue to extend beyond the storage capacity by one vehicle during the PM peak hour.

Under background conditions, the approved development trips would increase the AM peak-hour queue by 11 vehicles and the PM peak-hour queue by 3 vehicles compared to existing conditions, causing the 95th percentile vehicle queue to extend beyond the storage capacity. The project trips would further increase the PM peak-hour queue by one vehicle during the PM peak hour. Under cumulative conditions, the PM queue would exceed the storage capacity by 14 vehicles. The project trips would further increase the PM peak-hour queue by two vehicles.

The off-ramp has two lanes approaching the intersection with a short left-turn pocket (125 feet) and two right-turn lanes provided at the intersection. A left-turn queue extending beyond the left-turn pocket would queue in the inside approach lane, which is striped as a right-turn lane and extends approximately 650 feet back from the beginning of the northbound left-turn pocket. In the future, the City should consider fine-turning the signal timings at this intersection to better serve the increase in traffic levels.

Westbound E 18th Street Left Turn to Southbound Phillips Lane

The vehicle storage capacity for the left turn from westbound E. 18th Street to southbound Phillips Lane is approximately 5 vehicles (140 feet). The estimated 95th percentile vehicle queue for the left-turn movement is approximately two vehicles during the AM peak hour and four vehicles during the PM peak hour under existing conditions.

Under background conditions, the approved development trips would increase the PM peak-hour queue by five vehicles, causing the 95th percentile vehicle queue to exceed the storage capacity by four vehicles during the PM peak hour. The project trips would further increase the PM peak-hour queue by one vehicle, causing the 95th percentile vehicle queue length to extend beyond the storage capacity by five vehicles during the PM peak hour. Under cumulative conditions, the cumulative volumes would cause the 95th percentile vehicle queue to exceed the storage capacity by four vehicles during the PM peak hour. The project trips would further increase the PM peak-hour queue by one vehicle. The left-turn storage lane could be lengthened by modifying the existing landscaped median.

Northbound Phillips Lane Left Turn to Westbound E 18th Street

The vehicle storage capacity for the left turn from northbound Phillips Lane to westbound E 18th Street is approximately 5 vehicles (125 feet). The estimated 95th percentile vehicle queue for the left-turn movement is approximately four vehicles during the AM peak hour and five vehicles during the PM peak hours under cumulative conditions. The project trips would increase the PM peak-hour queue by one vehicle, causing the 95th percentile vehicle queue to extend beyond the storage capacity by one vehicle during the PM peak hour. Beyond the left-turn pocket is a two-way left-turn lane that extends until the southbound left-turn pocket at the Phillips Lane/Almondridge Drive intersection. Therefore, any queuing beyond the painted turn pocket would be accommodated within the two-way left-turn lane and would not affect northbound through traffic.

4. Other Transportation Issues

This chapter presents other transportation issues associated with the project, including:

- Site access and circulation
- Effects on pedestrians, bicycles, and transit facilities
- Parking

The analyses in this chapter are based on professional judgment in accordance with the standards and methods employed by the traffic engineering community.

Site Access and On-Site Circulation

This section describes the site access, circulation, and parking for the proposed project. Site access and on-site circulation were evaluated using commonly accepted traffic engineering principles. This review is based on the March 2025 project site plan labeled “Vesting Tentative Map, Preliminary Site Plan, Vineyard Crossing” (See Figure 2).

Vehicle Site Access

Vehicular access to the project site would be provided via one full-access driveway on Phillips Lane and one full-access driveway on Oakley Road. The two driveways would connect to Bright Oak Lane, which would serve as the main internal roadway that would provide connections between the single-family residences and ADUs that would be located on the west side and the duplexes that would be located on the east side of the project site. The proposed driveway on Phillips Lane would be located approximately 400 feet north of Oakley Road and the driveway on Oakley Road would be located approximately 800 feet west of Phillips Lane. Both driveways would provide access to the vehicular parking spaces located along the internal roads.

Project Driveway Dimensions

The City of Antioch requires a minimum of 20 feet for a two-way driveway. The driveway on Phillips Lane would be 29 feet in width and the driveway on Oakley Road would be 46 feet in width (with a 6-foot median). Therefore, the project would meet the City’s design standards for driveway widths.

Sight Distance at Project Driveways

The project driveways should be free and clear of any obstructions to provide adequate sight distance, thereby ensuring that exiting vehicles can see pedestrians on the sidewalk and vehicles and bicycles traveling on Phillips Lane and Oakley Road. Any landscaping and signage should be located in such a way to ensure an unobstructed view for drivers exiting the site. Providing the appropriate sight distance

reduces the likelihood of a collision at a driveway and provides drivers with the ability to locate sufficient gaps in traffic and exit a driveway.

The minimum acceptable sight distance at the driveways is calculated according to the Caltrans recommended stopping sight distance. Sight distance requirements vary depending on roadway speeds. The Phillips Lane driveway would require a stopping sight distance of 200 feet, based on the design speed of 30 mph. The Oakley Road driveway would require a stopping sight distance of 430 feet, based on the design speed of 50 mph. Thus, a driver must be able to see 200 feet in both directions on Phillips Lane and 430 feet in both directions on Oakley Road while exiting the driveways. Adjacent to the project site, there are no roadway curves, on-street parking, or landscaping features that obstruct the vision of exiting drivers.

For the project driveways on Philips Road and Oakley Road, the project site plans show that clear visions zones will be located within a triangular area bounded by the curb lines and a diagonal line joining points on the curblines located 50 feet back from the intersection of the curblines. For all other intersections located within the project site, similar clear vision triangles located 25 feet back from the intersection of the curblines will be established. According to the city's municipal code, no structure, vehicle, trailer, wall, fence, hedge or vegetation greater than three feet in height shall be permitted within this clear vision zone, except tree canopies featuring branches no lower than eight feet above the edge of the pavement.

> **Recommendation #1** - To ensure compliance with the City of Antioch's safety regulations for new intersections, no objects should be placed within the clear vision zones to maintain unobstructed sightlines for drivers, cyclists, and pedestrians.

Project Driveway Operations

Both driveways would be controlled by stop signs and vehicles exiting the site would need to find gaps in the through traffic on Phillips Lane and Oakley Road. The driveway on Phillps Lane would have approximately 10 vehicles entering and 27 vehicles exiting the site during the AM peak hour and 28 vehicles entering and 18 vehicles exiting the site during the PM peak hour. The driveway on Oakley Road would have approximately 10 vehicles entering and 26 vehicles exiting the site during the AM peak hour and 28 vehicles entering and 18 vehicles exiting the site during the PM peak hour. As discussed under the Intersection Operations Analysis chapter, both project driveways are expected to operate at acceptable levels of service A or B with an average delay of 12 seconds for traffic exiting the site.

Truck Access

Emergency vehicle access would be provided via Phillips Lane, Oakley Road, and Bright Oak Lane.

Garbage collection is expected to occur on site. Since garbage collection would occur on-site, traffic operations along Phillips Lane and Oakley Road would not be affected during garbage collection activities.

On-Site Circulation

The on-site circulation was reviewed in accordance with the City of Antioch Zoning Code and generally accepted traffic engineering standards. Generally, the proposed site plan would provide vehicle traffic with adequate connectivity throughout the site. The site entrances on Phillips Lane and Oakley Road would connect to Bright Oak Lane, a two-way internal roadway that traverses through the project site and connects with other internal roads. All internal roads that would intersect Bright Oak Lane or Oak Grove Place would be stop-controlled (see Figure 14).

All internal roadways are shown to have a minimum width of 20 feet. On the east side of the project site, the internal roads that would connect with Bright Oak Lane are Oak Grove Place, Butter Cup Lane, and Meadow Place. Surface parking for guests would be provided by 90-degree parking stalls along Oak Grove Place. Generally, drive aisles with 90-degree parking spaces are required to be 24 feet wide and the width of Oak Grove Place would be 29 feet. Thus, vehicles would be able to easily enter and exit the guest parking spaces. The site plan shows adequate turnaround space for vehicles and trucks to turn around at the end of Oak Grove Place. Butter Cup Lane and Meadow Place are dead-end aisles that provide access to 10 duplexes and 8 duplexes respectively. The site plan shows a turn-around space for vehicles and trucks on Butter Cup Lane. No turnaround space is shown on Meadow Lane. Meadow Lane is a short roadway, and trucks would back out onto Oak Grove Place to turn around and exit the site. On the west side of the project site, access to all single-family homes and ADUs would be provided directly from Bright Oak Lane. Bright Oak Lane is shown to measure at least 36 feet wide. Vehicles would be able to park on the street along both sides of Bright Oaks Lane between driveways. The site plan shows one dead-end aisle on the northwest corner of the project site that would provide access to two homes and one ADU. Garbage trucks would be able to back out onto Bright Oak Lane.

Parking Supply

Vehicle Parking

The project proposes 45 single-family homes, 40 accessory dwelling units (ADUs) and 52 duplex units. The City of Antioch Zoning Code (Section 9-5.1703.1) states that single-family residential (detached) uses are required to provide two parking spaces per unit in a garage, plus one guest parking space on the street within close proximity to the unit served, and single-family residential (attached) uses are required to provide two spaces per unit, one of which must be covered, plus one space per five units for guest parking. Based on Section 9-5.3805 of the Zoning Code, ADUs under 800 square feet do not require any parking. Thus, the project would be required to provide 194 spaces for residential units and 56 spaces for guests, for a total of 250 spaces.

Although the proposed project would include affordable housing (out of the proposed 40 ADUs, 13 units would be deed-restricted and available to low-income households), which would allow for a reduction in the on-site parking requirements, the proposed project would meet the City's parking requirements even without taking into consideration the allowable reduction.

According to the project site plan, the project would provide a total of 408 parking spaces between the east and the west areas (see Figure 15). For the single-family homes, the project would provide parking within individual garages (2-car garage). Residents would also be able to park two vehicles on their driveways. Parking for the ADUs would be accommodated on the ADU driveway. On the west side of the project site, there would be a total of 90 parking spaces within individual garages, 130 parking spaces on the individual driveways and 50 on-street parking spaces, totaling 270 parking spaces. On the east side of the project site, parking for the duplexes would be accommodated within individual garages (2-car garage). The site plan shows a total of 104 parking spaces within individual garages and 34 on-street parking spaces (for guests), for a total of 138 parking spaces on the east side of the project.

The 2022 California Building Code Table 11B-208.2 states that parking facilities that would provide 1 to 25 parking spaces are required to provide one accessible parking space. Based on the 2022 California Building Code Section 11B-502.2, car accessible parking spaces should be a minimum of 9 feet wide and 18 feet long and van accessible parking spaces should be a minimum of 12 feet wide and 18 feet long. Van parking spaces may be 9 feet wide where access aisles are at least 8 feet wide.

Recommendation #2 – The project should provide at least one ADA space within the guest parking lot along Oak Grove Place.

Bicycle Parking

Bicycle parking is not required for residential uses.

Effects on Pedestrian, Bicycle, and Transit Facilities

The following describes the existing transit, pedestrian and bicycle facilities that serve the site and evaluates whether appropriate bicycle and pedestrian access and transit service are provided between the site and nearby destinations. As discussed below, the project would not cause any adverse effects to the existing pedestrian, bicycle, and transit facilities.

Pedestrian Facilities

Pedestrian facilities in the study area consist of sidewalks along Phillips Lane and other nearby neighborhood roadways (e.g., Filbert Street and portions of E 18th Street) in the vicinity of the project. However, there are no sidewalks along Oakley Road between Willow Avenue and Neroly Road, except on the north side of the street for about 250 feet east of Phillips Lane, and for about 450 feet near Hickorynut Street. The conceptual site plan shows that sidewalks will be constructed along the project frontages on Phillips Lane and Oakley Road and along both sides of all internal roadways. Pedestrian travel to and from the project site is aided by marked crosswalks with pedestrian signal heads and push buttons at the nearby signalized study intersection of Phillips Lane and E 18th Street. The nearby unsignalized intersections along Oakley Road at Willow Avenue and Phillips Lane do not have marked crosswalks.

Bicycle Facilities

Bicycle lanes are present on the entire length of Phillips Lane and Holub Lane in the study area. Although neither Filbert Street nor the other nearby residential streets have striped bike lanes, the low traffic volumes make these roadways conducive to bicycle traffic.

Transit Services

Transit service in the study area is provided by Tri Delta Transit with two local bus routes (Routes 383 and 391) with bus stops within one mile of the project site. Combined, these routes provide service between Brentwood and the Antioch BART Station (see Chapter 2 for detailed discussion). The 2023 U.S. Census reports that bus trips comprise approximately six percent of the total commute mode share in the City of Antioch. Assuming the same mode split for the proposed project, this would equate to five transit trips during the AM and six transit trips during the PM peak commute hours. According to the 2020-2029 Tri Delta Short Range Transit Plan, the capacity of their bus fleet ranges between 32 and 38 seats per vehicle. With a total of two to three buses in each direction during commute hours and given that the estimated number of transit riders would be dispersed among the different routes and buses, the project-generated riders are not expected to exceed the carrying capacity of the existing bus service near the project site.

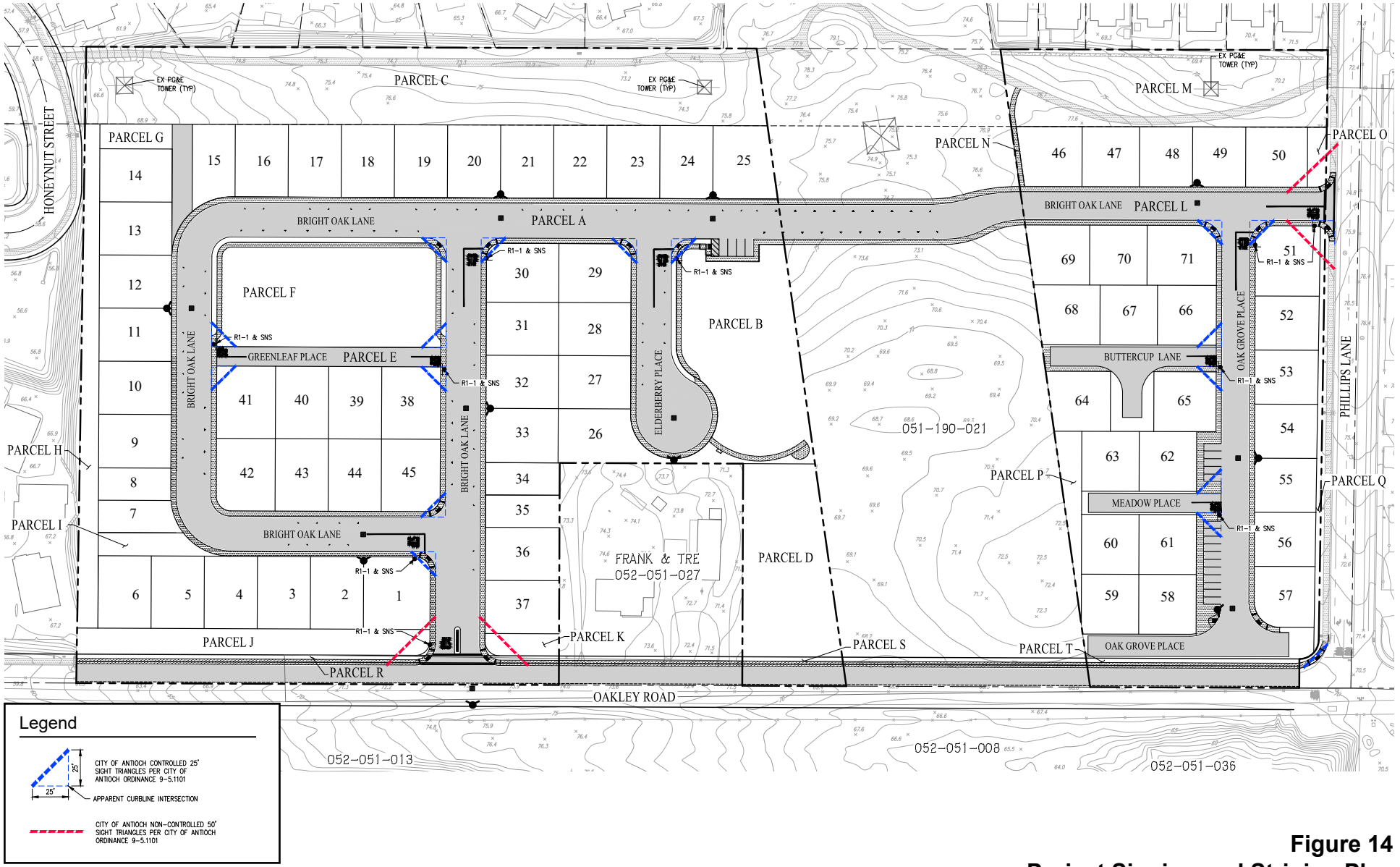
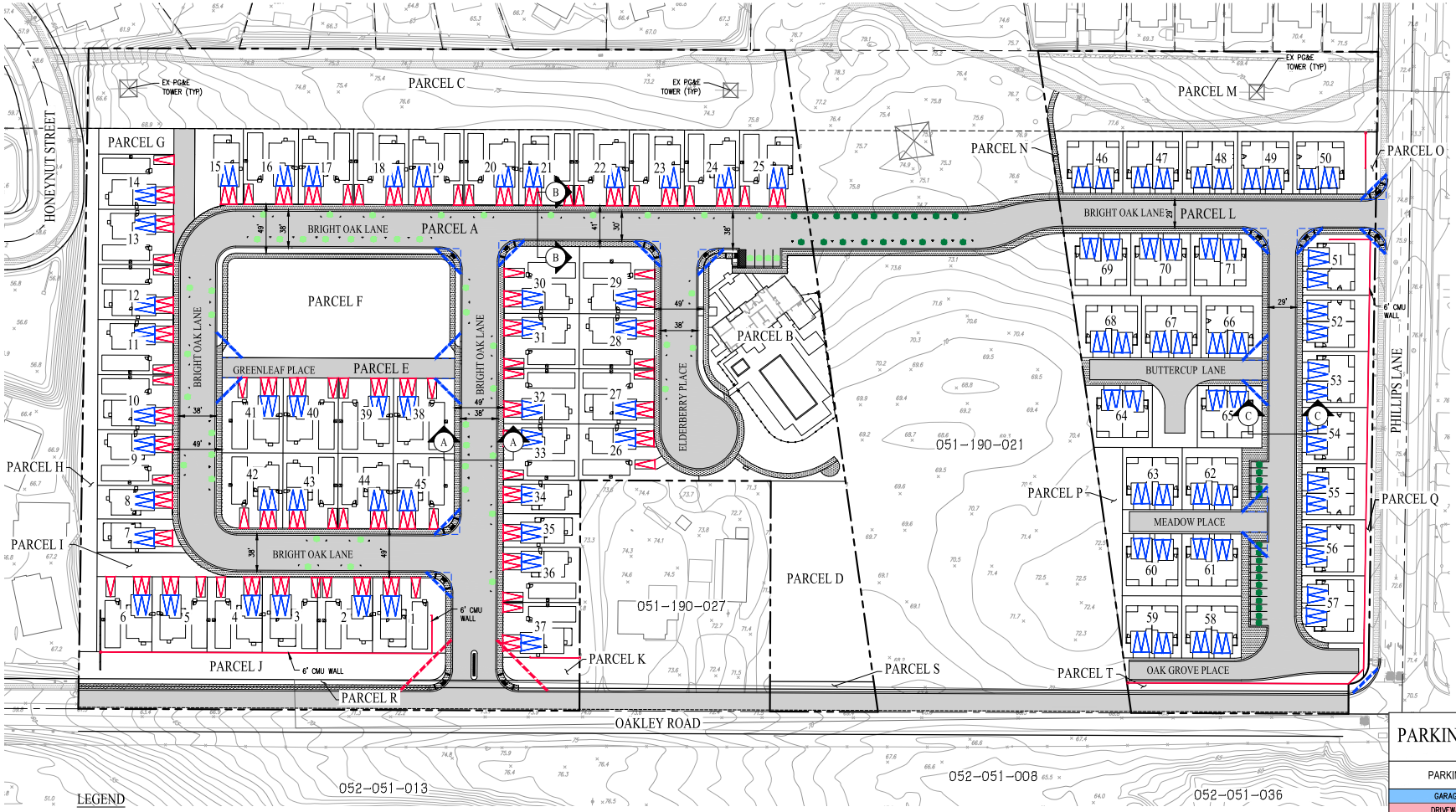


Figure 14
Project Signing and Striping Plan



LEGEND

- WEST PARCEL STREET PARKING SPACE
- EAST PARCEL STREET PARKING SPACE
- GARAGE PARKING
- DRIVEWAY PARKING
- CITY OF ANTIOCH CONTROLLED 25' SIGHT TRIANGLES PER CITY OF ANTIOCH ORDINANCE 9-5.1101
- APPARENT CURBLINE INTERSECTION
- CITY OF ANTIOCH NON-CONTROLLED 50' SIGHT TRIANGLES PER CITY OF ANTIOCH ORDINANCE 9-5.1101

PARKING SUMMARY (WEST)

PARKING	COUNT
GARAGE	90
DRIVEWAY	130
STREET	50

PARKING SUMMARY (EAST)

PARKING	COUNT
GARAGE	104
DRIVEWAY	0
STREET	34

Figure 15
Project Parking Plan

NORTH
Not to Scale

5. Conclusions

The potential effects of the project were evaluated in accordance with the standards set forth by the City of Antioch, Contra Costa Transportation Authority (CCTA) Congestion Management Program (CMP), and the East County Action Plan (ECAP). The transportation analysis includes an analysis of AM and PM peak hour traffic conditions for six signalized intersections and five unsignalized intersections in the vicinity of the project site. The analysis focuses on the peak commute periods between 7:00 and 9:00 AM and between 4:00 and 6:00 PM, because it is during these hours that traffic conditions on the surrounding roadways are generally the most congested.

Intersection Level of Service Analysis

The analysis determined that under existing and background conditions, with and without the project, when measured against the City of Antioch and ECAP level of service standards, all of the study intersections are expected to operate at acceptable levels (high-level LOS D or better for signalized intersections and a delay of less than 35 seconds for unsignalized intersections).

Under cumulative conditions, the results of the level of service analysis show that the signalized intersections of EB SR 4 Off Ramp/Hillcrest Avenue and Hillcrest Avenue/Slatten Ranch Road/Sunset Drive would operate at unacceptable levels of service during the PM peak hour. The EB SR 4 Off Ramp/Hillcrest Avenue intersection would operate at unacceptable LOS F and Hillcrest Avenue/Slatten Ranch Road/Sunset Drive would operate at unacceptable LOS E, with and without the project. However, as the project would add less than 3 seconds of delay, the project would not have an adverse effect on the traffic operations at these intersections. Therefore, no intersection improvements are recommended. The stop-controlled intersections, including the project driveway intersections on Phillips Lane and Oakley Road, would continue to operate with an average or worst approach delay less than 35 seconds.

Under cumulative conditions, the City should consider fine-tuning signal timings at the intersections of SR 160 northbound off-ramp/Main Street, SR 4 eastbound off-ramp/Hillcrest Avenue and Slatten Ranch Road/Hillcrest Avenue to better serve the increase in traffic levels on E 18th Street and Hillcrest Avenue.

Other Transportation Issues

The proposed site plan shows adequate site access and on-site circulation, and no adverse traffic operational issues are expected to occur at the project driveways. The project would not have an adverse effect on the existing transit, pedestrian, or bicycle facilities in the study area.

Hexagon has the following recommendations resulting from the on-site circulation evaluation.

Recommendations

- To ensure compliance with the City of Antioch's safety regulations for new intersections, no objects should be placed within the clear vision zones to maintain unobstructed sightlines for drivers, cyclists, and pedestrians.
- The project should provide at least one ADA space within the guest parking spaces along Oak Grove Place.

Vineyard Crossing TA

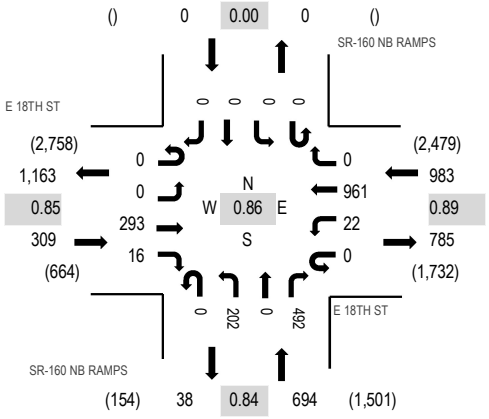
Technical Appendices

Appendix A
Traffic Counts

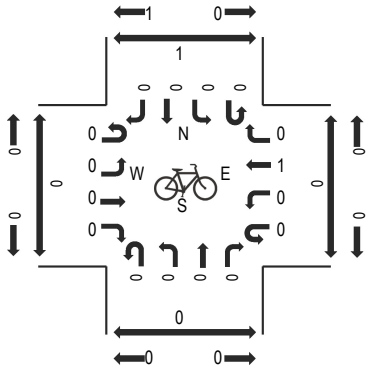
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

Location: 1 SR-160 NB RAMPS & E 18TH ST AM
Date: Thursday, April 10, 2025
Peak Hour: 07:30 AM - 08:30 AM
Peak 15-Minutes: 07:45 AM - 08:00 AM

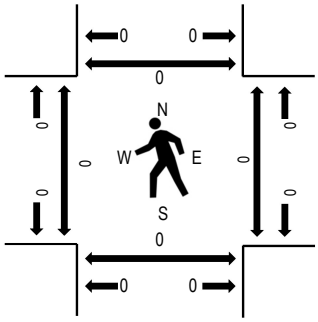
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	E 18TH ST Eastbound				E 18TH ST Westbound				SR-160 NB RAMPS Northbound				SR-160 NB RAMPS Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
6:00 AM	0	0	29	4	0	15	169	0	0	15	0	41	0	0	0	0	273	1,152	0	0	0	0
6:15 AM	0	0	23	5	0	13	161	0	0	12	0	41	0	0	0	0	255	1,201	0	0	0	0
6:30 AM	0	0	32	5	0	8	170	0	0	19	0	63	0	0	0	0	297	1,296	0	0	0	0
6:45 AM	0	0	34	9	0	7	172	0	0	28	0	77	0	0	0	0	327	1,428	0	0	1	0
7:00 AM	0	0	39	2	0	11	177	0	0	20	0	73	0	0	0	0	322	1,676	0	0	0	0
7:15 AM	0	0	56	3	0	8	163	0	0	20	0	100	0	0	0	0	350	1,876	0	0	0	0
7:30 AM	0	0	65	4	0	10	209	0	0	37	0	104	0	0	0	0	429	1,986	0	0	0	0
7:45 AM	0	0	82	8	0	2	275	0	0	70	0	138	0	0	0	0	575	1,981	0	0	0	0
8:00 AM	0	0	87	4	0	7	245	0	0	59	0	120	0	0	0	0	522	1,816	0	0	0	0
8:15 AM	0	0	59	0	0	3	232	0	0	36	0	130	0	0	0	0	460		0	0	0	0
8:30 AM	0	0	55	5	0	9	210	0	0	30	0	115	0	0	0	0	424		0	0	0	0
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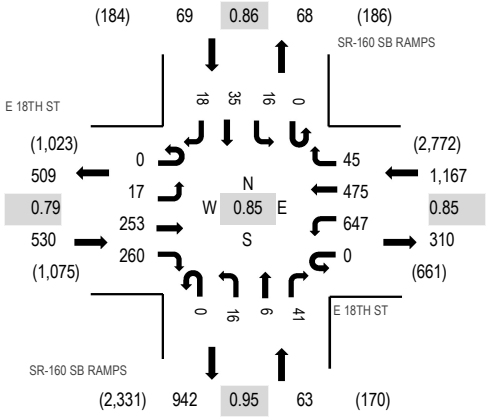
Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	1	0	0	3	0	0	4	0	6	0	0	0	0	14
Lights	0	0	288	12	0	21	943	0	0	193	0	473	0	0	0	0	1,930
Mediums	0	0	5	3	0	1	15	0	0	5	0	13	0	0	0	0	42
Total	0	0	293	16	0	22	961	0	0	202	0	492	0	0	0	0	1,986

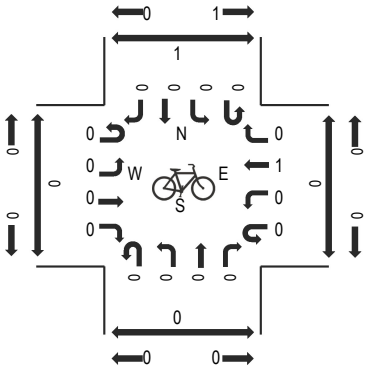
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

Location: 2 SR-160 SB RAMPS & E 18TH ST AM
Date: Thursday, April 10, 2025
Peak Hour: 07:30 AM - 08:30 AM
Peak 15-Minutes: 07:45 AM - 08:00 AM

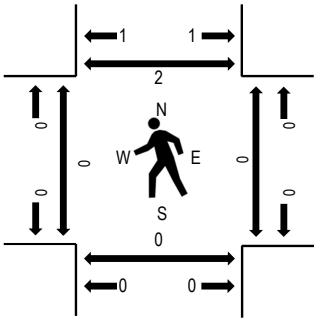
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	E 18TH ST Eastbound				E 18TH ST Westbound				SR-160 SB RAMPS Northbound				SR-160 SB RAMPS Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
6:00 AM	0	3	20	34	0	132	36	13	0	1	2	13	0	3	7	1	265	1,077	0	0	0	0
6:15 AM	0	10	19	27	0	138	35	3	0	1	0	5	0	2	8	4	252	1,091	0	0	0	0
6:30 AM	0	4	18	25	0	130	52	8	0	1	3	13	0	6	13	2	275	1,148	0	0	0	0
6:45 AM	0	4	24	30	1	141	56	6	0	3	0	12	0	5	1	2	285	1,247	0	0	1	0
7:00 AM	0	2	39	24	0	133	58	5	0	3	1	3	0	1	8	2	279	1,498	0	0	0	2
7:15 AM	0	10	38	44	0	110	63	9	0	3	1	15	0	3	8	5	309	1,735	0	0	0	2
7:30 AM	0	4	52	46	0	152	82	7	0	1	3	14	0	3	9	1	374	1,829	0	0	0	1
7:45 AM	0	4	70	80	0	160	173	10	0	5	2	13	0	7	6	6	536	1,813	0	0	0	0
8:00 AM	0	6	78	83	0	159	134	16	0	7	1	11	0	5	12	4	516	1,626	0	0	0	1
8:15 AM	0	3	53	51	0	176	86	12	0	3	0	3	0	1	8	7	403		0	0	0	0
8:30 AM	1	4	47	40	0	144	82	12	0	4	3	5	0	5	7	4	358		0	0	0	0
8:45 AM	0	2	40	36	0	140	86	12	0	5	1	9	0	5	9	4	349		0	0	0	0

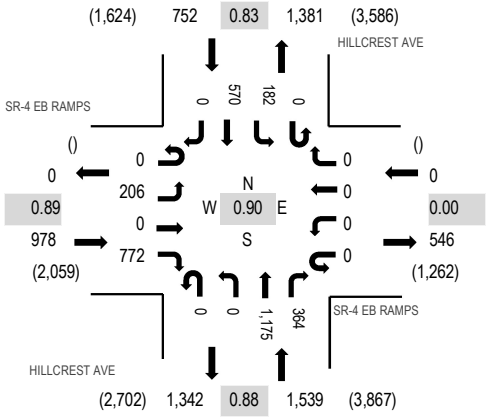
Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	1	2	0	2	3	1	0	1	0	0	0	0	0	0	10
Lights	0	17	246	252	0	635	462	44	0	15	5	41	0	14	33	18	1,782
Mediums	0	0	6	6	0	10	10	0	0	0	1	0	0	2	2	0	37
Total	0	17	253	260	0	647	475	45	0	16	6	41	0	16	35	18	1,829

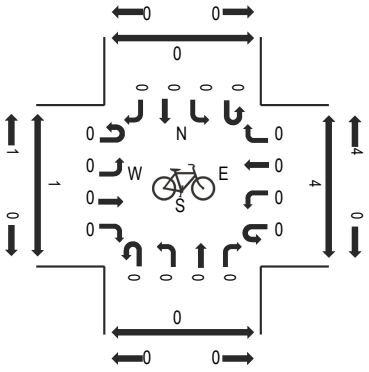
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

Location: 3 HILLCREST AVE & SR-4 EB RAMPS AM
Date: Thursday, April 10, 2025
Peak Hour: 07:45 AM - 08:45 AM
Peak 15-Minutes: 07:45 AM - 08:00 AM

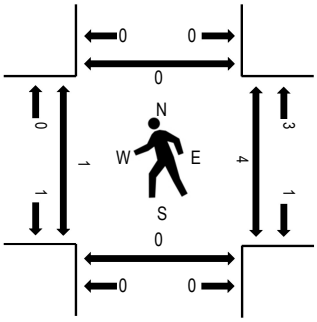
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	SR-4 EB RAMPS Eastbound				SR-4 EB RAMPS Westbound				HILLCREST AVE Northbound				HILLCREST AVE Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
6:00 AM	0	26	0	30	0	0	0	0	0	0	219	38	0	22	32	0	367	1,812	0	0	0	0
6:15 AM	0	34	0	50	0	0	0	0	0	0	267	34	0	31	47	0	463	1,981	1	2	0	0
6:30 AM	0	52	0	79	0	0	0	0	0	0	227	33	0	32	47	0	470	2,064	0	1	0	0
6:45 AM	0	42	0	75	0	0	0	0	0	0	245	50	0	34	66	0	512	2,301	0	0	0	0
7:00 AM	0	41	0	101	0	0	0	0	0	0	211	72	0	39	72	0	536	2,697	0	0	0	0
7:15 AM	0	45	0	121	0	0	0	0	0	0	180	58	0	37	105	0	546	3,042	0	1	0	0
7:30 AM	0	56	0	147	0	0	0	0	0	0	261	84	0	38	121	0	707	3,261	0	1	0	0
7:45 AM	0	67	0	209	0	0	0	0	0	0	322	117	0	53	140	0	908	3,269	0	0	0	0
8:00 AM	0	50	0	207	0	0	0	0	0	0	298	99	0	50	177	0	881	3,041	0	0	0	0
8:15 AM	0	44	0	202	0	0	0	0	0	0	275	71	0	36	137	0	765		0	3	0	0
8:30 AM	0	45	0	154	0	0	0	0	0	0	280	77	0	43	116	0	715		1	1	0	0
8:45 AM	0	32	0	150	0	0	0	0	0	0	267	82	0	32	117	0	680		0	3	0	0

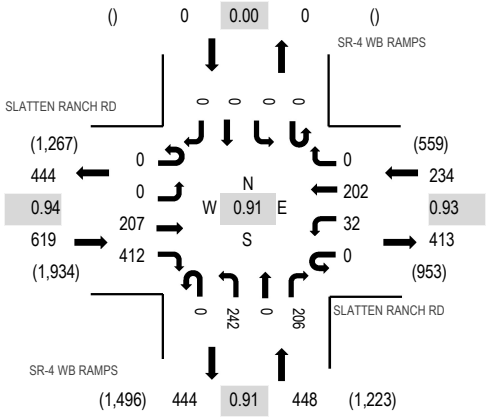
Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	1	0	0	0	0	0	0	1	1	0	1	0	0	4
Lights	0	197	0	759	0	0	0	0	0	0	1,155	359	0	177	555	0	3,202
Mediums	0	9	0	12	0	0	0	0	0	0	19	4	0	4	15	0	63
Total	0	206	0	772	0	0	0	0	0	0	1,175	364	0	182	570	0	3,269

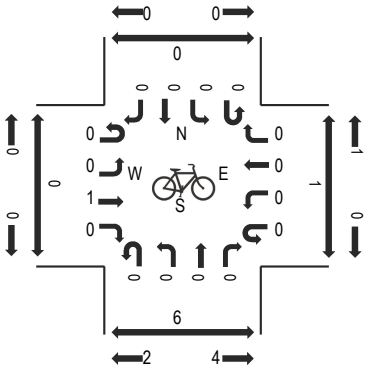
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

Location: 4 SR-4 WB RAMPS & SLATTEN RANCH RD AM
Date: Thursday, April 10, 2025
Peak Hour: 06:45 AM - 07:45 AM
Peak 15-Minutes: 06:45 AM - 07:00 AM

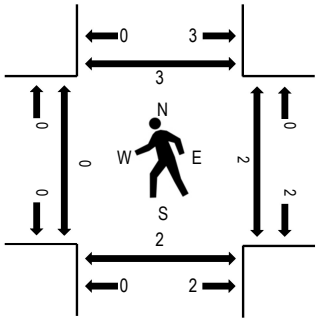
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	SLATTEN RANCH RD Eastbound				SLATTEN RANCH RD Westbound				SR-4 WB RAMPS Northbound				SR-4 WB RAMPS Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
6:00 AM	0	0	40	102	0	9	28	0	0	29	0	45	0	0	0	0	253	1,236	0	0	1	0
6:15 AM	1	0	48	136	0	12	36	0	0	41	0	42	0	0	0	0	316	1,286	0	0	2	0
6:30 AM	1	0	79	103	0	6	50	0	0	26	0	44	0	0	0	0	309	1,261	0	0	3	1
6:45 AM	0	0	66	115	0	8	49	0	0	48	0	72	0	0	0	0	358	1,301	0	0	0	1
7:00 AM	0	0	46	98	0	12	52	0	0	49	0	46	0	0	0	0	303	1,276	0	0	0	0
7:15 AM	0	0	41	83	0	8	52	0	0	60	0	47	0	0	0	0	291	1,254	0	2	0	2
7:30 AM	0	0	54	116	0	4	49	0	0	85	0	41	0	0	0	0	349	1,286	0	0	2	0
7:45 AM	0	0	41	130	0	6	46	0	0	84	0	26	0	0	0	0	333	1,236	0	1	0	1
8:00 AM	0	0	21	127	0	9	23	0	0	84	0	17	0	0	0	0	281	1,204	0	0	3	0
8:15 AM	0	0	29	131	0	3	38	0	0	99	0	23	0	0	0	0	323		0	0	5	0
8:30 AM	0	0	27	138	0	2	24	0	0	92	0	16	0	0	0	0	299		0	0	1	0
8:45 AM	1	0	31	129	0	9	24	0	0	96	0	11	0	0	0	0	301		0	0	1	0

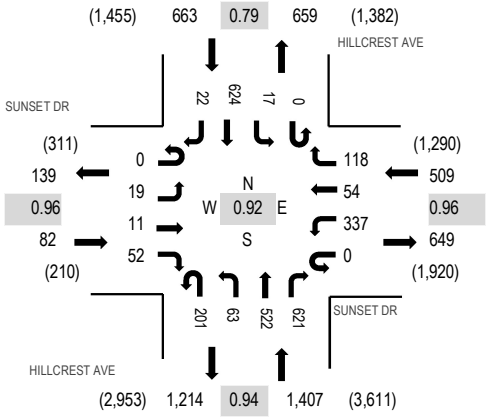
Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2
Lights	0	0	187	411	0	30	178	0	0	238	0	202	0	0	0	0	1,246
Mediums	0	0	20	1	0	2	24	0	0	2	0	4	0	0	0	0	53
Total	0	0	207	412	0	32	202	0	0	242	0	206	0	0	0	0	1,301

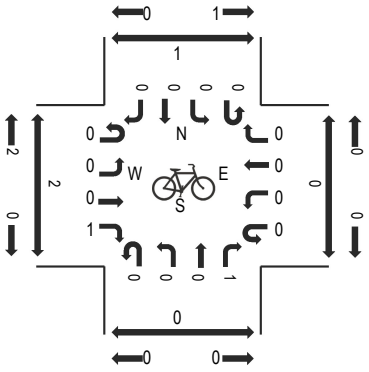
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

Location: 5 HILLCREST AVE & SUNSET DR AM
Date: Thursday, April 10, 2025
Peak Hour: 07:45 AM - 08:45 AM
Peak 15-Minutes: 08:00 AM - 08:15 AM

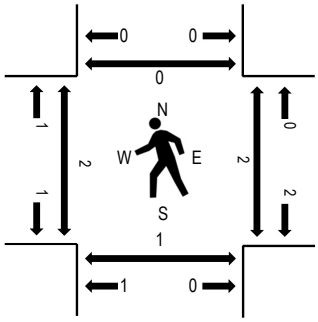
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	SUNSET DR Eastbound				SUNSET DR Westbound				HILLCREST AVE Northbound				HILLCREST AVE Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
6:00 AM	0	0	0	6	0	31	5	21	71	2	35	138	0	6	78	3	396	1,795	0	1	0	0
6:15 AM	0	0	3	5	0	50	4	23	69	2	45	179	0	7	73	3	463	1,872	1	0	1	0
6:30 AM	0	1	4	6	0	49	6	16	51	2	66	160	0	13	87	1	462	1,909	0	0	0	0
6:45 AM	0	2	10	7	0	61	15	29	55	8	61	153	0	5	67	1	474	2,026	0	0	0	0
7:00 AM	0	0	6	13	0	62	14	19	46	9	78	129	0	6	89	2	473	2,266	0	0	0	0
7:15 AM	0	3	3	12	0	80	14	23	47	5	69	114	0	7	119	4	500	2,513	0	0	0	0
7:30 AM	0	9	4	11	0	84	18	28	53	7	96	156	0	8	101	4	579	2,622	0	0	0	0
7:45 AM	0	5	4	8	0	95	11	27	49	11	155	160	0	8	176	5	714	2,661	1	0	1	0
8:00 AM	0	4	1	15	0	82	17	22	57	10	150	152	0	4	200	6	720	2,505	0	1	0	0
8:15 AM	0	2	2	18	0	88	12	36	38	26	119	151	0	2	109	6	609		0	0	0	0
8:30 AM	0	8	4	11	0	72	14	33	57	16	98	158	0	3	139	5	618		1	1	0	0
8:45 AM	0	3	1	19	0	86	18	25	57	20	71	150	0	9	94	5	558		1	1	0	1

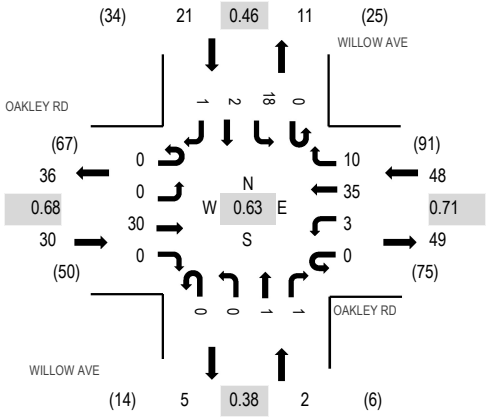
Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	1	0	0	0	1	0	0	0	1	0	0	2	0	5
Lights	0	19	11	50	0	322	53	101	201	60	516	601	0	11	606	21	2,572
Mediums	0	0	0	1	0	15	1	16	0	3	6	19	0	6	16	1	84
Total	0	19	11	52	0	337	54	118	201	63	522	621	0	17	624	22	2,661

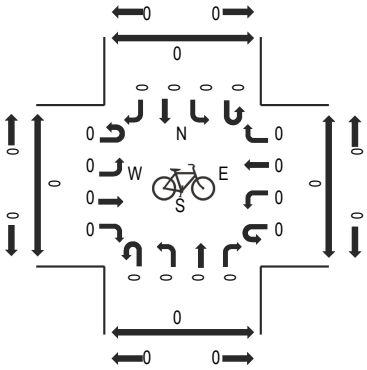
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

Location: 6 WILLOW AVE & OAKLEY RD AM
Date: Thursday, April 10, 2025
Peak Hour: 07:30 AM - 08:30 AM
Peak 15-Minutes: 07:45 AM - 08:00 AM

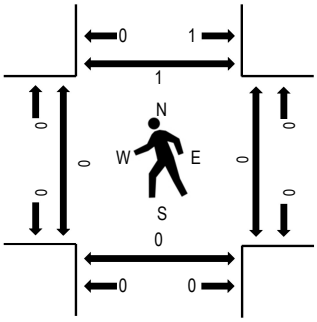
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	OAKLEY RD Eastbound				OAKLEY RD Westbound				WILLOW AVE Northbound				WILLOW AVE Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
6:00 AM	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	2	20	0	0	0	0
6:15 AM	0	0	0	0	0	0	2	3	0	0	0	0	0	0	0	0	5	26	0	0	0	0
6:30 AM	0	0	1	0	0	0	6	2	0	0	0	0	0	0	0	0	9	33	0	0	1	0
6:45 AM	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	4	45	0	0	0	0
7:00 AM	0	0	4	0	0	0	1	1	0	0	0	0	0	0	2	0	8	81	0	0	0	0
7:15 AM	0	0	4	0	0	0	4	0	0	0	1	1	0	2	0	0	12	95	0	0	0	0
7:30 AM	0	0	7	0	0	1	5	1	0	0	1	0	0	5	0	1	21	101	0	0	0	1
7:45 AM	0	0	11	0	0	0	13	4	0	0	0	0	0	11	1	0	40	94	0	0	0	0
8:00 AM	0	0	6	0	0	1	9	4	0	0	0	0	0	1	1	0	22	80	0	0	0	0
8:15 AM	0	0	6	0	0	1	8	1	0	0	0	1	0	1	0	0	18		0	0	0	0
8:30 AM	0	0	5	0	0	0	5	0	0	0	0	1	0	1	1	1	14		0	0	0	0
8:45 AM	0	1	4	1	0	0	11	2	0	0	1	0	0	3	3	0	26		0	0	1	0

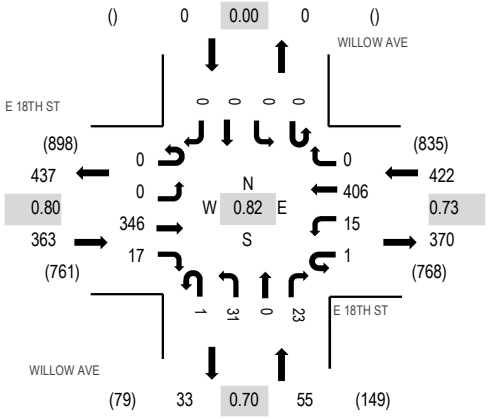
Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lights	0	0	30	0	0	3	34	10	0	0	0	1	0	18	2	1	99
Mediums	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	2
Total	0	0	30	0	0	3	35	10	0	0	1	1	0	18	2	1	101

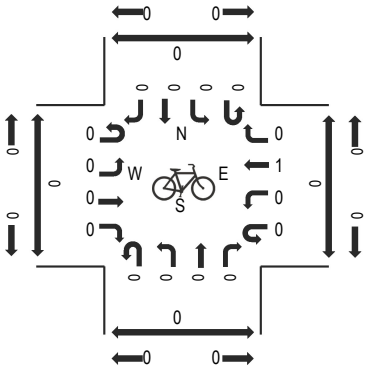
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

Location: 7 WILLOW AVE & E 18TH ST AM
Date: Thursday, April 10, 2025
Peak Hour: 07:30 AM - 08:30 AM
Peak 15-Minutes: 07:45 AM - 08:00 AM

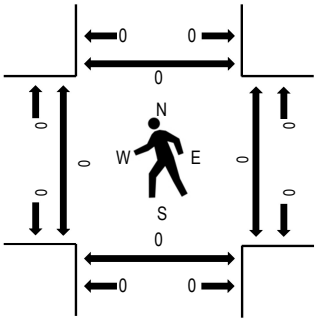
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	E 18TH ST Eastbound				E 18TH ST Westbound				WILLOW AVE Northbound				WILLOW AVE Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
6:00 AM	0	0	24	2	0	2	34	0	0	13	0	4	0	0	0	0	79	362	0	0	0	0
6:15 AM	0	0	30	3	0	1	31	0	0	4	0	3	0	0	0	0	72	388	0	0	1	0
6:30 AM	0	0	49	4	1	2	38	0	0	9	0	3	0	0	0	0	106	458	0	0	0	0
6:45 AM	0	0	47	2	0	1	44	0	0	9	0	2	0	0	0	0	105	514	0	0	0	0
7:00 AM	0	0	44	4	1	2	44	0	0	6	0	4	0	0	0	0	105	664	0	0	0	0
7:15 AM	0	0	54	2	0	3	69	0	0	11	0	3	0	0	0	0	142	811	0	0	1	0
7:30 AM	0	0	64	2	0	1	75	0	0	11	0	9	0	0	0	0	162	840	0	0	0	0
7:45 AM	0	0	91	7	1	5	139	0	0	6	0	6	0	0	0	0	255	833	0	0	0	0
8:00 AM	0	0	112	3	0	5	124	0	0	5	0	3	0	0	0	0	252	719	0	0	0	0
8:15 AM	0	0	79	5	0	4	68	0	1	9	0	5	0	0	0	0	171		0	0	0	0
8:30 AM	0	0	64	8	0	3	70	0	1	5	0	4	0	0	0	0	155		0	0	0	0
8:45 AM	0	0	60	1	0	5	62	0	0	12	0	1	0	0	0	0	141		0	0	0	0

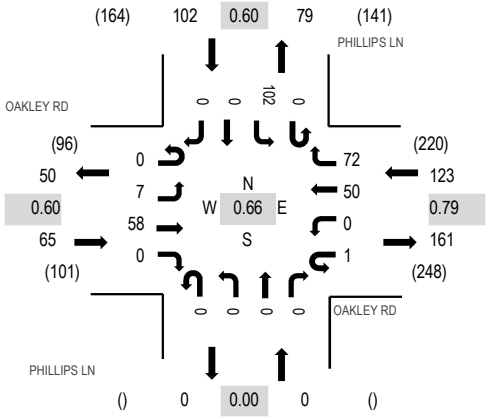
Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	2	0	1	0	3	0	0	0	0	0	0	0	0	0	6
Lights	0	0	332	17	0	14	393	0	1	30	0	23	0	0	0	0	810
Mediums	0	0	12	0	0	1	10	0	0	1	0	0	0	0	0	0	24
Total	0	0	346	17	1	15	406	0	1	31	0	23	0	0	0	0	840

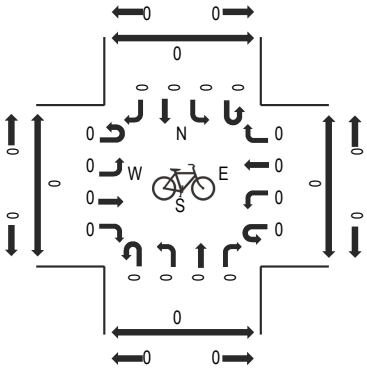
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

Location: 8 PHILLIPS LN & OAKLEY RD AM
Date: Thursday, April 10, 2025
Peak Hour: 07:30 AM - 08:30 AM
Peak 15-Minutes: 07:45 AM - 08:00 AM

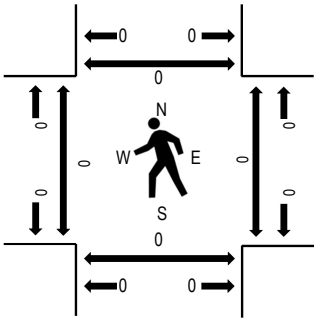
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	OAKLEY RD Eastbound				OAKLEY RD Westbound				PHILLIPS LN Northbound				PHILLIPS LN Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
6:00 AM	0	1	0	0	0	0	2	5	0	0	0	0	0	4	0	0	12	70	0	0	0	0
6:15 AM	0	2	0	0	0	0	5	9	0	0	0	0	0	2	0	0	18	75	0	0	0	0
6:30 AM	0	0	1	0	0	0	8	4	0	0	0	0	0	8	0	1	22	91	0	0	0	0
6:45 AM	0	1	1	0	0	0	4	5	0	0	0	0	0	7	0	0	18	129	0	0	0	0
7:00 AM	0	0	3	0	0	0	2	7	0	0	0	0	0	5	0	0	17	221	0	0	0	0
7:15 AM	0	0	8	0	0	0	3	7	0	0	0	0	0	16	0	0	34	272	0	0	0	1
7:30 AM	0	1	15	0	0	0	5	16	0	0	0	0	0	23	0	0	60	290	0	0	0	0
7:45 AM	0	4	23	0	0	0	19	20	0	0	0	0	0	44	0	0	110	271	0	0	0	0
8:00 AM	0	0	11	0	1	0	14	20	0	0	0	0	0	22	0	0	68	194	0	0	0	0
8:15 AM	0	2	9	0	0	0	12	16	0	0	0	0	0	13	0	0	52		0	0	0	0
8:30 AM	0	2	7	0	0	0	7	12	0	0	0	0	0	11	0	2	41		1	0	0	0
8:45 AM	0	2	8	0	1	0	11	5	0	0	0	0	0	5	0	1	33		0	0	0	0

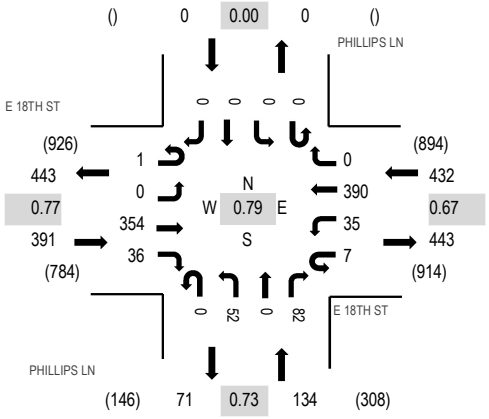
Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lights	0	7	58	0	1	0	49	72	0	0	0	0	0	102	0	0	289
Mediums	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
Total	0	7	58	0	1	0	50	72	0	0	0	0	0	102	0	0	290

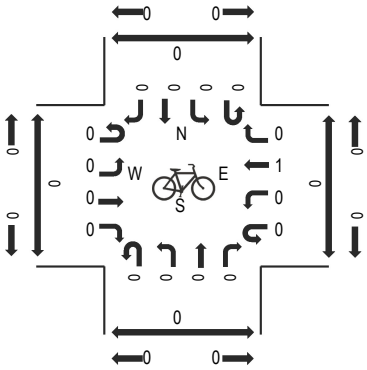
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

Location: 9 PHILLIPS LN & E 18TH ST AM
Date: Thursday, April 10, 2025
Peak Hour: 07:30 AM - 08:30 AM
Peak 15-Minutes: 07:45 AM - 08:00 AM

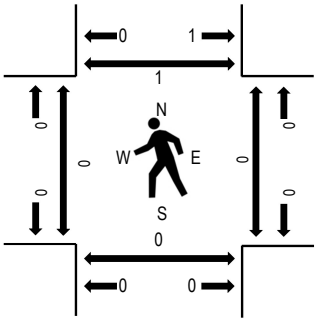
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	E 18TH ST Eastbound				E 18TH ST Westbound				PHILLIPS LN Northbound				PHILLIPS LN Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
6:00 AM	0	0	33	2	1	2	32	0	0	2	0	16	0	0	0	0	88	393	0	0	1	0
6:15 AM	0	0	28	0	0	2	36	0	0	11	0	13	0	0	0	0	90	433	0	0	0	0
6:30 AM	0	0	30	6	0	3	44	0	0	5	0	9	0	0	0	0	97	512	0	0	0	0
6:45 AM	0	0	27	6	2	3	55	0	0	7	0	18	0	0	0	0	118	596	0	0	0	0
7:00 AM	0	0	47	7	1	1	53	0	0	7	0	12	0	0	0	0	128	781	0	0	1	0
7:15 AM	2	0	66	12	1	3	62	0	0	9	0	14	0	0	0	0	169	941	0	0	0	0
7:30 AM	1	0	74	8	1	2	65	0	0	12	0	18	0	0	0	0	181	957	0	0	0	0
7:45 AM	0	0	87	6	3	18	143	0	0	16	0	30	0	0	0	0	303	957	0	0	0	1
8:00 AM	0	0	117	10	1	10	114	0	0	14	0	22	0	0	0	0	288	812	0	0	0	0
8:15 AM	0	0	76	12	2	5	68	0	0	10	0	12	0	0	0	0	185		0	0	0	0
8:30 AM	1	0	68	6	1	12	65	0	0	10	0	18	0	0	0	0	181		0	0	1	0
8:45 AM	0	0	49	3	4	7	72	0	0	10	0	13	0	0	0	0	158		0	0	0	0

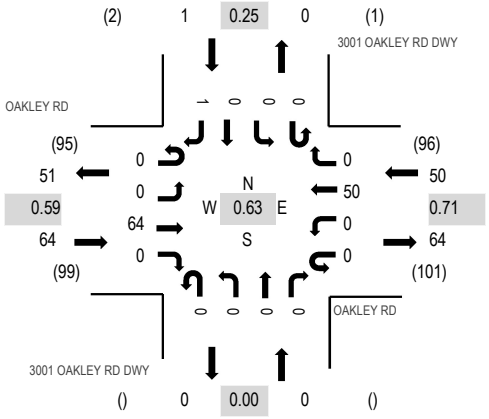
Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	2	0	0	0	3	0	0	0	0	0	0	0	0	0	5
Lights	1	0	342	34	7	35	376	0	0	52	0	82	0	0	0	0	929
Mediums	0	0	10	2	0	0	11	0	0	0	0	0	0	0	0	0	23
Total	1	0	354	36	7	35	390	0	0	52	0	82	0	0	0	0	957

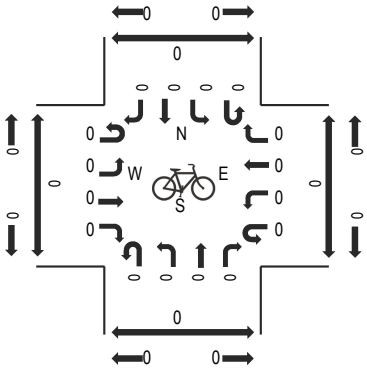
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

Location: 10 3001 OAKLEY RD DWY & OAKLEY RD AM
Date: Thursday, April 10, 2025
Peak Hour: 07:30 AM - 08:30 AM
Peak 15-Minutes: 07:45 AM - 08:00 AM

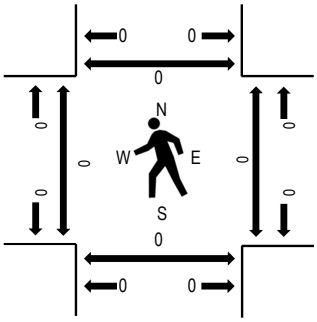
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	OAKLEY RD Eastbound				OAKLEY RD Westbound				3001 OAKLEY RD DWY Northbound				3001 OAKLEY RD DWY Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
6:00 AM	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	4	26	0	0	0	0
6:15 AM	0	0	2	0	0	0	5	0	0	0	0	0	0	0	0	0	7	27	0	0	0	0
6:30 AM	0	0	1	0	1	0	8	0	0	0	0	0	0	0	0	0	10	31	0	0	0	0
6:45 AM	0	0	1	0	0	0	4	0	0	0	0	0	0	0	0	0	5	43	0	0	0	0
7:00 AM	0	0	3	0	0	0	2	0	0	0	0	0	0	0	0	0	5	84	0	0	0	0
7:15 AM	0	0	8	0	0	0	3	0	0	0	0	0	0	0	0	0	11	103	0	0	0	0
7:30 AM	0	0	16	0	0	0	5	0	0	0	0	0	0	0	0	1	22	115	0	0	0	0
7:45 AM	0	0	27	0	0	0	19	0	0	0	0	0	0	0	0	0	46	111	0	0	0	0
8:00 AM	0	0	10	0	0	0	14	0	0	0	0	0	0	0	0	0	24	87	0	0	0	0
8:15 AM	0	0	11	0	0	0	12	0	0	0	0	0	0	0	0	0	23		0	0	0	0
8:30 AM	0	0	8	0	0	0	8	1	0	0	0	0	0	1	0	0	18		0	0	1	0
8:45 AM	0	0	10	0	0	0	12	0	0	0	0	0	0	0	0	0	22		0	0	0	0

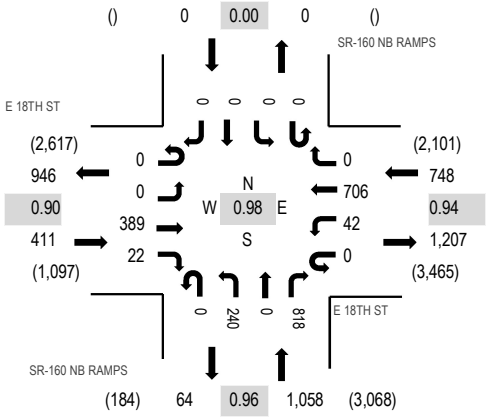
Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lights	0	0	64	0	0	0	49	0	0	0	0	0	0	0	0	1	114
Mediums	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
Total	0	0	64	0	0	0	50	0	0	0	0	0	0	0	0	1	115

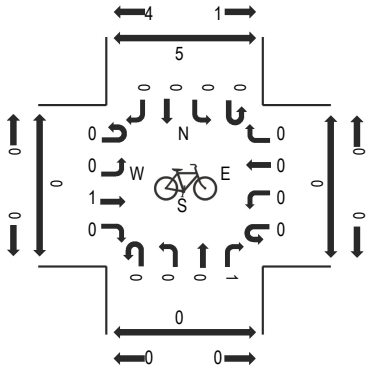
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

Location: 1 SR-160 NB RAMPS & E 18TH ST PM
Date: Thursday, April 10, 2025
Peak Hour: 04:30 PM - 05:30 PM
Peak 15-Minutes: 05:15 PM - 05:30 PM

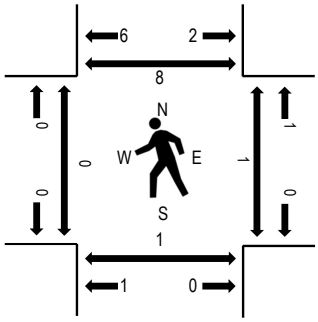
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	E 18TH ST Eastbound				E 18TH ST Westbound				SR-160 NB RAMPS Northbound				SR-160 NB RAMPS Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:00 PM	0	0	101	10	0	12	163	0	0	59	0	204	0	0	0	0	549	2,206	0	0	0	1
4:15 PM	0	0	88	11	0	10	165	0	0	50	0	229	0	0	0	0	553	2,205	0	0	0	7
4:30 PM	0	0	78	5	0	9	175	0	0	58	0	222	0	0	0	0	547	2,217	0	0	0	1
4:45 PM	0	0	107	7	0	9	182	0	0	69	0	183	0	0	0	0	557	2,173	0	0	0	2
5:00 PM	0	0	113	2	0	14	186	0	0	50	0	183	0	0	0	0	548	2,109	0	0	0	3
5:15 PM	0	0	91	8	0	10	163	0	0	63	0	230	0	0	0	0	565	2,069	0	1	1	2
5:30 PM	0	0	84	3	0	11	170	0	0	55	0	180	0	0	0	0	503	2,002	0	0	0	0
5:45 PM	0	0	75	9	0	6	166	0	0	44	0	193	0	0	0	0	493	1,992	0	0	0	1
6:00 PM	0	0	84	3	0	10	167	0	0	49	0	195	0	0	0	0	508	1,951	0	0	0	0
6:15 PM	0	0	75	5	0	10	157	0	0	47	0	204	0	0	0	0	498		0	0	0	3
6:30 PM	0	0	76	2	0	5	145	0	0	39	0	226	0	0	0	0	493		0	0	0	0
6:45 PM	0	0	56	4	0	9	147	0	0	48	0	188	0	0	0	0	452		0	0	0	1

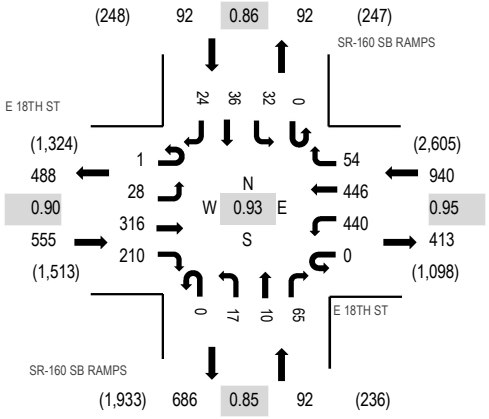
Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	3
Lights	0	0	379	22	0	42	694	0	0	236	0	799	0	0	0	0	2,172
Mediums	0	0	10	0	0	0	12	0	0	4	0	16	0	0	0	0	42
Total	0	0	389	22	0	42	706	0	0	240	0	818	0	0	0	0	2,217

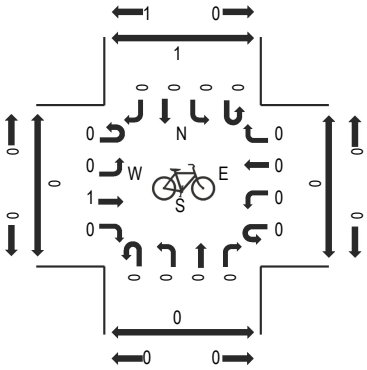
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

Location: 2 SR-160 SB RAMPS & E 18TH ST PM
Date: Thursday, April 10, 2025
Peak Hour: 04:45 PM - 05:45 PM
Peak 15-Minutes: 05:00 PM - 05:15 PM

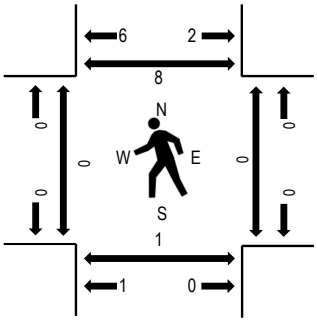
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	E 18TH ST Eastbound				E 18TH ST Westbound				SR-160 SB RAMPS Northbound				SR-160 SB RAMPS Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:00 PM	1	6	92	55	0	95	112	16	0	4	0	6	0	12	4	6	409	1,620	0	0	0	1
4:15 PM	0	5	77	38	0	113	89	10	0	8	1	20	0	3	9	10	383	1,664	0	0	0	4
4:30 PM	0	5	69	40	0	108	111	14	0	4	2	14	0	5	8	5	385	1,677	0	0	0	3
4:45 PM	1	3	84	58	0	105	131	13	0	5	6	11	0	12	8	6	443	1,679	0	0	0	3
5:00 PM	0	10	92	52	0	132	96	16	0	6	2	20	0	5	13	9	453	1,606	0	0	0	4
5:15 PM	0	5	71	51	0	103	101	16	0	4	1	22	0	8	8	6	396	1,548	0	0	0	1
5:30 PM	0	10	69	49	0	100	118	9	0	2	1	12	0	7	7	3	387	1,493	0	0	1	0
5:45 PM	0	6	69	51	0	107	89	13	0	2	3	7	0	4	8	11	370	1,434	0	0	0	0
6:00 PM	0	9	72	57	1	115	93	9	0	5	3	14	0	4	5	8	395	1,376	0	0	0	2
6:15 PM	0	3	53	40	0	101	92	14	0	3	0	12	0	8	6	9	341		1	0	0	4
6:30 PM	0	5	55	58	0	95	62	9	0	8	3	16	0	9	4	4	328		0	0	0	1
6:45 PM	0	7	49	36	0	92	94	11	0	1	1	7	0	7	2	5	312		0	0	0	0

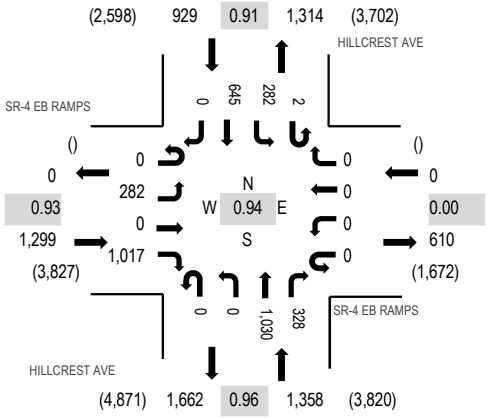
Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lights	1	28	310	209	0	431	437	54	0	15	10	62	0	32	36	24	1,649
Mediums	0	0	6	1	0	9	9	0	0	2	0	3	0	0	0	0	30
Total	1	28	316	210	0	440	446	54	0	17	10	65	0	32	36	24	1,679

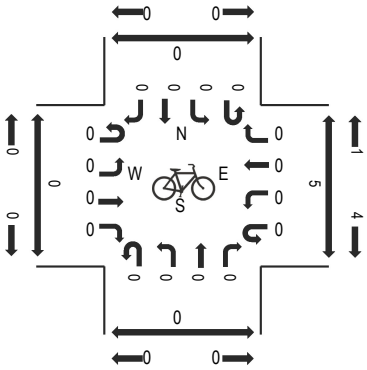
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

Location: 3 HILLCREST AVE & SR-4 EB RAMPS PM
Date: Thursday, April 10, 2025
Peak Hour: 04:45 PM - 05:45 PM
Peak 15-Minutes: 05:00 PM - 05:15 PM

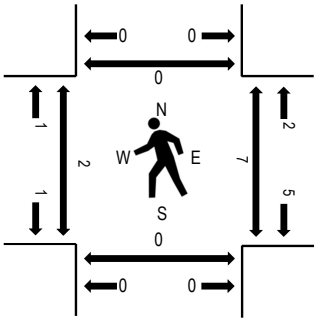
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	SR-4 EB RAMPS Eastbound				SR-4 EB RAMPS Westbound				HILLCREST AVE Northbound				HILLCREST AVE Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:00 PM	0	71	1	265	0	0	0	0	0	0	276	67	0	62	144	0	886	3,406	0	2	0	0
4:15 PM	0	56	0	228	0	0	0	0	0	0	239	71	2	66	162	0	824	3,474	0	0	0	0
4:30 PM	0	75	0	231	0	0	0	0	0	0	219	82	0	43	144	0	794	3,532	0	2	0	0
4:45 PM	0	72	0	289	0	0	0	0	0	0	270	80	0	58	133	0	902	3,586	0	3	0	0
5:00 PM	0	82	0	268	0	0	0	0	0	0	253	86	2	92	171	0	954	3,486	1	3	0	0
5:15 PM	0	74	0	247	0	0	0	0	0	0	239	78	0	65	179	0	882	3,373	0	0	0	0
5:30 PM	0	54	0	213	0	0	0	0	0	0	268	84	0	67	162	0	848	3,370	1	1	0	0
5:45 PM	0	44	0	202	0	0	0	0	0	0	260	74	0	46	176	0	802	3,352	1	4	0	0
6:00 PM	0	53	0	235	0	0	0	0	0	0	254	73	2	66	158	0	841	3,353	0	4	0	0
6:15 PM	0	86	0	265	0	0	0	0	0	0	190	91	0	76	171	0	879		0	0	0	0
6:30 PM	0	77	0	289	0	0	0	0	0	0	201	72	0	65	126	0	830		0	0	0	0
6:45 PM	0	59	0	291	0	0	0	0	0	0	223	70	1	37	122	0	803		0	2	0	0

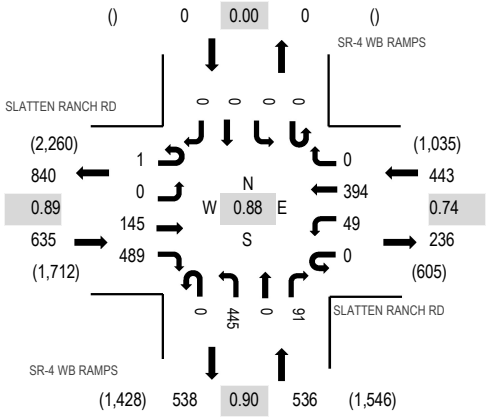
Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	3
Lights	0	276	0	1,013	0	0	0	0	0	0	1,015	326	2	278	631	0	3,541
Mediums	0	6	0	4	0	0	0	0	0	0	12	2	0	4	14	0	42
Total	0	282	0	1,017	0	0	0	0	0	0	1,030	328	2	282	645	0	3,586

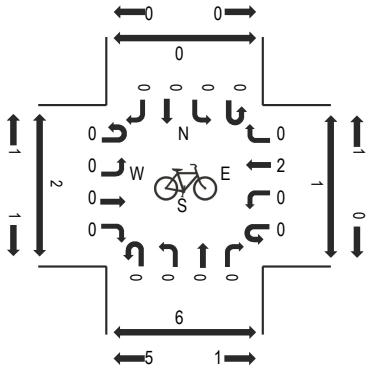
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

Location: 4 SR-4 WB RAMPS & SLATTEN RANCH RD PM
Date: Thursday, April 10, 2025
Peak Hour: 04:45 PM - 05:45 PM
Peak 15-Minutes: 05:00 PM - 05:15 PM

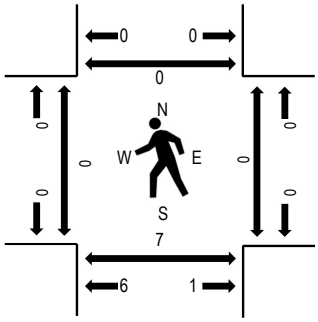
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	SLATTEN RANCH RD Eastbound				SLATTEN RANCH RD Westbound				SR-4 WB RAMPS Northbound				SR-4 WB RAMPS Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:00 PM	1	0	18	127	0	5	39	0	0	122	0	11	0	0	0	0	323	1,296	0	0	2	0
4:15 PM	0	0	27	113	0	6	62	0	0	117	0	12	0	0	0	0	337	1,434	0	1	2	2
4:30 PM	0	0	25	117	0	5	13	0	0	130	0	5	0	0	0	0	295	1,521	0	0	0	0
4:45 PM	1	0	41	116	0	9	49	0	0	97	0	28	0	0	0	0	341	1,614	0	0	1	0
5:00 PM	0	0	40	139	0	14	138	0	0	110	0	20	0	0	0	0	461	1,601	0	0	3	0
5:15 PM	0	0	29	122	0	16	107	0	0	127	0	23	0	0	0	0	424	1,511	0	0	0	0
5:30 PM	0	0	35	112	0	10	100	0	0	111	0	20	0	0	0	0	388	1,496	0	0	3	0
5:45 PM	0	0	41	99	0	3	61	0	0	102	0	22	0	0	0	0	328	1,448	0	0	3	0
6:00 PM	1	0	38	110	0	13	76	0	0	117	0	16	0	0	0	0	371	1,396	0	2	4	1
6:15 PM	0	0	36	91	0	13	137	0	0	111	0	21	0	0	0	0	409		0	0	0	0
6:30 PM	0	0	30	89	0	8	113	0	1	78	0	21	0	0	0	0	340		0	1	1	2
6:45 PM	0	0	29	85	0	5	33	0	0	107	0	17	0	0	0	0	276		0	0	4	0

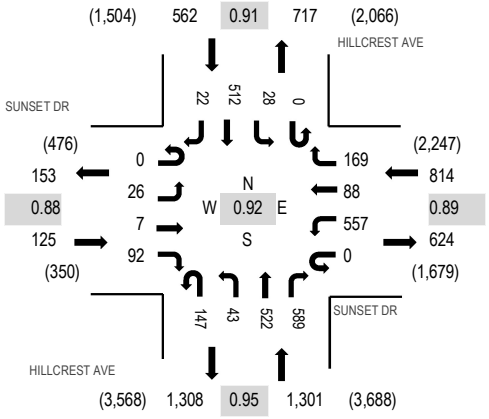
Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3
Lights	1	0	127	486	0	42	375	0	0	441	0	90	0	0	0	0	1,562
Mediums	0	0	18	0	0	7	19	0	0	4	0	1	0	0	0	0	49
Total	1	0	145	489	0	49	394	0	0	445	0	91	0	0	0	0	1,614

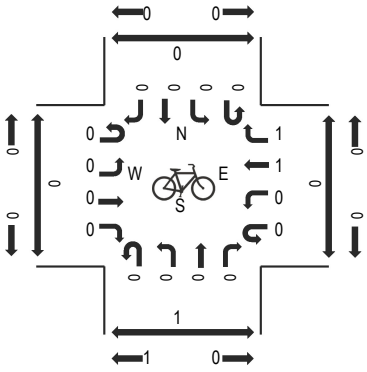
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

Location: 5 HILLCREST AVE & SUNSET DR PM
Date: Thursday, April 10, 2025
Peak Hour: 04:45 PM - 05:45 PM
Peak 15-Minutes: 05:00 PM - 05:15 PM

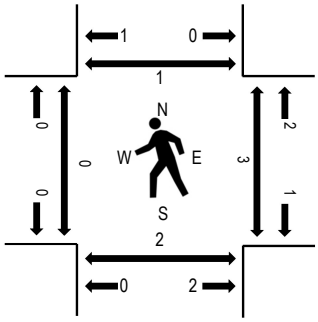
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	SUNSET DR Eastbound				SUNSET DR Westbound				HILLCREST AVE Northbound				HILLCREST AVE Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:00 PM	0	14	2	24	0	122	23	37	34	22	146	141	0	2	96	12	675	2,589	0	0	1	0
4:15 PM	0	8	1	22	0	123	21	38	39	12	118	137	0	6	132	7	664	2,673	1	0	1	0
4:30 PM	0	8	2	18	0	82	24	39	32	10	123	128	0	3	131	8	608	2,748	0	1	0	0
4:45 PM	0	2	2	24	0	94	17	26	31	8	140	162	0	5	122	9	642	2,802	0	2	1	0
5:00 PM	0	11	2	14	0	164	22	53	40	5	146	153	0	7	135	7	759	2,789	0	0	1	0
5:15 PM	0	5	3	25	0	156	29	52	38	19	113	138	0	8	149	4	739	2,701	0	0	0	0
5:30 PM	0	8	0	29	0	143	20	38	38	11	123	136	0	8	106	2	662	2,612	0	1	0	1
5:45 PM	0	8	7	25	0	117	17	38	56	7	118	122	0	10	96	8	629	2,520	0	0	0	0
6:00 PM	0	3	5	22	0	126	27	43	47	12	126	140	0	6	110	4	671	2,411	0	0	1	0
6:15 PM	0	4	4	16	0	178	21	41	28	12	139	99	0	8	95	5	650		0	0	0	0
6:30 PM	0	3	1	11	0	140	22	29	29	6	120	117	0	3	86	3	570		0	1	0	0
6:45 PM	0	5	2	10	0	75	18	32	37	15	109	106	0	3	101	7	520		0	3	1	0

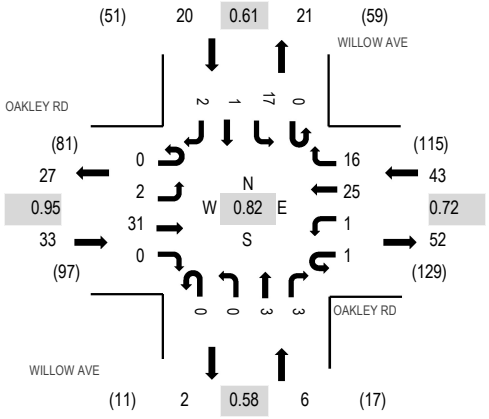
Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	3	0	0	1	0	4
Lights	0	26	7	89	0	543	86	162	147	43	516	574	0	22	507	22	2,744
Mediums	0	0	0	3	0	14	2	7	0	0	6	12	0	6	4	0	54
Total	0	26	7	92	0	557	88	169	147	43	522	589	0	28	512	22	2,802

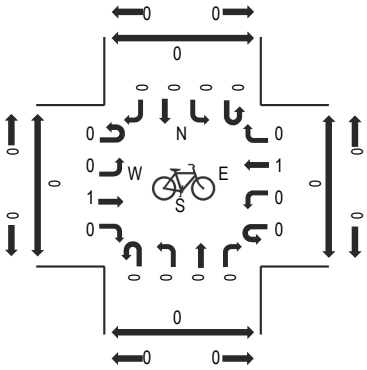
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

Location: 6 WILLOW AVE & OAKLEY RD PM
Date: Thursday, April 10, 2025
Peak Hour: 04:15 PM - 05:15 PM
Peak 15-Minutes: 04:15 PM - 04:30 PM

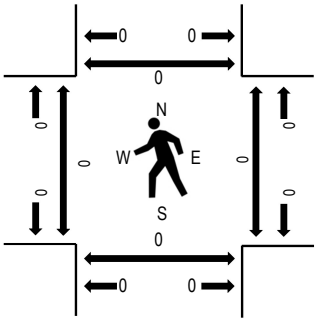
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	OAKLEY RD Eastbound				OAKLEY RD Westbound				WILLOW AVE Northbound				WILLOW AVE Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:00 PM	0	2	6	0	0	0	6	3	0	1	0	0	0	2	2	1	23	100	0	0	0	0
4:15 PM	0	0	11	0	0	1	4	8	0	0	0	0	0	5	0	2	31	102	0	0	0	0
4:30 PM	0	1	6	0	0	0	4	2	0	0	1	2	0	5	0	0	21	99	0	0	0	0
4:45 PM	0	0	8	0	0	0	10	1	0	0	0	1	0	5	0	0	25	99	0	0	0	0
5:00 PM	0	1	6	0	1	0	7	5	0	0	2	0	0	2	1	0	25	97	0	0	0	0
5:15 PM	0	0	6	0	0	1	6	9	0	0	1	0	0	4	1	0	28	96	0	0	0	0
5:30 PM	0	1	4	1	0	0	5	0	0	0	1	0	2	7	0	0	21	90	0	0	0	0
5:45 PM	0	1	9	0	0	0	7	2	0	0	0	2	0	0	2	0	23	86	0	0	0	0
6:00 PM	0	2	8	0	0	0	7	1	0	1	2	0	0	3	0	0	24	83	0	0	0	0
6:15 PM	0	2	8	0	0	0	9	0	0	0	1	0	0	1	1	0	22		0	0	0	0
6:30 PM	0	1	6	1	0	0	5	1	0	0	1	0	0	2	0	0	17		0	0	1	0
6:45 PM	0	0	6	0	0	0	6	4	0	0	1	0	0	3	0	0	20		0	0	0	0

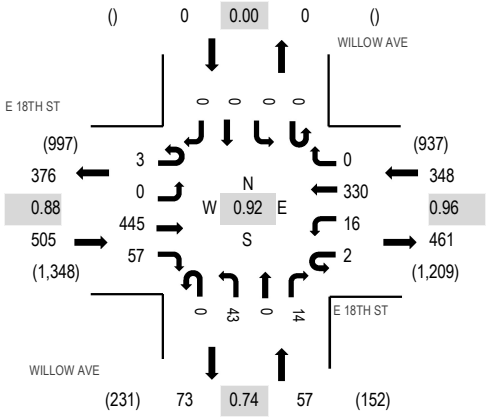
Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lights	0	2	31	0	1	1	25	16	0	0	3	2	0	17	1	2	101
Mediums	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
Total	0	2	31	0	1	1	25	16	0	0	3	3	0	17	1	2	102

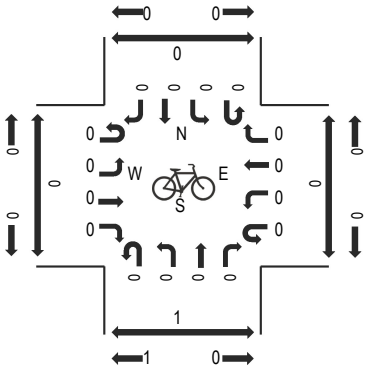
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

Location: 7 WILLOW AVE & E 18TH ST PM
Date: Thursday, April 10, 2025
Peak Hour: 04:45 PM - 05:45 PM
Peak 15-Minutes: 04:45 PM - 05:00 PM

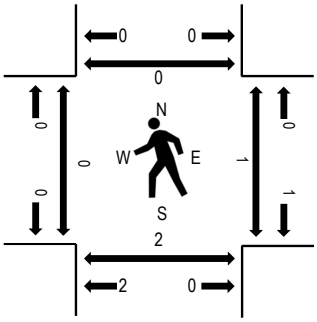
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	E 18TH ST Eastbound				E 18TH ST Westbound				WILLOW AVE Northbound				WILLOW AVE Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:00 PM	0	0	126	21	1	2	83	0	0	5	0	1	0	0	0	0	239	890	0	0	2	0
4:15 PM	0	0	88	20	0	7	76	0	0	13	0	9	0	0	0	0	213	885	0	0	3	0
4:30 PM	0	0	90	10	0	4	73	0	0	9	0	4	0	0	0	0	190	887	0	0	0	0
4:45 PM	0	0	129	15	0	4	87	0	0	11	0	2	0	0	0	0	248	910	0	1	0	0
5:00 PM	0	0	128	13	0	3	82	0	0	7	0	1	0	0	0	0	234	852	0	0	1	0
5:15 PM	0	0	96	12	0	3	84	0	0	15	0	5	0	0	0	0	215	826	0	0	0	0
5:30 PM	3	0	92	17	2	6	77	0	0	10	0	6	0	0	0	0	213	775	0	0	1	0
5:45 PM	0	0	92	16	0	6	65	0	0	7	0	4	0	0	0	0	190	725	0	0	1	0
6:00 PM	0	0	105	14	0	0	77	0	0	7	0	5	0	0	0	0	208	695	0	0	3	0
6:15 PM	0	0	73	17	0	3	58	0	0	7	0	6	0	0	0	0	164		0	0	0	0
6:30 PM	1	0	73	18	0	6	55	0	0	8	0	2	0	0	0	0	163		0	0	0	0
6:45 PM	0	0	68	11	0	3	70	0	0	7	0	1	0	0	0	0	160		0	0	2	0

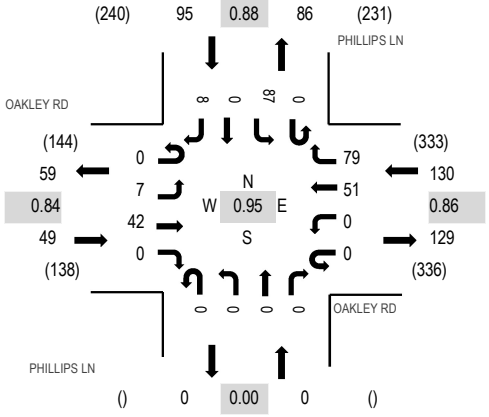
Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
Lights	3	0	436	57	2	16	322	0	0	43	0	14	0	0	0	0	893
Mediums	0	0	9	0	0	0	7	0	0	0	0	0	0	0	0	0	16
Total	3	0	445	57	2	16	330	0	0	43	0	14	0	0	0	0	910

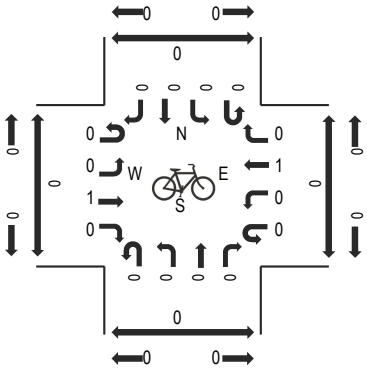
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

Location: 8 PHILLIPS LN & OAKLEY RD PM
Date: Thursday, April 10, 2025
Peak Hour: 04:30 PM - 05:30 PM
Peak 15-Minutes: 05:15 PM - 05:30 PM

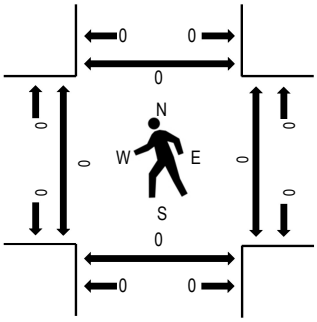
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	OAKLEY RD Eastbound				OAKLEY RD Westbound				PHILLIPS LN Northbound				PHILLIPS LN Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:00 PM	0	0	10	0	0	0	9	15	0	0	0	0	0	17	0	4	55	258	0	0	0	1
4:15 PM	0	1	15	0	0	0	12	18	0	0	0	0	0	18	0	1	65	267	0	0	0	0
4:30 PM	0	4	9	0	0	0	10	17	0	0	0	0	0	26	0	1	67	274	0	0	0	0
4:45 PM	0	2	13	0	0	0	10	21	0	0	0	0	0	23	0	2	71	269	0	0	0	0
5:00 PM	0	1	7	0	0	0	14	20	0	0	0	0	0	19	0	3	64	256	0	0	0	0
5:15 PM	0	0	13	0	0	0	17	21	0	0	0	0	0	19	0	2	72	258	0	0	0	0
5:30 PM	0	3	9	0	0	0	9	19	0	0	0	0	0	20	0	2	62	233	0	0	0	0
5:45 PM	0	2	12	0	0	0	7	14	0	0	0	0	0	22	0	1	58	212	0	0	0	0
6:00 PM	1	4	9	0	0	0	8	20	0	0	0	0	0	23	0	1	66	197	0	0	0	0
6:15 PM	0	1	7	0	0	0	10	12	0	0	0	0	0	17	0	0	47		0	0	0	0
6:30 PM	0	1	6	0	0	0	7	18	0	0	0	0	0	8	0	1	41		0	0	0	1
6:45 PM	0	3	5	0	0	0	11	14	0	0	0	0	0	9	0	1	43		0	0	0	0

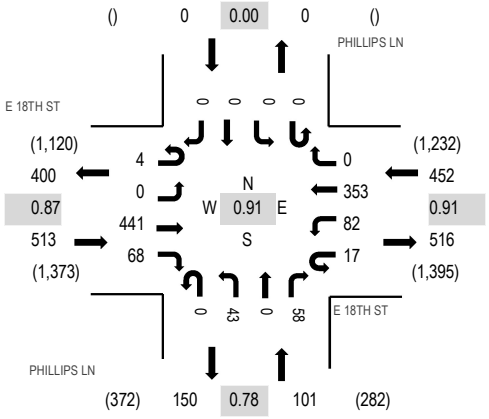
Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lights	0	6	42	0	0	0	51	78	0	0	0	0	0	86	0	8	271
Mediums	0	1	0	0	0	0	0	1	0	0	0	0	0	1	0	0	3
Total	0	7	42	0	0	0	51	79	0	0	0	0	0	87	0	8	274

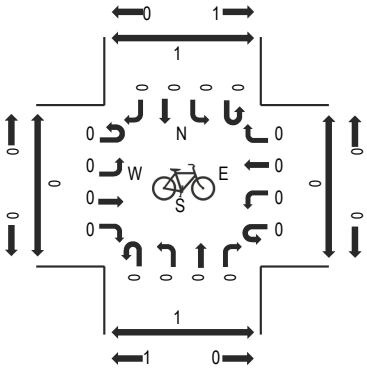
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

Location: 9 PHILLIPS LN & E 18TH ST PM
Date: Thursday, April 10, 2025
Peak Hour: 04:30 PM - 05:30 PM
Peak 15-Minutes: 04:45 PM - 05:00 PM

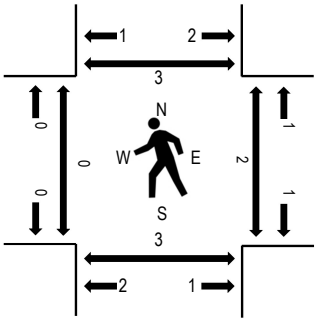
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	E 18TH ST Eastbound				E 18TH ST Westbound				PHILLIPS LN Northbound				PHILLIPS LN Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:00 PM	5	0	115	19	2	15	90	0	0	7	0	20	0	0	0	0	273	1,043	0	0	0	0
4:15 PM	0	0	95	13	3	7	88	0	0	8	0	14	0	0	0	0	228	1,045	0	0	0	0
4:30 PM	3	0	94	18	5	21	86	0	0	12	0	11	0	0	0	0	250	1,066	0	1	1	1
4:45 PM	1	0	120	13	4	18	102	0	0	14	0	20	0	0	0	0	292	1,050	0	1	2	0
5:00 PM	0	0	126	22	5	18	82	0	0	7	0	15	0	0	0	0	275	987	0	0	0	1
5:15 PM	0	0	101	15	3	25	83	0	0	10	0	12	0	0	0	0	249	960	0	0	0	1
5:30 PM	1	0	97	12	1	15	85	0	0	7	0	16	0	0	0	0	234	910	0	0	1	0
5:45 PM	1	0	100	16	0	13	75	0	0	8	0	16	0	0	0	0	229	861	0	0	0	0
6:00 PM	0	0	116	15	2	20	74	0	0	7	0	14	0	0	0	0	248	857	0	0	1	1
6:15 PM	0	0	74	14	1	16	74	0	0	7	0	13	0	0	0	0	199		0	0	0	0
6:30 PM	2	0	89	8	1	14	54	0	0	6	0	11	0	0	0	0	185		0	0	1	0
6:45 PM	1	0	58	9	3	16	111	0	0	9	0	18	0	0	0	0	225		0	0	3	0

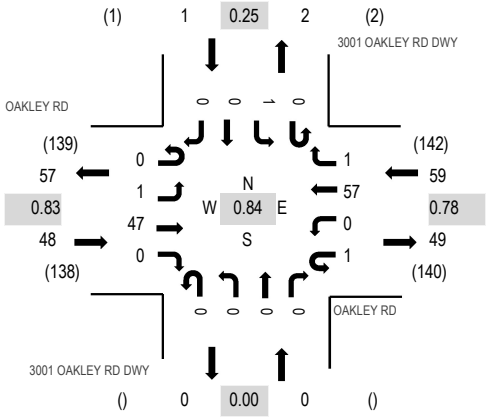
Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lights	4	0	434	67	17	80	345	0	0	42	0	57	0	0	0	0	1,046
Mediums	0	0	7	1	0	2	8	0	0	1	0	1	0	0	0	0	20
Total	4	0	441	68	17	82	353	0	0	43	0	58	0	0	0	0	1,066

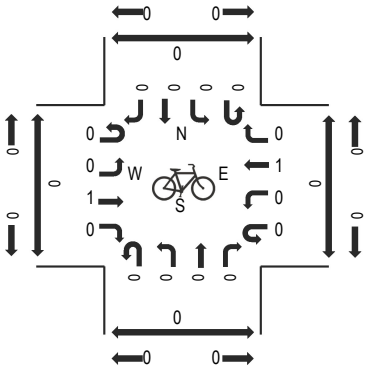
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

Location: 10 3001 OAKLEY RD DWY & OAKLEY RD PM
Date: Thursday, April 10, 2025
Peak Hour: 04:30 PM - 05:30 PM
Peak 15-Minutes: 05:15 PM - 05:30 PM

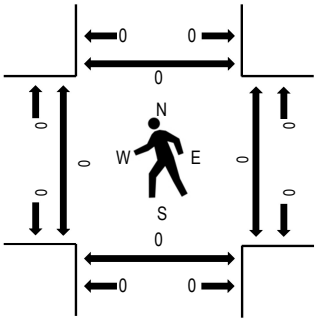
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	OAKLEY RD Eastbound				OAKLEY RD Westbound				3001 OAKLEY RD DWY Northbound				3001 OAKLEY RD DWY Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:00 PM	0	0	9	0	1	0	12	0	0	0	0	0	0	0	0	0	22	101	0	0	0	1
4:15 PM	0	0	16	0	0	0	13	0	0	0	0	0	0	0	0	0	29	105	0	0	0	0
4:30 PM	0	0	13	0	0	0	10	0	0	0	0	0	0	0	0	0	23	108	0	0	0	0
4:45 PM	0	1	14	0	1	0	11	0	0	0	0	0	0	0	0	0	27	108	0	0	0	0
5:00 PM	0	0	7	0	0	0	17	1	0	0	0	0	0	1	0	0	26	100	0	0	0	0
5:15 PM	0	0	13	0	0	0	19	0	0	0	0	0	0	0	0	0	32	99	0	0	0	0
5:30 PM	0	0	13	0	0	0	10	0	0	0	0	0	0	0	0	0	23	85	0	0	0	0
5:45 PM	0	0	13	0	0	0	6	0	0	0	0	0	0	0	0	0	19	78	0	0	0	0
6:00 PM	0	0	14	0	0	0	11	0	0	0	0	0	0	0	0	0	25	80	0	0	0	0
6:15 PM	0	0	8	0	0	0	10	0	0	0	0	0	0	0	0	0	18		0	0	0	0
6:30 PM	0	0	8	0	0	0	8	0	0	0	0	0	0	0	0	0	16		0	0	0	0
6:45 PM	0	0	9	0	0	0	12	0	0	0	0	0	0	0	0	0	21		0	0	0	0

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lights	0	1	46	0	1	0	57	1	0	0	0	0	0	1	0	0	107
Mediums	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	1	47	0	1	0	57	1	0	0	0	0	0	1	0	0	108

Appendix B
Volume Summary

AM Peak Hour

Intersection Num er: 1
Intersection Name: NB SR 160 On/Off Ramps and Main Street/E 18th Street
Peak Hour: AM

	Movements												
	North Approach			East Approach			South Approach			West Approach			
Scenario:	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	*Total*
Year 2025 Existing Conditions	**0**	**0**	**0**	**0**	**965**	**22**	**492**	**0**	**202**	**16**	**294**	**0**	**1991**
Approved Project Trips													
Acorn Business Park	0	0	0	0	43	0	0	0	64	16	16	0	139
E 18th St - East Site	0	0	0	0	14	0	0	0	113	10	2	0	139
E 18th St - West Site	0	0	0	0	15	0	0	0	86	10	2	0	113
essica Court	0	0	0	0	1	0	0	0	4	2	2	0	9
Total Approved Trips	*0*	*0*	*0*	*0*	*73*	*0*	*0*	*0*	*267*	*38*	*22*	*0*	*400*
Year 2030 Background Conditions	**0**	**0**	**0**	**0**	**1038**	**22**	**492**	**0**	**469**	**54**	**316**	**0**	**2391**
Year 2040 Cumulative No Project Conditions	**0**	**0**	**0**	**0**	**1195**	**26**	**492**	**0**	**478**	**58**	**323**	**0**	**2572**
Proposed Project Trips	*0*	*0*	*0*	*0*	*1*	*0*	*0*	*0*	*7*	*3*	*2*	*0*	*13*
Existing Plus Project Conditions	**0**	**0**	**0**	**0**	**966**	**22**	**492**	**0**	**209**	**19**	**296**	**0**	**2004**
Year 2030 Background Plus Project Conditions	**0**	**0**	**0**	**0**	**1039**	**22**	**492**	**0**	**476**	**57**	**318**	**0**	**2404**
Year 2040 Cumulative with Project Conditions	**0**	**0**	**0**	**0**	**1196**	**26**	**492**	**0**	**485**	**61**	**325**	**0**	**2585**

Intersection Num er: 2
Intersection Name: SB SR 160 On/Off Ramps and E 18th Street
Peak Hour: AM

	Movements												
	North Approach			East Approach			South Approach			West Approach			
Scenario:	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	*Total*
Year 2025 Existing Conditions	**18**	**35**	**16**	**45**	**475**	**647**	**41**	**6**	**16**	**260**	**253**	**17**	**1829**
Approved Project Trips													
Acorn Business Park	0	0	0	0	107	0	0	0	43	24	32	0	206
E 18th St - East Site	0	0	0	0	127	0	0	0	71	15	12	0	225
E 18th St - West Site	0	0	0	0	101	0	0	0	72	11	12	0	196
essica Court	0	0	0	0	5	0	0	0	1	13	4	0	23
Total Approved Trips	*0*	*0*	*0*	*0*	*340*	*0*	*0*	*0*	*187*	*63*	*60*	*0*	*650*
Year 2030 Background Conditions	**18**	**35**	**16**	**45**	**815**	**647**	**41**	**6**	**203**	**323**	**313**	**17**	**2479**
Year 2040 Cumulative No Project Conditions	**18**	**35**	**16**	**51**	**890**	**732**	**41**	**6**	**204**	**348**	**324**	**17**	**2682**
Proposed Project Trips	*0*	*0*	*0*	*0*	*8*	*0*	*0*	*0*	*1*	*28*	*5*	*0*	*42*
Existing Plus Project Conditions	**18**	**35**	**16**	**45**	**483**	**647**	**41**	**6**	**17**	**288**	**258**	**17**	**1871**
Year 2030 Background Plus Project Conditions	**18**	**35**	**16**	**45**	**823**	**647**	**41**	**6**	**204**	**351**	**318**	**17**	**2521**
Year 2040 Cumulative with Project Conditions	**18**	**35**	**16**	**51**	**898**	**732**	**41**	**6**	**205**	**376**	**329**	**17**	**2724**

AM Peak Hour

Intersection Num er: 3
Intersection Name: EB SR 4 Off Ramp and Hillcrest Avenue
Peak Hour: AM

Scenario:	Movements: North Approach RT	North Approach TH	North Approach LT	East Approach RT	East Approach TH	East Approach LT	South Approach RT	South Approach TH	South Approach LT	West Approach RT	West Approach TH	West Approach LT	*Total*
Year 2025 Existing Conditions	**0**	**570**	**182**	**0**	**0**	**0**	**364**	**1201**	**0**	**772**	**0**	**206**	**3295**
Approved Project Trips													
Acorn Business Park	0	8	0	0	0	0	0	21	0	0	0	0	29
E 18th St - East Site	0	8	0	0	0	0	0	56	0	0	0	0	64
E 18th St - West Site	0	12	0	0	0	0	0	87	0	0	0	0	99
essica Court	0	4	0	0	0	0	0	1	0	0	0	2	7
Total Approved Trips	*0*	*32*	*0*	*0*	*0*	*0*	*0*	*165*	*0*	*0*	*0*	*2*	*199*
Year 2030 Background Conditions	**0**	**602**	**182**	**0**	**0**	**0**	**364**	**1366**	**0**	**772**	**0**	**208**	**3494**
Year 2040 Cumulative No Project Conditions	**0**	**792**	**200**	**0**	**0**	**0**	**422**	**2117**	**0**	**1105**	**0**	**274**	**4910**
Proposed Project Trips	*0*	*5*	*0*	*0*	*0*	*0*	*0*	*2*	*0*	*0*	*0*	*4*	*11*
Existing Plus Project Conditions	**0**	**575**	**182**	**0**	**0**	**0**	**364**	**1203**	**0**	**772**	**0**	**210**	**3306**
Year 2030 Background Plus Project Conditions	**0**	**607**	**182**	**0**	**0**	**0**	**364**	**1368**	**0**	**772**	**0**	**212**	**3505**
Year 2040 Cumulative with Project Conditions	**0**	**797**	**200**	**0**	**0**	**0**	**422**	**2119**	**0**	**1105**	**0**	**278**	**4921**

Intersection Num er: 4
Intersection Name: WB SR 4 On/Off Ramps and Slatten Ranch Road
Peak Hour: AM

Scenario:	Movements: North Approach RT	North Approach TH	North Approach LT	East Approach RT	East Approach TH	East Approach LT	South Approach RT	South Approach TH	South Approach LT	West Approach RT	West Approach TH	West Approach LT	*Total*
Year 2025 Existing Conditions	**0**	**0**	**0**	**0**	**202**	**32**	**206**	**0**	**307**	**442**	**207**	**0**	**1396**
Approved Project Trips													
Acorn Business Park	0	0	0	0	0	0	0	0	0	0	0	0	0
E 18th St - East Site	0	0	0	0	0	0	0	0	0	0	0	0	0
E 18th St - West Site	0	0	0	0	0	0	0	0	0	0	0	0	0
essica Court	0	0	0	0	0	0	0	0	0	0	1	0	1
Total Approved Trips	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*1*	*0*	*1*
Year 2030 Background Conditions	**0**	**0**	**0**	**0**	**202**	**32**	**206**	**0**	**307**	**442**	**208**	**0**	**1397**
Year 2040 Cumulative No Project Conditions	**0**	**0**	**0**	**0**	**361**	**260**	**350**	**0**	**465**	**964**	**491**	**0**	**2891**
Proposed Project Trips	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*1*	*0*	*1*
Existing Plus Project Conditions	**0**	**0**	**0**	**0**	**202**	**32**	**206**	**0**	**307**	**442**	**208**	**0**	**1397**
Year 2030 Background Plus Project Conditions	**0**	**0**	**0**	**0**	**202**	**32**	**206**	**0**	**307**	**442**	**209**	**0**	**1398**
Year 2040 Cumulative with Project Conditions	**0**	**0**	**0**	**0**	**361**	**260**	**350**	**0**	**465**	**964**	**492**	**0**	**2892**

AM Peak Hour

Intersection Num er: 5
Intersection Name: Hillcrest Avenue and Sunset Drive/Slatten Ranch Road
Peak Hour: AM

	Movements												
	North Approach			East Approach			South Approach			West Approach			
Scenario:	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	*Total*
Year 2025 Existing Conditions	**22**	**624**	**17**	**118**	**54**	**337**	**621**	**522**	**264**	**52**	**11**	**19**	**2661**
Approved Project Trips													
Acorn Business Park	0	8	0	0	0	0	0	21	0	0	0	0	29
E 18th St - East Site	0	8	0	0	0	0	0	56	0	0	0	0	64
E 18th St - West Site	0	12	0	0	0	0	0	87	0	0	0	0	99
essica Court	0	10	1	0	0	0	0	3	0	0	0	0	14
Total Approved Trips	*0*	*38*	*1*	*0*	*0*	*0*	*0*	*167*	*0*	*0*	*0*	*0*	*206*
Year 2030 Background Conditions	**22**	**662**	**18**	**118**	**54**	**337**	**621**	**689**	**264**	**52**	**11**	**19**	**2867**
Year 2040 Cumulative No Project Conditions	**60**	**810**	**61**	**191**	**100**	**535**	**1374**	**677**	**340**	**90**	**20**	**30**	**4288**
Proposed Project Trips	*0*	*5*	*1*	*0*	*0*	*0*	*0*	*6*	*0*	*0*	*0*	*0*	*12*
Existing Plus Project Conditions	**22**	**629**	**18**	**118**	**54**	**337**	**621**	**528**	**264**	**52**	**11**	**19**	**2673**
Year 2030 Background Plus Project Conditions	**22**	**667**	**19**	**118**	**54**	**337**	**621**	**695**	**264**	**52**	**11**	**19**	**2879**
Year 2040 Cumulative with Project Conditions	**60**	**815**	**62**	**191**	**100**	**535**	**1374**	**683**	**340**	**90**	**20**	**30**	**4300**

Intersection Num er: 6
Intersection Name: Willow Avenue and Oakley Road
Peak Hour: AM

	Movements												
	North Approach			East Approach			South Approach			West Approach			
Scenario:	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	*Total*
Year 2025 Existing Conditions	**1**	**2**	**18**	**10**	**35**	**3**	**1**	**1**	**0**	**0**	**30**	**0**	**101**
Approved Project Trips													
Acorn Business Park	0	0	0	0	0	0	0	0	0	0	0	0	0
E 18th St - East Site	0	0	0	0	0	0	0	0	0	0	0	0	0
E 18th St - West Site	0	0	0	0	0	0	0	0	0	0	0	0	0
essica Court	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Approved Trips	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Year 2030 Background Conditions	**1**	**2**	**18**	**10**	**35**	**3**	**1**	**1**	**0**	**0**	**30**	**0**	**101**
Year 2040 Cumulative No Project Conditions	**1**	**2**	**21**	**69**	**242**	**21**	**1**	**1**	**0**	**0**	**151**	**0**	**509**
Proposed Project Trips	*0*	*0*	*6*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*6*
Existing Plus Project Conditions	**1**	**2**	**24**	**10**	**35**	**3**	**1**	**1**	**0**	**0**	**30**	**0**	**107**
Year 2030 Background Plus Project Conditions	**1**	**2**	**24**	**10**	**35**	**3**	**1**	**1**	**0**	**0**	**30**	**0**	**107**
Year 2040 Cumulative with Project Conditions	**1**	**2**	**27**	**69**	**242**	**21**	**1**	**1**	**0**	**0**	**151**	**0**	**515**

AM Peak Hour

Intersection Num er: 7
Intersection Name: Willow Avenue and E 18th Street
Peak Hour: AM

	Movements												
	North Approach			East Approach			South Approach			West Approach			
Scenario:	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	*Total*
Year 2025 Existing Conditions	**0**	**0**	**0**	**0**	**406**	**16**	**23**	**0**	**32**	**17**	**346**	**0**	**840**
Approved Project Trips													
Acorn Business Park	0	0	0	0	20	4	11	0	0	0	54	0	89
E 18th St - East Site	0	0	0	0	12	0	0	0	0	0	85	0	97
E 18th St - West Site	0	0	0	0	16	0	0	0	0	0	115	0	131
essica Court	0	0	0	0	16	0	0	0	0	0	5	0	21
Total Approved Trips	*0*	*0*	*0*	*0*	*64*	*4*	*11*	*0*	*0*	*0*	*259*	*0*	*338*
Year 2030 Background Conditions	**0**	**0**	**0**	**0**	**470**	**20**	**34**	**0**	**32**	**17**	**605**	**0**	**1178**
Year 2040 Cumulative No Project Conditions	**0**	**0**	**0**	**0**	**506**	**20**	**34**	**0**	**32**	**17**	**617**	**0**	**1226**
Proposed Project Trips	*0*	*0*	*0*	*0*	*14*	*0*	*0*	*0*	*0*	*6*	*3*	*0*	*23*
Existing Plus Project Conditions	**0**	**0**	**0**	**0**	**420**	**16**	**23**	**0**	**32**	**23**	**349**	**0**	**863**
Year 2030 Background Plus Project Conditions	**0**	**0**	**0**	**0**	**484**	**20**	**34**	**0**	**32**	**23**	**608**	**0**	**1201**
Year 2040 Cumulative with Project Conditions	**0**	**0**	**0**	**0**	**520**	**20**	**34**	**0**	**32**	**23**	**620**	**0**	**1249**

Intersection Num er: 8
Intersection Name: Phillips Lane and Oakley Road
Peak Hour: AM

	Movements												
	North Approach			East Approach			South Approach			West Approach			
Scenario:	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	*Total*
Year 2025 Existing Conditions	**0**	**0**	**102**	**72**	**50**	**0**	**0**	**0**	**0**	**0**	**57**	**7**	**288**
Approved Project Trips													
Acorn Business Park	0	0	0	0	0	0	0	0	0	0	0	0	0
E 18th St - East Site	0	0	0	0	0	0	0	0	0	0	0	0	0
E 18th St - West Site	0	0	0	0	0	0	0	0	0	0	0	0	0
essica Court	0	0	7	17	0	0	0	0	0	0	0	0	24
Total Approved Trips	*0*	*0*	*7*	*17*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*24*
Year 2030 Background Conditions	**0**	**0**	**109**	**89**	**50**	**0**	**0**	**0**	**0**	**0**	**57**	**7**	**312**
Year 2040 Cumulative No Project Conditions	**0**	**0**	**109**	**155**	**96**	**0**	**0**	**0**	**0**	**0**	**138**	**17**	**515**
Proposed Project Trips	*3*	*0*	*3*	*1*	*1*	*0*	*0*	*0*	*0*	*0*	*3*	*23*	*34*
Existing Plus Project Conditions	**3**	**0**	**105**	**73**	**51**	**0**	**0**	**0**	**0**	**0**	**60**	**30**	**322**
Year 2030 Background Plus Project Conditions	**3**	**0**	**112**	**90**	**51**	**0**	**0**	**0**	**0**	**0**	**60**	**30**	**346**
Year 2040 Cumulative with Project Conditions	**3**	**0**	**112**	**156**	**97**	**0**	**0**	**0**	**0**	**0**	**141**	**40**	**549**

AM Peak Hour

Intersection Num er: 9
Intersection Name: Phillips Lane and E 18th Street
Peak Hour: AM

	Movements												
	North Approach			East Approach			South Approach			West Approach			
Scenario:	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	*Total*
Year 2025 Existing Conditions	**0**	**0**	**0**	**0**	**390**	**42**	**82**	**0**	**52**	**36**	**354**	**1**	**957**
Approved Project Trips													
Acorn Business Park	0	0	0	0	24	42	0	0	0	0	64	0	130
E 18th St - East Site	11	0	19	138	0	0	0	0	0	0	0	85	253
E 18th St - West Site	0	0	0	0	173	0	0	0	0	0	23	0	196
essica Court	0	0	0	0	0	5	17	0	16	5	0	0	43
Total Approved Trips	*11*	*0*	*19*	*138*	*197*	*47*	*17*	*0*	*16*	*5*	*87*	*85*	*622*
Year 2030 Background Conditions	**11**	**0**	**19**	**138**	**587**	**89**	**99**	**0**	**68**	**41**	**441**	**86**	**1579**
Year 2040 Cumulative No Project Conditions	**11**	**0**	**19**	**138**	**600**	**89**	**113**	**0**	**77**	**41**	**477**	**86**	**1651**
Proposed Project Trips	*0*	*0*	*0*	*0*	*0*	*9*	*33*	*0*	*14*	*3*	*0*	*0*	*59*
Existing Plus Project Conditions	**0**	**0**	**0**	**0**	**390**	**51**	**115**	**0**	**66**	**39**	**354**	**1**	**1016**
Year 2030 Background Plus Project Conditions	**11**	**0**	**19**	**138**	**587**	**98**	**132**	**0**	**82**	**44**	**441**	**86**	**1638**
Year 2040 Cumulative with Project Conditions	**11**	**0**	**19**	**138**	**600**	**98**	**146**	**0**	**91**	**44**	**477**	**86**	**1710**

Intersection Num er: 10
Intersection Name: Phillips Lane and Site Driveway
Peak Hour: AM

	Movements												
	North Approach			East Approach			South Approach			West Approach			
Scenario:	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	*Total*
Year 2025 Existing Conditions	**0**	**102**	**0**	**0**	**0**	**0**	**0**	**79**	**0**	**0**	**0**	**0**	**181**
Approved Project Trips													
Acorn Business Park	0	0	0	0	0	0	0	0	0	0	0	0	0
E 18th St - East Site	0	0	0	0	0	0	0	0	0	0	0	0	0
E 18th St - West Site	0	0	0	0	0	0	0	0	0	0	0	0	0
essica Court	0	7	0	0	0	0	0	17	0	0	0	0	24
Total Approved Trips	*0*	*7*	*0*	*0*	*0*	*0*	*0*	*17*	*0*	*0*	*0*	*0*	*24*
Year 2030 Background Conditions	**0**	**109**	**0**	**0**	**0**	**0**	**0**	**96**	**0**	**0**	**0**	**0**	**205**
Year 2040 Cumulative No Project Conditions	**0**	**109**	**0**	**0**	**0**	**0**	**0**	**172**	**0**	**0**	**0**	**0**	**281**
Proposed Project Trips	*9*	*3*	*0*	*0*	*0*	*0*	*0*	*23*	*1*	*3*	*0*	*24*	*63*
Existing Plus Project Conditions	**9**	**105**	**0**	**0**	**0**	**0**	**0**	**102**	**1**	**3**	**0**	**24**	**244**
Year 2030 Background Plus Project Conditions	**9**	**112**	**0**	**0**	**0**	**0**	**0**	**119**	**1**	**3**	**0**	**24**	**268**
Year 2040 Cumulative with Project Conditions	**9**	**112**	**0**	**0**	**0**	**0**	**0**	**195**	**1**	**3**	**0**	**24**	**344**

AM Peak Hour

Intersection Num er: 11
Intersection Name: Site Driveway and Oakley Road
Peak Hour: AM

Scenario:	Movements												
	North Approach			East Approach			South Approach			West Approach			
	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	*Total*
Year 2025 Existing Conditions	**0**	**0**	**0**	**0**	**50**	**0**	**0**	**0**	**0**	**0**	**64**	**0**	**114**
Approved Project Trips													
Acorn Business Park	0	0	0	0	0	0	0	0	0	0	0	0	0
E 18th St - East Site	0	0	0	0	0	0	0	0	0	0	0	0	0
E 18th St - West Site	0	0	0	0	0	0	0	0	0	0	0	0	0
essica Court	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Approved Trips	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Year 2030 Background Conditions	**0**	**0**	**0**	**0**	**50**	**0**	**0**	**0**	**0**	**0**	**64**	**0**	**114**
Year 2040 Cumulative No Project Conditions	**0**	**0**	**0**	**0**	**96**	**0**	**0**	**0**	**0**	**0**	**155**	**0**	**251**
Proposed Project Trips	*0*	*0*	*26*	*4*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*6*	*36*
Existing Plus Project Conditions	**0**	**0**	**26**	**4**	**50**	**0**	**0**	**0**	**0**	**0**	**64**	**6**	**150**
Year 2030 Background Plus Project Conditions	**0**	**0**	**26**	**4**	**50**	**0**	**0**	**0**	**0**	**0**	**64**	**6**	**150**
Year 2040 Cumulative with Project Conditions	**0**	**0**	**26**	**4**	**96**	**0**	**0**	**0**	**0**	**0**	**155**	**6**	**287**

PM Peak Hour

Intersection Num er: 1
Intersection Name: NB SR 160 On/Off Ramps and Main Street/E 18th Street
Peak Hour: PM

	Movements												
	North Approach			East Approach			South Approach			West Approach			
Scenario:	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	*Total*
Year 2025 Existing Conditions	**0**	**0**	**0**	**0**	**700**	**42**	**818**	**0**	**240**	**22**	**391**	**0**	**2213**
Approved Project Trips													
Acorn Business Park	0	0	0	0	27	0	0	0	41	47	46	0	161
E 18th St - East Site	0	0	0	0	2	0	0	0	16	61	12	0	91
E 18th St - West Site	0	0	0	0	2	0	0	0	12	62	12	0	88
essica Court	0	0	0	0	2	0	0	0	12	1	1	0	16
Total Approved Trips	*0*	*0*	*0*	*0*	*33*	*0*	*0*	*0*	*81*	*171*	*71*	*0*	*356*
Year 2030 Background Conditions	**0**	**0**	**0**	**0**	**733**	**42**	**818**	**0**	**321**	**193**	**462**	**0**	**2569**
Year 2040 Cumulative No Project Conditions	**0**	**0**	**0**	**0**	**830**	**47**	**1143**	**0**	**445**	**195**	**467**	**0**	**3127**
Proposed Project Trips	*0*	*0*	*0*	*0*	*3*	*0*	*0*	*0*	*19*	*2*	*2*	*0*	*26*
Existing Plus Project Conditions	**0**	**0**	**0**	**0**	**703**	**42**	**818**	**0**	**259**	**24**	**393**	**0**	**2239**
Year 2030 Background Plus Project Conditions	**0**	**0**	**0**	**0**	**736**	**42**	**818**	**0**	**340**	**195**	**464**	**0**	**2595**
Year 2040 Cumulative with Project Conditions	**0**	**0**	**0**	**0**	**833**	**47**	**1143**	**0**	**464**	**197**	**469**	**0**	**3153**

Intersection Num er: 2
Intersection Name: SB SR 160 On/Off Ramps and E 18th Street
Peak Hour: PM

	Movements												
	North Approach			East Approach			South Approach			West Approach			
Scenario:	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	*Total*
Year 2025 Existing Conditions	**24**	**36**	**32**	**54**	**446**	**440**	**65**	**10**	**17**	**210**	**316**	**29**	**1679**
Approved Project Trips													
Acorn Business Park	0	0	0	0	68	0	0	0	27	70	93	0	258
E 18th St - East Site	0	0	0	0	18	0	0	0	10	97	73	0	198
E 18th St - West Site	0	0	0	0	14	0	0	0	10	74	74	0	172
essica Court	0	0	0	0	14	0	0	0	2	7	2	0	25
Total Approved Trips	*0*	*0*	*0*	*0*	*114*	*0*	*0*	*0*	*49*	*248*	*242*	*0*	*653*
Year 2030 Background Conditions	**24**	**36**	**32**	**54**	**560**	**440**	**65**	**10**	**66**	**458**	**558**	**29**	**2332**
Year 2040 Cumulative No Project Conditions	**24**	**36**	**32**	**65**	**684**	**526**	**65**	**10**	**70**	**475**	**565**	**29**	**2581**
Proposed Project Trips	*0*	*0*	*0*	*0*	*22*	*0*	*0*	*0*	*3*	*18*	*4*	*0*	*47*
Existing Plus Project Conditions	**24**	**36**	**32**	**54**	**468**	**440**	**65**	**10**	**20**	**228**	**320**	**29**	**1726**
Year 2030 Background Plus Project Conditions	**24**	**36**	**32**	**54**	**582**	**440**	**65**	**10**	**69**	**476**	**562**	**29**	**2379**
Year 2040 Cumulative with Project Conditions	**24**	**36**	**32**	**65**	**706**	**526**	**65**	**10**	**73**	**493**	**569**	**29**	**2628**

PM Peak Hour

Intersection Num er: 3
Intersection Name: EB SR 4 Off Ramp and Hillcrest Avenue
Peak Hour: PM

Scenario:	Movements: North Approach RT	North Approach TH	North Approach LT	East Approach RT	East Approach TH	East Approach LT	South Approach RT	South Approach TH	South Approach LT	West Approach RT	West Approach TH	West Approach LT	*Total*
Year 2025 Existing Conditions	**0**	**645**	**284**	**0**	**0**	**0**	**328**	**1019**	**0**	**1017**	**0**	**282**	**3575**
Approved Project Trips													
Acorn Business Park	0	23	0	0	0	0	0	14	0	0	0	0	37
E 18th St - East Site	0	48	0	0	0	0	0	8	0	0	0	0	56
E 18th St - West Site	0	74	0	0	0	0	0	12	0	0	0	0	86
essica Court	0	2	0	0	0	0	0	4	0	0	0	6	12
Total Approved Trips	*0*	*147*	*0*	*0*	*0*	*0*	*0*	*38*	*0*	*0*	*0*	*6*	*191*
Year 2030 Background Conditions	**0**	**792**	**284**	**0**	**0**	**0**	**328**	**1057**	**0**	**1017**	**0**	**288**	**3766**
Year 2040 Cumulative No Project Conditions	**0**	**1035**	**470**	**0**	**0**	**0**	**478**	**1908**	**0**	**2416**	**0**	**555**	**6862**
Proposed Project Trips	*0*	*4*	*0*	*0*	*0*	*0*	*0*	*5*	*0*	*0*	*0*	*10*	*19*
Existing Plus Project Conditions	**0**	**649**	**284**	**0**	**0**	**0**	**328**	**1024**	**0**	**1017**	**0**	**292**	**3594**
Year 2030 Background Plus Project Conditions	**0**	**796**	**284**	**0**	**0**	**0**	**328**	**1062**	**0**	**1017**	**0**	**298**	**3785**
Year 2040 Cumulative with Project Conditions	**0**	**1039**	**470**	**0**	**0**	**0**	**478**	**1913**	**0**	**2416**	**0**	**565**	**6881**

Intersection Num er: 4
Intersection Name: WB SR 4 On/Off Ramps and Slatten Ranch Road
Peak Hour: PM

Scenario:	Movements: North Approach RT	North Approach TH	North Approach LT	East Approach RT	East Approach TH	East Approach LT	South Approach RT	South Approach TH	South Approach LT	West Approach RT	West Approach TH	West Approach LT	*Total*
Year 2025 Existing Conditions	**0**	**0**	**0**	**0**	**394**	**49**	**91**	**0**	**420**	**479**	**145**	**0**	**1578**
Approved Project Trips													
Acorn Business Park	0	0	0	0	0	0	0	0	0	0	0	0	0
E 18th St - East Site	0	0	0	0	0	0	0	0	0	0	0	0	0
E 18th St - West Site	0	0	0	0	0	0	0	0	0	0	0	0	0
essica Court	0	0	0	0	1	0	0	0	0	0	0	0	1
Total Approved Trips	*0*	*0*	*0*	*0*	*1*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*1*
Year 2030 Background Conditions	**0**	**0**	**0**	**0**	**395**	**49**	**91**	**0**	**420**	**479**	**145**	**0**	**1579**
Year 2040 Cumulative No Project Conditions	**0**	**0**	**0**	**0**	**692**	**230**	**160**	**0**	**664**	**820**	**561**	**0**	**3127**
Proposed Project Trips	*0*	*0*	*0*	*0*	*1*	*0*	*0*	*0*	*0*	*0*	*1*	*0*	*2*
Existing Plus Project Conditions	**0**	**0**	**0**	**0**	**395**	**49**	**91**	**0**	**420**	**479**	**146**	**0**	**1580**
Year 2030 Background Plus Project Conditions	**0**	**0**	**0**	**0**	**396**	**49**	**91**	**0**	**420**	**479**	**146**	**0**	**1581**
Year 2040 Cumulative with Project Conditions	**0**	**0**	**0**	**0**	**693**	**230**	**160**	**0**	**664**	**820**	**562**	**0**	**3129**

PM Peak Hour

Intersection Num er: 5
Intersection Name: Hillcrest Avenue and Sunset Drive/Slatten Ranch Road
Peak Hour: PM

	Movements												
	North Approach			East Approach			South Approach			West Approach			
Scenario:	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	*Total*
Year 2025 Existing Conditions	**22**	**512**	**28**	**169**	**88**	**557**	**589**	**522**	**190**	**92**	**7**	**26**	**2802**
Approved Project Trips													
Acorn Business Park	0	23	0	0	0	0	0	14	0	0	0	0	37
E 18th St - East Site	0	48	0	0	0	0	0	8	0	0	0	0	56
E 18th St - West Site	0	74	0	0	0	0	0	12	0	0	0	0	86
essica Court	0	6	0	1	0	0	0	10	0	0	0	0	17
Total Approved Trips	*0*	*151*	*0*	*1*	*0*	*0*	*0*	*44*	*0*	*0*	*0*	*0*	*196*
Year 2030 Background Conditions	**22**	**663**	**28**	**170**	**88**	**557**	**589**	**566**	**190**	**92**	**7**	**26**	**2998**
Year 2040 Cumulative No Project Conditions	**40**	**733**	**71**	**212**	**120**	**1024**	**1280**	**723**	**460**	**130**	**30**	**50**	**4873**
Proposed Project Trips	*0*	*4*	*1*	*1*	*0*	*0*	*0*	*15*	*0*	*0*	*0*	*0*	*21*
Existing Plus Project Conditions	**22**	**516**	**29**	**170**	**88**	**557**	**589**	**537**	**190**	**92**	**7**	**26**	**2823**
Year 2030 Background Plus Project Conditions	**22**	**667**	**29**	**171**	**88**	**557**	**589**	**581**	**190**	**92**	**7**	**26**	**3019**
Year 2040 Cumulative with Project Conditions	**40**	**737**	**72**	**213**	**120**	**1024**	**1280**	**738**	**460**	**130**	**30**	**50**	**4894**

Intersection Num er: 6
Intersection Name: Willow Avenue and Oakley Road
Peak Hour: PM

	Movements												
	North Approach			East Approach			South Approach			West Approach			
Scenario:	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	*Total*
Year 2025 Existing Conditions	**2**	**1**	**17**	**16**	**25**	**2**	**3**	**3**	**0**	**0**	**31**	**2**	**102**
Approved Project Trips													
Acorn Business Park	0	0	0	0	0	0	0	0	0	0	0	0	0
E 18th St - East Site	0	0	0	0	0	0	0	0	0	0	0	0	0
E 18th St - West Site	0	0	0	0	0	0	0	0	0	0	0	0	0
essica Court	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Approved Trips	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Year 2030 Background Conditions	**2**	**1**	**17**	**16**	**25**	**2**	**3**	**3**	**0**	**0**	**31**	**2**	**102**
Year 2040 Cumulative No Project Conditions	**3**	**1**	**24**	**61**	**96**	**8**	**3**	**3**	**0**	**0**	**372**	**24**	**595**
Proposed Project Trips	*0*	*0*	*17*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*17*
Existing Plus Project Conditions	**2**	**1**	**34**	**16**	**25**	**2**	**3**	**3**	**0**	**0**	**31**	**2**	**119**
Year 2030 Background Plus Project Conditions	**2**	**1**	**34**	**16**	**25**	**2**	**3**	**3**	**0**	**0**	**31**	**2**	**119**
Year 2040 Cumulative with Project Conditions	**3**	**1**	**41**	**61**	**96**	**8**	**3**	**3**	**0**	**0**	**372**	**24**	**612**

PM Peak Hour

Intersection Num er: 7
Intersection Name: Willow Avenue and E 18th Street
Peak Hour: PM

Scenario:	Movements												
	North Approach			East Approach			South Approach			West Approach			
	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	*Total*
Year 2025 Existing Conditions	**0**	**0**	**0**	**0**	**330**	**18**	**14**	**0**	**43**	**57**	**445**	**0**	**907**
Approved Project Trips													
Acorn Business Park	0	0	0	0	59	12	7	0	0	0	34	0	112
E 18th St - East Site	0	0	0	0	73	0	0	0	0	0	12	0	85
E 18th St - West Site	0	0	0	0	98	0	0	0	0	0	16	0	114
essica Court	0	0	0	0	9	0	0	0	0	0	16	0	25
Total Approved Trips	*0*	*0*	*0*	*0*	*239*	*12*	*7*	*0*	*0*	*0*	*78*	*0*	*336*
Year 2030 Background Conditions	**0**	**0**	**0**	**0**	**569**	**30**	**21**	**0**	**43**	**57**	**523**	**0**	**1243**
Year 2040 Cumulative No Project Conditions	**0**	**0**	**0**	**0**	**593**	**30**	**21**	**0**	**43**	**57**	**564**	**0**	**1308**
Proposed Project Trips	*0*	*0*	*0*	*0*	*10*	*0*	*0*	*0*	*0*	*17*	*8*	*0*	*35*
Existing Plus Project Conditions	**0**	**0**	**0**	**0**	**340**	**18**	**14**	**0**	**43**	**74**	**453**	**0**	**942**
Year 2030 Background Plus Project Conditions	**0**	**0**	**0**	**0**	**579**	**30**	**21**	**0**	**43**	**74**	**531**	**0**	**1278**
Year 2040 Cumulative with Project Conditions	**0**	**0**	**0**	**0**	**603**	**30**	**21**	**0**	**43**	**74**	**572**	**0**	**1343**

Intersection Num er: 8
Intersection Name: Phillips Lane and Oakley Road
Peak Hour: PM

Scenario:	Movements												
	North Approach			East Approach			South Approach			West Approach			
	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	*Total*
Year 2025 Existing Conditions	**8**	**0**	**87**	**79**	**50**	**0**	**0**	**0**	**0**	**0**	**41**	**7**	**272**
Approved Project Trips													
Acorn Business Park	0	0	0	0	0	0	0	0	0	0	0	0	0
E 18th St - East Site	0	0	0	0	0	0	0	0	0	0	0	0	0
E 18th St - West Site	0	0	0	0	0	0	0	0	0	0	0	0	0
essica Court	0	0	17	11	0	0	0	0	0	0	0	0	28
Total Approved Trips	*0*	*0*	*17*	*11*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*28*
Year 2030 Background Conditions	**8**	**0**	**104**	**90**	**50**	**0**	**0**	**0**	**0**	**0**	**41**	**7**	**300**
Year 2040 Cumulative No Project Conditions	**9**	**0**	**112**	**143**	**83**	**0**	**0**	**0**	**0**	**0**	**237**	**40**	**624**
Proposed Project Trips	*8*	*0*	*2*	*3*	*3*	*0*	*0*	*0*	*0*	*0*	*2*	*16*	*34*
Existing Plus Project Conditions	**16**	**0**	**89**	**82**	**53**	**0**	**0**	**0**	**0**	**0**	**43**	**23**	**306**
Year 2030 Background Plus Project Conditions	**16**	**0**	**106**	**93**	**53**	**0**	**0**	**0**	**0**	**0**	**43**	**23**	**334**
Year 2040 Cumulative with Project Conditions	**17**	**0**	**114**	**146**	**86**	**0**	**0**	**0**	**0**	**0**	**239**	**56**	**658**

PM Peak Hour

Intersection Num er: 9
Intersection Name: Phillips Lane and E 18th Street
Peak Hour: PM

Scenario:	Movements: North Approach RT	North Approach TH	North Approach LT	East Approach RT	East Approach TH	East Approach LT	South Approach RT	South Approach TH	South Approach LT	West Approach RT	West Approach TH	West Approach LT	*Total*
Year 2025 Existing Conditions	**0**	**0**	**0**	**0**	**353**	**99**	**58**	**0**	**43**	**68**	**441**	**4**	**1066**
Approved Project Trips													
Acorn Business Park	0	0	0	0	70	83	0	0	0	0	39	0	192
E 18th St - East Site	73	0	119	19	0	0	0	0	0	0	0	12	223
E 18th St - West Site	0	0	0	0	24	0	0	0	0	0	148	0	172
essica Court	0	0	0	0	0	16	10	0	9	16	0	0	51
Total Approved Trips	*73*	*0*	*119*	*19*	*94*	*99*	*10*	*0*	*9*	*16*	*187*	*12*	*638*
Year 2030 Background Conditions	**73**	**0**	**119**	**19**	**447**	**198**	**68**	**0**	**52**	**84**	**628**	**16**	**1704**
Year 2040 Cumulative No Project Conditions	**73**	**0**	**119**	**19**	**488**	**198**	**130**	**0**	**98**	**84**	**652**	**16**	**1877**
Proposed Project Trips	*0*	*0*	*0*	*0*	*0*	*25*	*22*	*0*	*10*	*8*	*0*	*0*	*65*
Existing Plus Project Conditions	**0**	**0**	**0**	**0**	**353**	**124**	**80**	**0**	**53**	**76**	**441**	**4**	**1131**
Year 2030 Background Plus Project Conditions	**73**	**0**	**119**	**19**	**447**	**223**	**90**	**0**	**62**	**92**	**628**	**16**	**1769**
Year 2040 Cumulative with Project Conditions	**73**	**0**	**119**	**19**	**488**	**223**	**152**	**0**	**108**	**92**	**652**	**16**	**1942**

Intersection Num er: 10
Intersection Name: Phillips Lane and Site Driveway
Peak Hour: PM

Scenario:	Movements: North Approach RT	North Approach TH	North Approach LT	East Approach RT	East Approach TH	East Approach LT	South Approach RT	South Approach TH	South Approach LT	West Approach RT	West Approach TH	West Approach LT	*Total*
Year 2025 Existing Conditions	**0**	**95**	**0**	**0**	**0**	**0**	**0**	**86**	**0**	**0**	**0**	**0**	**181**
Approved Project Trips													
Acorn Business Park	0	0	0	0	0	0	0	0	0	0	0	0	0
E 18th St - East Site	0	0	0	0	0	0	0	0	0	0	0	0	0
E 18th St - West Site	0	0	0	0	0	0	0	0	0	0	0	0	0
essica Court	0	17	0	0	0	0	0	11	0	0	0	0	28
Total Approved Trips	*0*	*17*	*0*	*0*	*0*	*0*	*0*	*11*	*0*	*0*	*0*	*0*	*28*
Year 2030 Background Conditions	**0**	**112**	**0**	**0**	**0**	**0**	**0**	**97**	**0**	**0**	**0**	**0**	**209**
Year 2040 Cumulative No Project Conditions	**0**	**121**	**0**	**0**	**0**	**0**	**0**	**183**	**0**	**0**	**0**	**0**	**304**
Proposed Project Trips	*25*	*8*	*0*	*0*	*0*	*0*	*0*	*16*	*3*	*2*	*0*	*16*	*70*
Existing Plus Project Conditions	**25**	**103**	**0**	**0**	**0**	**0**	**0**	**102**	**3**	**2**	**0**	**16**	**251**
Year 2030 Background Plus Project Conditions	**25**	**120**	**0**	**0**	**0**	**0**	**0**	**113**	**3**	**2**	**0**	**16**	**279**
Year 2040 Cumulative with Project Conditions	**25**	**129**	**0**	**0**	**0**	**0**	**0**	**199**	**3**	**2**	**0**	**16**	**374**

PM Peak Hour

Intersection Num er: 11
Intersection Name: Site Driveway and Oakley Road
Peak Hour: PM

Scenario:	Movements												
	North Approach			East Approach			South Approach			West Approach			
	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	*Total*
Year 2025 Existing Conditions	**0**	**0**	**0**	**0**	**58**	**0**	**0**	**0**	**0**	**0**	**48**	**0**	**106**
Approved Project Trips													
Acorn Business Park	0	0	0	0	0	0	0	0	0	0	0	0	0
E 18th St - East Site	0	0	0	0	0	0	0	0	0	0	0	0	0
E 18th St - West Site	0	0	0	0	0	0	0	0	0	0	0	0	0
essica Court	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Approved Trips	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Year 2030 Background Conditions	**0**	**0**	**0**	**0**	**58**	**0**	**0**	**0**	**0**	**0**	**48**	**0**	**106**
Year 2040 Cumulative No Project Conditions	**0**	**0**	**0**	**0**	**92**	**0**	**0**	**0**	**0**	**0**	**277**	**0**	**369**
Proposed Project Trips	*0*	*0*	*18*	*11*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*17*	*46*
Existing Plus Project Conditions	**0**	**0**	**18**	**11**	**58**	**0**	**0**	**0**	**0**	**0**	**48**	**17**	**152**
Year 2030 Background Plus Project Conditions	**0**	**0**	**18**	**11**	**58**	**0**	**0**	**0**	**0**	**0**	**48**	**17**	**152**
Year 2040 Cumulative with Project Conditions	**0**	**0**	**18**	**11**	**92**	**0**	**0**	**0**	**0**	**0**	**277**	**17**	**415**

Appendix C
Level of Service Calculations

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	294	16	22	965	202	492
Future Volume (veh/h)	294	16	22	965	202	492
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	342	19	26	1122	235	572
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	1532	85	43	1965	456	781
Arrive On Green	0.45	0.45	0.02	0.56	0.26	0.26
Sat Flow, veh/h	3489	188	1767	3618	1767	2768
Grp Volume(v), veh/h	177	184	26	1122	235	572
Grp Sat Flow(s),veh/h/ln	1763	1822	1767	1763	1767	1384
Q Serve(g_s), s	3.0	3.0	0.7	10.1	5.5	9.1
Cycle Q Clear(g_c), s	3.0	3.0	0.7	10.1	5.5	9.1
Prop In Lane		0.10	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	795	822	43	1965	456	781
V/C Ratio(X)	0.22	0.22	0.60	0.57	0.52	0.73
Avail Cap(c_a), veh/h	1446	1495	943	5063	761	1260
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	8.2	8.2	23.5	7.0	15.5	15.8
Incr Delay (d2), s/veh	0.2	0.2	12.9	0.4	0.3	0.5
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.8	0.4	2.1	2.0	2.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	8.4	8.4	36.4	7.4	15.8	16.3
LnGrp LOS	A	A	D	A	B	B
Approach Vol, veh/h	361			1148	807	
Approach Delay, s/veh	8.4			8.0	16.2	
Approach LOS	A			A	B	

Timer - Assigned Phs	2	3	4	8
Phs Duration (G+Y+Rc), s	16.6	5.2	27.0	32.2
Change Period (Y+Rc), s	4.0	4.0	5.0	5.0
Max Green Setting (Gmax), s	21.0	26.0	40.0	70.0
Max Q Clear Time (g_c+I1), s	11.1	2.7	5.0	12.1
Green Ext Time (p_c), s	1.5	0.0	2.9	15.1

Intersection Summary	
HCM 7th Control Delay, s/veh	10.9
HCM 7th LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	17	253	260	647	475	45	16	6	41	16	35	18
Future Volume (veh/h)	17	253	260	647	475	45	16	6	41	16	35	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	20	298	306	761	559	53	19	7	48	19	41	21
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	51	464	414	942	1796	799	88	10	70	136	89	45
Arrive On Green	0.03	0.26	0.26	0.27	0.51	0.51	0.05	0.05	0.05	0.08	0.08	0.08
Sat Flow, veh/h	1767	1763	1572	3428	3526	1568	1767	204	1400	1767	1157	592
Grp Volume(v), veh/h	20	298	306	761	559	53	19	0	55	19	0	62
Grp Sat Flow(s),veh/h/ln	1767	1763	1572	1714	1763	1568	1767	0	1604	1767	0	1749
Q Serve(g_s), s	0.6	8.4	10.0	11.6	5.2	1.0	0.6	0.0	1.9	0.6	0.0	1.9
Cycle Q Clear(g_c), s	0.6	8.4	10.0	11.6	5.2	1.0	0.6	0.0	1.9	0.6	0.0	1.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.87	1.00		0.34
Lane Grp Cap(c), veh/h	51	464	414	942	1796	799	88	0	80	136	0	134
V/C Ratio(X)	0.40	0.64	0.74	0.81	0.31	0.07	0.22	0.00	0.69	0.14	0.00	0.46
Avail Cap(c_a), veh/h	498	717	640	1272	1796	799	798	0	724	861	0	852
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	26.7	18.3	18.9	18.9	8.0	7.0	25.6	0.0	26.2	24.1	0.0	24.8
Incr Delay (d2), s/veh	1.9	1.5	2.6	2.9	0.1	0.0	0.5	0.0	3.9	0.2	0.0	0.9
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	3.0	3.3	4.1	1.4	0.2	0.2	0.0	0.8	0.2	0.0	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	28.6	19.8	21.5	21.8	8.2	7.0	26.0	0.0	30.1	24.3	0.0	25.7
LnGrp LOS	C	B	C	C	A	A	C		C	C		C
Approach Vol, veh/h		624			1373			74			81	
Approach Delay, s/veh		20.9			15.7			29.1			25.4	
Approach LOS		C			B			C			C	

Timer - Assigned Phs	2	3	4		6	7	8					
Phs Duration (G+Y+Rc), s	7.5	19.6	20.0		9.0	5.8	33.7					
Change Period (Y+Rc), s	4.7	4.2	5.2		4.7	4.2	5.2					
Max Green Setting (Gmax), s	25.3	20.8	22.8		27.3	15.8	27.8					
Max Q Clear Time (g_c+I1), s	3.9	13.6	12.0		3.9	2.6	7.2					
Green Ext Time (p_c), s	0.2	1.8	2.6		0.2	0.0	4.9					

Intersection Summary												
HCM 7th Control Delay, s/veh		18.0										
HCM 7th LOS		B										



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	206	0	772	0	0	0	1	1201	364	182	570	0
Future Volume (veh/h)	206	0	772	0	0	0	1	1201	364	182	570	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	0	1870				1870	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	229	0	858				1	1334	404	202	633	0
Peak Hour Factor	0.90	0.90	0.90				0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	0	2				2	2	2	2	2	0
Cap, veh/h	527	0	1464				450	1887	570	1229	2523	0
Arrive On Green	0.15	0.00	0.15				0.25	0.38	0.38	0.36	0.49	0.00
Sat Flow, veh/h	3456	0	3614				1781	4922	1488	3456	5274	0
Grp Volume(v), veh/h	229	0	858				1	1308	430	202	633	0
Grp Sat Flow(s),veh/h/ln	1728	0	1205				1781	1609	1584	1728	1702	0
Q Serve(g_s), s	7.2	0.0	18.3				0.1	27.5	27.6	4.8	8.6	0.0
Cycle Q Clear(g_c), s	7.2	0.0	18.3				0.1	27.5	27.6	4.8	8.6	0.0
Prop In Lane	1.00		1.00				1.00		0.94	1.00		0.00
Lane Grp Cap(c), veh/h	527	0	1464				450	1850	607	1229	2523	0
V/C Ratio(X)	0.43	0.00	0.59				0.00	0.71	0.71	0.16	0.25	0.00
Avail Cap(c_a), veh/h	527	0	1464				450	2670	876	1229	2528	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				1.00	1.00	1.00	0.75	0.75	0.00
Uniform Delay (d), s/veh	46.2	0.0	27.9				33.5	31.3	31.3	26.4	17.5	0.0
Incr Delay (d2), s/veh	0.4	0.0	0.5				0.0	2.3	6.8	0.0	0.2	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	0.0	15.3				0.0	10.7	11.3	2.0	3.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	46.6	0.0	28.4				33.6	33.6	38.1	26.5	17.7	0.0
LnGrp LOS	D		C				C	C	D	C	B	
Approach Vol, veh/h		1087						1739			835	
Approach Delay, s/veh		32.2						34.7			19.8	
Approach LOS		C						C			B	

Timer - Assigned Phs	1	2		4	5	6
Phs Duration (G+Y+Rc), s	17.4	50.6		22.0	34.0	64.0
Change Period (Y+Rc), s	4.7	4.6		3.7	3.7	* 4.7
Max Green Setting (Gmax), s	21.3	66.4		18.3	30.3	* 59
Max Q Clear Time (g_c+I1), s	16.8	29.6		20.3	2.1	10.6
Green Ext Time (p_c), s	0.3	16.4		0.0	0.0	4.9

Intersection Summary	
HCM 7th Control Delay, s/veh	30.6
HCM 7th LOS	C

Notes

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	207	442	32	202	307	206
Future Volume (vph)	207	442	32	202	307	206
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.1	4.7	4.7	5.1	4.7	4.7
Lane Util. Factor	0.91	0.91	0.97	0.95	0.97	1.00
Frpb, ped/bikes	0.99	0.99	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.92	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3038	1405	3367	3471	3367	1553
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	3038	1405	3367	3471	3367	1553
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	227	486	35	222	337	226
RTOR Reduction (vph)	150	152	0	0	0	0
Lane Group Flow (vph)	320	91	35	222	337	226
Confl. Peds. (#/hr)		8				3
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%
Turn Type	NA	custom	Prot	NA	Prot	Prot
Protected Phases	4 9	2	3	8	2	2
Permitted Phases		4				
Actuated Green, G (s)	15.9	15.6	2.2	21.7	10.1	10.1
Effective Green, g (s)	15.9	15.6	2.2	21.7	10.1	10.1
Actuated g/C Ratio	0.38	0.38	0.05	0.52	0.24	0.24
Clearance Time (s)		4.7	4.7	5.1	4.7	4.7
Vehicle Extension (s)		0.2	0.2	0.2	0.2	0.2
Lane Grp Cap (vph)	1161	526	178	1810	817	377
v/s Ratio Prot	c0.11	0.04	0.01	c0.06	0.10	c0.15
v/s Ratio Perm		0.02				
v/c Ratio	0.28	0.17	0.20	0.12	0.41	0.60
Uniform Delay, d1	8.9	8.7	18.9	5.1	13.3	14.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.0	0.1	0.2	0.0	0.1	1.7
Delay (s)	8.9	8.7	19.1	5.1	13.4	15.7
Level of Service	A	A	B	A	B	B
Approach Delay (s/veh)	8.9			7.0	14.3	
Approach LOS	A			A	B	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	10.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	41.6	Sum of lost time (s)	18.5
Intersection Capacity Utilization	33.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	11	52	337	54	118	264	522	621	17	624	22
Future Volume (veh/h)	19	11	52	337	54	118	264	522	621	17	624	22
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	21	12	57	366	59	128	287	567	675	18	678	24
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	42	28	132	542	92	200	353	1805	1715	37	1133	40
Arrive On Green	0.02	0.10	0.10	0.11	0.18	0.18	0.20	0.51	0.51	0.02	0.33	0.33
Sat Flow, veh/h	1767	280	1331	4983	521	1129	1767	3526	2762	1767	3472	123
Grp Volume(v), veh/h	21	0	69	366	0	187	287	567	675	18	344	358
Grp Sat Flow(s),veh/h/ln	1767	0	1611	1661	0	1650	1767	1763	1381	1767	1763	1833
Q Serve(g_s), s	0.8	0.0	2.9	5.0	0.0	7.5	11.1	6.7	8.8	0.7	11.7	11.7
Cycle Q Clear(g_c), s	0.8	0.0	2.9	5.0	0.0	7.5	11.1	6.7	8.8	0.7	11.7	11.7
Prop In Lane	1.00		0.83	1.00		0.68	1.00		1.00	1.00		0.07
Lane Grp Cap(c), veh/h	42	0	160	542	0	292	353	1805	1715	37	575	598
V/C Ratio(X)	0.50	0.00	0.43	0.68	0.00	0.64	0.81	0.31	0.39	0.48	0.60	0.60
Avail Cap(c_a), veh/h	755	0	914	2095	0	925	755	2470	2236	768	1235	1284
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.4	0.0	30.3	30.6	0.0	27.3	27.3	10.1	6.8	34.5	20.1	20.1
Incr Delay (d2), s/veh	18.1	0.0	6.6	0.6	0.0	8.2	6.3	0.2	0.3	13.3	2.1	2.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	1.4	1.9	0.0	3.5	4.9	2.2	2.0	0.4	4.7	4.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	52.5	0.0	36.8	31.1	0.0	35.5	33.6	10.3	7.1	47.8	22.3	22.2
LnGrp LOS	D		D	C		D	C	B	A	D	C	C
Approach Vol, veh/h		90			553			1529			720	
Approach Delay, s/veh		40.5			32.6			13.3			22.9	
Approach LOS		D			C			B			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.5	41.5	11.8	11.6	19.8	28.3	6.2	17.1
Change Period (Y+Rc), s	5.0	5.0	4.0	4.5	5.5	5.0	4.5	* 4.5
Max Green Setting (Gmax), s	31.6	50.0	30.0	40.5	30.5	50.0	30.5	* 40
Max Q Clear Time (g_c+I1), s	2.7	10.8	7.0	4.9	13.1	13.7	2.8	9.5
Green Ext Time (p_c), s	0.0	17.0	0.7	0.9	1.2	9.6	0.1	2.8

Intersection Summary	
HCM 7th Control Delay, s/veh	20.2
HCM 7th LOS	C

Notes

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	7.3
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	30	0	3	35	10	0	1	1	18	2	1
Future Vol, veh/h	0	30	0	3	35	10	0	1	1	18	2	1
Peak Hour Factor	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	48	0	5	56	16	0	2	2	29	3	2
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	7.3	7.3	6.9	7.5
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	0%	6%	86%
Vol Thru, %	50%	100%	73%	10%
Vol Right, %	50%	0%	21%	5%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	2	30	48	21
LT Vol	0	0	3	18
Through Vol	1	30	35	2
RT Vol	1	0	10	1
Lane Flow Rate	3	48	76	33
Geometry Grp	1	1	1	1
Degree of Util (X)	0.003	0.054	0.083	0.04
Departure Headway (Hd)	3.874	4.056	3.922	4.293
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	915	881	912	829
Service Time	1.935	2.089	1.952	2.345
HCM Lane V/C Ratio	0.003	0.054	0.083	0.04
HCM Control Delay, s/veh	6.9	7.3	7.3	7.5
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0	0.2	0.3	0.1

Intersection	
Int Delay, s/veh	1.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	346	17	16	406	32	23
Future Vol, veh/h	346	17	16	406	32	23
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	110	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	82	82	82	82	82	82
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	422	21	20	495	39	28

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	443	0	966	221
Stage 1	-	-	-	-	432	-
Stage 2	-	-	-	-	534	-
Critical Hdwy	-	-	4.16	-	6.66	6.96
Critical Hdwy Stg 1	-	-	-	-	5.86	-
Critical Hdwy Stg 2	-	-	-	-	5.46	-
Follow-up Hdwy	-	-	2.238	-	3.538	3.338
Pot Cap-1 Maneuver	-	-	1103	-	264	778
Stage 1	-	-	-	-	618	-
Stage 2	-	-	-	-	582	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1103	-	259	778
Mov Cap-2 Maneuver	-	-	-	-	259	-
Stage 1	-	-	-	-	618	-
Stage 2	-	-	-	-	571	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0.32	17.31
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	359	-	-	1103	-
HCM Lane V/C Ratio	0.187	-	-	0.018	-
HCM Ctrl Dly (s/v)	17.3	-	-	8.3	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	0.7	-	-	0.1	-

Intersection	
Intersection Delay, s/veh	8.9
Intersection LOS	A

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	7	57	50	72	102	0
Future Vol, veh/h	7	57	50	72	102	0
Peak Hour Factor	0.66	0.66	0.66	0.66	0.66	0.66
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	11	86	76	109	155	0
Number of Lanes	0	1	1	0	1	1

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	2	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	2	1
HCM Control Delay, s/veh	8.2	8.2	10.1
HCM LOS	A	A	B

Lane	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	11%	0%	100%	0%
Vol Thru, %	89%	41%	0%	100%
Vol Right, %	0%	59%	0%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	64	122	102	0
LT Vol	7	0	102	0
Through Vol	57	50	0	0
RT Vol	0	72	0	0
Lane Flow Rate	97	185	155	0
Geometry Grp	2	2	5	5
Degree of Util (X)	0.123	0.211	0.241	0
Departure Headway (Hd)	4.572	4.116	5.609	5.106
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	784	874	641	0
Service Time	2.595	2.134	3.34	2.838
HCM Lane V/C Ratio	0.124	0.212	0.242	0
HCM Control Delay, s/veh	8.2	8.2	10.1	7.8
HCM Lane LOS	A	A	B	N
HCM 95th-tile Q	0.4	0.8	0.9	0



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	354	36	42	390	0	52	0	82	0	0	0
Future Volume (veh/h)	1	354	36	42	390	0	52	0	82	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	0	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	1	448	46	53	494	0	66	0	104	0	0	0
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Percent Heavy Veh, %	3	3	3	3	3	0	3	3	3	3	3	3
Cap, veh/h	4	1087	111	136	1454	0	401	0	357	0	4	0
Arrive On Green	0.00	0.34	0.34	0.08	0.41	0.00	0.23	0.00	0.23	0.00	0.00	0.00
Sat Flow, veh/h	1767	3229	330	1767	3618	0	1767	0	1572	0	1856	0
Grp Volume(v), veh/h	1	244	250	53	494	0	66	0	104	0	0	0
Grp Sat Flow(s),veh/h/ln	1767	1763	1796	1767	1763	0	1767	0	1572	0	1856	0
Q Serve(g_s), s	0.0	4.4	4.5	1.2	4.0	0.0	1.3	0.0	2.3	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	4.4	4.5	1.2	4.0	0.0	1.3	0.0	2.3	0.0	0.0	0.0
Prop In Lane	1.00		0.18	1.00		0.00	1.00		1.00	0.00		0.00
Lane Grp Cap(c), veh/h	4	594	605	136	1454	0	401	0	357	0	4	0
V/C Ratio(X)	0.24	0.41	0.41	0.39	0.34	0.00	0.16	0.00	0.29	0.00	0.00	0.00
Avail Cap(c_a), veh/h	847	1689	1721	847	3379	0	1482	0	1319	0	445	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	20.8	10.7	10.7	18.3	8.4	0.0	13.0	0.0	13.4	0.0	0.0	0.0
Incr Delay (d2), s/veh	26.4	1.7	1.6	1.8	0.5	0.0	0.1	0.0	0.2	0.0	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	1.4	1.5	0.5	1.0	0.0	0.4	0.0	0.7	0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	47.2	12.3	12.3	20.1	8.9	0.0	13.0	0.0	13.5	0.0	0.0	0.0
LnGrp LOS	D	B	B	C	A		B		B			
Approach Vol, veh/h		495			547			170			0	
Approach Delay, s/veh		12.4			10.0			13.3			0.0	
Approach LOS		B			A			B				

Timer - Assigned Phs	2	3	4		6	7	8					
Phs Duration (G+Y+Rc), s	14.5	8.2	19.1		0.0	5.1	22.2					
Change Period (Y+Rc), s	5.0	5.0	5.0		5.0	5.0	5.0					
Max Green Setting (Gmax), s	35.0	20.0	40.0		10.0	20.0	40.0					
Max Q Clear Time (g_c+I1), s	4.3	3.2	6.5		0.0	2.0	6.0					
Green Ext Time (p_c), s	0.5	0.1	7.6		0.0	0.0	8.1					

Intersection Summary												
HCM 7th Control Delay, s/veh		11.4										
HCM 7th LOS		B										

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	391	22	42	700	240	818
Future Volume (veh/h)	391	22	42	700	240	818
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)		0.98	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	399	22	43	714	245	835
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	898	49	68	1438	644	1115
Arrive On Green	0.26	0.26	0.04	0.40	0.36	0.36
Sat Flow, veh/h	3514	188	1781	3647	1781	2790
Grp Volume(v), veh/h	207	214	43	714	245	835
Grp Sat Flow(s),veh/h/ln	1777	1832	1781	1777	1781	1395
Q Serve(g_s), s	3.7	3.8	0.9	5.8	3.9	9.9
Cycle Q Clear(g_c), s	3.7	3.8	0.9	5.8	3.9	9.9
Prop In Lane		0.10	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	466	481	68	1438	644	1115
V/C Ratio(X)	0.44	0.45	0.63	0.50	0.38	0.75
Avail Cap(c_a), veh/h	1847	1904	1204	6466	972	1630
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	11.8	11.9	18.2	8.5	9.1	9.9
Incr Delay (d2), s/veh	0.9	0.9	9.2	0.4	0.1	0.5
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	1.2	0.5	1.3	1.2	1.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	12.8	12.8	27.4	8.9	9.2	10.4
LnGrp LOS	B	B	C	A	A	B
Approach Vol, veh/h	421			757	1080	
Approach Delay, s/veh	12.8			10.0	10.1	
Approach LOS	B			A	B	

Timer - Assigned Phs	2	3	4		8
Phs Duration (G+Y+Rc), s	17.9	5.5	15.1		20.6
Change Period (Y+Rc), s	4.0	4.0	5.0		5.0
Max Green Setting (Gmax), s	21.0	26.0	40.0		70.0
Max Q Clear Time (g_c+I1), s	11.9	2.9	5.8		7.8
Green Ext Time (p_c), s	2.0	0.1	3.5		7.8

Intersection Summary	
HCM 7th Control Delay, s/veh	10.6
HCM 7th LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	29	316	210	440	446	54	17	10	65	32	36	24
Future Volume (veh/h)	29	316	210	440	446	54	17	10	65	32	36	24
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	31	340	226	473	480	58	18	11	70	34	39	26
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	75	532	346	677	1469	648	126	16	99	161	95	63
Arrive On Green	0.04	0.26	0.26	0.20	0.41	0.41	0.07	0.07	0.07	0.09	0.09	0.09
Sat Flow, veh/h	1781	2051	1334	3456	3554	1568	1781	220	1399	1781	1047	698
Grp Volume(v), veh/h	31	294	272	473	480	58	18	0	81	34	0	65
Grp Sat Flow(s),veh/h/ln	1781	1777	1608	1728	1777	1568	1781	0	1619	1781	0	1745
Q Serve(g_s), s	0.8	7.2	7.4	6.3	4.5	1.1	0.5	0.0	2.4	0.9	0.0	1.7
Cycle Q Clear(g_c), s	0.8	7.2	7.4	6.3	4.5	1.1	0.5	0.0	2.4	0.9	0.0	1.7
Prop In Lane	1.00		0.83	1.00		1.00	1.00		0.86	1.00		0.40
Lane Grp Cap(c), veh/h	75	461	417	677	1469	648	126	0	115	161	0	158
V/C Ratio(X)	0.41	0.64	0.65	0.70	0.33	0.09	0.14	0.00	0.71	0.21	0.00	0.41
Avail Cap(c_a), veh/h	573	825	747	1464	2013	888	918	0	834	991	0	970
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	22.9	16.1	16.2	18.4	9.8	8.8	21.4	0.0	22.3	20.7	0.0	21.1
Incr Delay (d2), s/veh	1.3	1.5	1.7	1.3	0.2	0.1	0.2	0.0	3.0	0.2	0.0	0.6
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	2.5	2.3	2.2	1.3	0.3	0.2	0.0	0.9	0.3	0.0	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	24.3	17.6	17.9	19.7	9.9	8.9	21.6	0.0	25.3	20.9	0.0	21.7
LnGrp LOS	C	B	B	B	A	A	C		C	C		C
Approach Vol, veh/h		597			1011			99			99	
Approach Delay, s/veh		18.1			14.4			24.6			21.5	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	2	3	4		6	7	8
Phs Duration (G+Y+Rc), s	8.2	13.8	17.9		9.1	6.3	25.5
Change Period (Y+Rc), s	4.7	4.2	5.2		4.7	4.2	5.2
Max Green Setting (Gmax), s	25.3	20.8	22.8		27.3	15.8	27.8
Max Q Clear Time (g_c+I1), s	4.4	8.3	9.4		3.7	2.8	6.5
Green Ext Time (p_c), s	0.3	1.4	2.7		0.2	0.0	4.3

Intersection Summary	
HCM 7th Control Delay, s/veh	16.6
HCM 7th LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	282	0	1017	0	0	0	1	1019	328	284	645	0
Future Volume (veh/h)	282	0	1017	0	0	0	1	1019	328	284	645	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1885	0	1885				1885	1885	1885	1885	1885	0
Adj Flow Rate, veh/h	300	0	1082				1	1084	349	302	686	0
Peak Hour Factor	0.94	0.94	0.94				0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	1	0	1				1	1	1	1	1	0
Cap, veh/h	597	0	1866				612	1539	490	1439	2031	0
Arrive On Green	0.17	0.00	0.17				0.34	0.32	0.32	0.41	0.39	0.00
Sat Flow, veh/h	3483	0	3643				1795	4881	1553	3483	5316	0
Grp Volume(v), veh/h	300	0	1082				1	1080	353	302	686	0
Grp Sat Flow(s),veh/h/ln	1742	0	1214				1795	1621	1570	1742	1716	0
Q Serve(g_s), s	10.2	0.0	22.3				0.0	25.4	25.8	7.2	12.1	0.0
Cycle Q Clear(g_c), s	10.2	0.0	22.3				0.0	25.4	25.8	7.2	12.1	0.0
Prop In Lane	1.00		1.00				1.00		0.99	1.00		0.00
Lane Grp Cap(c), veh/h	597	0	1866				612	1533	495	1439	2031	0
V/C Ratio(X)	0.50	0.00	0.58				0.00	0.70	0.71	0.21	0.34	0.00
Avail Cap(c_a), veh/h	597	0	1866				612	2709	874	1439	2035	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				1.00	1.00	1.00	0.74	0.74	0.00
Uniform Delay (d), s/veh	48.8	0.0	22.0				28.3	39.2	39.3	24.5	27.5	0.0
Incr Delay (d2), s/veh	0.5	0.0	0.4				0.0	2.7	8.5	0.0	0.3	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.5	0.0	19.4				0.0	10.3	10.9	3.0	5.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	49.3	0.0	22.4				28.3	41.9	47.8	24.5	27.8	0.0
LnGrp LOS	D		C				C	D	D	C	C	
Approach Vol, veh/h		1382						1434			988	
Approach Delay, s/veh		28.2						43.4			26.8	
Approach LOS		C						D			C	

Timer - Assigned Phs	1	2		4	5	6
Phs Duration (G+Y+Rc), s	58.4	45.6		26.0	48.0	56.0
Change Period (Y+Rc), s	4.7	4.6		3.7	3.7	* 4.7
Max Green Setting (Gmax), s	21.3	72.4		22.3	44.3	* 51
Max Q Clear Time (g_c+I1), s	19.2	27.8		24.3	2.0	14.1
Green Ext Time (p_c), s	0.4	13.2		0.0	0.0	5.2

Intersection Summary	
HCM 7th Control Delay, s/veh	33.6
HCM 7th LOS	C

Notes

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	145	479	49	394	420	91
Future Volume (vph)	145	479	49	394	420	91
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.1	4.7	4.7	5.1	4.7	4.7
Lane Util. Factor	0.91	0.91	0.97	0.95	0.97	1.00
Frpb, ped/bikes	0.99	0.99	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.91	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3002	1417	3400	3505	3400	1568
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	3002	1417	3400	3505	3400	1568
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	165	544	56	448	477	103
RTOR Reduction (vph)	171	176	0	0	0	0
Lane Group Flow (vph)	266	96	56	448	477	103
Confl. Peds. (#/hr)		13				1
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%
Turn Type	NA	custom	Prot	NA	Prot	Prot
Protected Phases	4 9	2	3	8	2	2
Permitted Phases		4				
Actuated Green, G (s)	15.7	14.9	3.7	23.0	9.5	9.5
Effective Green, g (s)	15.7	14.9	3.7	23.0	9.5	9.5
Actuated g/C Ratio	0.37	0.35	0.09	0.54	0.22	0.22
Clearance Time (s)		4.7	4.7	5.1	4.7	4.7
Vehicle Extension (s)		0.2	0.2	0.2	0.2	0.2
Lane Grp Cap (vph)	1114	499	297	1905	763	352
v/s Ratio Prot	c0.09	0.04	0.02	c0.13	c0.14	0.07
v/s Ratio Perm		0.02				
v/c Ratio	0.24	0.19	0.19	0.24	0.63	0.29
Uniform Delay, d1	9.2	9.5	17.9	5.0	14.8	13.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.0	0.1	0.1	0.0	1.2	0.2
Delay (s)	9.2	9.6	18.0	5.1	16.0	13.8
Level of Service	A	A	B	A	B	B
Approach Delay (s/veh)	9.4			6.5	15.6	
Approach LOS	A			A	B	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	10.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	42.3	Sum of lost time (s)	18.5
Intersection Capacity Utilization	40.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	26	7	92	557	88	169	190	522	589	28	512	22
Future Volume (veh/h)	26	7	92	557	88	169	190	522	589	28	512	22
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	28	8	100	605	96	184	207	567	640	30	557	24
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	72	15	189	813	143	275	269	1448	1584	57	976	42
Arrive On Green	0.04	0.13	0.13	0.16	0.25	0.25	0.15	0.41	0.41	0.03	0.28	0.28
Sat Flow, veh/h	1781	118	1475	5023	573	1098	1781	3554	2779	1781	3471	149
Grp Volume(v), veh/h	28	0	108	605	0	280	207	567	640	30	285	296
Grp Sat Flow(s),veh/h/ln	1781	0	1593	1674	0	1671	1781	1777	1390	1781	1777	1843
Q Serve(g_s), s	1.0	0.0	4.3	7.8	0.0	10.3	7.6	7.7	8.8	1.1	9.4	9.4
Cycle Q Clear(g_c), s	1.0	0.0	4.3	7.8	0.0	10.3	7.6	7.7	8.8	1.1	9.4	9.4
Prop In Lane	1.00		0.93	1.00		0.66	1.00		1.00	1.00		0.08
Lane Grp Cap(c), veh/h	72	0	204	813	0	418	269	1448	1584	57	500	518
V/C Ratio(X)	0.39	0.00	0.53	0.74	0.00	0.67	0.77	0.39	0.40	0.53	0.57	0.57
Avail Cap(c_a), veh/h	795	0	943	2204	0	978	795	2599	2484	808	1299	1348
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.0	0.0	27.9	27.3	0.0	23.1	27.9	14.3	8.2	32.6	21.0	21.0
Incr Delay (d2), s/veh	7.3	0.0	7.5	0.5	0.0	6.6	6.5	0.4	0.4	10.5	2.2	2.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	2.0	3.0	0.0	4.5	3.5	2.7	2.2	0.6	3.9	4.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	39.3	0.0	35.4	27.8	0.0	29.7	34.4	14.7	8.6	43.1	23.2	23.2
LnGrp LOS	D		D	C		C	C	B	A	D	C	C
Approach Vol, veh/h		136			885			1414			611	
Approach Delay, s/veh		36.2			28.4			14.8			24.2	
Approach LOS		D			C			B			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.2	32.9	15.1	13.3	15.8	24.2	7.2	21.1
Change Period (Y+Rc), s	5.0	5.0	4.0	4.5	5.5	5.0	4.5	4.0
Max Green Setting (Gmax), s	31.6	50.0	30.0	40.5	30.5	50.0	30.5	40.0
Max Q Clear Time (g_c+I1), s	3.1	10.8	9.8	6.3	9.6	11.4	3.0	12.3
Green Ext Time (p_c), s	0.1	16.4	1.2	1.5	0.9	7.7	0.1	4.3

Intersection Summary	
HCM 7th Control Delay, s/veh	21.6
HCM 7th LOS	C

Notes

User approved changes to right turn type.

Intersection	
Intersection Delay, s/veh	7.1
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	31	0	2	25	16	0	3	3	17	1	2
Future Vol, veh/h	2	31	0	2	25	16	0	3	3	17	1	2
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	2	38	0	2	30	20	0	4	4	21	1	2
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	7.2	7	6.9	7.4
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	6%	5%	85%
Vol Thru, %	50%	94%	58%	5%
Vol Right, %	50%	0%	37%	10%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	6	33	43	20
LT Vol	0	2	2	17
Through Vol	3	31	25	1
RT Vol	3	0	16	2
Lane Flow Rate	7	40	52	24
Geometry Grp	1	1	1	1
Degree of Util (X)	0.008	0.045	0.055	0.028
Departure Headway (Hd)	3.797	4.026	3.79	4.195
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	939	890	945	852
Service Time	1.835	2.046	1.811	2.229
HCM Lane V/C Ratio	0.007	0.045	0.055	0.028
HCM Control Delay, s/veh	6.9	7.2	7	7.4
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0	0.1	0.2	0.1

Intersection	
Int Delay, s/veh	1.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	445	57	18	330	43	14
Future Vol, veh/h	445	57	18	330	43	14
Conflicting Peds, #/hr	0	3	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	110	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	484	62	20	359	47	15

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	549	0	916	276
Stage 1	-	-	-	-	518	-
Stage 2	-	-	-	-	398	-
Critical Hdwy	-	-	4.13	-	6.63	6.93
Critical Hdwy Stg 1	-	-	-	-	5.83	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	-	-	2.219	-	3.519	3.319
Pot Cap-1 Maneuver	-	-	1019	-	287	722
Stage 1	-	-	-	-	564	-
Stage 2	-	-	-	-	678	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1016	-	280	720
Mov Cap-2 Maneuver	-	-	-	-	280	-
Stage 1	-	-	-	-	562	-
Stage 2	-	-	-	-	665	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0.45	18.42
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	330	-	-	1016	-
HCM Lane V/C Ratio	0.188	-	-	0.019	-
HCM Ctrl Dly (s/v)	18.4	-	-	8.6	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	0.7	-	-	0.1	-

Intersection	
Intersection Delay, s/veh	8
Intersection LOS	A

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	7	41	50	79	87	8
Future Vol, veh/h	7	41	50	79	87	8
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	7	43	53	83	92	8
Number of Lanes	0	1	1	0	1	1

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	2	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	2	1
HCM Control Delay, s/veh	7.6	7.5	8.8
HCM LOS	A	A	A

Lane	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	15%	0%	100%	0%
Vol Thru, %	85%	39%	0%	0%
Vol Right, %	0%	61%	0%	100%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	48	129	87	8
LT Vol	7	0	87	0
Through Vol	41	50	0	0
RT Vol	0	79	0	8
Lane Flow Rate	51	136	92	8
Geometry Grp	2	2	5	5
Degree of Util (X)	0.061	0.146	0.136	0.01
Departure Headway (Hd)	4.356	3.883	5.34	4.137
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	827	929	666	854
Service Time	2.359	1.885	3.119	1.915
HCM Lane V/C Ratio	0.062	0.146	0.138	0.009
HCM Control Delay, s/veh	7.6	7.5	9	7
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.2	0.5	0.5	0



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	441	68	99	353	0	43	0	58	0	0	0
Future Volume (veh/h)	4	441	68	99	353	0	43	0	58	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	0	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	4	485	75	109	388	0	47	0	64	0	0	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	0	2	2	2	2	2	2
Cap, veh/h	10	1118	172	206	1679	0	338	0	300	0	4	0
Arrive On Green	0.01	0.36	0.36	0.12	0.47	0.00	0.19	0.00	0.19	0.00	0.00	0.00
Sat Flow, veh/h	1781	3084	475	1781	3647	0	1781	0	1581	0	1870	0
Grp Volume(v), veh/h	4	278	282	109	388	0	47	0	64	0	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1782	1781	1777	0	1781	0	1581	0	1870	0
Q Serve(g_s), s	0.1	5.4	5.4	2.6	2.9	0.0	1.0	0.0	1.5	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.1	5.4	5.4	2.6	2.9	0.0	1.0	0.0	1.5	0.0	0.0	0.0
Prop In Lane	1.00		0.27	1.00		0.00	1.00		1.00	0.00		0.00
Lane Grp Cap(c), veh/h	10	644	646	206	1679	0	338	0	300	0	4	0
V/C Ratio(X)	0.41	0.43	0.44	0.53	0.23	0.00	0.14	0.00	0.21	0.00	0.00	0.00
Avail Cap(c_a), veh/h	789	1573	1578	789	3147	0	1380	0	1225	0	414	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	22.4	10.9	10.9	18.8	7.1	0.0	15.2	0.0	15.4	0.0	0.0	0.0
Incr Delay (d2), s/veh	26.0	1.7	1.7	2.1	0.3	0.0	0.1	0.0	0.1	0.0	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	1.8	1.8	1.0	0.7	0.0	0.4	0.0	0.5	0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	48.4	12.5	12.6	20.9	7.3	0.0	15.3	0.0	15.6	0.0	0.0	0.0
LnGrp LOS	D	B	B	C	A		B		B			
Approach Vol, veh/h		564			497			111			0	
Approach Delay, s/veh		12.8			10.3			15.5			0.0	
Approach LOS		B			B			B				

Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	13.6	10.2	21.4	0.0	5.2	26.3
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	35.0	20.0	40.0	10.0	20.0	40.0
Max Q Clear Time (g_c+I1), s	3.5	4.6	7.4	0.0	2.1	4.9
Green Ext Time (p_c), s	0.3	0.2	8.7	0.0	0.0	6.2

Intersection Summary	
HCM 7th Control Delay, s/veh	12.0
HCM 7th LOS	B

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	296	19	22	966	209	492
Future Volume (veh/h)	296	19	22	966	209	492
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	344	22	26	1123	243	572
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	1519	97	43	1966	456	782
Arrive On Green	0.45	0.45	0.02	0.56	0.26	0.26
Sat Flow, veh/h	3458	214	1767	3618	1767	2768
Grp Volume(v), veh/h	179	187	26	1123	243	572
Grp Sat Flow(s),veh/h/ln	1763	1817	1767	1763	1767	1384
Q Serve(g_s), s	3.0	3.1	0.7	10.1	5.8	9.1
Cycle Q Clear(g_c), s	3.0	3.1	0.7	10.1	5.8	9.1
Prop In Lane		0.12	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	795	820	43	1966	456	782
V/C Ratio(X)	0.23	0.23	0.60	0.57	0.53	0.73
Avail Cap(c_a), veh/h	1444	1489	941	5055	760	1258
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	8.2	8.2	23.6	7.0	15.6	15.8
Incr Delay (d2), s/veh	0.2	0.2	12.9	0.4	0.4	0.5
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.8	0.4	2.1	2.1	2.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	8.4	8.4	36.5	7.4	15.9	16.3
LnGrp LOS	A	A	D	A	B	B
Approach Vol, veh/h	366			1149	815	
Approach Delay, s/veh	8.4			8.0	16.2	
Approach LOS	A			A	B	

Timer - Assigned Phs	2	3	4		8
Phs Duration (G+Y+Rc), s	16.6	5.2	27.0		32.2
Change Period (Y+Rc), s	4.0	4.0	5.0		5.0
Max Green Setting (Gmax), s	21.0	26.0	40.0		70.0
Max Q Clear Time (g_c+I1), s	11.1	2.7	5.1		12.1
Green Ext Time (p_c), s	1.5	0.0	3.0		15.1

Intersection Summary	
HCM 7th Control Delay, s/veh	11.0
HCM 7th LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	17	258	288	647	483	45	17	6	41	16	35	18
Future Volume (veh/h)	17	258	288	647	483	45	17	6	41	16	35	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	20	304	339	761	568	53	20	7	48	19	41	21
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	50	492	439	932	1842	819	89	10	70	133	87	45
Arrive On Green	0.03	0.28	0.28	0.27	0.52	0.52	0.05	0.05	0.05	0.08	0.08	0.08
Sat Flow, veh/h	1767	1763	1572	3428	3526	1568	1767	204	1400	1767	1157	592
Grp Volume(v), veh/h	20	304	339	761	568	53	20	0	55	19	0	62
Grp Sat Flow(s),veh/h/ln	1767	1763	1572	1714	1763	1568	1767	0	1604	1767	0	1749
Q Serve(g_s), s	0.6	8.7	11.5	12.1	5.3	1.0	0.6	0.0	2.0	0.6	0.0	2.0
Cycle Q Clear(g_c), s	0.6	8.7	11.5	12.1	5.3	1.0	0.6	0.0	2.0	0.6	0.0	2.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.87	1.00		0.34
Lane Grp Cap(c), veh/h	50	492	439	932	1842	819	89	0	80	133	0	132
V/C Ratio(X)	0.40	0.62	0.77	0.82	0.31	0.06	0.23	0.00	0.68	0.14	0.00	0.47
Avail Cap(c_a), veh/h	480	692	617	1227	1842	819	769	0	698	830	0	822
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	27.7	18.2	19.3	19.8	7.9	6.9	26.5	0.0	27.1	25.1	0.0	25.8
Incr Delay (d2), s/veh	1.9	1.3	3.9	3.3	0.1	0.0	0.5	0.0	3.8	0.2	0.0	1.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	3.1	4.0	4.4	1.4	0.2	0.3	0.0	0.8	0.2	0.0	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	29.6	19.5	23.2	23.1	8.0	6.9	27.0	0.0	30.9	25.3	0.0	26.7
LnGrp LOS	C	B	C	C	A	A	C		C	C		C
Approach Vol, veh/h		663			1382			75			81	
Approach Delay, s/veh		21.7			16.3			29.9			26.4	
Approach LOS		C			B			C			C	

Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	7.6	20.0	21.4	9.1	5.9	35.6
Change Period (Y+Rc), s	4.7	4.2	5.2	4.7	4.2	5.2
Max Green Setting (Gmax), s	25.3	20.8	22.8	27.3	15.8	27.8
Max Q Clear Time (g_c+I1), s	4.0	14.1	13.5	4.0	2.6	7.3
Green Ext Time (p_c), s	0.2	1.7	2.6	0.2	0.0	5.0

Intersection Summary	
HCM 7th Control Delay, s/veh	18.8
HCM 7th LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	210	0	772	0	0	0	1	1203	364	182	575	0
Future Volume (veh/h)	210	0	772	0	0	0	1	1203	364	182	575	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	0	1870				1870	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	233	0	858				1	1337	404	202	639	0
Peak Hour Factor	0.90	0.90	0.90				0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	0	2				2	2	2	2	2	0
Cap, veh/h	527	0	1464				450	1891	570	1227	2523	0
Arrive On Green	0.15	0.00	0.15				0.25	0.38	0.38	0.36	0.49	0.00
Sat Flow, veh/h	3456	0	3614				1781	4924	1486	3456	5274	0
Grp Volume(v), veh/h	233	0	858				1	1310	431	202	639	0
Grp Sat Flow(s),veh/h/ln	1728	0	1205				1781	1609	1585	1728	1702	0
Q Serve(g_s), s	7.4	0.0	18.3				0.1	27.5	27.6	4.8	8.7	0.0
Cycle Q Clear(g_c), s	7.4	0.0	18.3				0.1	27.5	27.6	4.8	8.7	0.0
Prop In Lane	1.00		1.00				1.00		0.94	1.00		0.00
Lane Grp Cap(c), veh/h	527	0	1464				450	1853	608	1227	2523	0
V/C Ratio(X)	0.44	0.00	0.59				0.00	0.71	0.71	0.16	0.25	0.00
Avail Cap(c_a), veh/h	527	0	1464				450	2670	877	1227	2528	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				1.00	1.00	1.00	0.75	0.75	0.00
Uniform Delay (d), s/veh	46.2	0.0	27.9				33.5	31.3	31.3	26.5	17.5	0.0
Incr Delay (d2), s/veh	0.4	0.0	0.5				0.0	2.3	6.8	0.0	0.2	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.2	0.0	15.3				0.0	10.7	11.3	2.0	3.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	46.6	0.0	28.4				33.6	33.6	38.1	26.5	17.7	0.0
LnGrp LOS	D		C				C	C	D	C	B	
Approach Vol, veh/h		1091						1742			841	
Approach Delay, s/veh		32.3						34.7			19.8	
Approach LOS		C						C			B	

Timer - Assigned Phs	1	2	4	5	6
Phs Duration (G+Y+Rc), s	17.3	50.7	22.0	34.0	64.0
Change Period (Y+Rc), s	4.7	4.6	3.7	3.7	* 4.7
Max Green Setting (Gmax), s	21.3	66.4	18.3	30.3	* 59
Max Q Clear Time (g_c+I1), s	16.8	29.6	20.3	2.1	10.7
Green Ext Time (p_c), s	0.3	16.5	0.0	0.0	4.9

Intersection Summary	
HCM 7th Control Delay, s/veh	30.6
HCM 7th LOS	C

Notes

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	208	442	32	202	307	206
Future Volume (vph)	208	442	32	202	307	206
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.1	4.7	4.7	5.1	4.7	4.7
Lane Util. Factor	0.91	0.91	0.97	0.95	0.97	1.00
Frpb, ped/bikes	0.99	0.99	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.92	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3040	1405	3367	3471	3367	1553
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	3040	1405	3367	3471	3367	1553
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	229	486	35	222	337	226
RTOR Reduction (vph)	150	152	0	0	0	0
Lane Group Flow (vph)	322	91	35	222	337	226
Confl. Peds. (#/hr)		8				3
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%
Turn Type	NA	custom	Prot	NA	Prot	Prot
Protected Phases	4 9		2	3	8	2	2
Permitted Phases		4				
Actuated Green, G (s)	15.9	15.6	2.2	21.7	10.1	10.1
Effective Green, g (s)	15.9	15.6	2.2	21.7	10.1	10.1
Actuated g/C Ratio	0.38	0.38	0.05	0.52	0.24	0.24
Clearance Time (s)		4.7	4.7	5.1	4.7	4.7
Vehicle Extension (s)		0.2	0.2	0.2	0.2	0.2
Lane Grp Cap (vph)	1161	526	178	1810	817	377
v/s Ratio Prot	c0.11	0.04	0.01	c0.06	0.10	c0.15
v/s Ratio Perm		0.02				
v/c Ratio	0.28	0.17	0.20	0.12	0.41	0.60
Uniform Delay, d1	8.9	8.7	18.9	5.1	13.3	14.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.0	0.1	0.2	0.0	0.1	1.7
Delay (s)	8.9	8.7	19.1	5.1	13.4	15.7
Level of Service	A	A	B	A	B	B
Approach Delay (s/veh)	8.9			7.0	14.3	
Approach LOS	A			A	B	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	10.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	41.6	Sum of lost time (s)	18.5
Intersection Capacity Utilization	33.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	11	52	337	54	118	264	528	621	18	629	22
Future Volume (veh/h)	19	11	52	337	54	118	264	528	621	18	629	22
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	21	12	57	366	59	128	287	574	675	20	684	24
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	42	28	132	541	92	199	353	1804	1714	40	1139	40
Arrive On Green	0.02	0.10	0.10	0.11	0.18	0.18	0.20	0.51	0.51	0.02	0.33	0.33
Sat Flow, veh/h	1767	280	1331	4983	521	1129	1767	3526	2762	1767	3474	122
Grp Volume(v), veh/h	21	0	69	366	0	187	287	574	675	20	347	361
Grp Sat Flow(s),veh/h/ln	1767	0	1611	1661	0	1650	1767	1763	1381	1767	1763	1833
Q Serve(g_s), s	0.8	0.0	2.9	5.1	0.0	7.5	11.1	6.8	8.8	0.8	11.8	11.8
Cycle Q Clear(g_c), s	0.8	0.0	2.9	5.1	0.0	7.5	11.1	6.8	8.8	0.8	11.8	11.8
Prop In Lane	1.00		0.83	1.00		0.68	1.00		1.00	1.00		0.07
Lane Grp Cap(c), veh/h	42	0	159	541	0	291	353	1804	1714	40	578	601
V/C Ratio(X)	0.50	0.00	0.43	0.68	0.00	0.64	0.81	0.32	0.39	0.49	0.60	0.60
Avail Cap(c_a), veh/h	752	0	910	2085	0	921	752	2459	2227	764	1229	1278
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.6	0.0	30.4	30.7	0.0	27.4	27.4	10.2	6.8	34.6	20.2	20.2
Incr Delay (d2), s/veh	18.2	0.0	6.6	0.6	0.0	8.3	6.4	0.2	0.3	12.7	2.1	2.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	1.4	2.0	0.0	3.5	4.9	2.2	2.1	0.5	4.8	5.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	52.8	0.0	37.0	31.3	0.0	35.7	33.8	10.4	7.2	47.3	22.3	22.2
LnGrp LOS	D		D	C		D	C	B	A	D	C	C
Approach Vol, veh/h		90			553			1536			728	
Approach Delay, s/veh		40.7			32.8			13.4			22.9	
Approach LOS		D			C			B			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.6	41.7	11.8	11.6	19.8	28.5	6.2	17.2
Change Period (Y+Rc), s	5.0	5.0	4.0	4.5	5.5	5.0	4.5	* 4.5
Max Green Setting (Gmax), s	31.6	50.0	30.0	40.5	30.5	50.0	30.5	* 40
Max Q Clear Time (g_c+I1), s	2.8	10.8	7.1	4.9	13.1	13.8	2.8	9.5
Green Ext Time (p_c), s	0.0	17.1	0.7	0.9	1.2	9.7	0.1	2.8

Intersection Summary	
HCM 7th Control Delay, s/veh	20.3
HCM 7th LOS	C

Notes

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	7.4
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	30	0	3	35	10	0	1	1	24	2	1
Future Vol, veh/h	0	30	0	3	35	10	0	1	1	24	2	1
Peak Hour Factor	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	48	0	5	56	16	0	2	2	38	3	2
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	7.3	7.3	7	7.6
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	0%	6%	89%
Vol Thru, %	50%	100%	73%	7%
Vol Right, %	50%	0%	21%	4%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	2	30	48	27
LT Vol	0	0	3	24
Through Vol	1	30	35	2
RT Vol	1	0	10	1
Lane Flow Rate	3	48	76	43
Geometry Grp	1	1	1	1
Degree of Util (X)	0.003	0.054	0.083	0.051
Departure Headway (Hd)	3.881	4.072	3.937	4.306
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	913	876	907	827
Service Time	1.944	2.111	1.973	2.358
HCM Lane V/C Ratio	0.003	0.055	0.084	0.052
HCM Control Delay, s/veh	7	7.3	7.3	7.6
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0	0.2	0.3	0.2

Intersection	
Int Delay, s/veh	1.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	349	23	16	420	32	23
Future Vol, veh/h	349	23	16	420	32	23
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	110	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	82	82	82	82	82	82
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	426	28	20	512	39	28

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	454	0	991	227
Stage 1	-	-	-	-	440	-
Stage 2	-	-	-	-	551	-
Critical Hdwy	-	-	4.16	-	6.66	6.96
Critical Hdwy Stg 1	-	-	-	-	5.86	-
Critical Hdwy Stg 2	-	-	-	-	5.46	-
Follow-up Hdwy	-	-	2.238	-	3.538	3.338
Pot Cap-1 Maneuver	-	-	1093	-	255	771
Stage 1	-	-	-	-	613	-
Stage 2	-	-	-	-	571	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1093	-	250	771
Mov Cap-2 Maneuver	-	-	-	-	250	-
Stage 1	-	-	-	-	613	-
Stage 2	-	-	-	-	561	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0.31	17.77
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	349	-	-	1093	-
HCM Lane V/C Ratio	0.192	-	-	0.018	-
HCM Ctrl Dly (s/v)	17.8	-	-	8.4	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	0.7	-	-	0.1	-

Intersection	
Intersection Delay, s/veh	9.1
Intersection LOS	A

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	30	60	51	73	105	3
Future Vol, veh/h	30	60	51	73	105	3
Peak Hour Factor	0.66	0.66	0.66	0.66	0.66	0.66
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	45	91	77	111	159	5
Number of Lanes	0	1	1	0	1	1

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	2	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	2	1
HCM Control Delay, s/veh	8.7	8.4	10.3
HCM LOS	A	A	B

Lane	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	33%	0%	100%	0%
Vol Thru, %	67%	41%	0%	0%
Vol Right, %	0%	59%	0%	100%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	90	124	105	3
LT Vol	30	0	105	0
Through Vol	60	51	0	0
RT Vol	0	73	0	3
Lane Flow Rate	136	188	159	5
Geometry Grp	2	2	5	5
Degree of Util (X)	0.176	0.219	0.252	0.006
Departure Headway (Hd)	4.645	4.187	5.71	4.503
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	772	859	628	792
Service Time	2.674	2.211	3.452	2.245
HCM Lane V/C Ratio	0.176	0.219	0.253	0.006
HCM Control Delay, s/veh	8.7	8.4	10.4	7.3
HCM Lane LOS	A	A	B	A
HCM 95th-tile Q	0.6	0.8	1	0



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	354	39	51	390	0	66	0	115	0	0	0
Future Volume (veh/h)	1	354	39	51	390	0	66	0	115	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	0	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	1	448	49	65	494	0	84	0	146	0	0	0
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Percent Heavy Veh, %	3	3	3	3	3	0	3	3	3	3	3	3
Cap, veh/h	4	1059	115	155	1469	0	419	0	373	0	4	0
Arrive On Green	0.00	0.33	0.33	0.09	0.42	0.00	0.24	0.00	0.24	0.00	0.00	0.00
Sat Flow, veh/h	1767	3206	349	1767	3618	0	1767	0	1572	0	1856	0
Grp Volume(v), veh/h	1	245	252	65	494	0	84	0	146	0	0	0
Grp Sat Flow(s),veh/h/ln	1767	1763	1793	1767	1763	0	1767	0	1572	0	1856	0
Q Serve(g_s), s	0.0	4.7	4.8	1.5	4.1	0.0	1.7	0.0	3.4	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	4.7	4.8	1.5	4.1	0.0	1.7	0.0	3.4	0.0	0.0	0.0
Prop In Lane	1.00		0.19	1.00		0.00	1.00		1.00	0.00		0.00
Lane Grp Cap(c), veh/h	4	582	592	155	1469	0	419	0	373	0	4	0
V/C Ratio(X)	0.25	0.42	0.42	0.42	0.34	0.00	0.20	0.00	0.39	0.00	0.00	0.00
Avail Cap(c_a), veh/h	813	1621	1649	813	3242	0	1422	0	1265	0	427	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	21.7	11.3	11.3	18.8	8.6	0.0	13.3	0.0	13.9	0.0	0.0	0.0
Incr Delay (d2), s/veh	28.8	1.8	1.8	1.8	0.5	0.0	0.1	0.0	0.2	0.0	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	1.6	1.6	0.6	1.1	0.0	0.6	0.0	1.1	0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	50.5	13.1	13.1	20.6	9.1	0.0	13.4	0.0	14.2	0.0	0.0	0.0
LnGrp LOS	D	B	B	C	A		B		B			
Approach Vol, veh/h		498			559			230			0	
Approach Delay, s/veh		13.2			10.4			13.9			0.0	
Approach LOS		B			B			B				

Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	15.3	8.8	19.4	0.0	5.1	23.1
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	35.0	20.0	40.0	10.0	20.0	40.0
Max Q Clear Time (g_c+I1), s	5.4	3.5	6.8	0.0	2.0	6.1
Green Ext Time (p_c), s	0.8	0.1	7.6	0.0	0.0	8.1

Intersection Summary	
HCM 7th Control Delay, s/veh	12.1
HCM 7th LOS	B

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	24	3	1	102	105	9
Future Vol, veh/h	24	3	1	102	105	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	26	3	1	111	114	10

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	232	119	124	0	-	0
Stage 1	119	-	-	-	-	-
Stage 2	113	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	756	933	1463	-	-	-
Stage 1	906	-	-	-	-	-
Stage 2	912	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	756	933	1463	-	-	-
Mov Cap-2 Maneuver	756	-	-	-	-	-
Stage 1	905	-	-	-	-	-
Stage 2	912	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	9.85	0.07	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	17	-	772	-	-
HCM Lane V/C Ratio	0.001	-	0.038	-	-
HCM Ctrl Dly (s/v)	7.5	0	9.8	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	6	64	50	4	26	0
Future Vol, veh/h	6	64	50	4	26	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	63	63	63	63	63	63
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	10	102	79	6	41	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	86	0	-	0	203	83
Stage 1	-	-	-	-	83	-
Stage 2	-	-	-	-	121	-
Critical Hdwy	4.11	-	-	-	6.41	6.21
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-	-	-	-	5.41	-
Follow-up Hdwy	2.209	-	-	-	3.509	3.309
Pot Cap-1 Maneuver	1517	-	-	-	788	980
Stage 1	-	-	-	-	943	-
Stage 2	-	-	-	-	907	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1517	-	-	-	782	980
Mov Cap-2 Maneuver	-	-	-	-	782	-
Stage 1	-	-	-	-	937	-
Stage 2	-	-	-	-	907	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0.63	0	9.86
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	154	-	-	-	782
HCM Lane V/C Ratio	0.006	-	-	-	0.053
HCM Ctrl Dly (s/v)	7.4	0	-	-	9.9
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	393	24	42	703	259	818
Future Volume (veh/h)	393	24	42	703	259	818
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)		0.98	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	401	24	43	717	264	835
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	897	53	68	1441	644	1115
Arrive On Green	0.26	0.26	0.04	0.41	0.36	0.36
Sat Flow, veh/h	3496	203	1781	3647	1781	2790
Grp Volume(v), veh/h	209	216	43	717	264	835
Grp Sat Flow(s),veh/h/ln	1777	1829	1781	1777	1781	1395
Q Serve(g_s), s	3.8	3.8	0.9	5.8	4.3	9.9
Cycle Q Clear(g_c), s	3.8	3.8	0.9	5.8	4.3	9.9
Prop In Lane		0.11	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	468	482	68	1441	644	1115
V/C Ratio(X)	0.45	0.45	0.63	0.50	0.41	0.75
Avail Cap(c_a), veh/h	1840	1894	1199	6441	969	1624
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	11.9	11.9	18.3	8.6	9.2	9.9
Incr Delay (d2), s/veh	0.9	0.9	9.2	0.4	0.2	0.5
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	1.2	0.5	1.3	1.3	1.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	12.8	12.8	27.5	8.9	9.4	10.4
LnGrp LOS	B	B	C	A	A	B
Approach Vol, veh/h	425			760	1099	
Approach Delay, s/veh	12.8			10.0	10.2	
Approach LOS	B			A	B	

Timer - Assigned Phs	2	3	4	8
Phs Duration (G+Y+Rc), s	18.0	5.5	15.2	20.7
Change Period (Y+Rc), s	4.0	4.0	5.0	5.0
Max Green Setting (Gmax), s	21.0	26.0	40.0	70.0
Max Q Clear Time (g_c+I1), s	11.9	2.9	5.8	7.8
Green Ext Time (p_c), s	2.1	0.1	3.5	7.9

Intersection Summary	
HCM 7th Control Delay, s/veh	10.6
HCM 7th LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	29	320	228	440	468	54	20	10	65	32	36	24
Future Volume (veh/h)	29	320	228	440	468	54	20	10	65	32	36	24
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	31	344	245	473	503	58	22	11	70	34	39	26
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	75	528	369	674	1488	657	128	16	101	160	94	63
Arrive On Green	0.04	0.27	0.27	0.20	0.42	0.42	0.07	0.07	0.07	0.09	0.09	0.09
Sat Flow, veh/h	1781	1988	1387	3456	3554	1568	1781	220	1399	1781	1047	698
Grp Volume(v), veh/h	31	307	282	473	503	58	22	0	81	34	0	65
Grp Sat Flow(s),veh/h/ln	1781	1777	1598	1728	1777	1568	1781	0	1619	1781	0	1745
Q Serve(g_s), s	0.8	7.6	7.9	6.4	4.8	1.1	0.6	0.0	2.4	0.9	0.0	1.8
Cycle Q Clear(g_c), s	0.8	7.6	7.9	6.4	4.8	1.1	0.6	0.0	2.4	0.9	0.0	1.8
Prop In Lane	1.00		0.87	1.00		1.00	1.00		0.86	1.00		0.40
Lane Grp Cap(c), veh/h	75	472	425	674	1488	657	128	0	117	160	0	157
V/C Ratio(X)	0.41	0.65	0.66	0.70	0.34	0.09	0.17	0.00	0.69	0.21	0.00	0.41
Avail Cap(c_a), veh/h	565	813	731	1442	1982	875	904	0	822	976	0	956
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	23.3	16.2	16.3	18.7	9.8	8.7	21.7	0.0	22.6	21.0	0.0	21.4
Incr Delay (d2), s/veh	1.4	1.5	1.8	1.3	0.2	0.1	0.2	0.0	2.7	0.2	0.0	0.7
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	2.6	2.5	2.2	1.3	0.3	0.2	0.0	1.0	0.4	0.0	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	24.6	17.8	18.1	20.0	10.0	8.8	22.0	0.0	25.3	21.3	0.0	22.1
LnGrp LOS	C	B	B	C	A	A	C		C	C		C
Approach Vol, veh/h		620			1034			103			99	
Approach Delay, s/veh		18.3			14.5			24.6			21.8	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	8.3	13.9	18.4	9.2	6.3	26.1
Change Period (Y+Rc), s	4.7	4.2	5.2	4.7	4.2	5.2
Max Green Setting (Gmax), s	25.3	20.8	22.8	27.3	15.8	27.8
Max Q Clear Time (g_c+I1), s	4.4	8.4	9.9	3.8	2.8	6.8
Green Ext Time (p_c), s	0.3	1.4	2.8	0.2	0.0	4.5

Intersection Summary	
HCM 7th Control Delay, s/veh	16.7
HCM 7th LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	292	0	1017	0	0	0	1	1024	328	284	649	0
Future Volume (veh/h)	292	0	1017	0	0	0	1	1024	328	284	649	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1885	0	1885				1885	1885	1885	1885	1885	0
Adj Flow Rate, veh/h	311	0	1082				1	1089	349	302	690	0
Peak Hour Factor	0.94	0.94	0.94				0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	1	0	1				1	1	1	1	1	0
Cap, veh/h	597	0	1866				612	1545	490	1436	2031	0
Arrive On Green	0.17	0.00	0.17				0.34	0.32	0.32	0.41	0.39	0.00
Sat Flow, veh/h	3483	0	3643				1795	4887	1548	3483	5316	0
Grp Volume(v), veh/h	311	0	1082				1	1084	354	302	690	0
Grp Sat Flow(s),veh/h/ln	1742	0	1214				1795	1621	1571	1742	1716	0
Q Serve(g_s), s	10.6	0.0	22.3				0.0	25.5	25.9	7.3	12.2	0.0
Cycle Q Clear(g_c), s	10.6	0.0	22.3				0.0	25.5	25.9	7.3	12.2	0.0
Prop In Lane	1.00		1.00				1.00		0.99	1.00		0.00
Lane Grp Cap(c), veh/h	597	0	1866				612	1538	497	1436	2031	0
V/C Ratio(X)	0.52	0.00	0.58				0.00	0.70	0.71	0.21	0.34	0.00
Avail Cap(c_a), veh/h	597	0	1866				612	2709	875	1436	2035	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				1.00	1.00	1.00	0.74	0.74	0.00
Uniform Delay (d), s/veh	49.0	0.0	22.0				28.3	39.1	39.2	24.6	27.5	0.0
Incr Delay (d2), s/veh	0.6	0.0	0.4				0.0	2.7	8.4	0.0	0.3	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.7	0.0	19.4				0.0	10.3	10.9	3.0	5.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	49.6	0.0	22.4				28.3	41.8	47.7	24.6	27.8	0.0
LnGrp LOS	D		C				C	D	D	C	C	
Approach Vol, veh/h		1393						1439			992	
Approach Delay, s/veh		28.5						43.3			26.9	
Approach LOS		C						D			C	

Timer - Assigned Phs	1	2		4	5	6
Phs Duration (G+Y+Rc), s	58.3	45.7		26.0	48.0	56.0
Change Period (Y+Rc), s	4.7	4.6		3.7	3.7	* 4.7
Max Green Setting (Gmax), s	21.3	72.4		22.3	44.3	* 51
Max Q Clear Time (g_c+I1), s	19.3	27.9		24.3	2.0	14.2
Green Ext Time (p_c), s	0.4	13.2		0.0	0.0	5.3

Intersection Summary	
HCM 7th Control Delay, s/veh	33.6
HCM 7th LOS	C

Notes

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	146	479	49	395	420	91
Future Volume (vph)	146	479	49	395	420	91
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.1	4.7	4.7	5.1	4.7	4.7
Lane Util. Factor	0.91	0.91	0.97	0.95	0.97	1.00
Frpb, ped/bikes	0.99	0.99	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.91	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3002	1417	3400	3505	3400	1568
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	3002	1417	3400	3505	3400	1568
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	166	544	56	449	477	103
RTOR Reduction (vph)	171	176	0	0	0	0
Lane Group Flow (vph)	267	96	56	449	477	103
Confl. Peds. (#/hr)		13				1
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%
Turn Type	NA	custom	Prot	NA	Prot	Prot
Protected Phases	4 9	2	3	8	2	2
Permitted Phases		4				
Actuated Green, G (s)	15.7	14.9	3.7	23.0	9.5	9.5
Effective Green, g (s)	15.7	14.9	3.7	23.0	9.5	9.5
Actuated g/C Ratio	0.37	0.35	0.09	0.54	0.22	0.22
Clearance Time (s)		4.7	4.7	5.1	4.7	4.7
Vehicle Extension (s)		0.2	0.2	0.2	0.2	0.2
Lane Grp Cap (vph)	1114	499	297	1905	763	352
v/s Ratio Prot	c0.09	0.04	0.02	c0.13	c0.14	0.07
v/s Ratio Perm		0.02				
v/c Ratio	0.24	0.19	0.19	0.24	0.63	0.29
Uniform Delay, d1	9.2	9.5	17.9	5.1	14.8	13.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.0	0.1	0.1	0.0	1.2	0.2
Delay (s)	9.2	9.6	18.0	5.1	16.0	13.8
Level of Service	A	A	B	A	B	B
Approach Delay (s/veh)	9.4			6.5	15.6	
Approach LOS	A			A	B	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	10.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	42.3	Sum of lost time (s)	18.5
Intersection Capacity Utilization	40.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	26	7	92	557	88	170	190	537	589	29	516	22
Future Volume (veh/h)	26	7	92	557	88	170	190	537	589	29	516	22
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	28	8	100	605	96	185	207	584	640	32	561	24
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	70	15	189	812	143	276	268	1447	1583	59	981	42
Arrive On Green	0.04	0.13	0.13	0.16	0.25	0.25	0.15	0.41	0.41	0.03	0.28	0.28
Sat Flow, veh/h	1781	118	1475	5023	571	1100	1781	3554	2779	1781	3472	148
Grp Volume(v), veh/h	28	0	108	605	0	281	207	584	640	32	287	298
Grp Sat Flow(s),veh/h/ln	1781	0	1593	1674	0	1671	1781	1777	1390	1781	1777	1844
Q Serve(g_s), s	1.1	0.0	4.4	7.9	0.0	10.4	7.7	8.0	8.8	1.2	9.5	9.5
Cycle Q Clear(g_c), s	1.1	0.0	4.4	7.9	0.0	10.4	7.7	8.0	8.8	1.2	9.5	9.5
Prop In Lane	1.00		0.93	1.00		0.66	1.00		1.00	1.00		0.08
Lane Grp Cap(c), veh/h	70	0	204	812	0	419	268	1447	1583	59	502	521
V/C Ratio(X)	0.40	0.00	0.53	0.74	0.00	0.67	0.77	0.40	0.40	0.54	0.57	0.57
Avail Cap(c_a), veh/h	792	0	940	2197	0	974	792	2590	2477	805	1295	1344
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.2	0.0	28.0	27.4	0.0	23.2	28.0	14.4	8.3	32.6	21.1	21.1
Incr Delay (d2), s/veh	7.7	0.0	7.5	0.5	0.0	6.6	6.5	0.4	0.4	10.4	2.2	2.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	2.0	3.0	0.0	4.5	3.5	2.9	2.2	0.7	3.9	4.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	39.8	0.0	35.5	27.9	0.0	29.8	34.5	14.8	8.6	43.1	23.2	23.2
LnGrp LOS	D		D	C		C	C	B	A	D	C	C
Approach Vol, veh/h		136			886			1431			617	
Approach Delay, s/veh		36.4			28.5			14.9			24.2	
Approach LOS		D			C			B			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.3	32.9	15.1	13.3	15.8	24.4	7.2	21.2
Change Period (Y+Rc), s	5.0	5.0	4.0	4.5	5.5	5.0	4.5	4.0
Max Green Setting (Gmax), s	31.6	50.0	30.0	40.5	30.5	50.0	30.5	40.0
Max Q Clear Time (g_c+I1), s	3.2	10.8	9.9	6.4	9.7	11.5	3.1	12.4
Green Ext Time (p_c), s	0.1	16.7	1.2	1.5	0.9	7.8	0.1	4.3

Intersection Summary	
HCM 7th Control Delay, s/veh	21.7
HCM 7th LOS	C

Notes

User approved changes to right turn type.

Intersection	
Intersection Delay, s/veh	7.3
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	31	0	2	25	16	0	3	3	34	1	2
Future Vol, veh/h	2	31	0	2	25	16	0	3	3	34	1	2
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	2	38	0	2	30	20	0	4	4	41	1	2
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	7.3	7.1	6.9	7.5
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	6%	5%	92%
Vol Thru, %	50%	94%	58%	3%
Vol Right, %	50%	0%	37%	5%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	6	33	43	37
LT Vol	0	2	2	34
Through Vol	3	31	25	1
RT Vol	3	0	16	2
Lane Flow Rate	7	40	52	45
Geometry Grp	1	1	1	1
Degree of Util (X)	0.008	0.045	0.056	0.053
Departure Headway (Hd)	3.813	4.061	3.825	4.236
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	933	879	933	843
Service Time	1.859	2.097	1.861	2.272
HCM Lane V/C Ratio	0.008	0.046	0.056	0.053
HCM Control Delay, s/veh	6.9	7.3	7.1	7.5
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0	0.1	0.2	0.2

Intersection	
Int Delay, s/veh	1.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	453	74	18	340	43	14
Future Vol, veh/h	453	74	18	340	43	14
Conflicting Peds, #/hr	0	3	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	110	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	492	80	20	370	47	15

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	576	0	944	289
Stage 1	-	-	-	-	536	-
Stage 2	-	-	-	-	409	-
Critical Hdwy	-	-	4.13	-	6.63	6.93
Critical Hdwy Stg 1	-	-	-	-	5.83	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	-	-	2.219	-	3.519	3.319
Pot Cap-1 Maneuver	-	-	996	-	275	708
Stage 1	-	-	-	-	552	-
Stage 2	-	-	-	-	670	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	993	-	269	706
Mov Cap-2 Maneuver	-	-	-	-	269	-
Stage 1	-	-	-	-	550	-
Stage 2	-	-	-	-	657	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0.44	19.08
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	317	-	-	993	-
HCM Lane V/C Ratio	0.195	-	-	0.02	-
HCM Ctrl Dly (s/v)	19.1	-	-	8.7	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	0.7	-	-	0.1	-

Intersection	
Intersection Delay, s/veh	8.1
Intersection LOS	A

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	23	43	53	82	89	16
Future Vol, veh/h	23	43	53	82	89	16
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	24	45	56	86	94	17
Number of Lanes	0	1	1	0	1	1

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	2	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	2	1
HCM Control Delay, s/veh	7.8	7.7	8.8
HCM LOS	A	A	A

Lane	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	35%	0%	100%	0%
Vol Thru, %	65%	39%	0%	0%
Vol Right, %	0%	61%	0%	100%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	66	135	89	16
LT Vol	23	0	89	0
Through Vol	43	53	0	0
RT Vol	0	82	0	16
Lane Flow Rate	69	142	94	17
Geometry Grp	2	2	5	5
Degree of Util (X)	0.085	0.155	0.14	0.02
Departure Headway (Hd)	4.429	3.933	5.382	4.179
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	813	917	659	842
Service Time	2.433	1.934	3.181	1.976
HCM Lane V/C Ratio	0.085	0.155	0.143	0.02
HCM Control Delay, s/veh	7.8	7.7	9.1	7.1
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.3	0.5	0.5	0.1



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	441	76	124	353	0	53	0	80	0	0	0
Future Volume (veh/h)	4	441	76	124	353	0	53	0	80	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	0	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	4	485	84	136	388	0	58	0	88	0	0	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	0	2	2	2	2	2	2
Cap, veh/h	10	1081	186	219	1686	0	364	0	323	0	4	0
Arrive On Green	0.01	0.36	0.36	0.12	0.47	0.00	0.20	0.00	0.20	0.00	0.00	0.00
Sat Flow, veh/h	1781	3028	522	1781	3647	0	1781	0	1581	0	1870	0
Grp Volume(v), veh/h	4	284	285	136	388	0	58	0	88	0	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1773	1781	1777	0	1781	0	1581	0	1870	0
Q Serve(g_s), s	0.1	5.8	5.9	3.4	3.1	0.0	1.3	0.0	2.2	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.1	5.8	5.9	3.4	3.1	0.0	1.3	0.0	2.2	0.0	0.0	0.0
Prop In Lane	1.00		0.29	1.00		0.00	1.00		1.00	0.00		0.00
Lane Grp Cap(c), veh/h	10	634	633	219	1686	0	364	0	323	0	4	0
V/C Ratio(X)	0.41	0.45	0.45	0.62	0.23	0.00	0.16	0.00	0.27	0.00	0.00	0.00
Avail Cap(c_a), veh/h	750	1496	1493	750	2992	0	1312	0	1165	0	394	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	23.5	11.7	11.7	19.8	7.4	0.0	15.5	0.0	15.9	0.0	0.0	0.0
Incr Delay (d2), s/veh	26.0	1.8	1.8	2.9	0.3	0.0	0.1	0.0	0.2	0.0	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	2.0	2.0	1.3	0.8	0.0	0.5	0.0	0.7	0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	49.6	13.5	13.5	22.7	7.6	0.0	15.6	0.0	16.1	0.0	0.0	0.0
LnGrp LOS	D	B	B	C	A		B		B			
Approach Vol, veh/h		573			524			146			0	
Approach Delay, s/veh		13.8			11.5			15.9			0.0	
Approach LOS		B			B			B				

Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	14.7	10.8	22.0	0.0	5.3	27.5
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	35.0	20.0	40.0	10.0	20.0	40.0
Max Q Clear Time (g_c+I1), s	4.2	5.4	7.9	0.0	2.1	5.1
Green Ext Time (p_c), s	0.4	0.3	8.8	0.0	0.0	6.2

Intersection Summary	
HCM 7th Control Delay, s/veh	13.1
HCM 7th LOS	B

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	16	2	3	102	103	25
Future Vol, veh/h	16	2	3	102	103	25
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	17	2	3	111	112	27

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	243	126	139	0	-	0
Stage 1	126	-	-	-	-	-
Stage 2	117	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	745	925	1444	-	-	-
Stage 1	900	-	-	-	-	-
Stage 2	908	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	744	925	1444	-	-	-
Mov Cap-2 Maneuver	744	-	-	-	-	-
Stage 1	898	-	-	-	-	-
Stage 2	908	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	9.86	0.21	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	51	-	760	-	-
HCM Lane V/C Ratio	0.002	-	0.026	-	-
HCM Ctrl Dly (s/v)	7.5	0	9.9	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	17	48	58	11	18	0
Future Vol, veh/h	17	48	58	11	18	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	20	57	69	13	21	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	82	0	-	0	173	76
Stage 1	-	-	-	-	76	-
Stage 2	-	-	-	-	98	-
Critical Hdwy	4.11	-	-	-	6.41	6.21
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-	-	-	-	5.41	-
Follow-up Hdwy	2.209	-	-	-	3.509	3.309
Pot Cap-1 Maneuver	1522	-	-	-	819	988
Stage 1	-	-	-	-	950	-
Stage 2	-	-	-	-	929	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1522	-	-	-	808	988
Mov Cap-2 Maneuver	-	-	-	-	808	-
Stage 1	-	-	-	-	937	-
Stage 2	-	-	-	-	929	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	1.93	0	9.58
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	471	-	-	-	808
HCM Lane V/C Ratio	0.013	-	-	-	0.027
HCM Ctrl Dly (s/v)	7.4	0	-	-	9.6
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	316	54	22	1038	469	492
Future Volume (veh/h)	316	54	22	1038	469	492
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	367	63	26	1207	545	572
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	1349	229	41	1879	578	969
Arrive On Green	0.45	0.45	0.02	0.53	0.33	0.33
Sat Flow, veh/h	3106	513	1767	3618	1767	2768
Grp Volume(v), veh/h	213	217	26	1207	545	572
Grp Sat Flow(s),veh/h/ln	1763	1763	1767	1763	1767	1384
Q Serve(g_s), s	4.9	5.0	0.9	15.6	19.3	10.9
Cycle Q Clear(g_c), s	4.9	5.0	0.9	15.6	19.3	10.9
Prop In Lane		0.29	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	789	789	41	1879	578	969
V/C Ratio(X)	0.27	0.27	0.64	0.64	0.94	0.59
Avail Cap(c_a), veh/h	1097	1098	715	3841	578	969
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	11.1	11.2	31.1	10.7	21.0	17.1
Incr Delay (d2), s/veh	0.3	0.3	15.3	0.5	24.0	0.7
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	1.6	0.5	4.5	11.2	3.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	11.4	11.4	46.4	11.2	45.0	17.8
LnGrp LOS	B	B	D	B	D	B
Approach Vol, veh/h	430			1233	1117	
Approach Delay, s/veh	11.4			11.9	31.1	
Approach LOS	B			B	C	

Timer - Assigned Phs	2	3	4		8
Phs Duration (G+Y+Rc), s	25.0	5.5	33.8		39.2
Change Period (Y+Rc), s	4.0	4.0	5.0		5.0
Max Green Setting (Gmax), s	21.0	26.0	40.0		70.0
Max Q Clear Time (g_c+I1), s	21.3	2.9	7.0		17.6
Green Ext Time (p_c), s	0.0	0.0	3.6		16.6

Intersection Summary	
HCM 7th Control Delay, s/veh	19.5
HCM 7th LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	17	313	323	647	815	45	203	6	41	16	35	18
Future Volume (veh/h)	17	313	323	647	815	45	203	6	41	16	35	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	20	368	380	761	959	53	239	7	48	19	41	21
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	48	485	433	860	1759	782	288	33	228	114	75	38
Arrive On Green	0.03	0.28	0.28	0.25	0.50	0.50	0.16	0.16	0.16	0.06	0.06	0.06
Sat Flow, veh/h	1767	1763	1572	3428	3526	1568	1767	204	1400	1767	1157	592
Grp Volume(v), veh/h	20	368	380	761	959	53	239	0	55	19	0	62
Grp Sat Flow(s),veh/h/ln	1767	1763	1572	1714	1763	1568	1767	0	1604	1767	0	1749
Q Serve(g_s), s	0.8	14.6	17.6	16.3	14.3	1.3	10.0	0.0	2.3	0.8	0.0	2.6
Cycle Q Clear(g_c), s	0.8	14.6	17.6	16.3	14.3	1.3	10.0	0.0	2.3	0.8	0.0	2.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.87	1.00		0.34
Lane Grp Cap(c), veh/h	48	485	433	860	1759	782	288	0	262	114	0	113
V/C Ratio(X)	0.42	0.76	0.88	0.89	0.55	0.07	0.83	0.00	0.21	0.17	0.00	0.55
Avail Cap(c_a), veh/h	366	527	470	935	1759	782	586	0	532	632	0	626
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	36.5	25.3	26.4	27.5	13.2	9.9	30.9	0.0	27.7	33.8	0.0	34.6
Incr Delay (d2), s/veh	2.1	5.8	16.2	9.6	0.5	0.1	2.4	0.0	0.1	0.3	0.0	1.6
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	6.3	7.9	7.2	4.8	0.4	4.4	0.0	0.9	0.3	0.0	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	38.7	31.2	42.6	37.2	13.6	10.0	33.3	0.0	27.8	34.0	0.0	36.2
LnGrp LOS	D	C	D	D	B	A	C		C	C		D
Approach Vol, veh/h		768			1773			294			81	
Approach Delay, s/veh		37.0			23.6			32.2			35.7	
Approach LOS		D			C			C			D	

Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	17.1	23.3	26.2	9.6	6.3	43.3
Change Period (Y+Rc), s	4.7	4.2	5.2	4.7	4.2	5.2
Max Green Setting (Gmax), s	25.3	20.8	22.8	27.3	15.8	27.8
Max Q Clear Time (g_c+I1), s	12.0	18.3	19.6	4.6	2.8	16.3
Green Ext Time (p_c), s	0.5	0.8	1.4	0.2	0.0	6.2

Intersection Summary	
HCM 7th Control Delay, s/veh	28.3
HCM 7th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	208	0	772	0	0	0	1	1366	364	182	602	0
Future Volume (veh/h)	208	0	772	0	0	0	1	1366	364	182	602	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	0	1870				1870	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	231	0	858				1	1518	404	202	669	0
Peak Hour Factor	0.90	0.90	0.90				0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	0	2				2	2	2	2	2	0
Cap, veh/h	527	0	1464				450	2120	564	1113	2523	0
Arrive On Green	0.15	0.00	0.15				0.25	0.42	0.42	0.32	0.49	0.00
Sat Flow, veh/h	3456	0	3614				1781	5084	1353	3456	5274	0
Grp Volume(v), veh/h	231	0	858				1	1441	481	202	669	0
Grp Sat Flow(s),veh/h/ln	1728	0	1205				1781	1609	1611	1728	1702	0
Q Serve(g_s), s	7.3	0.0	18.3				0.1	29.8	29.8	5.1	9.2	0.0
Cycle Q Clear(g_c), s	7.3	0.0	18.3				0.1	29.8	29.8	5.1	9.2	0.0
Prop In Lane	1.00		1.00				1.00		0.84	1.00		0.00
Lane Grp Cap(c), veh/h	527	0	1464				450	2012	672	1113	2523	0
V/C Ratio(X)	0.44	0.00	0.59				0.00	0.72	0.72	0.18	0.27	0.00
Avail Cap(c_a), veh/h	527	0	1464				450	2670	892	1113	2528	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				1.00	1.00	1.00	0.73	0.73	0.00
Uniform Delay (d), s/veh	46.2	0.0	27.9				33.5	29.1	29.1	29.3	17.7	0.0
Incr Delay (d2), s/veh	0.4	0.0	0.5				0.0	2.2	6.4	0.0	0.2	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.2	0.0	15.3				0.0	11.4	12.2	2.1	3.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	46.6	0.0	28.4				33.6	31.3	35.5	29.3	17.9	0.0
LnGrp LOS	D		C				C	C	D	C	B	
Approach Vol, veh/h		1089						1923			871	
Approach Delay, s/veh		32.3						32.3			20.5	
Approach LOS		C						C			C	

Timer - Assigned Phs	1	2		4	5	6
Phs Duration (G+Y+Rc), s	13.4	54.6		22.0	34.0	64.0
Change Period (Y+Rc), s	4.7	4.6		3.7	3.7	* 4.7
Max Green Setting (Gmax), s	21.3	66.4		18.3	30.3	* 59
Max Q Clear Time (g_c+I1), s	7.1	31.8		20.3	2.1	11.2
Green Ext Time (p_c), s	0.3	18.3		0.0	0.0	5.2

Intersection Summary	
HCM 7th Control Delay, s/veh	29.7
HCM 7th LOS	C

Notes

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	208	442	32	202	307	206
Future Volume (vph)	208	442	32	202	307	206
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.1	4.7	4.7	5.1	4.7	4.7
Lane Util. Factor	0.91	0.91	0.97	0.95	0.97	1.00
Frpb, ped/bikes	0.99	0.99	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.92	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3040	1405	3367	3471	3367	1553
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	3040	1405	3367	3471	3367	1553
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	229	486	35	222	337	226
RTOR Reduction (vph)	150	152	0	0	0	0
Lane Group Flow (vph)	322	91	35	222	337	226
Confl. Peds. (#/hr)		8				3
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%
Turn Type	NA	custom	Prot	NA	Prot	Prot
Protected Phases	4 9	2	3	8	2	2
Permitted Phases		4				
Actuated Green, G (s)	15.9	15.6	2.2	21.7	10.1	10.1
Effective Green, g (s)	15.9	15.6	2.2	21.7	10.1	10.1
Actuated g/C Ratio	0.38	0.38	0.05	0.52	0.24	0.24
Clearance Time (s)		4.7	4.7	5.1	4.7	4.7
Vehicle Extension (s)		0.2	0.2	0.2	0.2	0.2
Lane Grp Cap (vph)	1161	526	178	1810	817	377
v/s Ratio Prot	c0.11	0.04	0.01	c0.06	0.10	c0.15
v/s Ratio Perm		0.02				
v/c Ratio	0.28	0.17	0.20	0.12	0.41	0.60
Uniform Delay, d1	8.9	8.7	18.9	5.1	13.3	14.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.0	0.1	0.2	0.0	0.1	1.7
Delay (s)	8.9	8.7	19.1	5.1	13.4	15.7
Level of Service	A	A	B	A	B	B
Approach Delay (s/veh)	8.9			7.0	14.3	
Approach LOS	A			A	B	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	10.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	41.6	Sum of lost time (s)	18.5
Intersection Capacity Utilization	33.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	11	52	337	54	118	264	689	621	18	662	22
Future Volume (veh/h)	19	11	52	337	54	118	264	689	621	18	662	22
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	21	12	57	366	59	128	287	749	675	20	720	24
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	42	27	130	536	91	197	351	1837	1737	40	1179	39
Arrive On Green	0.02	0.10	0.10	0.11	0.17	0.17	0.20	0.52	0.52	0.02	0.34	0.34
Sat Flow, veh/h	1767	280	1331	4983	521	1129	1767	3526	2762	1767	3481	116
Grp Volume(v), veh/h	21	0	69	366	0	187	287	749	675	20	365	379
Grp Sat Flow(s),veh/h/ln	1767	0	1611	1661	0	1650	1767	1763	1381	1767	1763	1834
Q Serve(g_s), s	0.9	0.0	3.0	5.2	0.0	7.8	11.5	9.5	8.9	0.8	12.7	12.7
Cycle Q Clear(g_c), s	0.9	0.0	3.0	5.2	0.0	7.8	11.5	9.5	8.9	0.8	12.7	12.7
Prop In Lane	1.00		0.83	1.00		0.68	1.00		1.00	1.00		0.06
Lane Grp Cap(c), veh/h	42	0	157	536	0	288	351	1837	1737	40	597	621
V/C Ratio(X)	0.50	0.00	0.44	0.68	0.00	0.65	0.82	0.41	0.39	0.50	0.61	0.61
Avail Cap(c_a), veh/h	731	0	885	2027	0	895	731	2390	2170	743	1195	1243
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.6	0.0	31.4	31.7	0.0	28.3	28.3	10.7	6.7	35.6	20.3	20.3
Incr Delay (d2), s/veh	18.5	0.0	6.8	0.6	0.0	8.6	6.6	0.3	0.3	12.8	2.2	2.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	1.4	2.0	0.0	3.6	5.1	3.2	2.1	0.5	5.2	5.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	54.0	0.0	38.2	32.3	0.0	36.9	34.9	11.0	7.0	48.5	22.5	22.4
LnGrp LOS	D		D	C		D	C	B	A	D	C	C
Approach Vol, veh/h		90			553			1711			764	
Approach Delay, s/veh		41.9			33.8			13.5			23.1	
Approach LOS		D			C			B			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.7	43.4	11.9	11.7	20.1	30.0	6.2	17.4
Change Period (Y+Rc), s	5.0	5.0	4.0	4.5	5.5	5.0	4.5	* 4.5
Max Green Setting (Gmax), s	31.6	50.0	30.0	40.5	30.5	50.0	30.5	* 40
Max Q Clear Time (g_c+I1), s	2.8	11.5	7.2	5.0	13.5	14.7	2.9	9.8
Green Ext Time (p_c), s	0.0	20.4	0.7	0.9	1.2	10.2	0.1	2.7

Intersection Summary	
HCM 7th Control Delay, s/veh	20.3
HCM 7th LOS	C

Notes

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	7.3
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	30	0	3	35	10	0	1	1	18	2	1
Future Vol, veh/h	0	30	0	3	35	10	0	1	1	18	2	1
Peak Hour Factor	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	48	0	5	56	16	0	2	2	29	3	2
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	7.3	7.3	6.9	7.5
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	0%	6%	86%
Vol Thru, %	50%	100%	73%	10%
Vol Right, %	50%	0%	21%	5%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	2	30	48	21
LT Vol	0	0	3	18
Through Vol	1	30	35	2
RT Vol	1	0	10	1
Lane Flow Rate	3	48	76	33
Geometry Grp	1	1	1	1
Degree of Util (X)	0.003	0.054	0.083	0.04
Departure Headway (Hd)	3.874	4.056	3.922	4.293
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	915	881	912	829
Service Time	1.935	2.089	1.952	2.345
HCM Lane V/C Ratio	0.003	0.054	0.083	0.04
HCM Control Delay, s/veh	6.9	7.3	7.3	7.5
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0	0.2	0.3	0.1

Intersection	
Int Delay, s/veh	1.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	605	17	20	470	32	34
Future Vol, veh/h	605	17	20	470	32	34
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	110	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	82	82	82	82	82	82
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	738	21	24	573	39	41

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	759	0	1370	379
Stage 1	-	-	-	-	748	-
Stage 2	-	-	-	-	622	-
Critical Hdwy	-	-	4.16	-	6.66	6.96
Critical Hdwy Stg 1	-	-	-	-	5.86	-
Critical Hdwy Stg 2	-	-	-	-	5.46	-
Follow-up Hdwy	-	-	2.238	-	3.538	3.338
Pot Cap-1 Maneuver	-	-	840	-	147	614
Stage 1	-	-	-	-	425	-
Stage 2	-	-	-	-	530	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	840	-	143	614
Mov Cap-2 Maneuver	-	-	-	-	143	-
Stage 1	-	-	-	-	425	-
Stage 2	-	-	-	-	514	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0.38	27.97
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	236	-	-	840	-
HCM Lane V/C Ratio	0.341	-	-	0.029	-
HCM Ctrl Dly (s/v)	28	-	-	9.4	-
HCM Lane LOS	D	-	-	A	-
HCM 95th %tile Q(veh)	1.4	-	-	0.1	-

Intersection	
Intersection Delay, s/veh	9.1
Intersection LOS	A

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	7	57	50	89	109	0
Future Vol, veh/h	7	57	50	89	109	0
Peak Hour Factor	0.66	0.66	0.66	0.66	0.66	0.66
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	11	86	76	135	165	0
Number of Lanes	0	1	1	0	1	1

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	2	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	2	1
HCM Control Delay, s/veh	8.3	8.5	10.4
HCM LOS	A	A	B

Lane	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	11%	0%	100%	0%
Vol Thru, %	89%	36%	0%	100%
Vol Right, %	0%	64%	0%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	64	139	109	0
LT Vol	7	0	109	0
Through Vol	57	50	0	0
RT Vol	0	89	0	0
Lane Flow Rate	97	211	165	0
Geometry Grp	2	2	5	5
Degree of Util (X)	0.125	0.241	0.26	0
Departure Headway (Hd)	4.637	4.125	5.661	5.159
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	774	872	634	0
Service Time	2.662	2.144	3.401	2.898
HCM Lane V/C Ratio	0.125	0.242	0.26	0
HCM Control Delay, s/veh	8.3	8.5	10.4	7.9
HCM Lane LOS	A	A	B	N
HCM 95th-tile Q	0.4	0.9	1	0



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	86	441	41	89	587	138	68	0	99	19	0	11
Future Volume (veh/h)	86	441	41	89	587	138	68	0	99	19	0	11
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	109	558	52	113	743	175	86	0	125	24	0	14
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	143	1338	124	156	1183	278	270	0	240	71	0	42
Arrive On Green	0.08	0.41	0.41	0.09	0.42	0.42	0.15	0.00	0.15	0.07	0.00	0.07
Sat Flow, veh/h	1767	3261	303	1767	2831	667	1767	0	1572	1067	0	623
Grp Volume(v), veh/h	109	301	309	113	463	455	86	0	125	38	0	0
Grp Sat Flow(s),veh/h/ln	1767	1763	1801	1767	1763	1736	1767	0	1572	1690	0	0
Q Serve(g_s), s	4.3	8.6	8.7	4.4	14.7	14.7	3.1	0.0	5.2	1.5	0.0	0.0
Cycle Q Clear(g_c), s	4.3	8.6	8.7	4.4	14.7	14.7	3.1	0.0	5.2	1.5	0.0	0.0
Prop In Lane	1.00		0.17	1.00		0.38	1.00		1.00	0.63		0.37
Lane Grp Cap(c), veh/h	143	723	739	156	736	725	270	0	240	113	0	0
V/C Ratio(X)	0.76	0.42	0.42	0.73	0.63	0.63	0.32	0.00	0.52	0.34	0.00	0.00
Avail Cap(c_a), veh/h	499	995	1016	499	995	979	872	0	776	238	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	31.9	14.9	14.9	31.5	16.3	16.3	26.7	0.0	27.6	31.6	0.0	0.0
Incr Delay (d2), s/veh	8.2	1.4	1.4	6.3	3.2	3.2	0.3	0.0	0.7	0.6	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	3.2	3.3	2.0	5.6	5.5	1.3	0.0	1.9	0.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	40.2	16.3	16.3	37.8	19.5	19.5	27.0	0.0	28.3	32.2	0.0	0.0
LnGrp LOS	D	B	B	D	B	B	C		C	C		
Approach Vol, veh/h		719			1031			211			38	
Approach Delay, s/veh		19.9			21.5			27.8			32.2	
Approach LOS		B			C			C			C	

Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	15.8	11.2	34.1	9.7	10.7	34.6
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	35.0	20.0	40.0	10.0	20.0	40.0
Max Q Clear Time (g_c+I1), s	7.2	6.4	10.7	3.5	6.3	16.7
Green Ext Time (p_c), s	0.6	0.2	9.2	0.0	0.2	12.9

Intersection Summary	
HCM 7th Control Delay, s/veh	21.8
HCM 7th LOS	C

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	462	193	42	733	321	818
Future Volume (veh/h)	462	193	42	733	321	818
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)		0.98	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	471	197	43	748	328	835
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	816	339	65	1630	618	1070
Arrive On Green	0.34	0.34	0.04	0.46	0.35	0.35
Sat Flow, veh/h	2525	1009	1781	3647	1781	2790
Grp Volume(v), veh/h	343	325	43	748	328	835
Grp Sat Flow(s),veh/h/ln	1777	1663	1781	1777	1781	1395
Q Serve(g_s), s	7.4	7.5	1.1	6.7	6.8	12.2
Cycle Q Clear(g_c), s	7.4	7.5	1.1	6.7	6.8	12.2
Prop In Lane		0.61	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	596	558	65	1630	618	1070
V/C Ratio(X)	0.58	0.58	0.66	0.46	0.53	0.78
Avail Cap(c_a), veh/h	1535	1436	1000	5371	808	1367
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	12.7	12.7	22.0	8.6	12.1	12.6
Incr Delay (d2), s/veh	1.3	1.4	10.7	0.3	0.3	1.7
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	2.2	0.6	1.7	2.4	2.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	13.9	14.1	32.7	8.9	12.4	14.2
LnGrp LOS	B	B	C	A	B	B
Approach Vol, veh/h	668			791	1163	
Approach Delay, s/veh	14.0			10.2	13.7	
Approach LOS	B			B	B	

Timer - Assigned Phs	2	3	4		8
Phs Duration (G+Y+Rc), s	20.1	5.7	20.5		26.2
Change Period (Y+Rc), s	4.0	4.0	5.0		5.0
Max Green Setting (Gmax), s	21.0	26.0	40.0		70.0
Max Q Clear Time (g_c+I1), s	14.2	3.1	9.5		8.7
Green Ext Time (p_c), s	1.9	0.1	6.1		8.3

Intersection Summary	
HCM 7th Control Delay, s/veh	12.7
HCM 7th LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	29	558	458	440	560	54	66	10	65	32	36	24
Future Volume (veh/h)	29	558	458	440	560	54	66	10	65	32	36	24
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	31	600	492	473	602	58	71	11	70	34	39	26
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	71	659	539	629	1776	785	143	18	112	140	83	55
Arrive On Green	0.04	0.36	0.36	0.18	0.50	0.50	0.08	0.08	0.08	0.08	0.08	0.08
Sat Flow, veh/h	1781	1843	1508	3456	3554	1571	1781	220	1399	1781	1047	698
Grp Volume(v), veh/h	31	578	514	473	602	58	71	0	81	34	0	65
Grp Sat Flow(s),veh/h/ln	1781	1777	1575	1728	1777	1571	1781	0	1619	1781	0	1745
Q Serve(g_s), s	1.1	19.3	19.4	8.1	6.4	1.2	2.4	0.0	3.0	1.1	0.0	2.2
Cycle Q Clear(g_c), s	1.1	19.3	19.4	8.1	6.4	1.2	2.4	0.0	3.0	1.1	0.0	2.2
Prop In Lane	1.00		0.96	1.00		1.00	1.00		0.86	1.00		0.40
Lane Grp Cap(c), veh/h	71	635	563	629	1776	785	143	0	130	140	0	138
V/C Ratio(X)	0.44	0.91	0.91	0.75	0.34	0.07	0.50	0.00	0.62	0.24	0.00	0.47
Avail Cap(c_a), veh/h	451	649	575	1152	1776	785	722	0	656	779	0	763
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	29.3	19.1	19.1	24.2	9.4	8.1	27.5	0.0	27.8	27.0	0.0	27.5
Incr Delay (d2), s/veh	1.6	16.8	18.8	1.8	0.2	0.1	1.0	0.0	1.8	0.3	0.0	0.9
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	9.4	8.7	3.1	1.9	0.3	1.0	0.0	1.2	0.5	0.0	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	30.8	35.9	37.9	26.0	9.6	8.2	28.5	0.0	29.6	27.3	0.0	28.4
LnGrp LOS	C	D	D	C	A	A	C		C	C		C
Approach Vol, veh/h		1123			1133			152			99	
Approach Delay, s/veh		36.7			16.4			29.1			28.1	
Approach LOS		D			B			C			C	

Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	9.7	15.6	27.5	9.6	6.7	36.4
Change Period (Y+Rc), s	4.7	4.2	5.2	4.7	4.2	5.2
Max Green Setting (Gmax), s	25.3	20.8	22.8	27.3	15.8	27.8
Max Q Clear Time (g_c+I1), s	5.0	10.1	21.4	4.2	3.1	8.4
Green Ext Time (p_c), s	0.4	1.3	0.9	0.2	0.0	5.2

Intersection Summary	
HCM 7th Control Delay, s/veh	26.7
HCM 7th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	288	0	1017	0	0	0	1	1057	328	284	792	0
Future Volume (veh/h)	288	0	1017	0	0	0	1	1057	328	284	792	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1885	0	1885				1885	1885	1885	1885	1885	0
Adj Flow Rate, veh/h	306	0	1082				1	1124	349	302	843	0
Peak Hour Factor	0.94	0.94	0.94				0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	1	0	1				1	1	1	1	1	0
Cap, veh/h	597	0	1866				612	1592	490	1412	2031	0
Arrive On Green	0.17	0.00	0.17				0.34	0.32	0.32	0.41	0.39	0.00
Sat Flow, veh/h	3483	0	3643				1795	4927	1515	3483	5316	0
Grp Volume(v), veh/h	306	0	1082				1	1109	364	302	843	0
Grp Sat Flow(s),veh/h/ln	1742	0	1214				1795	1621	1579	1742	1716	0
Q Serve(g_s), s	10.4	0.0	22.3				0.0	26.0	26.3	7.3	15.4	0.0
Cycle Q Clear(g_c), s	10.4	0.0	22.3				0.0	26.0	26.3	7.3	15.4	0.0
Prop In Lane	1.00		1.00				1.00		0.96	1.00		0.00
Lane Grp Cap(c), veh/h	597	0	1866				612	1572	510	1412	2031	0
V/C Ratio(X)	0.51	0.00	0.58				0.00	0.71	0.71	0.21	0.42	0.00
Avail Cap(c_a), veh/h	597	0	1866				612	2709	879	1412	2035	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				1.00	1.00	1.00	0.68	0.68	0.00
Uniform Delay (d), s/veh	48.9	0.0	22.0				28.3	38.6	38.7	25.2	28.5	0.0
Incr Delay (d2), s/veh	0.6	0.0	0.4				0.0	2.7	8.2	0.0	0.4	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.6	0.0	19.4				0.0	10.5	11.1	3.0	6.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	49.5	0.0	22.4				28.3	41.3	46.9	25.2	28.9	0.0
LnGrp LOS	D		C				C	D	D	C	C	
Approach Vol, veh/h		1388						1474			1145	
Approach Delay, s/veh		28.4						42.7			27.9	
Approach LOS		C						D			C	

Timer - Assigned Phs	1	2		4	5	6
Phs Duration (G+Y+Rc), s	17.4	46.6		26.0	48.0	56.0
Change Period (Y+Rc), s	4.7	4.6		3.7	3.7	* 4.7
Max Green Setting (Gmax), s	21.3	72.4		22.3	44.3	* 51
Max Q Clear Time (g_c+I1), s	19.3	28.3		24.3	2.0	17.4
Green Ext Time (p_c), s	0.4	13.7		0.0	0.0	6.6

Intersection Summary	
HCM 7th Control Delay, s/veh	33.5
HCM 7th LOS	C

Notes

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	145	479	49	395	420	91
Future Volume (vph)	145	479	49	395	420	91
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.1	4.7	4.7	5.1	4.7	4.7
Lane Util. Factor	0.91	0.91	0.97	0.95	0.97	1.00
Frpb, ped/bikes	0.99	0.99	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.91	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3002	1417	3400	3505	3400	1568
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	3002	1417	3400	3505	3400	1568
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	165	544	56	449	477	103
RTOR Reduction (vph)	171	176	0	0	0	0
Lane Group Flow (vph)	266	96	56	449	477	103
Confl. Peds. (#/hr)		13				1
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%
Turn Type	NA	custom	Prot	NA	Prot	Prot
Protected Phases	4 9	2	3	8	2	2
Permitted Phases		4				
Actuated Green, G (s)	15.7	14.9	3.7	23.0	9.5	9.5
Effective Green, g (s)	15.7	14.9	3.7	23.0	9.5	9.5
Actuated g/C Ratio	0.37	0.35	0.09	0.54	0.22	0.22
Clearance Time (s)		4.7	4.7	5.1	4.7	4.7
Vehicle Extension (s)		0.2	0.2	0.2	0.2	0.2
Lane Grp Cap (vph)	1114	499	297	1905	763	352
v/s Ratio Prot	c0.09	0.04	0.02	c0.13	c0.14	0.07
v/s Ratio Perm		0.02				
v/c Ratio	0.24	0.19	0.19	0.24	0.63	0.29
Uniform Delay, d1	9.2	9.5	17.9	5.1	14.8	13.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.0	0.1	0.1	0.0	1.2	0.2
Delay (s)	9.2	9.6	18.0	5.1	16.0	13.8
Level of Service	A	A	B	A	B	B
Approach Delay (s/veh)	9.4			6.5	15.6	
Approach LOS	A			A	B	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	10.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	42.3	Sum of lost time (s)	18.5
Intersection Capacity Utilization	40.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	26	7	92	557	88	170	190	566	589	28	663	22
Future Volume (veh/h)	26	7	92	557	88	170	190	566	589	28	663	22
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	28	8	100	605	96	185	207	615	640	30	721	24
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	70	14	180	787	137	264	262	1609	1696	55	1158	39
Arrive On Green	0.04	0.12	0.12	0.16	0.24	0.24	0.15	0.45	0.45	0.03	0.33	0.33
Sat Flow, veh/h	1781	118	1474	5023	571	1100	1781	3554	2780	1781	3509	117
Grp Volume(v), veh/h	28	0	108	605	0	281	207	615	640	30	365	380
Grp Sat Flow(s),veh/h/ln	1781	0	1592	1674	0	1671	1781	1777	1390	1781	1777	1849
Q Serve(g_s), s	1.2	0.0	5.0	9.0	0.0	12.0	8.7	8.9	9.1	1.3	13.5	13.5
Cycle Q Clear(g_c), s	1.2	0.0	5.0	9.0	0.0	12.0	8.7	8.9	9.1	1.3	13.5	13.5
Prop In Lane	1.00		0.93	1.00		0.66	1.00		1.00	1.00		0.06
Lane Grp Cap(c), veh/h	70	0	194	787	0	400	262	1609	1696	55	586	610
V/C Ratio(X)	0.40	0.00	0.56	0.77	0.00	0.70	0.79	0.38	0.38	0.55	0.62	0.62
Avail Cap(c_a), veh/h	698	0	829	1936	0	859	698	2283	2224	710	1142	1188
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.5	0.0	32.2	31.5	0.0	27.0	32.0	14.1	7.7	37.2	22.0	22.0
Incr Delay (d2), s/veh	7.8	0.0	8.7	0.6	0.0	7.9	7.3	0.3	0.3	11.7	2.3	2.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	2.3	3.5	0.0	5.4	4.1	3.2	2.3	0.7	5.6	5.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	44.3	0.0	40.9	32.1	0.0	34.9	39.4	14.4	8.0	48.9	24.3	24.2
LnGrp LOS	D		D	C		C	D	B	A	D	C	C
Approach Vol, veh/h		136			886			1462			775	
Approach Delay, s/veh		41.6			33.0			15.1			25.2	
Approach LOS		D			C			B			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.4	40.2	16.2	14.0	17.0	30.7	7.5	22.7
Change Period (Y+Rc), s	5.0	5.0	4.0	4.5	5.5	5.0	4.5	4.0
Max Green Setting (Gmax), s	3.1.6	50.0	30.0	40.5	30.5	50.0	30.5	40.0
Max Q Clear Time (g_c+I1), s	3.3	11.1	11.0	7.0	10.7	15.5	3.2	14.0
Green Ext Time (p_c), s	0.1	17.3	1.2	1.5	0.9	10.2	0.1	4.2

Intersection Summary	
HCM 7th Control Delay, s/veh	23.5
HCM 7th LOS	C

Notes

User approved changes to right turn type.

Intersection	
Intersection Delay, s/veh	7.1
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	31	0	2	25	16	0	3	3	17	1	2
Future Vol, veh/h	2	31	0	2	25	16	0	3	3	17	1	2
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	2	38	0	2	30	20	0	4	4	21	1	2
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	7.2	7	6.9	7.4
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	6%	5%	85%
Vol Thru, %	50%	94%	58%	5%
Vol Right, %	50%	0%	37%	10%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	6	33	43	20
LT Vol	0	2	2	17
Through Vol	3	31	25	1
RT Vol	3	0	16	2
Lane Flow Rate	7	40	52	24
Geometry Grp	1	1	1	1
Degree of Util (X)	0.008	0.045	0.055	0.028
Departure Headway (Hd)	3.797	4.026	3.79	4.195
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	939	890	945	852
Service Time	1.835	2.046	1.811	2.229
HCM Lane V/C Ratio	0.007	0.045	0.055	0.028
HCM Control Delay, s/veh	6.9	7.2	7	7.4
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0	0.1	0.2	0.1

Intersection	
Int Delay, s/veh	1.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	523	57	30	569	43	21
Future Vol, veh/h	523	57	30	569	43	21
Conflicting Peds, #/hr	0	3	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	110	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	568	62	33	618	47	23

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	633	0	1286	318
Stage 1	-	-	-	-	602	-
Stage 2	-	-	-	-	684	-
Critical Hdwy	-	-	4.13	-	6.63	6.93
Critical Hdwy Stg 1	-	-	-	-	5.83	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	-	-	2.219	-	3.519	3.319
Pot Cap-1 Maneuver	-	-	947	-	168	678
Stage 1	-	-	-	-	510	-
Stage 2	-	-	-	-	500	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	945	-	162	676
Mov Cap-2 Maneuver	-	-	-	-	162	-
Stage 1	-	-	-	-	509	-
Stage 2	-	-	-	-	483	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0.45	29.42
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	216	-	-	945	-
HCM Lane V/C Ratio	0.322	-	-	0.035	-
HCM Ctrl Dly (s/v)	29.4	-	-	8.9	-
HCM Lane LOS	D	-	-	A	-
HCM 95th %tile Q(veh)	1.3	-	-	0.1	-

Intersection	
Intersection Delay, s/veh	8.2
Intersection LOS	A

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	7	41	50	90	104	8
Future Vol, veh/h	7	41	50	90	104	8
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	7	43	53	95	109	8
Number of Lanes	0	1	1	0	1	1

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	2	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	2	1
HCM Control Delay, s/veh	7.7	7.7	9
HCM LOS	A	A	A

Lane	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	15%	0%	100%	0%
Vol Thru, %	85%	36%	0%	0%
Vol Right, %	0%	64%	0%	100%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	48	140	104	8
LT Vol	7	0	104	0
Through Vol	41	50	0	0
RT Vol	0	90	0	8
Lane Flow Rate	51	147	109	8
Geometry Grp	2	2	5	5
Degree of Util (X)	0.062	0.16	0.163	0.01
Departure Headway (Hd)	4.42	3.918	5.36	4.156
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	814	921	662	848
Service Time	2.426	1.92	3.148	1.944
HCM Lane V/C Ratio	0.063	0.16	0.165	0.009
HCM Control Delay, s/veh	7.7	7.7	9.2	7
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.2	0.6	0.6	0



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	16	628	84	198	447	19	52	0	68	119	0	73
Future Volume (veh/h)	16	628	84	198	447	19	52	0	68	119	0	73
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	18	690	92	218	491	21	57	0	75	131	0	80
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	37	1083	144	262	1634	70	242	0	214	131	0	80
Arrive On Green	0.02	0.34	0.34	0.15	0.47	0.47	0.14	0.00	0.14	0.12	0.00	0.12
Sat Flow, veh/h	1781	3149	420	1781	3472	148	1781	0	1578	1056	0	645
Grp Volume(v), veh/h	18	389	393	218	251	261	57	0	75	211	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1792	1781	1777	1844	1781	0	1578	1701	0	0
Q Serve(g_s), s	0.8	14.8	14.8	9.6	7.0	7.0	2.3	0.0	3.5	10.0	0.0	0.0
Cycle Q Clear(g_c), s	0.8	14.8	14.8	9.6	7.0	7.0	2.3	0.0	3.5	10.0	0.0	0.0
Prop In Lane	1.00		0.23	1.00		0.08	1.00		1.00	0.62		0.38
Lane Grp Cap(c), veh/h	37	611	616	262	836	867	242	0	214	212	0	0
V/C Ratio(X)	0.49	0.64	0.64	0.83	0.30	0.30	0.24	0.00	0.35	1.00	0.00	0.00
Avail Cap(c_a), veh/h	443	884	891	443	884	917	775	0	687	212	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	39.0	22.2	22.2	33.3	13.1	13.1	31.0	0.0	31.5	35.2	0.0	0.0
Incr Delay (d2), s/veh	9.8	4.0	3.9	6.7	0.7	0.7	0.2	0.0	0.4	61.1	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	6.2	6.3	4.3	2.6	2.7	1.0	0.0	1.3	7.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	48.8	26.1	26.1	40.1	13.9	13.8	31.2	0.0	31.9	96.3	0.0	0.0
LnGrp LOS	D	C	C	D	B	B	C		C	F		
Approach Vol, veh/h		800			730			132			211	
Approach Delay, s/veh		26.6			21.7			31.6			96.3	
Approach LOS		C			C			C			F	

Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	15.9	16.8	32.7	15.0	6.7	42.8
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	35.0	20.0	40.0	10.0	20.0	40.0
Max Q Clear Time (g_c+I1), s	5.5	11.6	16.8	12.0	2.8	9.0
Green Ext Time (p_c), s	0.4	0.4	10.8	0.0	0.0	7.7

Intersection Summary	
HCM 7th Control Delay, s/veh	32.9
HCM 7th LOS	C

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	318	57	22	1039	476	492
Future Volume (veh/h)	318	57	22	1039	476	492
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	370	66	26	1208	553	572
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	1341	237	41	1880	577	968
Arrive On Green	0.45	0.45	0.02	0.53	0.33	0.33
Sat Flow, veh/h	3087	529	1767	3618	1767	2768
Grp Volume(v), veh/h	216	220	26	1208	553	572
Grp Sat Flow(s),veh/h/ln	1763	1760	1767	1763	1767	1384
Q Serve(g_s), s	5.0	5.1	0.9	15.6	19.7	10.9
Cycle Q Clear(g_c), s	5.0	5.1	0.9	15.6	19.7	10.9
Prop In Lane		0.30	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	790	789	41	1880	577	968
V/C Ratio(X)	0.27	0.28	0.64	0.64	0.96	0.59
Avail Cap(c_a), veh/h	1097	1095	715	3839	577	968
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	11.2	11.2	31.1	10.6	21.2	17.1
Incr Delay (d2), s/veh	0.3	0.3	15.3	0.5	27.0	0.7
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	1.6	0.5	4.5	11.9	3.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	11.4	11.5	46.4	11.2	48.2	17.8
LnGrp LOS	B	B	D	B	D	B
Approach Vol, veh/h	436			1234	1125	
Approach Delay, s/veh	11.4			11.9	32.8	
Approach LOS	B			B	C	

Timer - Assigned Phs	2	3	4		8
Phs Duration (G+Y+Rc), s	25.0	5.5	33.8		39.3
Change Period (Y+Rc), s	4.0	4.0	5.0		5.0
Max Green Setting (Gmax), s	21.0	26.0	40.0		70.0
Max Q Clear Time (g_c+I1), s	21.7	2.9	7.1		17.6
Green Ext Time (p_c), s	0.0	0.0	3.6		16.7

Intersection Summary	
HCM 7th Control Delay, s/veh	20.2
HCM 7th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	17	318	351	647	823	45	204	6	41	16	35	18
Future Volume (veh/h)	17	318	351	647	823	45	204	6	41	16	35	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	20	374	413	761	968	53	240	7	48	19	41	21
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	48	503	449	852	1787	795	288	33	228	112	73	38
Arrive On Green	0.03	0.29	0.29	0.25	0.51	0.51	0.16	0.16	0.16	0.06	0.06	0.06
Sat Flow, veh/h	1767	1763	1572	3428	3526	1568	1767	204	1400	1767	1157	592
Grp Volume(v), veh/h	20	374	413	761	968	53	240	0	55	19	0	62
Grp Sat Flow(s),veh/h/ln	1767	1763	1572	1714	1763	1568	1767	0	1604	1767	0	1749
Q Serve(g_s), s	0.9	15.1	20.0	16.8	14.6	1.4	10.3	0.0	2.3	0.8	0.0	2.7
Cycle Q Clear(g_c), s	0.9	15.1	20.0	16.8	14.6	1.4	10.3	0.0	2.3	0.8	0.0	2.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.87	1.00		0.34
Lane Grp Cap(c), veh/h	48	503	449	852	1787	795	288	0	261	112	0	111
V/C Ratio(X)	0.42	0.74	0.92	0.89	0.54	0.07	0.83	0.00	0.21	0.17	0.00	0.56
Avail Cap(c_a), veh/h	356	513	457	909	1787	795	570	0	517	615	0	609
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	37.5	25.4	27.2	28.5	13.1	9.9	31.8	0.0	28.5	34.8	0.0	35.7
Incr Delay (d2), s/veh	2.2	5.7	23.7	10.7	0.4	0.0	2.4	0.0	0.1	0.3	0.0	1.6
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	6.5	9.7	7.5	4.9	0.4	4.5	0.0	0.9	0.3	0.0	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	39.7	31.1	50.8	39.2	13.6	9.9	34.2	0.0	28.6	35.0	0.0	37.3
LnGrp LOS	D	C	D	D	B	A	C		C	D		D
Approach Vol, veh/h		807			1782			295			81	
Approach Delay, s/veh		41.4			24.4			33.2			36.8	
Approach LOS		D			C			C			D	

Timer - Assigned Phs	2	3	4		6	7	8
Phs Duration (G+Y+Rc), s	17.5	23.7	27.6		9.7	6.3	44.9
Change Period (Y+Rc), s	4.7	4.2	5.2		4.7	4.2	5.2
Max Green Setting (Gmax), s	25.3	20.8	22.8		27.3	15.8	27.8
Max Q Clear Time (g_c+I1), s	12.3	18.8	22.0		4.7	2.9	16.6
Green Ext Time (p_c), s	0.5	0.7	0.4		0.2	0.0	6.1

Intersection Summary	
HCM 7th Control Delay, s/veh	30.2
HCM 7th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	212	0	772	0	0	0	1	1368	364	182	607	0
Future Volume (veh/h)	212	0	772	0	0	0	1	1368	364	182	607	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	0	1870				1870	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	236	0	858				1	1520	404	202	674	0
Peak Hour Factor	0.90	0.90	0.90				0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	0	2				2	2	2	2	2	0
Cap, veh/h	527	0	1464				450	2123	564	1112	2523	0
Arrive On Green	0.15	0.00	0.15				0.25	0.42	0.42	0.32	0.49	0.00
Sat Flow, veh/h	3456	0	3614				1781	5086	1352	3456	5274	0
Grp Volume(v), veh/h	236	0	858				1	1442	482	202	674	0
Grp Sat Flow(s),veh/h/ln	1728	0	1205				1781	1609	1612	1728	1702	0
Q Serve(g_s), s	7.5	0.0	18.3				0.1	29.8	29.8	5.1	9.2	0.0
Cycle Q Clear(g_c), s	7.5	0.0	18.3				0.1	29.8	29.8	5.1	9.2	0.0
Prop In Lane	1.00		1.00				1.00		0.84	1.00		0.00
Lane Grp Cap(c), veh/h	527	0	1464				450	2014	673	1112	2523	0
V/C Ratio(X)	0.45	0.00	0.59				0.00	0.72	0.72	0.18	0.27	0.00
Avail Cap(c_a), veh/h	527	0	1464				450	2670	892	1112	2528	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				1.00	1.00	1.00	0.73	0.73	0.00
Uniform Delay (d), s/veh	46.3	0.0	27.9				33.5	29.0	29.0	29.3	17.7	0.0
Incr Delay (d2), s/veh	0.4	0.0	0.5				0.0	2.2	6.4	0.0	0.2	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.2	0.0	15.3				0.0	11.4	12.3	2.1	3.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	46.7	0.0	28.4				33.6	31.3	35.5	29.3	17.9	0.0
LnGrp LOS	D		C				C	C	D	C	B	
Approach Vol, veh/h		1094						1925			876	
Approach Delay, s/veh		32.3						32.3			20.5	
Approach LOS		C						C			C	

Timer - Assigned Phs	1	2	4	5	6
Phs Duration (G+Y+Rc), s	43.3	54.7	22.0	34.0	64.0
Change Period (Y+Rc), s	4.7	4.6	3.7	3.7	* 4.7
Max Green Setting (Gmax), s	21.3	66.4	18.3	30.3	* 59
Max Q Clear Time (g_c+I1), s	17.1	31.8	20.3	2.1	11.2
Green Ext Time (p_c), s	0.3	18.3	0.0	0.0	5.2

Intersection Summary	
HCM 7th Control Delay, s/veh	29.7
HCM 7th LOS	C

Notes

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	209	442	32	202	307	206
Future Volume (vph)	209	442	32	202	307	206
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.1	4.7	4.7	5.1	4.7	4.7
Lane Util. Factor	0.91	0.91	0.97	0.95	0.97	1.00
Frpb, ped/bikes	0.99	0.99	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.92	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3040	1405	3367	3471	3367	1553
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	3040	1405	3367	3471	3367	1553
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	230	486	35	222	337	226
RTOR Reduction (vph)	150	152	0	0	0	0
Lane Group Flow (vph)	323	91	35	222	337	226
Confl. Peds. (#/hr)		8				3
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%
Turn Type	NA	custom	Prot	NA	Prot	Prot
Protected Phases	4 9		2	3	8	2	2
Permitted Phases		4				
Actuated Green, G (s)	15.9	15.6	2.2	21.7	10.1	10.1
Effective Green, g (s)	15.9	15.6	2.2	21.7	10.1	10.1
Actuated g/C Ratio	0.38	0.38	0.05	0.52	0.24	0.24
Clearance Time (s)		4.7	4.7	5.1	4.7	4.7
Vehicle Extension (s)		0.2	0.2	0.2	0.2	0.2
Lane Grp Cap (vph)	1161	526	178	1810	817	377
v/s Ratio Prot	c0.11	0.04	0.01	c0.06	0.10	c0.15
v/s Ratio Perm		0.02				
v/c Ratio	0.28	0.17	0.20	0.12	0.41	0.60
Uniform Delay, d1	8.9	8.7	18.9	5.1	13.3	14.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.0	0.1	0.2	0.0	0.1	1.7
Delay (s)	8.9	8.7	19.1	5.1	13.4	15.7
Level of Service	A	A	B	A	B	B
Approach Delay (s/veh)	8.9			7.0	14.3	
Approach LOS	A			A	B	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	10.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	41.6	Sum of lost time (s)	18.5
Intersection Capacity Utilization	33.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	11	52	337	54	118	264	695	621	19	667	22
Future Volume (veh/h)	19	11	52	337	54	118	264	695	621	19	667	22
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	21	12	57	366	59	128	287	755	675	21	725	24
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	42	27	130	535	91	197	351	1839	1738	42	1184	39
Arrive On Green	0.02	0.10	0.10	0.11	0.17	0.17	0.20	0.52	0.52	0.02	0.34	0.34
Sat Flow, veh/h	1767	280	1331	4983	521	1129	1767	3526	2762	1767	3482	115
Grp Volume(v), veh/h	21	0	69	366	0	187	287	755	675	21	367	382
Grp Sat Flow(s),veh/h/ln	1767	0	1611	1661	0	1650	1767	1763	1381	1767	1763	1834
Q Serve(g_s), s	0.9	0.0	3.0	5.2	0.0	7.8	11.5	9.7	8.9	0.9	12.8	12.9
Cycle Q Clear(g_c), s	0.9	0.0	3.0	5.2	0.0	7.8	11.5	9.7	8.9	0.9	12.8	12.9
Prop In Lane	1.00		0.83	1.00		0.68	1.00		1.00	1.00		0.06
Lane Grp Cap(c), veh/h	42	0	157	535	0	288	351	1839	1738	42	599	624
V/C Ratio(X)	0.50	0.00	0.44	0.68	0.00	0.65	0.82	0.41	0.39	0.50	0.61	0.61
Avail Cap(c_a), veh/h	728	0	881	2019	0	891	728	2381	2163	740	1190	1238
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.7	0.0	31.5	31.8	0.0	28.5	28.4	10.8	6.7	35.7	20.4	20.4
Incr Delay (d2), s/veh	18.5	0.0	6.9	0.6	0.0	8.6	6.6	0.3	0.3	12.6	2.2	2.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	1.4	2.0	0.0	3.6	5.1	3.2	2.1	0.5	5.2	5.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	54.2	0.0	38.4	32.4	0.0	37.1	35.0	11.1	7.1	48.3	22.5	22.5
LnGrp LOS	D		D	C		D	D	B	A	D	C	C
Approach Vol, veh/h		90			553			1717			770	
Approach Delay, s/veh		42.1			34.0			13.5			23.2	
Approach LOS		D			C			B			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.8	43.6	12.0	11.7	20.2	30.2	6.3	17.4
Change Period (Y+Rc), s	5.0	5.0	4.0	4.5	5.5	5.0	4.5	* 4.5
Max Green Setting (Gmax), s	31.6	50.0	30.0	40.5	30.5	50.0	30.5	* 40
Max Q Clear Time (g_c+I1), s	2.9	11.7	7.2	5.0	13.5	14.9	2.9	9.8
Green Ext Time (p_c), s	0.0	20.4	0.7	0.9	1.2	10.3	0.1	2.7

Intersection Summary	
HCM 7th Control Delay, s/veh	20.3
HCM 7th LOS	C

Notes

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	7.4
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	30	0	3	35	10	0	1	1	24	2	1
Future Vol, veh/h	0	30	0	3	35	10	0	1	1	24	2	1
Peak Hour Factor	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	48	0	5	56	16	0	2	2	38	3	2
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	7.3	7.3	7	7.6
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	0%	6%	89%
Vol Thru, %	50%	100%	73%	7%
Vol Right, %	50%	0%	21%	4%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	2	30	48	27
LT Vol	0	0	3	24
Through Vol	1	30	35	2
RT Vol	1	0	10	1
Lane Flow Rate	3	48	76	43
Geometry Grp	1	1	1	1
Degree of Util (X)	0.003	0.054	0.083	0.051
Departure Headway (Hd)	3.881	4.072	3.937	4.306
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	913	876	907	827
Service Time	1.944	2.111	1.973	2.358
HCM Lane V/C Ratio	0.003	0.055	0.084	0.052
HCM Control Delay, s/veh	7	7.3	7.3	7.6
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0	0.2	0.3	0.2

Intersection	
Int Delay, s/veh	1.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	608	23	20	484	32	34
Future Vol, veh/h	608	23	20	484	32	34
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	110	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	82	82	82	82	82	82
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	741	28	24	590	39	41

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	770	0	1395	385
Stage 1	-	-	-	-	755	-
Stage 2	-	-	-	-	639	-
Critical Hdwy	-	-	4.16	-	6.66	6.96
Critical Hdwy Stg 1	-	-	-	-	5.86	-
Critical Hdwy Stg 2	-	-	-	-	5.46	-
Follow-up Hdwy	-	-	2.238	-	3.538	3.338
Pot Cap-1 Maneuver	-	-	832	-	142	609
Stage 1	-	-	-	-	421	-
Stage 2	-	-	-	-	520	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	832	-	138	609
Mov Cap-2 Maneuver	-	-	-	-	138	-
Stage 1	-	-	-	-	421	-
Stage 2	-	-	-	-	505	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0.38	29.04
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	229	-	-	832	-
HCM Lane V/C Ratio	0.352	-	-	0.029	-
HCM Ctrl Dly (s/v)	29	-	-	9.5	-
HCM Lane LOS	D	-	-	A	-
HCM 95th %tile Q(veh)	1.5	-	-	0.1	-

Intersection	
Intersection Delay, s/veh	9.3
Intersection LOS	A

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	30	60	51	90	112	3
Future Vol, veh/h	30	60	51	90	112	3
Peak Hour Factor	0.66	0.66	0.66	0.66	0.66	0.66
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	45	91	77	136	170	5
Number of Lanes	0	1	1	0	1	1

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	2	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	2	1
HCM Control Delay, s/veh	8.8	8.6	10.6
HCM LOS	A	A	B

Lane	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	33%	0%	100%	0%
Vol Thru, %	67%	36%	0%	0%
Vol Right, %	0%	64%	0%	100%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	90	141	112	3
LT Vol	30	0	112	0
Through Vol	60	51	0	0
RT Vol	0	90	0	3
Lane Flow Rate	136	214	170	5
Geometry Grp	2	2	5	5
Degree of Util (X)	0.178	0.249	0.272	0.006
Departure Headway (Hd)	4.712	4.198	5.763	4.556
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	761	857	623	782
Service Time	2.744	2.223	3.511	2.303
HCM Lane V/C Ratio	0.179	0.25	0.273	0.006
HCM Control Delay, s/veh	8.8	8.6	10.7	7.3
HCM Lane LOS	A	A	B	A
HCM 95th-tile Q	0.6	1	1.1	0



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	86	441	44	98	587	138	82	0	132	19	0	11
Future Volume (veh/h)	86	441	44	98	587	138	82	0	132	19	0	11
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	109	558	56	124	743	175	104	0	167	24	0	14
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	142	1316	132	161	1181	278	272	0	242	71	0	42
Arrive On Green	0.08	0.41	0.41	0.09	0.42	0.42	0.15	0.00	0.15	0.07	0.00	0.07
Sat Flow, veh/h	1767	3236	324	1767	2831	667	1767	0	1572	1067	0	623
Grp Volume(v), veh/h	109	303	311	124	463	455	104	0	167	38	0	0
Grp Sat Flow(s),veh/h/ln	1767	1763	1797	1767	1763	1736	1767	0	1572	1690	0	0
Q Serve(g_s), s	4.3	8.8	8.8	4.9	14.7	14.7	3.8	0.0	7.1	1.5	0.0	0.0
Cycle Q Clear(g_c), s	4.3	8.8	8.8	4.9	14.7	14.7	3.8	0.0	7.1	1.5	0.0	0.0
Prop In Lane	1.00		0.18	1.00		0.38	1.00		1.00	0.63		0.37
Lane Grp Cap(c), veh/h	142	717	731	161	735	724	272	0	242	113	0	0
V/C Ratio(X)	0.76	0.42	0.43	0.77	0.63	0.63	0.38	0.00	0.69	0.34	0.00	0.00
Avail Cap(c_a), veh/h	497	992	1012	497	992	977	870	0	774	238	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	32.0	15.1	15.1	31.6	16.4	16.4	27.0	0.0	28.5	31.7	0.0	0.0
Incr Delay (d2), s/veh	8.2	1.4	1.4	7.5	3.2	3.3	0.3	0.0	1.3	0.6	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	3.3	3.3	2.3	5.6	5.6	1.6	0.0	2.7	0.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	40.3	16.6	16.6	39.1	19.6	19.6	27.3	0.0	29.8	32.3	0.0	0.0
LnGrp LOS	D	B	B	D	B	B	C		C	C		
Approach Vol, veh/h		723			1042			271			38	
Approach Delay, s/veh		20.1			21.9			28.8			32.3	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	2	3	4		6	7	8
Phs Duration (G+Y+Rc), s	15.9	11.5	33.9		9.7	10.7	34.6
Change Period (Y+Rc), s	5.0	5.0	5.0		5.0	5.0	5.0
Max Green Setting (Gmax), s	35.0	20.0	40.0		10.0	20.0	40.0
Max Q Clear Time (g_c+I1), s	9.1	6.9	10.8		3.5	6.3	16.7
Green Ext Time (p_c), s	0.9	0.2	9.3		0.0	0.2	12.9

Intersection Summary	
HCM 7th Control Delay, s/veh	22.4
HCM 7th LOS	C

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	24	3	1	119	112	9
Future Vol, veh/h	24	3	1	119	112	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	26	3	1	129	122	10

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	258	127	132	0	-	0
Stage 1	127	-	-	-	-	-
Stage 2	132	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	731	924	1454	-	-	-
Stage 1	899	-	-	-	-	-
Stage 2	895	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	730	924	1454	-	-	-
Mov Cap-2 Maneuver	730	-	-	-	-	-
Stage 1	898	-	-	-	-	-
Stage 2	895	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	10.01	0.06	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	15	-	747	-	-
HCM Lane V/C Ratio	0.001	-	0.039	-	-
HCM Ctrl Dly (s/v)	7.5	0	10	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	6	64	50	4	26	0
Future Vol, veh/h	6	64	50	4	26	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	63	63	63	63	63	63
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	10	102	79	6	41	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	86	0	-	0	203	83
Stage 1	-	-	-	-	83	-
Stage 2	-	-	-	-	121	-
Critical Hdwy	4.11	-	-	-	6.41	6.21
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-	-	-	-	5.41	-
Follow-up Hdwy	2.209	-	-	-	3.509	3.309
Pot Cap-1 Maneuver	1517	-	-	-	788	980
Stage 1	-	-	-	-	943	-
Stage 2	-	-	-	-	907	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1517	-	-	-	782	980
Mov Cap-2 Maneuver	-	-	-	-	782	-
Stage 1	-	-	-	-	937	-
Stage 2	-	-	-	-	907	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0.63	0	9.86
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	154	-	-	-	782
HCM Lane V/C Ratio	0.006	-	-	-	0.053
HCM Ctrl Dly (s/v)	7.4	0	-	-	9.9
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	464	195	42	736	340	818
Future Volume (veh/h)	464	195	42	736	340	818
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)		0.98	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	473	199	43	751	347	835
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	817	341	65	1633	618	1070
Arrive On Green	0.34	0.34	0.04	0.46	0.35	0.35
Sat Flow, veh/h	2520	1013	1781	3647	1781	2790
Grp Volume(v), veh/h	345	327	43	751	347	835
Grp Sat Flow(s),veh/h/ln	1777	1662	1781	1777	1781	1395
Q Serve(g_s), s	7.4	7.5	1.1	6.7	7.3	12.2
Cycle Q Clear(g_c), s	7.4	7.5	1.1	6.7	7.3	12.2
Prop In Lane		0.61	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	598	560	65	1633	618	1070
V/C Ratio(X)	0.58	0.58	0.66	0.46	0.56	0.78
Avail Cap(c_a), veh/h	1528	1430	996	5349	804	1362
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	12.7	12.7	22.1	8.6	12.3	12.6
Incr Delay (d2), s/veh	1.3	1.4	10.7	0.3	0.3	1.7
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	2.2	0.6	1.7	2.5	2.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	14.0	14.1	32.8	8.9	12.6	14.3
LnGrp LOS	B	B	C	A	B	B
Approach Vol, veh/h	672			794	1182	
Approach Delay, s/veh	14.0			10.2	13.8	
Approach LOS	B			B	B	

Timer - Assigned Phs	2	3	4		8
Phs Duration (G+Y+Rc), s	20.1	5.7	20.7		26.4
Change Period (Y+Rc), s	4.0	4.0	5.0		5.0
Max Green Setting (Gmax), s	21.0	26.0	40.0		70.0
Max Q Clear Time (g_c+I1), s	14.2	3.1	9.5		8.7
Green Ext Time (p_c), s	1.9	0.1	6.1		8.4

Intersection Summary	
HCM 7th Control Delay, s/veh	12.8
HCM 7th LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	29	562	476	440	582	54	69	10	65	32	36	24
Future Volume (veh/h)	29	562	476	440	582	54	69	10	65	32	36	24
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	31	604	512	473	626	58	74	11	70	34	39	26
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	71	653	551	628	1783	788	143	18	113	140	82	55
Arrive On Green	0.04	0.36	0.36	0.18	0.50	0.50	0.08	0.08	0.08	0.08	0.08	0.08
Sat Flow, veh/h	1781	1814	1533	3456	3554	1571	1781	220	1399	1781	1047	698
Grp Volume(v), veh/h	31	592	524	473	626	58	74	0	81	34	0	65
Grp Sat Flow(s),veh/h/ln	1781	1777	1570	1728	1777	1571	1781	0	1619	1781	0	1745
Q Serve(g_s), s	1.1	20.1	20.2	8.1	6.7	1.2	2.5	0.0	3.0	1.1	0.0	2.2
Cycle Q Clear(g_c), s	1.1	20.1	20.2	8.1	6.7	1.2	2.5	0.0	3.0	1.1	0.0	2.2
Prop In Lane	1.00		0.98	1.00		1.00	1.00		0.86	1.00		0.40
Lane Grp Cap(c), veh/h	71	639	565	628	1783	788	143	0	130	140	0	137
V/C Ratio(X)	0.44	0.93	0.93	0.75	0.35	0.07	0.52	0.00	0.62	0.24	0.00	0.47
Avail Cap(c_a), veh/h	448	645	570	1144	1783	788	718	0	652	774	0	758
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	29.5	19.3	19.3	24.4	9.5	8.1	27.7	0.0	27.9	27.2	0.0	27.7
Incr Delay (d2), s/veh	1.6	19.3	21.7	1.9	0.2	0.1	1.1	0.0	1.8	0.3	0.0	0.9
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	10.2	9.4	3.1	2.0	0.3	1.1	0.0	1.2	0.5	0.0	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	31.0	38.6	41.0	26.2	9.6	8.2	28.8	0.0	29.8	27.5	0.0	28.6
LnGrp LOS	C	D	D	C	A	A	C		C	C		C
Approach Vol, veh/h		1147			1157			155			99	
Approach Delay, s/veh		39.5			16.3			29.3			28.3	
Approach LOS		D			B			C			C	

Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	9.8	15.6	27.8	9.6	6.7	36.7
Change Period (Y+Rc), s	4.7	4.2	5.2	4.7	4.2	5.2
Max Green Setting (Gmax), s	25.3	20.8	22.8	27.3	15.8	27.8
Max Q Clear Time (g_c+I1), s	5.0	10.1	22.2	4.2	3.1	8.7
Green Ext Time (p_c), s	0.4	1.3	0.4	0.2	0.0	5.4

Intersection Summary	
HCM 7th Control Delay, s/veh	28.0
HCM 7th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	298	0	1017	0	0	0	1	1062	328	284	796	0
Future Volume (veh/h)	298	0	1017	0	0	0	1	1062	328	284	796	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1885	0	1885				1885	1885	1885	1885	1885	0
Adj Flow Rate, veh/h	317	0	1082				1	1130	349	302	847	0
Peak Hour Factor	0.94	0.94	0.94				0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	1	0	1				1	1	1	1	1	0
Cap, veh/h	597	0	1866				612	1600	490	1408	2031	0
Arrive On Green	0.17	0.00	0.17				0.34	0.32	0.32	0.40	0.39	0.00
Sat Flow, veh/h	3483	0	3643				1795	4934	1510	3483	5316	0
Grp Volume(v), veh/h	317	0	1082				1	1114	365	302	847	0
Grp Sat Flow(s),veh/h/ln	1742	0	1214				1795	1621	1580	1742	1716	0
Q Serve(g_s), s	10.8	0.0	22.3				0.0	26.1	26.4	7.4	15.5	0.0
Cycle Q Clear(g_c), s	10.8	0.0	22.3				0.0	26.1	26.4	7.4	15.5	0.0
Prop In Lane	1.00		1.00				1.00		0.96	1.00		0.00
Lane Grp Cap(c), veh/h	597	0	1866				612	1578	512	1408	2031	0
V/C Ratio(X)	0.53	0.00	0.58				0.00	0.71	0.71	0.21	0.42	0.00
Avail Cap(c_a), veh/h	597	0	1866				612	2709	880	1408	2035	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				1.00	1.00	1.00	0.68	0.68	0.00
Uniform Delay (d), s/veh	49.1	0.0	22.0				28.3	38.5	38.6	25.3	28.5	0.0
Incr Delay (d2), s/veh	0.7	0.0	0.4				0.0	2.7	8.2	0.0	0.4	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.8	0.0	19.4				0.0	10.5	11.2	3.0	6.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	49.8	0.0	22.4				28.3	41.2	46.8	25.3	28.9	0.0
LnGrp LOS	D		C				C	D	D	C	C	
Approach Vol, veh/h		1399						1480			1149	
Approach Delay, s/veh		28.6						42.5			28.0	
Approach LOS		C						D			C	

Timer - Assigned Phs	1	2		4	5	6
Phs Duration (G+Y+Rc), s	17.2	46.8		26.0	48.0	56.0
Change Period (Y+Rc), s	4.7	4.6		3.7	3.7	* 4.7
Max Green Setting (Gmax), s	21.3	72.4		22.3	44.3	* 51
Max Q Clear Time (g_c+I1), s	19.4	28.4		24.3	2.0	17.5
Green Ext Time (p_c), s	0.4	13.8		0.0	0.0	6.6

Intersection Summary	
HCM 7th Control Delay, s/veh	33.5
HCM 7th LOS	C

Notes

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	146	479	49	396	420	91
Future Volume (vph)	146	479	49	396	420	91
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.1	4.7	4.7	5.1	4.7	4.7
Lane Util. Factor	0.91	0.91	0.97	0.95	0.97	1.00
Frpb, ped/bikes	0.99	0.99	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.91	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3002	1417	3400	3505	3400	1568
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	3002	1417	3400	3505	3400	1568
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	166	544	56	450	477	103
RTOR Reduction (vph)	171	176	0	0	0	0
Lane Group Flow (vph)	267	96	56	450	477	103
Confl. Peds. (#/hr)		13				1
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%
Turn Type	NA	custom	Prot	NA	Prot	Prot
Protected Phases	4 9	2	3	8	2	2
Permitted Phases		4				
Actuated Green, G (s)	15.7	14.9	3.7	23.0	9.5	9.5
Effective Green, g (s)	15.7	14.9	3.7	23.0	9.5	9.5
Actuated g/C Ratio	0.37	0.35	0.09	0.54	0.22	0.22
Clearance Time (s)		4.7	4.7	5.1	4.7	4.7
Vehicle Extension (s)		0.2	0.2	0.2	0.2	0.2
Lane Grp Cap (vph)	1114	499	297	1905	763	352
v/s Ratio Prot	c0.09	0.04	0.02	c0.13	c0.14	0.07
v/s Ratio Perm		0.02				
v/c Ratio	0.24	0.19	0.19	0.24	0.63	0.29
Uniform Delay, d1	9.2	9.5	17.9	5.1	14.8	13.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.0	0.1	0.1	0.0	1.2	0.2
Delay (s)	9.2	9.6	18.0	5.1	16.0	13.8
Level of Service	A	A	B	A	B	B
Approach Delay (s/veh)	9.4			6.5	15.6	
Approach LOS	A			A	B	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	10.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	42.3	Sum of lost time (s)	18.5
Intersection Capacity Utilization	40.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	26	7	92	557	88	171	190	581	589	29	667	22
Future Volume (veh/h)	26	7	92	557	88	171	190	581	589	29	667	22
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	28	8	100	605	96	186	207	632	640	32	725	24
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	68	14	180	787	137	265	262	1608	1695	57	1162	38
Arrive On Green	0.04	0.12	0.12	0.16	0.24	0.24	0.15	0.45	0.45	0.03	0.33	0.33
Sat Flow, veh/h	1781	118	1474	5023	569	1102	1781	3554	2780	1781	3510	116
Grp Volume(v), veh/h	28	0	108	605	0	282	207	632	640	32	367	382
Grp Sat Flow(s),veh/h/ln	1781	0	1592	1674	0	1670	1781	1777	1390	1781	1777	1849
Q Serve(g_s), s	1.2	0.0	5.0	9.0	0.0	12.0	8.8	9.2	9.1	1.4	13.6	13.6
Cycle Q Clear(g_c), s	1.2	0.0	5.0	9.0	0.0	12.0	8.8	9.2	9.1	1.4	13.6	13.6
Prop In Lane	1.00		0.93	1.00		0.66	1.00		1.00	1.00		0.06
Lane Grp Cap(c), veh/h	68	0	194	787	0	401	262	1608	1695	57	588	612
V/C Ratio(X)	0.41	0.00	0.56	0.77	0.00	0.70	0.79	0.39	0.38	0.56	0.62	0.62
Avail Cap(c_a), veh/h	696	0	826	1930	0	856	696	2276	2218	707	1138	1184
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.7	0.0	32.3	31.6	0.0	27.1	32.1	14.2	7.7	37.2	22.0	22.0
Incr Delay (d2), s/veh	8.2	0.0	8.8	0.6	0.0	7.9	7.4	0.3	0.3	11.7	2.3	2.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	2.3	3.5	0.0	5.4	4.1	3.4	2.3	0.8	5.6	5.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	44.9	0.0	41.0	32.2	0.0	35.0	39.5	14.6	8.0	48.9	24.3	24.3
LnGrp LOS	D		D	C		D	D	B	A	D	C	C
Approach Vol, veh/h		136			887			1479			781	
Approach Delay, s/veh		41.8			33.1			15.2			25.3	
Approach LOS		D			C			B			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.5	40.3	16.2	14.0	17.0	30.8	7.5	22.7
Change Period (Y+Rc), s	5.0	5.0	4.0	4.5	5.5	5.0	4.5	4.0
Max Green Setting (Gmax), s	2.5	50.0	30.0	40.5	30.5	50.0	30.5	40.0
Max Q Clear Time (g_c+I1), s	3.4	11.2	11.0	7.0	10.8	15.6	3.2	14.0
Green Ext Time (p_c), s	0.1	17.6	1.2	1.5	0.9	10.2	0.1	4.2

Intersection Summary	
HCM 7th Control Delay, s/veh	23.6
HCM 7th LOS	C

Notes

User approved changes to right turn type.

Intersection	
Intersection Delay, s/veh	7.3
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	31	0	2	25	16	0	3	3	34	1	2
Future Vol, veh/h	2	31	0	2	25	16	0	3	3	34	1	2
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	2	38	0	2	30	20	0	4	4	41	1	2
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	7.3	7.1	6.9	7.5
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	6%	5%	92%
Vol Thru, %	50%	94%	58%	3%
Vol Right, %	50%	0%	37%	5%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	6	33	43	37
LT Vol	0	2	2	34
Through Vol	3	31	25	1
RT Vol	3	0	16	2
Lane Flow Rate	7	40	52	45
Geometry Grp	1	1	1	1
Degree of Util (X)	0.008	0.045	0.056	0.053
Departure Headway (Hd)	3.813	4.061	3.825	4.236
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	933	879	933	843
Service Time	1.859	2.097	1.861	2.272
HCM Lane V/C Ratio	0.008	0.046	0.056	0.053
HCM Control Delay, s/veh	6.9	7.3	7.1	7.5
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0	0.1	0.2	0.2

Intersection	
Int Delay, s/veh	1.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	531	74	30	579	43	21
Future Vol, veh/h	531	74	30	579	43	21
Conflicting Peds, #/hr	0	3	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	110	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	577	80	33	629	47	23

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	661	0	1315	332
Stage 1	-	-	-	-	620	-
Stage 2	-	-	-	-	695	-
Critical Hdwy	-	-	4.13	-	6.63	6.93
Critical Hdwy Stg 1	-	-	-	-	5.83	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	-	-	2.219	-	3.519	3.319
Pot Cap-1 Maneuver	-	-	926	-	161	665
Stage 1	-	-	-	-	500	-
Stage 2	-	-	-	-	494	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	923	-	155	663
Mov Cap-2 Maneuver	-	-	-	-	155	-
Stage 1	-	-	-	-	498	-
Stage 2	-	-	-	-	477	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0.45	30.89
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	207	-	-	923	-
HCM Lane V/C Ratio	0.336	-	-	0.035	-
HCM Ctrl Dly (s/v)	30.9	-	-	9	-
HCM Lane LOS	D	-	-	A	-
HCM 95th %tile Q(veh)	1.4	-	-	0.1	-

Intersection	
Intersection Delay, s/veh	8.3
Intersection LOS	A

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	23	43	53	93	106	16
Future Vol, veh/h	23	43	53	93	106	16
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	24	45	56	98	112	17
Number of Lanes	0	1	1	0	1	1

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	2	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	2	1
HCM Control Delay, s/veh	7.9	7.8	9
HCM LOS	A	A	A

Lane	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	35%	0%	100%	0%
Vol Thru, %	65%	36%	0%	0%
Vol Right, %	0%	64%	0%	100%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	66	146	106	16
LT Vol	23	0	106	0
Through Vol	43	53	0	0
RT Vol	0	93	0	16
Lane Flow Rate	69	154	112	17
Geometry Grp	2	2	5	5
Degree of Util (X)	0.087	0.169	0.171	0.02
Departure Headway (Hd)	4.494	3.968	5.511	4.307
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	800	907	655	836
Service Time	2.507	1.979	3.211	2.007
HCM Lane V/C Ratio	0.086	0.17	0.171	0.02
HCM Control Delay, s/veh	7.9	7.8	9.3	7.1
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.3	0.6	0.6	0.1



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	16	628	92	223	447	19	62	0	90	119	0	73
Future Volume (veh/h)	16	628	92	223	447	19	62	0	90	119	0	73
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	18	690	101	245	491	21	68	0	99	131	0	80
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	36	1061	155	288	1676	72	242	0	214	127	0	78
Arrive On Green	0.02	0.34	0.34	0.16	0.48	0.48	0.14	0.00	0.14	0.12	0.00	0.12
Sat Flow, veh/h	1781	3108	454	1781	3472	148	1781	0	1578	1056	0	645
Grp Volume(v), veh/h	18	394	397	245	251	261	68	0	99	211	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1785	1781	1777	1844	1781	0	1578	1701	0	0
Q Serve(g_s), s	0.8	15.6	15.6	11.1	7.1	7.1	2.9	0.0	4.8	10.0	0.0	0.0
Cycle Q Clear(g_c), s	0.8	15.6	15.6	11.1	7.1	7.1	2.9	0.0	4.8	10.0	0.0	0.0
Prop In Lane	1.00		0.25	1.00		0.08	1.00		1.00	0.62		0.38
Lane Grp Cap(c), veh/h	36	607	610	288	858	890	242	0	214	205	0	0
V/C Ratio(X)	0.49	0.65	0.65	0.85	0.29	0.29	0.28	0.00	0.46	1.03	0.00	0.00
Avail Cap(c_a), veh/h	429	855	859	429	858	890	750	0	665	205	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	40.3	23.2	23.2	33.9	12.9	13.0	32.3	0.0	33.1	36.6	0.0	0.0
Incr Delay (d2), s/veh	10.0	4.2	4.2	10.1	0.7	0.7	0.2	0.0	0.6	71.1	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	6.6	6.7	5.3	2.6	2.7	1.2	0.0	1.9	8.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	50.3	27.4	27.4	44.0	13.6	13.6	32.5	0.0	33.7	107.7	0.0	0.0
LnGrp LOS	D	C	C	D	B	B	C		C	F		
Approach Vol, veh/h		809			757			167			211	
Approach Delay, s/veh		27.9			23.5			33.2			107.7	
Approach LOS		C			C			C			F	

Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	16.3	18.4	33.4	15.0	6.7	45.1
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	35.0	20.0	40.0	10.0	20.0	40.0
Max Q Clear Time (g_c+I1), s	6.8	13.1	17.6	12.0	2.8	9.1
Green Ext Time (p_c), s	0.5	0.4	10.8	0.0	0.0	7.6

Intersection Summary	
HCM 7th Control Delay, s/veh	35.3
HCM 7th LOS	D

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	16	2	3	113	120	25
Future Vol, veh/h	16	2	3	113	120	25
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	17	2	3	123	130	27

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	273	144	158	0	-	0
Stage 1	144	-	-	-	-	-
Stage 2	129	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	716	903	1422	-	-	-
Stage 1	883	-	-	-	-	-
Stage 2	897	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	714	903	1422	-	-	-
Mov Cap-2 Maneuver	714	-	-	-	-	-
Stage 1	881	-	-	-	-	-
Stage 2	897	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	10.06	0.19	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	47	-	731	-	-
HCM Lane V/C Ratio	0.002	-	0.027	-	-
HCM Ctrl Dly (s/v)	7.5	0	10.1	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	17	48	58	11	18	0
Future Vol, veh/h	17	48	58	11	18	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	20	57	69	13	21	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	82	0	-	0	173	76
Stage 1	-	-	-	-	76	-
Stage 2	-	-	-	-	98	-
Critical Hdwy	4.11	-	-	-	6.41	6.21
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-	-	-	-	5.41	-
Follow-up Hdwy	2.209	-	-	-	3.509	3.309
Pot Cap-1 Maneuver	1522	-	-	-	819	988
Stage 1	-	-	-	-	950	-
Stage 2	-	-	-	-	929	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1522	-	-	-	808	988
Mov Cap-2 Maneuver	-	-	-	-	808	-
Stage 1	-	-	-	-	937	-
Stage 2	-	-	-	-	929	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	1.93	0	9.58
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	471	-	-	-	808
HCM Lane V/C Ratio	0.013	-	-	-	0.027
HCM Ctrl Dly (s/v)	7.4	0	-	-	9.6
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	323	58	26	1195	478	492
Future Volume (veh/h)	323	58	26	1195	478	492
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	340	61	27	1258	503	518
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	1395	248	42	1943	549	926
Arrive On Green	0.47	0.47	0.02	0.55	0.31	0.31
Sat Flow, veh/h	3084	531	1767	3618	1767	2768
Grp Volume(v), veh/h	199	202	27	1258	503	518
Grp Sat Flow(s),veh/h/ln	1763	1760	1767	1763	1767	1384
Q Serve(g_s), s	4.4	4.5	1.0	16.2	17.9	10.0
Cycle Q Clear(g_c), s	4.4	4.5	1.0	16.2	17.9	10.0
Prop In Lane		0.30	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	822	821	42	1943	549	926
V/C Ratio(X)	0.24	0.25	0.64	0.65	0.92	0.56
Avail Cap(c_a), veh/h	1081	1079	704	3783	569	957
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	10.5	10.5	31.6	10.2	21.7	17.8
Incr Delay (d2), s/veh	0.2	0.2	15.3	0.5	18.8	0.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	1.4	0.6	4.6	9.8	2.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	10.7	10.7	46.9	10.7	40.4	18.2
LnGrp LOS	B	B	D	B	D	B
Approach Vol, veh/h	401			1285	1021	
Approach Delay, s/veh	10.7			11.5	29.1	
Approach LOS	B			B	C	

Timer - Assigned Phs	2	3	4		8
Phs Duration (G+Y+Rc), s	24.3	5.5	35.4		41.0
Change Period (Y+Rc), s	4.0	4.0	5.0		5.0
Max Green Setting (Gmax), s	21.0	26.0	40.0		70.0
Max Q Clear Time (g_c+I1), s	19.9	3.0	6.5		18.2
Green Ext Time (p_c), s	0.4	0.0	3.3		17.7

Intersection Summary	
HCM 7th Control Delay, s/veh	18.0
HCM 7th LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	17	324	348	732	890	51	204	6	41	16	35	18
Future Volume (veh/h)	17	324	348	732	890	51	204	6	41	16	35	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	18	341	366	771	937	54	215	6	43	17	37	19
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	44	481	429	879	1777	790	266	29	211	112	73	38
Arrive On Green	0.03	0.27	0.27	0.26	0.50	0.50	0.15	0.15	0.15	0.06	0.06	0.06
Sat Flow, veh/h	1767	1763	1572	3428	3526	1568	1767	196	1406	1767	1155	593
Grp Volume(v), veh/h	18	341	366	771	937	54	215	0	49	17	0	56
Grp Sat Flow(s),veh/h/ln	1767	1763	1572	1714	1763	1568	1767	0	1602	1767	0	1749
Q Serve(g_s), s	0.7	12.8	16.1	15.8	13.1	1.3	8.6	0.0	2.0	0.7	0.0	2.3
Cycle Q Clear(g_c), s	0.7	12.8	16.1	15.8	13.1	1.3	8.6	0.0	2.0	0.7	0.0	2.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.88	1.00		0.34
Lane Grp Cap(c), veh/h	44	481	429	879	1777	790	266	0	241	112	0	111
V/C Ratio(X)	0.41	0.71	0.85	0.88	0.53	0.07	0.81	0.00	0.20	0.15	0.00	0.50
Avail Cap(c_a), veh/h	382	550	490	975	1777	790	611	0	554	660	0	653
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	35.1	24.0	25.2	26.1	12.2	9.3	30.1	0.0	27.2	32.4	0.0	33.1
Incr Delay (d2), s/veh	2.2	3.6	12.4	8.5	0.4	0.1	2.3	0.0	0.2	0.2	0.0	1.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	5.2	6.8	6.8	4.2	0.4	3.7	0.0	0.7	0.3	0.0	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	37.3	27.6	37.6	34.6	12.6	9.4	32.3	0.0	27.4	32.6	0.0	34.5
LnGrp LOS	D	C	D	C	B	A	C		C	C		C
Approach Vol, veh/h		725			1762			264			73	
Approach Delay, s/veh		32.9			22.1			31.4			34.0	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	2	3	4		6	7	8
Phs Duration (G+Y+Rc), s	15.7	23.0	25.1		9.3	6.0	42.1
Change Period (Y+Rc), s	4.7	4.2	5.2		4.7	4.2	5.2
Max Green Setting (Gmax), s	25.3	20.8	22.8		27.3	15.8	27.8
Max Q Clear Time (g_c+I1), s	10.6	17.8	18.1		4.3	2.7	15.1
Green Ext Time (p_c), s	0.4	1.0	1.7		0.2	0.0	6.5

Intersection Summary	
HCM 7th Control Delay, s/veh	26.1
HCM 7th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	274	0	1105	0	0	0	1	2117	422	200	792	0
Future Volume (veh/h)	274	0	1105	0	0	0	1	2117	422	200	792	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	0	1870				1870	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	288	0	1163				1	2228	444	211	834	0
Peak Hour Factor	0.95	0.95	0.95				0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	0	2				2	2	2	2	2	0
Cap, veh/h	527	0	1464				450	2823	555	757	2523	0
Arrive On Green	0.15	0.00	0.15				0.25	0.52	0.52	0.22	0.49	0.00
Sat Flow, veh/h	3456	0	3614				1781	5427	1067	3456	5274	0
Grp Volume(v), veh/h	288	0	1163				1	1978	694	211	834	0
Grp Sat Flow(s),veh/h/ln	1728	0	1205				1781	1609	1669	1728	1702	0
Q Serve(g_s), s	9.2	0.0	18.3				0.1	40.0	41.0	6.1	11.8	0.0
Cycle Q Clear(g_c), s	9.2	0.0	18.3				0.1	40.0	41.0	6.1	11.8	0.0
Prop In Lane	1.00		1.00				1.00		0.64	1.00		0.00
Lane Grp Cap(c), veh/h	527	0	1464				450	2510	868	757	2523	0
V/C Ratio(X)	0.55	0.00	0.79				0.00	0.79	0.80	0.28	0.33	0.00
Avail Cap(c_a), veh/h	527	0	1464				450	2670	923	757	2528	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				1.00	1.00	1.00	0.63	0.63	0.00
Uniform Delay (d), s/veh	47.0	0.0	31.3				33.5	23.4	23.7	39.0	18.3	0.0
Incr Delay (d2), s/veh	1.0	0.0	3.0				0.0	2.6	7.6	0.0	0.2	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.1	0.0	21.0				0.0	14.7	16.9	2.6	4.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	48.0	0.0	34.3				33.6	26.0	31.3	39.0	18.6	0.0
LnGrp LOS	D		C				C	C	C	D	B	
Approach Vol, veh/h		1451						2673			1045	
Approach Delay, s/veh		37.0						27.4			22.7	
Approach LOS		D						C			C	

Timer - Assigned Phs	1	2		4	5	6
Phs Duration (G+Y+Rc), s	31.0	67.0		22.0	34.0	64.0
Change Period (Y+Rc), s	4.7	4.6		3.7	3.7	* 4.7
Max Green Setting (Gmax), s	21.3	66.4		18.3	30.3	* 59
Max Q Clear Time (g_c+I1), s	8.1	43.0		20.3	2.1	13.8
Green Ext Time (p_c), s	0.3	19.4		0.0	0.0	6.8

Intersection Summary	
HCM 7th Control Delay, s/veh	29.2
HCM 7th LOS	C

Notes

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	491	964	260	361	465	350
Future Volume (vph)	491	964	260	361	465	350
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.1	4.7	4.7	5.1	4.7	4.7
Lane Util. Factor	0.91	0.91	0.97	0.95	0.97	1.00
Frpb, ped/bikes	0.99	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.93	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3050	1407	3367	3471	3367	1553
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	3050	1407	3367	3471	3367	1553
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	517	1015	274	380	489	368
RTOR Reduction (vph)	239	305	0	0	0	0
Lane Group Flow (vph)	786	202	274	380	489	368
Confl. Peds. (#/hr)		8				3
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%
Turn Type	NA	custom	Prot	NA	Prot	Prot
Protected Phases	4 9	2	3	8	2	2
Permitted Phases		4				
Actuated Green, G (s)	25.1	26.4	7.5	36.2	20.3	20.3
Effective Green, g (s)	25.1	26.4	7.5	36.2	20.3	20.3
Actuated g/C Ratio	0.38	0.40	0.11	0.55	0.31	0.31
Clearance Time (s)		4.7	4.7	5.1	4.7	4.7
Vehicle Extension (s)		0.2	0.2	0.2	0.2	0.2
Lane Grp Cap (vph)	1154	560	380	1895	1030	475
v/s Ratio Prot	c0.26	0.11	c0.08	0.11	0.15	c0.24
v/s Ratio Perm		0.03				
v/c Ratio	0.68	0.36	0.72	0.20	0.47	0.77
Uniform Delay, d1	17.2	14.0	28.4	7.7	18.7	20.9
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.3	0.1	5.6	0.0	0.1	7.1
Delay (s)	18.6	14.2	34.0	7.7	18.8	28.0
Level of Service	B	B	C	A	B	C
Approach Delay (s/veh)	17.1			18.7	22.7	
Approach LOS	B			B	C	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	19.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	66.3	Sum of lost time (s)	18.5
Intersection Capacity Utilization	57.6%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	20	90	535	100	191	340	677	1374	61	810	60
Future Volume (veh/h)	30	20	90	535	100	191	340	677	1374	61	810	60
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	32	21	95	563	105	201	358	713	1446	64	853	63
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	50	36	164	686	130	250	396	1844	1826	85	1140	84
Arrive On Green	0.03	0.12	0.12	0.14	0.23	0.23	0.22	0.52	0.52	0.05	0.34	0.34
Sat Flow, veh/h	1767	292	1322	4983	569	1089	1767	3526	2762	1767	3327	246
Grp Volume(v), veh/h	32	0	116	563	0	306	358	713	1446	64	452	464
Grp Sat Flow(s),veh/h/ln	1767	0	1614	1661	0	1658	1767	1763	1381	1767	1763	1810
Q Serve(g_s), s	2.0	0.0	7.5	12.2	0.0	19.3	21.9	13.4	41.3	4.0	25.1	25.1
Cycle Q Clear(g_c), s	2.0	0.0	7.5	12.2	0.0	19.3	21.9	13.4	41.3	4.0	25.1	25.1
Prop In Lane	1.00		0.82	1.00		0.66	1.00		1.00	1.00		0.14
Lane Grp Cap(c), veh/h	50	0	201	686	0	380	396	1844	1826	85	604	620
V/C Ratio(X)	0.64	0.00	0.58	0.82	0.00	0.81	0.90	0.39	0.79	0.75	0.75	0.75
Avail Cap(c_a), veh/h	486	0	589	1348	0	598	486	1844	1826	494	795	816
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.3	0.0	45.8	46.5	0.0	40.4	41.9	15.8	13.4	52.1	32.2	32.2
Incr Delay (d2), s/veh	25.7	0.0	9.2	1.0	0.0	13.4	19.0	0.3	2.8	17.4	4.6	4.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.0	3.5	5.0	0.0	9.2	11.3	5.1	11.8	2.1	11.2	11.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	79.0	0.0	55.0	47.4	0.0	53.8	60.9	16.1	16.2	69.5	36.8	36.7
LnGrp LOS	E		E	D		D	E	B	B	E	D	D
Approach Vol, veh/h		148			869			2517			980	
Approach Delay, s/veh		60.2			49.7			22.5			38.9	
Approach LOS		E			D			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.3	63.0	19.3	18.3	30.3	43.0	7.6	29.9
Change Period (Y+Rc), s	5.0	5.0	4.0	4.5	5.5	5.0	4.5	* 4.5
Max Green Setting (Gmax), s	31.0	50.0	30.0	40.5	30.5	50.0	30.5	* 40
Max Q Clear Time (g_c+I1), s	6.0	43.3	14.2	9.5	23.9	27.1	4.0	21.3
Green Ext Time (p_c), s	0.2	6.3	1.1	1.6	1.0	10.9	0.1	3.9

Intersection Summary	
HCM 7th Control Delay, s/veh	32.5
HCM 7th LOS	C

Notes

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	9.2
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	151	0	21	242	69	0	1	1	21	2	1
Future Vol, veh/h	0	151	0	21	242	69	0	1	1	21	2	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	159	0	22	255	73	0	1	1	22	2	1
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	8.3	9.6	7.8	8.4
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	0%	6%	88%
Vol Thru, %	50%	100%	73%	8%
Vol Right, %	50%	0%	21%	4%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	2	151	332	24
LT Vol	0	0	21	21
Through Vol	1	151	242	2
RT Vol	1	0	69	1
Lane Flow Rate	2	159	349	25
Geometry Grp	1	1	1	1
Degree of Util (X)	0.003	0.187	0.387	0.036
Departure Headway (Hd)	4.747	4.243	3.988	5.164
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	758	831	891	698
Service Time	2.748	2.339	2.057	3.164
HCM Lane V/C Ratio	0.003	0.191	0.392	0.036
HCM Control Delay, s/veh	7.8	8.3	9.6	8.4
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0	0.7	1.8	0.1

Intersection	
Int Delay, s/veh	1.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	617	17	20	506	32	34
Future Vol, veh/h	617	17	20	506	32	34
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	110	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	649	18	21	533	34	36

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	667	0	1233	334
Stage 1	-	-	-	-	658	-
Stage 2	-	-	-	-	575	-
Critical Hdwy	-	-	4.16	-	6.66	6.96
Critical Hdwy Stg 1	-	-	-	-	5.86	-
Critical Hdwy Stg 2	-	-	-	-	5.46	-
Follow-up Hdwy	-	-	2.238	-	3.538	3.338
Pot Cap-1 Maneuver	-	-	909	-	179	658
Stage 1	-	-	-	-	473	-
Stage 2	-	-	-	-	557	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	909	-	175	658
Mov Cap-2 Maneuver	-	-	-	-	175	-
Stage 1	-	-	-	-	473	-
Stage 2	-	-	-	-	544	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0.34	21.92
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	282	-	-	909	-
HCM Lane V/C Ratio	0.247	-	-	0.023	-
HCM Ctrl Dly (s/v)	21.9	-	-	9.1	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	0.9	-	-	0.1	-

Intersection	
Intersection Delay, s/veh	9
Intersection LOS	A

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	17	138	96	155	109	0
Future Vol, veh/h	17	138	96	155	109	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	18	145	101	163	115	0
Number of Lanes	0	1	1	0	1	1

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	2	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	2	1
HCM Control Delay, s/veh	8.7	8.8	10
HCM LOS	A	A	A

Lane	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	11%	0%	100%	0%
Vol Thru, %	89%	38%	0%	100%
Vol Right, %	0%	62%	0%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	155	251	109	0
LT Vol	17	0	109	0
Through Vol	138	96	0	0
RT Vol	0	155	0	0
Lane Flow Rate	163	264	115	0
Geometry Grp	2	2	5	5
Degree of Util (X)	0.206	0.298	0.188	0
Departure Headway (Hd)	4.539	4.065	5.906	5.402
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	791	885	607	0
Service Time	2.565	2.086	3.651	3.147
HCM Lane V/C Ratio	0.206	0.298	0.189	0
HCM Control Delay, s/veh	8.7	8.8	10	8.1
HCM Lane LOS	A	A	A	N
HCM 95th-tile Q	0.8	1.3	0.7	0



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	86	477	41	89	600	138	77	0	113	19	0	11
Future Volume (veh/h)	86	477	41	89	600	138	77	0	113	19	0	11
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	91	502	43	94	632	145	81	0	119	20	0	12
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	119	1211	103	157	1111	254	296	0	264	64	0	39
Arrive On Green	0.07	0.37	0.37	0.09	0.39	0.39	0.17	0.00	0.17	0.06	0.00	0.06
Sat Flow, veh/h	1767	3287	281	1767	2848	652	1767	0	1572	1055	0	633
Grp Volume(v), veh/h	91	269	276	94	391	386	81	0	119	32	0	0
Grp Sat Flow(s),veh/h/ln	1767	1763	1805	1767	1763	1738	1767	0	1572	1689	0	0
Q Serve(g_s), s	3.2	7.2	7.3	3.3	11.1	11.1	2.5	0.0	4.3	1.2	0.0	0.0
Cycle Q Clear(g_c), s	3.2	7.2	7.3	3.3	11.1	11.1	2.5	0.0	4.3	1.2	0.0	0.0
Prop In Lane	1.00		0.16	1.00		0.38	1.00		1.00	0.62		0.37
Lane Grp Cap(c), veh/h	119	650	665	157	687	678	296	0	264	103	0	0
V/C Ratio(X)	0.76	0.41	0.42	0.60	0.57	0.57	0.27	0.00	0.45	0.31	0.00	0.00
Avail Cap(c_a), veh/h	555	1106	1133	555	1106	1091	970	0	863	265	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	29.2	15.0	15.0	27.9	15.2	15.2	23.1	0.0	23.9	28.6	0.0	0.0
Incr Delay (d2), s/veh	9.6	1.5	1.5	3.6	2.7	2.7	0.2	0.0	0.5	0.6	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	2.7	2.8	1.4	4.1	4.1	1.0	0.0	1.6	0.5	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	38.8	16.5	16.5	31.5	17.9	18.0	23.3	0.0	24.3	29.3	0.0	0.0
LnGrp LOS	D	B	B	C	B	B	C		C	C		
Approach Vol, veh/h		636			871			200			32	
Approach Delay, s/veh		19.7			19.4			23.9			29.3	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	2	3	4		6	7	8
Phs Duration (G+Y+Rc), s	15.7	10.7	28.5		8.9	9.3	29.9
Change Period (Y+Rc), s	5.0	5.0	5.0		5.0	5.0	5.0
Max Green Setting (Gmax), s	35.0	20.0	40.0		10.0	20.0	40.0
Max Q Clear Time (g_c+I1), s	6.3	5.3	9.3		3.2	5.2	13.1
Green Ext Time (p_c), s	0.6	0.2	8.2		0.0	0.2	11.7

Intersection Summary	
HCM 7th Control Delay, s/veh	20.2
HCM 7th LOS	C

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	467	195	47	830	445	1143
Future Volume (veh/h)	467	195	47	830	445	1143
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)		0.98	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	492	205	49	874	468	1203
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	796	329	69	1565	698	1201
Arrive On Green	0.33	0.33	0.04	0.44	0.39	0.39
Sat Flow, veh/h	2527	1007	1781	3647	1781	2790
Grp Volume(v), veh/h	358	339	49	874	468	1203
Grp Sat Flow(s),veh/h/ln	1777	1663	1781	1777	1781	1395
Q Serve(g_s), s	9.1	9.2	1.5	9.8	11.6	21.0
Cycle Q Clear(g_c), s	9.1	9.2	1.5	9.8	11.6	21.0
Prop In Lane		0.61	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	581	544	69	1565	698	1201
V/C Ratio(X)	0.62	0.62	0.71	0.56	0.67	1.00
Avail Cap(c_a), veh/h	1326	1241	864	4641	698	1201
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.2	15.2	25.5	11.1	13.4	15.3
Incr Delay (d2), s/veh	1.5	1.7	12.7	0.4	2.0	26.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	3.0	0.8	2.9	4.4	9.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	16.7	16.9	38.2	11.6	15.5	41.7
LnGrp LOS	B	B	D	B	B	F
Approach Vol, veh/h	697			923	1671	
Approach Delay, s/veh	16.8			13.0	34.3	
Approach LOS	B			B	C	

Timer - Assigned Phs	2	3	4	8
Phs Duration (G+Y+Rc), s	25.0	6.1	22.5	28.6
Change Period (Y+Rc), s	4.0	4.0	5.0	5.0
Max Green Setting (Gmax), s	21.0	26.0	40.0	70.0
Max Q Clear Time (g_c+I1), s	23.0	3.5	11.2	11.8
Green Ext Time (p_c), s	0.0	0.1	6.3	10.3

Intersection Summary	
HCM 7th Control Delay, s/veh	24.6
HCM 7th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	29	565	475	526	684	65	70	10	65	32	36	24
Future Volume (veh/h)	29	565	475	526	684	65	70	10	65	32	36	24
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	31	595	500	554	720	68	74	11	68	34	38	25
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	71	638	535	707	1831	810	140	18	109	136	80	53
Arrive On Green	0.04	0.35	0.35	0.20	0.52	0.52	0.08	0.08	0.08	0.08	0.08	0.08
Sat Flow, veh/h	1781	1821	1527	3456	3554	1571	1781	225	1394	1781	1053	693
Grp Volume(v), veh/h	31	580	515	554	720	68	74	0	79	34	0	63
Grp Sat Flow(s),veh/h/ln	1781	1777	1571	1728	1777	1571	1781	0	1619	1781	0	1746
Q Serve(g_s), s	1.1	20.4	20.5	9.8	8.0	1.4	2.6	0.0	3.1	1.2	0.0	2.2
Cycle Q Clear(g_c), s	1.1	20.4	20.5	9.8	8.0	1.4	2.6	0.0	3.1	1.2	0.0	2.2
Prop In Lane	1.00		0.97	1.00		1.00	1.00		0.86	1.00		0.40
Lane Grp Cap(c), veh/h	71	623	550	707	1831	810	140	0	127	136	0	133
V/C Ratio(X)	0.44	0.93	0.93	0.78	0.39	0.08	0.53	0.00	0.62	0.25	0.00	0.47
Avail Cap(c_a), veh/h	434	625	553	1110	1831	810	696	0	632	751	0	736
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	30.4	20.3	20.3	24.4	9.5	8.0	28.7	0.0	28.9	28.2	0.0	28.7
Incr Delay (d2), s/veh	1.6	20.9	23.3	2.0	0.2	0.1	1.2	0.0	1.8	0.4	0.0	1.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	10.6	9.8	3.7	2.4	0.4	1.1	0.0	1.2	0.5	0.0	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	32.0	41.2	43.6	26.4	9.7	8.0	29.9	0.0	30.8	28.5	0.0	29.6
LnGrp LOS	C	D	D	C	A	A	C		C	C		C
Approach Vol, veh/h		1126			1342			153			97	
Approach Delay, s/veh		42.1			16.5			30.3			29.2	
Approach LOS		D			B			C			C	

Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	9.8	17.4	27.9	9.7	6.8	38.6
Change Period (Y+Rc), s	4.7	4.2	5.2	4.7	4.2	5.2
Max Green Setting (Gmax), s	25.3	20.8	22.8	27.3	15.8	27.8
Max Q Clear Time (g_c+I1), s	5.1	11.8	22.5	4.2	3.1	10.0
Green Ext Time (p_c), s	0.4	1.4	0.2	0.2	0.0	6.1

Intersection Summary	
HCM 7th Control Delay, s/veh	28.3
HCM 7th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	555	0	2416	0	0	0	1	1908	478	470	1035	0
Future Volume (veh/h)	555	0	2416	0	0	0	1	1908	478	470	1035	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1885	0	1885				1885	1885	1885	1885	1885	0
Adj Flow Rate, veh/h	584	0	2543				1	2008	503	495	1089	0
Peak Hour Factor	0.95	0.95	0.95				0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	1	0	1				1	1	1	1	1	0
Cap, veh/h	597	0	1866				612	2618	649	786	2031	0
Arrive On Green	0.17	0.00	0.17				0.34	0.50	0.50	0.23	0.39	0.00
Sat Flow, veh/h	3483	0	3643				1795	5207	1291	3483	5316	0
Grp Volume(v), veh/h	584	0	2543				1	1874	637	495	1089	0
Grp Sat Flow(s),veh/h/ln	1742	0	1214				1795	1621	1634	1742	1716	0
Q Serve(g_s), s	21.7	0.0	22.3				0.0	40.5	41.3	16.7	21.1	0.0
Cycle Q Clear(g_c), s	21.7	0.0	22.3				0.0	40.5	41.3	16.7	21.1	0.0
Prop In Lane	1.00		1.00				1.00		0.79	1.00		0.00
Lane Grp Cap(c), veh/h	597	0	1866				612	2446	822	786	2031	0
V/C Ratio(X)	0.98	0.00	1.36				0.00	0.77	0.78	0.63	0.54	0.00
Avail Cap(c_a), veh/h	597	0	1866				612	2709	910	786	2035	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				1.00	1.00	1.00	0.32	0.32	0.00
Uniform Delay (d), s/veh	53.6	0.0	31.7				28.3	26.1	26.3	45.4	30.2	0.0
Incr Delay (d2), s/veh	31.0	0.0	166.8				0.0	2.4	7.1	0.4	0.3	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.1	0.0	62.2				0.0	15.4	16.9	7.2	8.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	84.6	0.0	198.5				28.3	28.5	33.4	45.8	30.5	0.0
LnGrp LOS	F		F				C	C	C	D	C	
Approach Vol, veh/h		3127						2512			1584	
Approach Delay, s/veh		177.2						29.7			35.3	
Approach LOS		F						C			D	

Timer - Assigned Phs	1	2		4	5	6
Phs Duration (G+Y+Rc), s	34.0	70.0		26.0	48.0	56.0
Change Period (Y+Rc), s	4.7	4.6		3.7	3.7	* 4.7
Max Green Setting (Gmax), s	21.3	72.4		22.3	44.3	* 51
Max Q Clear Time (g_c+I1), s	18.7	43.3		24.3	2.0	23.1
Green Ext Time (p_c), s	0.3	22.1		0.0	0.0	8.7

Intersection Summary	
HCM 7th Control Delay, s/veh	94.8
HCM 7th LOS	F

Notes

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	561	820	230	692	664	160
Future Volume (vph)	561	820	230	692	664	160
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.1	4.7	4.7	5.1	4.7	4.7
Lane Util. Factor	0.91	0.91	0.97	0.95	0.97	1.00
Frpb, ped/bikes	0.99	0.99	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.94	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3125	1418	3400	3505	3400	1568
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	3125	1418	3400	3505	3400	1568
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	591	863	242	728	699	168
RTOR Reduction (vph)	130	296	0	0	0	0
Lane Group Flow (vph)	867	161	242	728	699	168
Confl. Peds. (#/hr)		13				1
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%
Turn Type	NA	custom	Prot	NA	Prot	Prot
Protected Phases	4 9	2	3	8	2	2
Permitted Phases		4				
Actuated Green, G (s)	26.7	22.5	7.5	37.8	16.4	16.4
Effective Green, g (s)	26.7	22.5	7.5	37.8	16.4	16.4
Actuated g/C Ratio	0.42	0.35	0.12	0.59	0.26	0.26
Clearance Time (s)		4.7	4.7	5.1	4.7	4.7
Vehicle Extension (s)		0.2	0.2	0.2	0.2	0.2
Lane Grp Cap (vph)	1303	498	398	2070	871	401
v/s Ratio Prot	c0.28	0.08	c0.07	0.21	c0.21	0.11
v/s Ratio Perm		0.03				
v/c Ratio	0.67	0.32	0.61	0.35	0.80	0.42
Uniform Delay, d1	15.0	15.2	26.9	6.8	22.3	19.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.0	0.1	1.8	0.0	5.1	0.3
Delay (s)	16.1	15.3	28.7	6.8	27.4	20.1
Level of Service	B	B	C	A	C	C
Approach Delay (s/veh)	15.8			12.3	26.0	
Approach LOS	B			B	C	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	17.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	64.0	Sum of lost time (s)	18.5
Intersection Capacity Utilization	62.3%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	30	130	1024	120	212	460	723	1280	71	733	40
Future Volume (veh/h)	50	30	130	1024	120	212	460	723	1280	71	733	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	53	32	137	1078	126	223	484	761	1347	75	772	42
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	211	43	182	1092	144	254	394	1618	1872	97	977	53
Arrive On Green	0.12	0.14	0.14	0.22	0.24	0.24	0.22	0.46	0.46	0.05	0.29	0.29
Sat Flow, veh/h	1781	307	1316	5023	605	1071	1781	3554	2780	1781	3427	186
Grp Volume(v), veh/h	53	0	169	1078	0	349	484	761	1347	75	400	414
Grp Sat Flow(s),veh/h/ln	1781	0	1623	1674	0	1676	1781	1777	1390	1781	1777	1837
Q Serve(g_s), s	3.7	0.0	13.8	29.5	0.0	27.7	30.5	20.5	42.4	5.7	28.7	28.7
Cycle Q Clear(g_c), s	3.7	0.0	13.8	29.5	0.0	27.7	30.5	20.5	42.4	5.7	28.7	28.7
Prop In Lane	1.00		0.81	1.00		0.64	1.00		1.00	1.00		0.10
Lane Grp Cap(c), veh/h	211	0	225	1092	0	398	394	1618	1872	97	507	524
V/C Ratio(X)	0.25	0.00	0.75	0.99	0.00	0.88	1.23	0.47	0.72	0.77	0.79	0.79
Avail Cap(c_a), veh/h	394	0	477	1092	0	486	394	1618	1872	400	644	666
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.3	0.0	57.1	53.8	0.0	50.6	53.7	26.0	14.3	64.4	45.5	45.5
Incr Delay (d2), s/veh	1.3	0.0	16.6	23.9	0.0	20.6	123.5	0.5	1.7	16.5	7.3	7.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	0.0	6.7	14.7	0.0	13.8	26.9	8.6	12.8	3.0	13.6	14.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	56.6	0.0	73.7	77.7	0.0	71.2	177.2	26.5	16.0	80.8	52.8	52.6
LnGrp LOS	E		E	E		E	F	C	B	F	D	D
Approach Vol, veh/h		222			1427			2592			889	
Approach Delay, s/veh		69.6			76.1			49.2			55.1	
Approach LOS		E			E			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.5	67.8	34.0	23.6	36.0	44.3	20.8	36.8
Change Period (Y+Rc), s	5.0	5.0	4.0	4.5	5.5	5.0	4.5	4.0
Max Green Setting (Gmax), s	31.6	50.0	30.0	40.5	30.5	50.0	30.5	40.0
Max Q Clear Time (g_c+I1), s	7.7	44.4	31.5	15.8	32.5	30.7	5.7	29.7
Green Ext Time (p_c), s	0.3	5.2	0.0	2.3	0.0	8.7	0.2	3.1

Intersection Summary	
HCM 7th Control Delay, s/veh	58.6
HCM 7th LOS	E

Notes

User approved changes to right turn type.

Intersection	
Intersection Delay, s/veh	10.1
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	24	372	0	8	96	61	0	3	3	24	1	3
Future Vol, veh/h	24	372	0	8	96	61	0	3	3	24	1	3
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	25	392	0	8	101	64	0	3	3	25	1	3
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	11	8.3	8	8.5
HCM LOS	B	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	6%	5%	86%
Vol Thru, %	50%	94%	58%	4%
Vol Right, %	50%	0%	37%	11%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	6	396	165	28
LT Vol	0	24	8	24
Through Vol	3	372	96	1
RT Vol	3	0	61	3
Lane Flow Rate	6	417	174	29
Geometry Grp	1	1	1	1
Degree of Util (X)	0.009	0.477	0.203	0.043
Departure Headway (Hd)	4.92	4.122	4.207	5.291
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	730	863	856	679
Service Time	2.932	2.204	2.214	3.303
HCM Lane V/C Ratio	0.008	0.483	0.203	0.043
HCM Control Delay, s/veh	8	11	8.3	8.5
HCM Lane LOS	A	B	A	A
HCM 95th-tile Q	0	2.6	0.8	0.1

Intersection	
Int Delay, s/veh	1.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	564	57	30	593	43	21
Future Vol, veh/h	564	57	30	593	43	21
Conflicting Peds, #/hr	0	3	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	110	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	594	60	32	624	45	22

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	657	0	1314	330
Stage 1	-	-	-	-	627	-
Stage 2	-	-	-	-	687	-
Critical Hdwy	-	-	4.13	-	6.63	6.93
Critical Hdwy Stg 1	-	-	-	-	5.83	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	-	-	2.219	-	3.519	3.319
Pot Cap-1 Maneuver	-	-	929	-	162	667
Stage 1	-	-	-	-	496	-
Stage 2	-	-	-	-	498	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	926	-	156	665
Mov Cap-2 Maneuver	-	-	-	-	156	-
Stage 1	-	-	-	-	494	-
Stage 2	-	-	-	-	481	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0.43	30.41
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	208	-	-	926	-
HCM Lane V/C Ratio	0.324	-	-	0.034	-
HCM Ctrl Dly (s/v)	30.4	-	-	9	-
HCM Lane LOS	D	-	-	A	-
HCM 95th %tile Q(veh)	1.3	-	-	0.1	-

Intersection	
Intersection Delay, s/veh	9.8
Intersection LOS	A

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	40	237	83	143	112	9
Future Vol, veh/h	40	237	83	143	112	9
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	42	249	87	151	118	9
Number of Lanes	0	1	1	0	1	1

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	2	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	2	1
HCM Control Delay, s/veh	10.3	9	10.3
HCM LOS	B	A	B

Lane	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	14%	0%	100%	0%
Vol Thru, %	86%	37%	0%	0%
Vol Right, %	0%	63%	0%	100%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	277	226	112	9
LT Vol	40	0	112	0
Through Vol	237	83	0	0
RT Vol	0	143	0	9
Lane Flow Rate	292	238	118	9
Geometry Grp	2	2	5	5
Degree of Util (X)	0.371	0.281	0.202	0.013
Departure Headway (Hd)	4.584	4.255	6.166	4.954
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	784	842	580	718
Service Time	2.621	2.293	3.931	2.718
HCM Lane V/C Ratio	0.372	0.283	0.203	0.013
HCM Control Delay, s/veh	10.3	9	10.5	7.8
HCM Lane LOS	B	A	B	A
HCM 95th-tile Q	1.7	1.2	0.7	0



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	16	652	84	198	488	19	98	0	130	119	0	73
Future Volume (veh/h)	16	652	84	198	488	19	98	0	130	119	0	73
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	17	686	88	208	514	20	103	0	137	125	0	77
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	35	1082	139	252	1616	63	254	0	225	131	0	81
Arrive On Green	0.02	0.34	0.34	0.14	0.46	0.46	0.14	0.00	0.14	0.12	0.00	0.12
Sat Flow, veh/h	1781	3166	406	1781	3487	136	1781	0	1578	1053	0	648
Grp Volume(v), veh/h	17	385	389	208	262	272	103	0	137	202	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1795	1781	1777	1846	1781	0	1578	1701	0	0
Q Serve(g_s), s	0.8	14.6	14.6	9.1	7.4	7.4	4.2	0.0	6.5	9.5	0.0	0.0
Cycle Q Clear(g_c), s	0.8	14.6	14.6	9.1	7.4	7.4	4.2	0.0	6.5	9.5	0.0	0.0
Prop In Lane	1.00		0.23	1.00		0.07	1.00		1.00	0.62		0.38
Lane Grp Cap(c), veh/h	35	607	613	252	824	856	254	0	225	212	0	0
V/C Ratio(X)	0.49	0.63	0.63	0.83	0.32	0.32	0.41	0.00	0.61	0.95	0.00	0.00
Avail Cap(c_a), veh/h	444	886	895	444	886	921	778	0	689	212	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	38.9	22.2	22.2	33.5	13.5	13.5	31.3	0.0	32.3	34.9	0.0	0.0
Incr Delay (d2), s/veh	10.0	3.9	3.9	6.7	0.8	0.8	0.4	0.0	1.0	47.8	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	6.1	6.2	4.1	2.8	2.9	1.8	0.0	2.5	6.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	48.9	26.1	26.1	40.2	14.3	14.3	31.7	0.0	33.3	82.7	0.0	0.0
LnGrp LOS	D	C	C	D	B	B	C		C	F		
Approach Vol, veh/h		791			742			240			202	
Approach Delay, s/veh		26.6			21.6			32.6			82.7	
Approach LOS		C			C			C			F	

Timer - Assigned Phs	2	3	4		6	7	8
Phs Duration (G+Y+Rc), s	16.4	16.3	32.4		15.0	6.6	42.2
Change Period (Y+Rc), s	5.0	5.0	5.0		5.0	5.0	5.0
Max Green Setting (Gmax), s	35.0	20.0	40.0		10.0	20.0	40.0
Max Q Clear Time (g_c+I1), s	8.5	11.1	16.6		11.5	2.8	9.4
Green Ext Time (p_c), s	0.7	0.4	10.8		0.0	0.0	8.0

Intersection Summary	
HCM 7th Control Delay, s/veh	31.2
HCM 7th LOS	C

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	325	61	26	1196	485	492
Future Volume (veh/h)	325	61	26	1196	485	492
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	342	64	27	1259	511	518
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	1382	256	42	1939	554	932
Arrive On Green	0.47	0.47	0.02	0.55	0.31	0.31
Sat Flow, veh/h	3062	550	1767	3618	1767	2768
Grp Volume(v), veh/h	202	204	27	1259	511	518
Grp Sat Flow(s),veh/h/ln	1763	1757	1767	1763	1767	1384
Q Serve(g_s), s	4.5	4.6	1.0	16.4	18.4	10.0
Cycle Q Clear(g_c), s	4.5	4.6	1.0	16.4	18.4	10.0
Prop In Lane		0.31	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	820	818	42	1939	554	932
V/C Ratio(X)	0.25	0.25	0.65	0.65	0.92	0.56
Avail Cap(c_a), veh/h	1072	1068	699	3752	564	949
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	10.6	10.6	31.8	10.4	21.8	17.8
Incr Delay (d2), s/veh	0.2	0.2	15.4	0.5	20.3	0.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	1.5	0.6	4.7	10.2	2.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	10.8	10.9	47.2	10.9	42.1	18.2
LnGrp LOS	B	B	D	B	D	B
Approach Vol, veh/h	406			1286	1029	
Approach Delay, s/veh	10.8			11.7	30.1	
Approach LOS	B			B	C	

Timer - Assigned Phs	2	3	4		8
Phs Duration (G+Y+Rc), s	24.6	5.6	35.6		41.2
Change Period (Y+Rc), s	4.0	4.0	5.0		5.0
Max Green Setting (Gmax), s	21.0	26.0	40.0		70.0
Max Q Clear Time (g_c+I1), s	20.4	3.0	6.6		18.4
Green Ext Time (p_c), s	0.2	0.0	3.4		17.7

Intersection Summary	
HCM 7th Control Delay, s/veh	18.5
HCM 7th LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	17	329	376	732	898	51	205	6	41	16	35	18
Future Volume (veh/h)	17	329	376	732	898	51	205	6	41	16	35	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	18	346	396	771	945	54	216	6	43	17	37	19
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	44	500	446	871	1807	804	265	29	211	110	72	37
Arrive On Green	0.03	0.28	0.28	0.25	0.51	0.51	0.15	0.15	0.15	0.06	0.06	0.06
Sat Flow, veh/h	1767	1763	1572	3428	3526	1568	1767	196	1406	1767	1155	593
Grp Volume(v), veh/h	18	346	396	771	945	54	216	0	49	17	0	56
Grp Sat Flow(s),veh/h/ln	1767	1763	1572	1714	1763	1568	1767	0	1602	1767	0	1749
Q Serve(g_s), s	0.8	13.2	18.1	16.3	13.4	1.3	8.9	0.0	2.0	0.7	0.0	2.3
Cycle Q Clear(g_c), s	0.8	13.2	18.1	16.3	13.4	1.3	8.9	0.0	2.0	0.7	0.0	2.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.88	1.00		0.34
Lane Grp Cap(c), veh/h	44	500	446	871	1807	804	265	0	241	110	0	109
V/C Ratio(X)	0.41	0.69	0.89	0.88	0.52	0.07	0.81	0.00	0.20	0.15	0.00	0.51
Avail Cap(c_a), veh/h	371	534	477	948	1807	804	594	0	539	641	0	635
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	36.1	24.0	25.8	27.0	12.2	9.3	31.0	0.0	28.0	33.4	0.0	34.2
Incr Delay (d2), s/veh	2.2	3.5	17.6	9.5	0.4	0.0	2.3	0.0	0.2	0.2	0.0	1.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	5.4	8.2	7.1	4.4	0.4	3.9	0.0	0.8	0.3	0.0	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	38.4	27.6	43.4	36.5	12.6	9.3	33.3	0.0	28.2	33.6	0.0	35.5
LnGrp LOS	D	C	D	D	B	A	C		C	C		D
Approach Vol, veh/h		760			1770			265			73	
Approach Delay, s/veh		36.1			22.9			32.3			35.1	
Approach LOS		D			C			C			D	

Timer - Assigned Phs	2	3	4		6	7	8
Phs Duration (G+Y+Rc), s	16.0	23.3	26.5		9.4	6.1	43.8
Change Period (Y+Rc), s	4.7	4.2	5.2		4.7	4.2	5.2
Max Green Setting (Gmax), s	25.3	20.8	22.8		27.3	15.8	27.8
Max Q Clear Time (g_c+I1), s	10.9	18.3	20.1		4.3	2.8	15.4
Green Ext Time (p_c), s	0.4	0.8	1.1		0.2	0.0	6.4

Intersection Summary	
HCM 7th Control Delay, s/veh	27.6
HCM 7th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	278	0	1105	0	0	0	1	2119	422	200	797	0
Future Volume (veh/h)	278	0	1105	0	0	0	1	2119	422	200	797	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	0	1870				1870	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	293	0	1163				1	2231	444	211	839	0
Peak Hour Factor	0.95	0.95	0.95				0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	0	2				2	2	2	2	2	0
Cap, veh/h	527	0	1464				450	2825	555	756	2523	0
Arrive On Green	0.15	0.00	0.15				0.25	0.52	0.52	0.22	0.49	0.00
Sat Flow, veh/h	3456	0	3614				1781	5428	1066	3456	5274	0
Grp Volume(v), veh/h	293	0	1163				1	1980	695	211	839	0
Grp Sat Flow(s),veh/h/ln	1728	0	1205				1781	1609	1669	1728	1702	0
Q Serve(g_s), s	9.4	0.0	18.3				0.1	40.0	41.1	6.1	11.9	0.0
Cycle Q Clear(g_c), s	9.4	0.0	18.3				0.1	40.0	41.1	6.1	11.9	0.0
Prop In Lane	1.00		1.00				1.00		0.64	1.00		0.00
Lane Grp Cap(c), veh/h	527	0	1464				450	2511	868	756	2523	0
V/C Ratio(X)	0.56	0.00	0.79				0.00	0.79	0.80	0.28	0.33	0.00
Avail Cap(c_a), veh/h	527	0	1464				450	2670	923	756	2528	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				1.00	1.00	1.00	0.63	0.63	0.00
Uniform Delay (d), s/veh	47.1	0.0	31.3				33.5	23.4	23.7	39.0	18.4	0.0
Incr Delay (d2), s/veh	1.1	0.0	3.0				0.0	2.6	7.7	0.0	0.2	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.1	0.0	21.0				0.0	14.8	16.9	2.6	4.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	48.2	0.0	34.3				33.6	26.0	31.3	39.0	18.6	0.0
LnGrp LOS	D		C				C	C	C	D	B	
Approach Vol, veh/h		1456						2676			1050	
Approach Delay, s/veh		37.1						27.4			22.7	
Approach LOS		D						C			C	

Timer - Assigned Phs	1	2		4	5	6
Phs Duration (G+Y+Rc), s	31.0	67.0		22.0	34.0	64.0
Change Period (Y+Rc), s	4.7	4.6		3.7	3.7	* 4.7
Max Green Setting (Gmax), s	21.3	66.4		18.3	30.3	* 59
Max Q Clear Time (g_c+I1), s	8.1	43.1		20.3	2.1	13.9
Green Ext Time (p_c), s	0.3	19.4		0.0	0.0	6.8

Intersection Summary	
HCM 7th Control Delay, s/veh	29.2
HCM 7th LOS	C

Notes

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	492	964	260	361	465	350
Future Volume (vph)	492	964	260	361	465	350
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.1	4.7	4.7	5.1	4.7	4.7
Lane Util. Factor	0.91	0.91	0.97	0.95	0.97	1.00
Frpb, ped/bikes	0.99	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.93	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3050	1407	3367	3471	3367	1553
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	3050	1407	3367	3471	3367	1553
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	518	1015	274	380	489	368
RTOR Reduction (vph)	239	305	0	0	0	0
Lane Group Flow (vph)	787	202	274	380	489	368
Confl. Peds. (#/hr)		8				3
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%
Turn Type	NA	custom	Prot	NA	Prot	Prot
Protected Phases	4 9	2	3	8	2	2
Permitted Phases		4				
Actuated Green, G (s)	25.2	26.4	7.5	36.3	20.3	20.3
Effective Green, g (s)	25.2	26.4	7.5	36.3	20.3	20.3
Actuated g/C Ratio	0.38	0.40	0.11	0.55	0.31	0.31
Clearance Time (s)		4.7	4.7	5.1	4.7	4.7
Vehicle Extension (s)		0.2	0.2	0.2	0.2	0.2
Lane Grp Cap (vph)	1157	559	380	1897	1029	474
v/s Ratio Prot	c0.26	0.11	c0.08	0.11	0.15	c0.24
v/s Ratio Perm		0.03				
v/c Ratio	0.68	0.36	0.72	0.20	0.48	0.78
Uniform Delay, d1	17.2	14.1	28.4	7.7	18.7	21.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.3	0.1	5.6	0.0	0.1	7.1
Delay (s)	18.6	14.2	34.1	7.7	18.8	28.1
Level of Service	B	B	C	A	B	C
Approach Delay (s/veh)	17.1			18.7	22.8	
Approach LOS	B			B	C	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	19.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	66.4	Sum of lost time (s)	18.5
Intersection Capacity Utilization	57.6%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	20	90	535	100	191	340	683	1374	62	815	60
Future Volume (veh/h)	30	20	90	535	100	191	340	683	1374	62	815	60
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	32	21	95	563	105	201	358	719	1446	65	858	63
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	50	36	164	686	130	249	395	1845	1826	86	1144	84
Arrive On Green	0.03	0.12	0.12	0.14	0.23	0.23	0.22	0.52	0.52	0.05	0.34	0.34
Sat Flow, veh/h	1767	292	1322	4983	569	1089	1767	3526	2762	1767	3328	244
Grp Volume(v), veh/h	32	0	116	563	0	306	358	719	1446	65	454	467
Grp Sat Flow(s),veh/h/ln	1767	0	1614	1661	0	1658	1767	1763	1381	1767	1763	1810
Q Serve(g_s), s	2.0	0.0	7.5	12.2	0.0	19.4	21.9	13.6	41.5	4.0	25.4	25.4
Cycle Q Clear(g_c), s	2.0	0.0	7.5	12.2	0.0	19.4	21.9	13.6	41.5	4.0	25.4	25.4
Prop In Lane	1.00		0.82	1.00		0.66	1.00		1.00	1.00		0.14
Lane Grp Cap(c), veh/h	50	0	200	686	0	380	395	1845	1826	86	606	622
V/C Ratio(X)	0.64	0.00	0.58	0.82	0.00	0.81	0.91	0.39	0.79	0.75	0.75	0.75
Avail Cap(c_a), veh/h	484	0	587	1344	0	596	484	1845	1826	492	792	813
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.5	0.0	46.0	46.6	0.0	40.5	42.0	15.9	13.4	52.3	32.3	32.3
Incr Delay (d2), s/veh	25.8	0.0	9.3	1.0	0.0	13.5	19.2	0.3	2.8	17.1	4.6	4.5
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.0	3.5	5.0	0.0	9.2	11.4	5.2	11.9	2.2	11.3	11.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	79.3	0.0	55.2	47.6	0.0	54.0	61.2	16.2	16.3	69.4	36.9	36.8
LnGrp LOS	E		E	D		D	E	B	B	E	D	D
Approach Vol, veh/h		148			869			2523			986	
Approach Delay, s/veh		60.4			49.9			22.6			39.0	
Approach LOS		E			D			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.4	63.2	19.3	18.3	30.4	43.2	7.6	30.0
Change Period (Y+Rc), s	5.0	5.0	4.0	4.5	5.5	5.0	4.5	* 4.5
Max Green Setting (Gmax), s	31.6	50.0	30.0	40.5	30.5	50.0	30.5	* 40
Max Q Clear Time (g_c+I1), s	16.0	43.5	14.2	9.5	23.9	27.4	4.0	21.4
Green Ext Time (p_c), s	0.2	6.1	1.1	1.6	1.0	10.9	0.1	3.9

Intersection Summary	
HCM 7th Control Delay, s/veh	32.7
HCM 7th LOS	C

Notes

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	9.2
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	151	0	21	242	69	0	1	1	27	2	1
Future Vol, veh/h	0	151	0	21	242	69	0	1	1	27	2	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	159	0	22	255	73	0	1	1	28	2	1
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	8.4	9.6	7.8	8.4
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	0%	6%	90%
Vol Thru, %	50%	100%	73%	7%
Vol Right, %	50%	0%	21%	3%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	2	151	332	30
LT Vol	0	0	21	27
Through Vol	1	151	242	2
RT Vol	1	0	69	1
Lane Flow Rate	2	159	349	32
Geometry Grp	1	1	1	1
Degree of Util (X)	0.003	0.192	0.388	0.045
Departure Headway (Hd)	4.759	4.359	4	5.178
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	755	828	888	695
Service Time	2.769	2.359	2.08	3.185
HCM Lane V/C Ratio	0.003	0.192	0.393	0.046
HCM Control Delay, s/veh	7.8	8.4	9.6	8.4
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0	0.7	1.9	0.1

Intersection	
Int Delay, s/veh	1.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	620	23	20	520	32	34
Future Vol, veh/h	620	23	20	520	32	34
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	110	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	653	24	21	547	34	36

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	677	0	1254	338
Stage 1	-	-	-	-	665	-
Stage 2	-	-	-	-	589	-
Critical Hdwy	-	-	4.16	-	6.66	6.96
Critical Hdwy Stg 1	-	-	-	-	5.86	-
Critical Hdwy Stg 2	-	-	-	-	5.46	-
Follow-up Hdwy	-	-	2.238	-	3.538	3.338
Pot Cap-1 Maneuver	-	-	901	-	174	653
Stage 1	-	-	-	-	470	-
Stage 2	-	-	-	-	548	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	901	-	170	653
Mov Cap-2 Maneuver	-	-	-	-	170	-
Stage 1	-	-	-	-	470	-
Stage 2	-	-	-	-	535	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0.34	22.5
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	274	-	-	901	-
HCM Lane V/C Ratio	0.253	-	-	0.023	-
HCM Ctrl Dly (s/v)	22.5	-	-	9.1	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	1	-	-	0.1	-

Intersection	
Intersection Delay, s/veh	9.2
Intersection LOS	A

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	40	141	97	156	112	3
Future Vol, veh/h	40	141	97	156	112	3
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	42	148	102	164	118	3
Number of Lanes	0	1	1	0	1	1

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	2	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	2	1
HCM Control Delay, s/veh	9.1	8.9	10.1
HCM LOS	A	A	B

Lane	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	22%	0%	100%	0%
Vol Thru, %	78%	38%	0%	0%
Vol Right, %	0%	62%	0%	100%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	181	253	112	3
LT Vol	40	0	112	0
Through Vol	141	97	0	0
RT Vol	0	156	0	3
Lane Flow Rate	191	266	118	3
Geometry Grp	2	2	5	5
Degree of Util (X)	0.243	0.304	0.196	0.004
Departure Headway (Hd)	4.584	4.115	5.977	4.767
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	783	874	599	747
Service Time	2.613	2.14	3.727	2.517
HCM Lane V/C Ratio	0.244	0.304	0.197	0.004
HCM Control Delay, s/veh	9.1	8.9	10.2	7.5
HCM Lane LOS	A	A	B	A
HCM 95th-tile Q	1	1.3	0.7	0



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	86	477	44	98	600	138	91	0	146	19	0	11
Future Volume (veh/h)	86	477	44	98	600	138	91	0	146	19	0	11
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	91	502	46	103	632	145	96	0	154	20	0	12
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	119	1192	109	162	1108	254	300	0	267	64	0	39
Arrive On Green	0.07	0.36	0.36	0.09	0.39	0.39	0.17	0.00	0.17	0.06	0.00	0.06
Sat Flow, veh/h	1767	3266	298	1767	2848	652	1767	0	1572	1055	0	633
Grp Volume(v), veh/h	91	270	278	103	391	386	96	0	154	32	0	0
Grp Sat Flow(s),veh/h/ln	1767	1763	1802	1767	1763	1738	1767	0	1572	1689	0	0
Q Serve(g_s), s	3.2	7.4	7.4	3.6	11.1	11.2	3.1	0.0	5.8	1.2	0.0	0.0
Cycle Q Clear(g_c), s	3.2	7.4	7.4	3.6	11.1	11.2	3.1	0.0	5.8	1.2	0.0	0.0
Prop In Lane	1.00		0.17	1.00		0.38	1.00		1.00	0.62		0.37
Lane Grp Cap(c), veh/h	119	643	657	162	686	676	300	0	267	103	0	0
V/C Ratio(X)	0.76	0.42	0.42	0.63	0.57	0.57	0.32	0.00	0.58	0.31	0.00	0.00
Avail Cap(c_a), veh/h	552	1102	1126	552	1102	1086	966	0	860	264	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	29.3	15.2	15.3	28.0	15.3	15.4	23.3	0.0	24.5	28.8	0.0	0.0
Incr Delay (d2), s/veh	9.6	1.6	1.6	4.1	2.7	2.7	0.2	0.0	0.7	0.6	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	2.7	2.8	1.6	4.2	4.1	1.2	0.0	2.1	0.5	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	38.9	16.8	16.8	32.1	18.0	18.1	23.5	0.0	25.2	29.4	0.0	0.0
LnGrp LOS	D	B	B	C	B	B	C		C	C		
Approach Vol, veh/h		639			880			250			32	
Approach Delay, s/veh		20.0			19.7			24.6			29.4	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	2	3	4		6	7	8
Phs Duration (G+Y+Rc), s	15.9	10.9	28.4		8.9	9.3	29.9
Change Period (Y+Rc), s	5.0	5.0	5.0		5.0	5.0	5.0
Max Green Setting (Gmax), s	35.0	20.0	40.0		10.0	20.0	40.0
Max Q Clear Time (g_c+I1), s	7.8	5.6	9.4		3.2	5.2	13.2
Green Ext Time (p_c), s	0.8	0.2	8.3		0.0	0.2	11.7

Intersection Summary	
HCM 7th Control Delay, s/veh	20.7
HCM 7th LOS	C

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	24	3	1	195	112	9
Future Vol, veh/h	24	3	1	195	112	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	25	3	1	205	118	9

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	330	123	127	0	-	0
Stage 1	123	-	-	-	-	-
Stage 2	207	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	665	928	1459	-	-	-
Stage 1	903	-	-	-	-	-
Stage 2	827	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	664	928	1459	-	-	-
Mov Cap-2 Maneuver	664	-	-	-	-	-
Stage 1	902	-	-	-	-	-
Stage 2	827	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	10.48	0.04	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	9	-	686	-	-
HCM Lane V/C Ratio	0.001	-	0.041	-	-
HCM Ctrl Dly (s/v)	7.5	0	10.5	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	6	155	96	4	26	0
Future Vol, veh/h	6	155	96	4	26	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	6	163	101	4	27	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	105	0	-	0	279	103
Stage 1	-	-	-	-	103	-
Stage 2	-	-	-	-	176	-
Critical Hdwy	4.11	-	-	-	6.41	6.21
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-	-	-	-	5.41	-
Follow-up Hdwy	2.209	-	-	-	3.509	3.309
Pot Cap-1 Maneuver	1492	-	-	-	713	954
Stage 1	-	-	-	-	924	-
Stage 2	-	-	-	-	857	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1492	-	-	-	710	954
Mov Cap-2 Maneuver	-	-	-	-	710	-
Stage 1	-	-	-	-	919	-
Stage 2	-	-	-	-	857	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0.28	0	10.28
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	67	-	-	-	710
HCM Lane V/C Ratio	0.004	-	-	-	0.039
HCM Ctrl Dly (s/v)	7.4	0	-	-	10.3
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	469	197	47	833	464	1143
Future Volume (veh/h)	469	197	47	833	464	1143
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)		0.98	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	494	207	49	877	488	1203
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	797	332	69	1569	696	1199
Arrive On Green	0.33	0.33	0.04	0.44	0.39	0.39
Sat Flow, veh/h	2522	1011	1781	3647	1781	2790
Grp Volume(v), veh/h	361	340	49	877	488	1203
Grp Sat Flow(s),veh/h/ln	1777	1663	1781	1777	1781	1395
Q Serve(g_s), s	9.2	9.3	1.5	9.8	12.3	21.0
Cycle Q Clear(g_c), s	9.2	9.3	1.5	9.8	12.3	21.0
Prop In Lane		0.61	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	583	546	69	1569	696	1199
V/C Ratio(X)	0.62	0.62	0.71	0.56	0.70	1.00
Avail Cap(c_a), veh/h	1323	1238	862	4632	696	1199
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.2	15.2	25.5	11.1	13.7	15.3
Incr Delay (d2), s/veh	1.5	1.7	12.7	0.4	2.7	26.9
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.2	3.0	0.8	2.9	4.8	9.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	16.7	16.9	38.3	11.6	16.4	42.2
LnGrp LOS	B	B	D	B	B	F
Approach Vol, veh/h	701			926	1691	
Approach Delay, s/veh	16.8			13.0	34.8	
Approach LOS	B			B	C	

Timer - Assigned Phs	2	3	4	8
Phs Duration (G+Y+Rc), s	25.0	6.1	22.6	28.7
Change Period (Y+Rc), s	4.0	4.0	5.0	5.0
Max Green Setting (Gmax), s	21.0	26.0	40.0	70.0
Max Q Clear Time (g_c+I1), s	23.0	3.5	11.3	11.8
Green Ext Time (p_c), s	0.0	0.1	6.3	10.3

Intersection Summary	
HCM 7th Control Delay, s/veh	24.9
HCM 7th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	29	569	493	526	706	65	73	10	65	32	36	24
Future Volume (veh/h)	29	569	493	526	706	65	73	10	65	32	36	24
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	31	599	519	554	743	68	77	11	68	34	38	25
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	70	630	544	706	1833	811	140	18	110	136	80	53
Arrive On Green	0.04	0.35	0.35	0.20	0.52	0.52	0.08	0.08	0.08	0.08	0.08	0.08
Sat Flow, veh/h	1781	1794	1549	3456	3554	1571	1781	225	1394	1781	1053	693
Grp Volume(v), veh/h	31	593	525	554	743	68	77	0	79	34	0	63
Grp Sat Flow(s),veh/h/ln	1781	1777	1567	1728	1777	1571	1781	0	1619	1781	0	1746
Q Serve(g_s), s	1.1	21.1	21.2	9.9	8.3	1.4	2.7	0.0	3.1	1.2	0.0	2.2
Cycle Q Clear(g_c), s	1.1	21.1	21.2	9.9	8.3	1.4	2.7	0.0	3.1	1.2	0.0	2.2
Prop In Lane	1.00		0.99	1.00		1.00	1.00		0.86	1.00		0.40
Lane Grp Cap(c), veh/h	70	624	550	706	1833	811	140	0	128	136	0	133
V/C Ratio(X)	0.44	0.95	0.95	0.78	0.41	0.08	0.55	0.00	0.62	0.25	0.00	0.47
Avail Cap(c_a), veh/h	433	624	550	1107	1833	811	694	0	631	749	0	734
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	30.5	20.5	20.6	24.5	9.6	8.0	28.8	0.0	29.0	28.2	0.0	28.7
Incr Delay (d2), s/veh	1.6	24.5	27.3	2.0	0.2	0.1	1.2	0.0	1.8	0.4	0.0	1.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	11.5	10.6	3.7	2.5	0.4	1.2	0.0	1.2	0.5	0.0	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	32.1	45.0	47.8	26.5	9.8	8.0	30.0	0.0	30.8	28.6	0.0	29.7
LnGrp LOS	C	D	D	C	A	A	C		C	C		C
Approach Vol, veh/h		1149			1365			156			97	
Approach Delay, s/veh		45.9			16.5			30.4			29.3	
Approach LOS		D			B			C			C	

Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	9.8	17.5	28.0	9.7	6.8	38.7
Change Period (Y+Rc), s	4.7	4.2	5.2	4.7	4.2	5.2
Max Green Setting (Gmax), s	25.3	20.8	22.8	27.3	15.8	27.8
Max Q Clear Time (g_c+I1), s	5.1	11.9	23.2	4.2	3.1	10.3
Green Ext Time (p_c), s	0.4	1.4	0.0	0.2	0.0	6.3

Intersection Summary	
HCM 7th Control Delay, s/veh	30.0
HCM 7th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	565	0	2416	0	0	0	1	1913	478	470	1039	0
Future Volume (veh/h)	565	0	2416	0	0	0	1	1913	478	470	1039	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1885	0	1885				1885	1885	1885	1885	1885	0
Adj Flow Rate, veh/h	595	0	2543				1	2014	503	495	1094	0
Peak Hour Factor	0.95	0.95	0.95				0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	1	0	1				1	1	1	1	1	0
Cap, veh/h	597	0	1866				612	2624	648	784	2031	0
Arrive On Green	0.17	0.00	0.17				0.34	0.50	0.50	0.22	0.39	0.00
Sat Flow, veh/h	3483	0	3643				1795	5211	1288	3483	5316	0
Grp Volume(v), veh/h	595	0	2543				1	1878	639	495	1094	0
Grp Sat Flow(s),veh/h/ln	1742	0	1214				1795	1621	1635	1742	1716	0
Q Serve(g_s), s	22.2	0.0	22.3				0.0	40.6	41.4	16.7	21.2	0.0
Cycle Q Clear(g_c), s	22.2	0.0	22.3				0.0	40.6	41.4	16.7	21.2	0.0
Prop In Lane	1.00		1.00				1.00		0.79	1.00		0.00
Lane Grp Cap(c), veh/h	597	0	1866				612	2449	823	784	2031	0
V/C Ratio(X)	1.00	0.00	1.36				0.00	0.77	0.78	0.63	0.54	0.00
Avail Cap(c_a), veh/h	597	0	1866				612	2709	911	784	2035	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				1.00	1.00	1.00	0.32	0.32	0.00
Uniform Delay (d), s/veh	53.8	0.0	31.7				28.3	26.1	26.3	45.5	30.3	0.0
Incr Delay (d2), s/veh	35.7	0.0	166.8				0.0	2.4	7.1	0.4	0.3	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.7	0.0	62.2				0.0	15.4	16.9	7.2	8.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	89.5	0.0	198.5				28.3	28.5	33.4	45.9	30.6	0.0
LnGrp LOS	F		F				C	C	C	D	C	
Approach Vol, veh/h		3138						2518			1589	
Approach Delay, s/veh		177.8						29.7			35.4	
Approach LOS		F						C			D	

Timer - Assigned Phs	1	2	4	5	6
Phs Duration (G+Y+Rc), s	33.9	70.1	26.0	48.0	56.0
Change Period (Y+Rc), s	4.7	4.6	3.7	3.7	* 4.7
Max Green Setting (Gmax), s	21.3	72.4	22.3	44.3	* 51
Max Q Clear Time (g_c+I1), s	18.7	43.4	24.3	2.0	23.2
Green Ext Time (p_c), s	0.3	22.1	0.0	0.0	8.7

Intersection Summary	
HCM 7th Control Delay, s/veh	95.1
HCM 7th LOS	F

Notes

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	562	820	230	693	664	160
Future Volume (vph)	562	820	230	693	664	160
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.1	4.7	4.7	5.1	4.7	4.7
Lane Util. Factor	0.91	0.91	0.97	0.95	0.97	1.00
Frpb, ped/bikes	0.99	0.99	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.94	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3125	1418	3400	3505	3400	1568
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	3125	1418	3400	3505	3400	1568
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	592	863	242	729	699	168
RTOR Reduction (vph)	130	296	0	0	0	0
Lane Group Flow (vph)	868	161	242	729	699	168
Confl. Peds. (#/hr)		13				1
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%
Turn Type	NA	custom	Prot	NA	Prot	Prot
Protected Phases	4 9	2	3	8	2	2
Permitted Phases		4				
Actuated Green, G (s)	26.7	22.5	7.5	37.8	16.4	16.4
Effective Green, g (s)	26.7	22.5	7.5	37.8	16.4	16.4
Actuated g/C Ratio	0.42	0.35	0.12	0.59	0.26	0.26
Clearance Time (s)		4.7	4.7	5.1	4.7	4.7
Vehicle Extension (s)		0.2	0.2	0.2	0.2	0.2
Lane Grp Cap (vph)	1303	498	398	2070	871	401
v/s Ratio Prot	c0.28	0.08	c0.07	0.21	c0.21	0.11
v/s Ratio Perm		0.03				
v/c Ratio	0.67	0.32	0.61	0.35	0.80	0.42
Uniform Delay, d1	15.1	15.2	26.9	6.8	22.3	19.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.0	0.1	1.8	0.0	5.1	0.3
Delay (s)	16.1	15.3	28.7	6.8	27.4	20.1
Level of Service	B	B	C	A	C	C
Approach Delay (s/veh)	15.8			12.3	26.0	
Approach LOS	B			B	C	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	17.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	64.0	Sum of lost time (s)	18.5
Intersection Capacity Utilization	62.3%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	30	130	1024	120	213	460	738	1280	72	737	40
Future Volume (veh/h)	50	30	130	1024	120	213	460	738	1280	72	737	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	53	32	137	1078	126	224	484	777	1347	76	776	42
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	209	43	182	1091	144	255	393	1617	1871	99	981	53
Arrive On Green	0.12	0.14	0.14	0.22	0.24	0.24	0.22	0.46	0.46	0.06	0.29	0.29
Sat Flow, veh/h	1781	307	1316	5023	603	1072	1781	3554	2780	1781	3428	186
Grp Volume(v), veh/h	53	0	169	1078	0	350	484	777	1347	76	402	416
Grp Sat Flow(s),veh/h/ln	1781	0	1623	1674	0	1676	1781	1777	1390	1781	1777	1837
Q Serve(g_s), s	3.7	0.0	13.8	29.6	0.0	27.8	30.5	21.1	42.5	5.8	28.9	28.9
Cycle Q Clear(g_c), s	3.7	0.0	13.8	29.6	0.0	27.8	30.5	21.1	42.5	5.8	28.9	28.9
Prop In Lane	1.00		0.81	1.00		0.64	1.00		1.00	1.00		0.10
Lane Grp Cap(c), veh/h	209	0	225	1091	0	399	393	1617	1871	99	508	526
V/C Ratio(X)	0.25	0.00	0.75	0.99	0.00	0.88	1.23	0.48	0.72	0.77	0.79	0.79
Avail Cap(c_a), veh/h	393	0	476	1091	0	485	393	1617	1871	400	643	665
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.4	0.0	57.2	53.9	0.0	50.7	53.8	26.2	14.4	64.4	45.5	45.5
Incr Delay (d2), s/veh	1.3	0.0	16.6	24.3	0.0	20.7	124.3	0.5	1.7	16.4	7.4	7.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	0.0	6.7	14.8	0.0	13.9	27.0	8.8	12.8	3.1	13.7	14.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	56.8	0.0	73.8	78.2	0.0	71.4	178.1	26.7	16.1	80.8	52.9	52.7
LnGrp LOS	E		E	E		E	F	C	B	F	D	D
Approach Vol, veh/h		222			1428			2608			894	
Approach Delay, s/veh		69.8			76.5			49.3			55.2	
Approach LOS		E			E			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.6	67.9	34.0	23.6	36.0	44.5	20.7	36.9
Change Period (Y+Rc), s	5.0	5.0	4.0	4.5	5.5	5.0	4.5	4.0
Max Green Setting (Gmax), s	31.6	50.0	30.0	40.5	30.5	50.0	30.5	40.0
Max Q Clear Time (g_c+I1), s	7.8	44.5	31.6	15.8	32.5	30.9	5.7	29.8
Green Ext Time (p_c), s	0.3	5.1	0.0	2.3	0.0	8.7	0.2	3.1

Intersection Summary	
HCM 7th Control Delay, s/veh	58.8
HCM 7th LOS	E

Notes

User approved changes to right turn type.

Intersection	
Intersection Delay, s/veh	10.3
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	24	372	0	8	96	61	0	3	3	41	1	3
Future Vol, veh/h	24	372	0	8	96	61	0	3	3	41	1	3
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	25	392	0	8	101	64	0	3	3	43	1	3
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	11.3	8.4	8	8.8
HCM LOS	B	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	6%	5%	91%
Vol Thru, %	50%	94%	58%	2%
Vol Right, %	50%	0%	37%	7%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	6	396	165	45
LT Vol	0	24	8	41
Through Vol	3	372	96	1
RT Vol	3	0	61	3
Lane Flow Rate	6	417	174	47
Geometry Grp	1	1	1	1
Degree of Util (X)	0.009	0.493	0.206	0.07
Departure Headway (Hd)	4.962	4.262	4.267	5.338
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	720	850	842	671
Service Time	3	2.262	2.286	3.372
HCM Lane V/C Ratio	0.008	0.491	0.207	0.07
HCM Control Delay, s/veh	8	11.3	8.4	8.8
HCM Lane LOS	A	B	A	A
HCM 95th-tile Q	0	2.8	0.8	0.2

Intersection	
Int Delay, s/veh	1.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	572	74	30	603	43	21
Future Vol, veh/h	572	74	30	603	43	21
Conflicting Peds, #/hr	0	3	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	110	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	602	78	32	635	45	22

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	683	0	1342	343
Stage 1	-	-	-	-	644	-
Stage 2	-	-	-	-	698	-
Critical Hdwy	-	-	4.13	-	6.63	6.93
Critical Hdwy Stg 1	-	-	-	-	5.83	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	-	-	2.219	-	3.519	3.319
Pot Cap-1 Maneuver	-	-	908	-	155	654
Stage 1	-	-	-	-	486	-
Stage 2	-	-	-	-	493	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	905	-	149	652
Mov Cap-2 Maneuver	-	-	-	-	149	-
Stage 1	-	-	-	-	484	-
Stage 2	-	-	-	-	475	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0.43	31.91
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	200	-	-	905	-
HCM Lane V/C Ratio	0.337	-	-	0.035	-
HCM Ctrl Dly (s/v)	31.9	-	-	9.1	-
HCM Lane LOS	D	-	-	A	-
HCM 95th %tile Q(veh)	1.4	-	-	0.1	-

Intersection	
Intersection Delay, s/veh	10.1
Intersection LOS	B

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	56	239	86	146	114	17
Future Vol, veh/h	56	239	86	146	114	17
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	59	252	91	154	120	18
Number of Lanes	0	1	1	0	1	1

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	2	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	2	1
HCM Control Delay, s/veh	10.8	9.1	10.2
HCM LOS	B	A	B

Lane	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	19%	0%	100%	0%
Vol Thru, %	81%	37%	0%	0%
Vol Right, %	0%	63%	0%	100%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	295	232	114	17
LT Vol	56	0	114	0
Through Vol	239	86	0	0
RT Vol	0	146	0	17
Lane Flow Rate	311	244	120	18
Geometry Grp	2	2	5	5
Degree of Util (X)	0.4	0.293	0.208	0.025
Departure Headway (Hd)	4.633	4.312	6.229	5.017
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	776	830	574	708
Service Time	2.673	2.355	4.002	2.789
HCM Lane V/C Ratio	0.401	0.294	0.209	0.025
HCM Control Delay, s/veh	10.8	9.1	10.6	7.9
HCM Lane LOS	B	A	B	A
HCM 95th-tile Q	1.9	1.2	0.8	0.1



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	16	652	92	223	488	19	108	0	152	119	0	73
Future Volume (veh/h)	16	652	92	223	488	19	108	0	152	119	0	73
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	17	686	97	235	514	20	114	0	160	125	0	77
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	35	1063	150	278	1663	65	248	0	220	128	0	79
Arrive On Green	0.02	0.34	0.34	0.16	0.48	0.48	0.14	0.00	0.14	0.12	0.00	0.12
Sat Flow, veh/h	1781	3123	441	1781	3487	136	1781	0	1578	1053	0	648
Grp Volume(v), veh/h	17	390	393	235	262	272	114	0	160	202	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1788	1781	1777	1846	1781	0	1578	1701	0	0
Q Serve(g_s), s	0.8	15.3	15.3	10.6	7.4	7.5	4.8	0.0	8.0	9.8	0.0	0.0
Cycle Q Clear(g_c), s	0.8	15.3	15.3	10.6	7.4	7.5	4.8	0.0	8.0	9.8	0.0	0.0
Prop In Lane	1.00		0.25	1.00		0.07	1.00		1.00	0.62		0.38
Lane Grp Cap(c), veh/h	35	605	608	278	848	881	248	0	220	206	0	0
V/C Ratio(X)	0.49	0.64	0.65	0.84	0.31	0.31	0.46	0.00	0.73	0.98	0.00	0.00
Avail Cap(c_a), veh/h	432	862	868	432	862	896	757	0	670	206	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	40.0	23.0	23.0	33.8	13.2	13.2	32.6	0.0	34.0	36.1	0.0	0.0
Incr Delay (d2), s/veh	10.2	4.1	4.1	8.8	0.7	0.7	0.5	0.0	1.7	56.1	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	6.4	6.5	4.9	2.7	2.9	2.1	0.0	3.1	7.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	50.2	27.1	27.1	42.6	14.0	13.9	33.1	0.0	35.7	92.2	0.0	0.0
LnGrp LOS	D	C	C	D	B	B	C		D	F		
Approach Vol, veh/h		800			769			274			202	
Approach Delay, s/veh		27.6			22.7			34.6			92.2	
Approach LOS		C			C			C			F	

Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	16.5	17.9	33.0	15.0	6.6	44.3
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	35.0	20.0	40.0	10.0	20.0	40.0
Max Q Clear Time (g_c+I1), s	10.0	12.6	17.3	11.8	2.8	9.5
Green Ext Time (p_c), s	0.8	0.4	10.7	0.0	0.0	8.0

Intersection Summary	
HCM 7th Control Delay, s/veh	33.1
HCM 7th LOS	C

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	16	2	3	199	129	25
Future Vol, veh/h	16	2	3	199	129	25
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	17	2	3	209	136	26

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	365	149	162	0	-	0
Stage 1	149	-	-	-	-	-
Stage 2	216	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	635	898	1417	-	-	-
Stage 1	879	-	-	-	-	-
Stage 2	820	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	633	898	1417	-	-	-
Mov Cap-2 Maneuver	633	-	-	-	-	-
Stage 1	876	-	-	-	-	-
Stage 2	820	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	10.66	0.11	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	27	-	655	-	-
HCM Lane V/C Ratio	0.002	-	0.029	-	-
HCM Ctrl Dly (s/v)	7.5	0	10.7	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	17	277	92	11	18	0
Future Vol, veh/h	17	277	92	11	18	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	18	292	97	12	19	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	108	0	-	0	430	103
Stage 1	-	-	-	-	103	-
Stage 2	-	-	-	-	327	-
Critical Hdwy	4.11	-	-	-	6.41	6.21
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-	-	-	-	5.41	-
Follow-up Hdwy	2.209	-	-	-	3.509	3.309
Pot Cap-1 Maneuver	1488	-	-	-	584	955
Stage 1	-	-	-	-	924	-
Stage 2	-	-	-	-	733	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1488	-	-	-	576	955
Mov Cap-2 Maneuver	-	-	-	-	576	-
Stage 1	-	-	-	-	911	-
Stage 2	-	-	-	-	733	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0.43	0	11.47
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	104	-	-	-	576
HCM Lane V/C Ratio	0.012	-	-	-	0.033
HCM Ctrl Dly (s/v)	7.4	0	-	-	11.5
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1



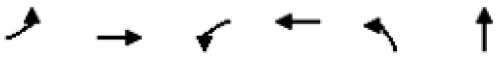
Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	361	26	1122	235	572
v/c Ratio	0.33	0.10	0.58	0.57	0.36
Control Delay (s/veh)	12.5	21.3	8.1	22.2	1.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	12.5	21.3	8.1	22.2	1.7
Queue Length 50th (ft)	33	6	80	51	0
Queue Length 95th (ft)	67	26	148	120	19
Internal Link Dist (ft)	727		2446	1001	
Turn Bay Length (ft)		225		125	
Base Capacity (vph)	3072	1064	3505	860	2570
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.12	0.02	0.32	0.27	0.22

Intersection Summary



Lane Group	EBL	EBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	229	858	1	1738	202	633
v/c Ratio	0.54	0.32	0.00	0.47	0.35	0.69
Control Delay (s/veh)	53.3	5.7	14.0	12.9	47.3	49.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	53.3	5.7	14.0	12.9	47.3	49.6
Queue Length 50th (ft)	87	81	0	197	70	170
Queue Length 95th (ft)	120	135	4	227	115	196
Internal Link Dist (ft)				1218		721
Turn Bay Length (ft)	700	700	100		470	
Base Capacity (vph)	542	2698	1052	3734	643	2517
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.42	0.32	0.00	0.47	0.31	0.25

Intersection Summary



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT
Lane Group Flow (vph)	1	494	53	494	66	104
v/c Ratio	0.00	0.29	0.14	0.23	0.12	0.12
Control Delay (s/veh)	22.0	11.3	20.8	7.0	18.1	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	22.0	11.3	20.8	7.0	18.1	0.3
Queue Length 50th (ft)	0	55	14	31	16	0
Queue Length 95th (ft)	4	79	36	71	41	0
Internal Link Dist (ft)		2021		1248		2240
Turn Bay Length (ft)	200		140		125	
Base Capacity (vph)	944	2949	944	2989	1390	1361
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.00	0.17	0.06	0.17	0.05	0.08

Intersection Summary



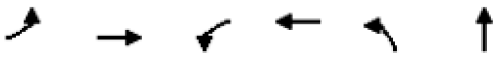
Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	421	43	714	245	835
v/c Ratio	0.42	0.15	0.38	0.56	0.50
Control Delay (s/veh)	14.7	19.2	6.8	20.2	3.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	14.7	19.2	6.8	20.2	3.7
Queue Length 50th (ft)	41	9	44	50	20
Queue Length 95th (ft)	90	35	93	122	55
Internal Link Dist (ft)	727		2401	1134	
Turn Bay Length (ft)		225		125	
Base Capacity (vph)	3180	1090	3539	881	2657
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.13	0.04	0.20	0.28	0.31

Intersection Summary



Lane Group	EBL	EBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	300	1082	1	1433	302	686
v/c Ratio	0.57	0.39	0.00	0.49	0.31	0.73
Control Delay (s/veh)	54.7	6.5	16.0	23.1	38.3	54.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	54.7	6.5	16.0	23.1	38.3	54.4
Queue Length 50th (ft)	122	122	0	220	103	201
Queue Length 95th (ft)	159	179	4	269	149	235
Internal Link Dist (ft)				969		721
Turn Bay Length (ft)	700	700	100		470	
Base Capacity (vph)	619	2717	1021	3490	975	2030
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.48	0.40	0.00	0.41	0.31	0.34

Intersection Summary



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT
Lane Group Flow (vph)	4	560	109	388	47	64
v/c Ratio	0.02	0.33	0.28	0.16	0.09	0.08
Control Delay (s/veh)	25.3	12.9	23.3	5.9	21.2	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	25.3	12.9	23.3	5.9	21.2	0.2
Queue Length 50th (ft)	1	69	32	23	13	0
Queue Length 95th (ft)	10	115	77	64	41	0
Internal Link Dist (ft)		2021		1248		2290
Turn Bay Length (ft)	200		140		125	
Base Capacity (vph)	855	2651	855	2712	1231	1253
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.00	0.21	0.13	0.14	0.04	0.05

Intersection Summary

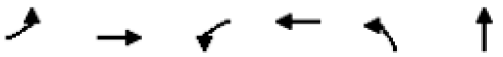
Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	366	26	1123	243	572
v/c Ratio	0.33	0.10	0.58	0.58	0.35
Control Delay (s/veh)	12.6	21.6	8.3	22.4	1.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	12.6	21.6	8.3	22.4	1.7
Queue Length 50th (ft)	34	6	81	53	0
Queue Length 95th (ft)	68	26	152	124	19
Internal Link Dist (ft)	727		2446	1001	
Turn Bay Length (ft)		225		125	
Base Capacity (vph)	3048	1054	3505	851	2565
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.12	0.02	0.32	0.29	0.22

Intersection Summary



Lane Group	EBL	EBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	233	858	1	1741	202	639
v/c Ratio	0.54	0.32	0.00	0.47	0.35	0.68
Control Delay (s/veh)	53.4	5.8	14.0	13.1	47.1	49.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	53.4	5.8	14.0	13.1	47.1	49.3
Queue Length 50th (ft)	89	82	0	197	70	171
Queue Length 95th (ft)	122	135	4	227	115	198
Internal Link Dist (ft)				1218		721
Turn Bay Length (ft)	700	700	100		470	
Base Capacity (vph)	542	2689	1046	3722	647	2517
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.43	0.32	0.00	0.47	0.31	0.25

Intersection Summary



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT
Lane Group Flow (vph)	1	497	65	494	84	146
v/c Ratio	0.00	0.39	0.21	0.29	0.19	0.18
Control Delay (s/veh)	23.0	12.5	21.5	7.7	19.2	0.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	23.0	12.5	21.5	7.7	19.2	0.5
Queue Length 50th (ft)	0	56	17	31	20	0
Queue Length 95th (ft)	4	81	43	70	51	0
Internal Link Dist (ft)		2021		1248		2240
Turn Bay Length (ft)	200		140		125	
Base Capacity (vph)	799	2921	799	2964	1378	1354
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.00	0.17	0.08	0.17	0.06	0.11

Intersection Summary



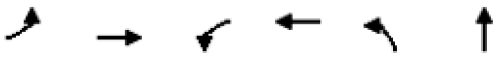
Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	425	43	717	264	835
v/c Ratio	0.43	0.15	0.38	0.57	0.50
Control Delay (s/veh)	15.2	19.8	7.2	20.2	3.6
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	15.2	19.8	7.2	20.2	3.6
Queue Length 50th (ft)	43	9	47	56	21
Queue Length 95th (ft)	93	36	98	132	56
Internal Link Dist (ft)	727		2401	1134	
Turn Bay Length (ft)		225		125	
Base Capacity (vph)	3137	1064	3539	859	2693
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.14	0.04	0.20	0.31	0.31

Intersection Summary



Lane Group	EBL	EBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	311	1082	1	1438	302	690
v/c Ratio	0.59	0.40	0.00	0.49	0.31	0.73
Control Delay (s/veh)	55.2	6.6	16.0	23.2	38.3	54.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	55.2	6.6	16.0	23.2	38.3	54.3
Queue Length 50th (ft)	127	123	0	222	103	202
Queue Length 95th (ft)	164	179	4	270	150	236
Internal Link Dist (ft)				969		721
Turn Bay Length (ft)	700	700	100		470	
Base Capacity (vph)	619	2712	1017	3493	977	2030
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.50	0.40	0.00	0.41	0.31	0.34

Intersection Summary



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT
Lane Group Flow (vph)	4	569	136	388	58	88
v/c Ratio	0.02	0.43	0.39	0.16	0.15	0.11
Control Delay (s/veh)	26.5	14.3	25.0	5.7	22.8	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	26.5	14.3	25.0	5.7	22.8	0.3
Queue Length 50th (ft)	1	72	41	23	16	0
Queue Length 95th (ft)	10	122	93	64	50	0
Internal Link Dist (ft)		2021		1248		2290
Turn Bay Length (ft)	200		140		125	
Base Capacity (vph)	713	2590	713	2655	1206	1238
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.22	0.19	0.15	0.05	0.07

Intersection Summary



Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	430	26	1207	545	572
v/c Ratio	0.40	0.14	0.71	0.87	0.33
Control Delay (s/veh)	16.0	27.4	14.3	36.8	1.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	16.0	27.4	14.3	36.8	1.5
Queue Length 50th (ft)	57	9	161	173	0
Queue Length 95th (ft)	87	29	204	#381	19
Internal Link Dist (ft)	727		2446	1001	
Turn Bay Length (ft)		225		125	
Base Capacity (vph)	2356	780	3505	630	2484
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.18	0.03	0.34	0.87	0.23

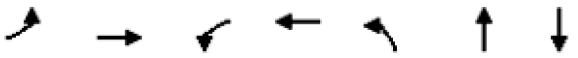
Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	231	858	1	1922	202	669
v/c Ratio	0.51	0.33	0.00	0.50	0.42	0.64
Control Delay (s/veh)	51.2	7.2	20.0	12.9	50.9	45.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	51.2	7.2	20.0	12.9	50.9	45.9
Queue Length 50th (ft)	88	81	0	196	75	181
Queue Length 95th (ft)	115	177	4	288	115	184
Internal Link Dist (ft)				1218		721
Turn Bay Length (ft)	700	700	100		470	
Base Capacity (vph)	566	2608	994	3843	637	2517
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.41	0.33	0.00	0.50	0.32	0.27

Intersection Summary



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBT
Lane Group Flow (vph)	109	610	113	918	86	125	38
v/c Ratio	0.45	0.44	0.46	0.59	0.31	0.19	0.13
Control Delay (s/veh)	41.8	18.2	41.7	19.5	39.5	0.7	0.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	41.8	18.2	41.7	19.5	39.5	0.7	0.8
Queue Length 50th (ft)	58	120	60	200	45	0	0
Queue Length 95th (ft)	99	156	101	244	83	0	0
Internal Link Dist (ft)		2021		1248		2240	798
Turn Bay Length (ft)	200		140		125		
Base Capacity (vph)	485	1922	485	1898	850	1008	326
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.22	0.32	0.23	0.48	0.10	0.12	0.12

Intersection Summary



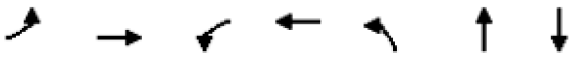
Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	668	43	748	328	835
v/c Ratio	0.60	0.18	0.40	0.61	0.51
Control Delay (s/veh)	16.8	25.5	8.7	22.7	5.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	16.8	25.5	8.7	22.7	5.5
Queue Length 50th (ft)	81	13	69	87	39
Queue Length 95th (ft)	149	42	117	191	93
Internal Link Dist (ft)	727		2401	1134	
Turn Bay Length (ft)		225		125	
Base Capacity (vph)	2573	874	3539	706	2485
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.26	0.05	0.21	0.46	0.34

Intersection Summary



Lane Group	EBL	EBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	306	1082	1	1473	302	843
v/c Ratio	0.52	0.41	0.00	0.54	0.29	0.74
Control Delay (s/veh)	51.7	8.5	20.0	26.6	36.4	51.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	51.7	8.5	20.0	26.6	36.4	51.3
Queue Length 50th (ft)	123	146	0	247	100	243
Queue Length 95th (ft)	157	209	4	299	146	276
Internal Link Dist (ft)				969		721
Turn Bay Length (ft)	700	700	100		470	
Base Capacity (vph)	647	2590	926	3493	1039	2030
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.47	0.42	0.00	0.42	0.29	0.42

Intersection Summary



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBT
Lane Group Flow (vph)	18	782	218	512	57	75	211
v/c Ratio	0.13	0.61	0.64	0.25	0.24	0.14	0.71
Control Delay (s/veh)	44.8	25.0	44.2	11.2	42.2	0.6	36.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	44.8	25.0	44.2	11.2	42.2	0.6	36.8
Queue Length 50th (ft)	10	192	117	65	30	0	59
Queue Length 95th (ft)	34	260	209	126	74	0	#187
Internal Link Dist (ft)		2021		1248		2290	902
Turn Bay Length (ft)	200		140		125		
Base Capacity (vph)	435	1709	435	2080	761	878	302
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.04	0.46	0.50	0.25	0.07	0.09	0.70

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	436	26	1208	553	572
v/c Ratio	0.41	0.14	0.71	0.88	0.33
Control Delay (s/veh)	16.1	27.4	14.3	38.3	1.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	16.1	27.4	14.3	38.3	1.5
Queue Length 50th (ft)	58	9	161	177	0
Queue Length 95th (ft)	89	29	204	#390	19
Internal Link Dist (ft)	727		2446	1001	
Turn Bay Length (ft)		225		125	
Base Capacity (vph)	2353	780	3505	630	2483
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.19	0.03	0.34	0.88	0.23

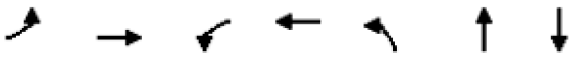
Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	236	858	1	1924	202	674
v/c Ratio	0.52	0.33	0.00	0.50	0.41	0.65
Control Delay (s/veh)	51.4	7.3	20.0	12.9	50.8	45.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	51.4	7.3	20.0	12.9	50.8	45.9
Queue Length 50th (ft)	90	82	0	197	75	182
Queue Length 95th (ft)	118	177	4	289	115	185
Internal Link Dist (ft)				1218		721
Turn Bay Length (ft)	700	700	100		470	
Base Capacity (vph)	566	2606	992	3841	637	2517
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.42	0.33	0.00	0.50	0.32	0.27

Intersection Summary



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBT
Lane Group Flow (vph)	109	614	124	918	104	167	38
v/c Ratio	0.45	0.44	0.48	0.59	0.37	0.26	0.13
Control Delay (s/veh)	42.2	19.0	42.0	19.9	40.4	0.9	0.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	42.2	19.0	42.0	19.9	40.4	0.9	0.9
Queue Length 50th (ft)	58	122	66	200	55	0	0
Queue Length 95th (ft)	100	164	110	253	97	0	0
Internal Link Dist (ft)		2021		1248		2240	798
Turn Bay Length (ft)	200		140		125		
Base Capacity (vph)	480	1898	480	1875	840	1001	323
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.23	0.32	0.26	0.49	0.12	0.17	0.12

Intersection Summary



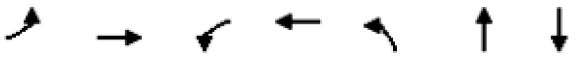
Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	672	43	751	347	835
v/c Ratio	0.61	0.19	0.41	0.61	0.50
Control Delay (s/veh)	17.5	26.3	9.4	22.4	5.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	17.5	26.3	9.4	22.4	5.5
Queue Length 50th (ft)	86	13	75	93	39
Queue Length 95th (ft)	150	42	117	204	94
Internal Link Dist (ft)	727		2401	1134	
Turn Bay Length (ft)		225		125	
Base Capacity (vph)	2470	838	3539	676	2476
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.27	0.05	0.21	0.51	0.34

Intersection Summary



Lane Group	EBL	EBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	317	1082	1	1479	302	847
v/c Ratio	0.54	0.42	0.00	0.54	0.29	0.74
Control Delay (s/veh)	52.2	8.5	21.0	26.6	36.4	51.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	52.2	8.5	21.0	26.6	36.4	51.2
Queue Length 50th (ft)	127	146	0	248	100	245
Queue Length 95th (ft)	162	210	4	300	146	278
Internal Link Dist (ft)				969		721
Turn Bay Length (ft)	700	700	100		470	
Base Capacity (vph)	647	2586	924	3496	1038	2030
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.49	0.42	0.00	0.42	0.29	0.42

Intersection Summary



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBT
Lane Group Flow (vph)	18	791	245	512	68	99	211
v/c Ratio	0.14	0.64	0.70	0.26	0.32	0.19	0.76
Control Delay (s/veh)	45.5	27.1	47.4	11.7	44.2	0.9	40.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	45.5	27.1	47.4	11.7	44.2	0.9	40.6
Queue Length 50th (ft)	10	202	134	65	38	0	61
Queue Length 95th (ft)	34	265	#249	128	85	0	#187
Internal Link Dist (ft)		2021		1248		2290	902
Turn Bay Length (ft)	200		140		125		
Base Capacity (vph)	389	1529	389	1954	681	824	282
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.52	0.63	0.26	0.10	0.12	0.75

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	401	27	1258	503	518
v/c Ratio	0.36	0.14	0.72	0.82	0.30
Control Delay (s/veh)	15.3	28.3	14.4	33.3	1.6
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	15.3	28.3	14.4	33.3	1.6
Queue Length 50th (ft)	53	9	172	160	0
Queue Length 95th (ft)	86	32	232	#390	25
Internal Link Dist (ft)	727		2446	1001	
Turn Bay Length (ft)		225		125	
Base Capacity (vph)	2305	764	3505	617	2436
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.17	0.04	0.36	0.82	0.21

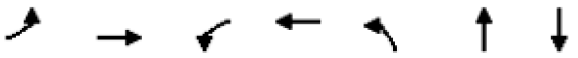
Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	288	1163	1	2672	211	834
v/c Ratio	0.39	0.59	0.00	0.74	0.63	0.43
Control Delay (s/veh)	41.8	20.7	34.0	20.2	60.3	27.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	41.8	20.7	34.0	20.2	60.3	27.7
Queue Length 50th (ft)	95	267	1	437	82	165
Queue Length 95th (ft)	142	348	5	484	119	191
Internal Link Dist (ft)				1218		721
Turn Bay Length (ft)	700	700	100		470	
Base Capacity (vph)	739	1967	539	3632	637	2517
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.39	0.59	0.00	0.74	0.33	0.33

Intersection Summary



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBT
Lane Group Flow (vph)	91	545	94	777	81	119	32
v/c Ratio	0.37	0.38	0.37	0.55	0.27	0.17	0.10
Control Delay (s/veh)	38.2	17.3	37.9	18.9	36.1	0.5	0.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	38.2	17.3	37.9	18.9	36.1	0.5	0.6
Queue Length 50th (ft)	43	102	44	156	37	0	0
Queue Length 95th (ft)	98	156	100	230	91	0	0
Internal Link Dist (ft)		2021		1248		2240	798
Turn Bay Length (ft)	200		140		125		
Base Capacity (vph)	545	2148	545	2119	953	1083	352
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.17	0.25	0.17	0.37	0.08	0.11	0.09

Intersection Summary



Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	697	49	874	468	1203
v/c Ratio	0.65	0.17	0.46	0.81	0.70
Control Delay (s/veh)	21.0	25.6	9.9	36.8	10.0
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	21.0	25.6	9.9	36.8	10.0
Queue Length 50th (ft)	102	17	102	154	110
Queue Length 95th (ft)	202	47	134	#475	248
Internal Link Dist (ft)	727		2401	1134	
Turn Bay Length (ft)		225		125	
Base Capacity (vph)	2129	718	3402	580	2298
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.33	0.07	0.26	0.81	0.52

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

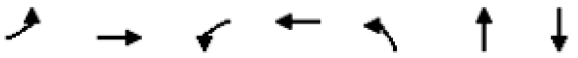


Lane Group	EBL	EBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	584	2543	1	2511	495	1089
v/c Ratio	0.84	1.22	0.00	0.74	0.87	0.58
Control Delay (s/veh)	62.7	133.0	28.0	23.8	70.1	34.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	62.7	133.0	28.0	23.8	70.1	34.1
Queue Length 50th (ft)	255	~1195	1	427	208	255
Queue Length 95th (ft)	#375	#1302	5	464	#290	301
Internal Link Dist (ft)				969		721
Turn Bay Length (ft)	700	700	100		470	
Base Capacity (vph)	695	2077	608	3509	597	2030
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.84	1.22	0.00	0.72	0.83	0.54

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBT
Lane Group Flow (vph)	17	774	208	534	103	137	202
v/c Ratio	0.13	0.63	0.66	0.28	0.44	0.26	0.72
Control Delay (s/veh)	45.6	26.6	46.1	12.5	45.1	1.2	37.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	45.6	26.6	46.1	12.5	45.1	1.2	37.2
Queue Length 50th (ft)	9	185	110	68	56	0	53
Queue Length 95th (ft)	33	271	206	143	118	0	#177
Internal Link Dist (ft)		2021		1248		2290	902
Turn Bay Length (ft)	200		140		125		
Base Capacity (vph)	401	1579	401	1916	702	840	287
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.04	0.49	0.52	0.28	0.15	0.16	0.70

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	406	27	1259	511	518
v/c Ratio	0.36	0.14	0.72	0.83	0.31
Control Delay (s/veh)	15.2	28.3	14.4	34.4	1.6
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	15.2	28.3	14.4	34.4	1.6
Queue Length 50th (ft)	53	9	172	164	0
Queue Length 95th (ft)	86	32	233	#398	25
Internal Link Dist (ft)	727		2446	1001	
Turn Bay Length (ft)		225		125	
Base Capacity (vph)	2302	763	3505	616	2434
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.18	0.04	0.36	0.83	0.21

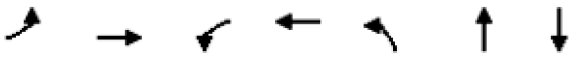
Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	293	1163	1	2675	211	839
v/c Ratio	0.40	0.59	0.00	0.74	0.63	0.43
Control Delay (s/veh)	41.9	20.7	34.0	20.2	60.3	27.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	41.9	20.7	34.0	20.2	60.3	27.7
Queue Length 50th (ft)	97	267	1	438	82	166
Queue Length 95th (ft)	144	348	5	484	119	192
Internal Link Dist (ft)				1218		721
Turn Bay Length (ft)	700	700	100		470	
Base Capacity (vph)	739	1967	539	3632	637	2517
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.40	0.59	0.00	0.74	0.33	0.33

Intersection Summary



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBT
Lane Group Flow (vph)	91	548	103	777	96	154	32
v/c Ratio	0.37	0.39	0.39	0.55	0.31	0.22	0.10
Control Delay (s/veh)	38.5	17.8	38.1	19.1	36.6	0.7	0.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	38.5	17.8	38.1	19.1	36.6	0.7	0.6
Queue Length 50th (ft)	43	104	48	156	44	0	0
Queue Length 95th (ft)	99	163	109	235	104	0	0
Internal Link Dist (ft)		2021		1248		2240	798
Turn Bay Length (ft)	200		140		125		
Base Capacity (vph)	543	2141	543	2114	951	1081	352
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.17	0.26	0.19	0.37	0.10	0.14	0.09

Intersection Summary

Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	701	49	877	488	1203
v/c Ratio	0.65	0.17	0.47	0.84	0.70
Control Delay (s/veh)	21.1	25.6	9.9	40.0	10.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	21.1	25.6	9.9	40.0	10.1
Queue Length 50th (ft)	103	17	102	163	111
Queue Length 95th (ft)	204	47	134	#504	250
Internal Link Dist (ft)	727		2401	1134	
Turn Bay Length (ft)		225		125	
Base Capacity (vph)	2124	716	3400	579	2292
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.33	0.07	0.26	0.84	0.52

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

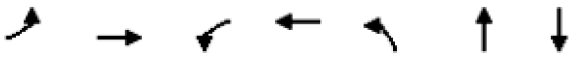


Lane Group	EBL	EBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	595	2543	1	2517	495	1094
v/c Ratio	0.86	1.22	0.00	0.74	0.87	0.58
Control Delay (s/veh)	64.0	133.3	28.0	23.9	70.2	34.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	64.0	133.3	28.0	23.9	70.2	34.1
Queue Length 50th (ft)	~261	~1195	1	428	209	256
Queue Length 95th (ft)	#386	#1302	5	466	#290	302
Internal Link Dist (ft)				969		721
Turn Bay Length (ft)	700	700	100		470	
Base Capacity (vph)	694	2076	608	3509	597	2030
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.86	1.22	0.00	0.72	0.83	0.54

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBT
Lane Group Flow (vph)	17	783	235	534	114	160	202
v/c Ratio	0.14	0.64	0.70	0.28	0.49	0.31	0.74
Control Delay (s/veh)	46.6	27.5	48.2	12.4	47.1	1.5	38.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	46.6	27.5	48.2	12.4	47.1	1.5	38.8
Queue Length 50th (ft)	10	198	127	68	65	0	55
Queue Length 95th (ft)	33	278	#248	145	128	0	#180
Internal Link Dist (ft)		2021		1248		2290	902
Turn Bay Length (ft)	200		140		125		
Base Capacity (vph)	389	1531	389	1929	682	826	282
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.04	0.51	0.60	0.28	0.17	0.19	0.72

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.