Initial Study and Mitigated Negative Declaration

Zone A to Rattlesnake Reservoir Pump Station Project

Prepared for

Irvine Ranch Water District
15600 Sand Canyon Avenue
Irvine, California 92618
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Prepared by

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Santa Ana, California 92707
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January 2020

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C Geotechnical Investigation
D EDR Hazardous Materials Database Report
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LIST OF ACRONYMS

A
Above Mean Sea Level (AMSL)
Air Quality Management Plan (AQMP)
Ambient Air Quality Standards (AAQS)
Assembly Bill (AB)
A-weighted decibels (dBA)

B
Below Ground Surface (BGS)
Best Management Practices (BMPs)

C
California Air Pollution Control Officers Association (CAPCOA)
California Air Resources Board (CARB)
California Building Standards Commission (CBSC)
California Department of Fish and Wildlife (CDFW)
California Department of Transportation (Caltrans)
California Emissions Estimator Model (CalEEMod)
California Environmental Quality Act (CEQA)
California Historical Resources Information System (CHRIS)
California Native Plant Society (CNPS)
California Office of the State Fire Marshal (CAL FIRE)
California Regional Water Quality Control Board (RWQCB)
California State Water Resources Control Board (SWRCB)
Carbon Dioxide (CO_2)
Carbon Dioxide Equivalent (CO_2e)
Carbon Monoxide (CO)
Central-Coastal Natural Communities Conservation Plan/Habitat Conservation Plan (NCCP/HCP)
City of Irvine Municipal Code (CIMC)
Community Noise Equivalent Level (CNEL)
Cubic Feet Per Second (CFS)

D
Division of Drinking Water (DDW)

E
EMissions FACtor (EMFAC)
Environmental Data Resources (EDR)
Environmental Impact Report (EIR)
Equivalent Continuous Sound Level (L_{eq})

F
Fine Particulate Matter with a Diameter of 2.5 Microns or Less (PM2.5)
Foot/Feet (ft)

G
Gallons Per Minute (GPM)
Geographic Information Systems (GIS)
Global Warming Potential (GWP)
Greenhouse Gases (GHG)

H
Horsepower (HP)
Hydrofluorocarbons (HFCs)

I
Inch(es) Per Second (in/sec)
Initial Study (IS)
Irvine Ranch Water District (IRWD)

K
Kilo-British Thermal Unit (kBTU)
Kilowatt Hour (kWh)
Kilometer (KM)

L
Level of Service (LOS)
Localized Significance Threshold (LST)

M
Maximally Exposed Individual (MEI)
Methane (CH_4)
Metric Tons of CO_2 Equivalent Per Year (MTCO2e/yr)
Metric Tons Per Year of Carbon Dioxide Equivalents (MT/yr CO2e)
Michelson Water Recycling Plant (MWRP)
Micrograms Per Cubic Meter (µg/m3)
Migratory Bird Treaty Act (MBTA)
Million Gallons Per Day (MGD)
Mitigated Negative Declaration (MND)
Mitigation Measures (MMs)
Moment Magnitude (Mw)

N
National Pollutant Discharge Elimination System (NPDES)
National Register of Historic Places (NRHP)
Native American Heritage Commission (NAHC)
Nitrogen Dioxide (NO_2)
Nitrogen Oxides (NO_x)
Nitrous Oxide (N_2O)

O
Orange County Fire Authority (OCFA)
Ozone (O_3)

P
Parts Per Million (PPM)
Peak Particle Velocity (PPV)
Perfluorocarbons (PFCs)
Pounds Per Day (lbs/day)
Pounds Per Square Inch (PSI)

R
Rattlesnake Reservoir Pump Station No. 2 (RRPS2)
Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS)
Particulate Matter with a Diameter of 10 Microns or Less (PM10)

S
Senate Bill (SB)
Southern California Edison (SCE)
Southern California Gas Company (SCGC)
South-Central Coastal Information Center (SCCIC)
South Coast Air Basin (SoCAB)
South Coast Air Quality Management District (South Coast AQMD)
Standard Conditions and Regulations (SCs)
State Route (SR)
State Water Resources Control Board (SWRCB)
Storm Water Pollution Prevention Plan (SWPPP)
Sulfur Dioxide (SO_2)
Sulfur Hexafluoride (SF_6)
Sulfur Oxides (SOx)

T
Tons Per Day (tbd)
Toxic Air Contaminants (TACs)

U
United States Environmental Protection Agency (USEPA)

V
Vehicles Miles Traveled (VMT)
Volatile Organic Compounds (VOCs)

Y
Year (yr)

Z
Zone A to Rattlesnake Reservoir Pump Station (ZARRPS)

SECTION 1.0 INTRODUCTION

1.1 PURPOSE OF THE INITIAL STUDY

The purpose of this Initial Study (IS) is to (1) describe the proposed Zone A to Rattlesnake Reservoir Pump Station Project (hereinafter referred to as the "Project"), which would occur in the City of Irvine and (2) provide an evaluation of potential environmental effects associated with the Project's construction and operation. This IS has been prepared pursuant to the California Environmental Quality Act (CEQA), as amended (*Public Resources Code* §21000 et seq.) and in accordance with the State CEQA Guidelines (*California Code of Regulations* §15000 et seq.).

Pursuant to Section 15367 of the State CEQA Guidelines, Irvine Ranch Water District (IRWD) is the lead agency for the Project. The lead agency is the public agency that has the principal responsibility for carrying out or approving a project that may have a significant effect on the environment. IRWD, as the lead agency, has the authority for Project approval and certification of the accompanying environmental documentation.

The purpose of this document is to evaluate the replacement of the existing Rattlesnake Reservoir Pump Station at the Rattlesnake Reservoir Complex.

1.2 SUMMARY OF FINDINGS

Based on the environmental checklist form prepared for the Project (see Section 4, below) and supporting environmental analysis (Section 5), the proposed Project would have no impact or less than significant impacts in the following environmental areas: agriculture and forest land resources, aesthetics, air quality, energy, greenhouse gases, hazards and hazardous materials, hydrology and water quality, land use, mineral resources, noise, public services, recreation, transportation, tribal resources, utilities and services systems, and wildfire. The proposed Project has the potential to have significant impacts on the following topics unless the mitigation measures recommended herein are incorporated into the Project: biological resources, cultural resources, and geology and soils.

According to the State CEQA Guidelines, it is appropriate to prepare a Mitigated Negative Declaration (MND) for the proposed Project because, after incorporation of the recommended mitigation measures, potentially significant environmental impacts would be eliminated or reduced to a level considered less than significant.

1.3 PROJECT APPROVAL

This IS/MND has been submitted to potentially affected agencies and individuals. Notices of the availability of the IS/MND for review and comment as well as the environmental documentation are available on IRWD's website (http://www.irwd.com) for review.

This IS/MND will be available for public review for a period of 30 days, in accordance with Section 15073 of the State CEQA Guidelines. During review of the IS/MND, affected public agencies and the interested public have an opportunity to focus on the document's adequacy in identifying and analyzing the potential environmental impacts and the ways in which the potentially significant effects of the Project area can be avoided or mitigated. Comments on the IS/MND and the analysis contained herein must be received by 4:00 p.m., February 4, 2020 and should be addressed to:

Irvine Ranch Water District Water Resources & Policy Department
Attn: Jo Ann Corey, Environmental Compliance Specialist
15600 Sand Canyon Avenue
Irvine CA, 92618

Email: corey@irwd.com
Phone: 949-453-5300

Following receipt and evaluation of comments from agencies, organizations, and/or individuals, IRWD will determine whether any substantial new environmental issues have been raised. If so, further documentation—such as an Environmental Impact Report (EIR) or an expanded IS/MND—may be required. If not, the Project and the environmental documentation are tentatively scheduled to be submitted to the Board of Directors for consideration.

1.4 ORGANIZATION OF THE INITIAL STUDY

The IS/MND is organized as described below.

- **Section 1: Introduction.** This section provides an introduction and overview of the conclusions in the IS/MND.
- **Section 2: Project Location and Environmental Setting.** This section provides a brief description of the Project location, relevant background information, and a description of the existing conditions of the Project site and vicinity.
- **Section 3: Project Description.** This section provides a description of the proposed Project, a statement of purpose and need, and necessary discretionary approvals.
- **Section 4: Environmental Checklist.** The completed Environmental Checklist Form from the State CEQA Guidelines provides an overview of the potential impacts that may or may not result from Project implementation. The Environmental Checklist Form also includes "mandatory findings of significance", as required by CEQA.
- **Section 5: Discussion of Environmental Checklist Questions.** This section contains an analysis of environmental impacts identified in the environmental checklist and identifies standard conditions and regulations (SC) and mitigation measures (MM) that have been recommended to eliminate any potentially significant effects or to reduce them to a level considered less than significant.
- **Section 6: Report Preparers.** This section lists the authors, including staff from IRWD, who assisted in preparing and reviewing the IS/MND.
- **Section 7: References.** This section identifies the references used to prepare the IS/MND.

SECTION 2.0 PROJECT LOCATION AND ENVIRONMENTAL SETTING

2.1 PROJECT LOCATION

The Rattlesnake Reservoir Complex (Complex) is located at 4769 Portola Parkway in the City of Irvine, California. The Complex is bounded by the Orchard Hills residential community to the north, Loma Ridge Park to the east, farmland to the south, and Portola Parkway to the west. The regional and local vicinity of the Project site is depicted on Exhibits 2-1, Regional Location, and Exhibit 2-2, Aerial Photograph, respectively.

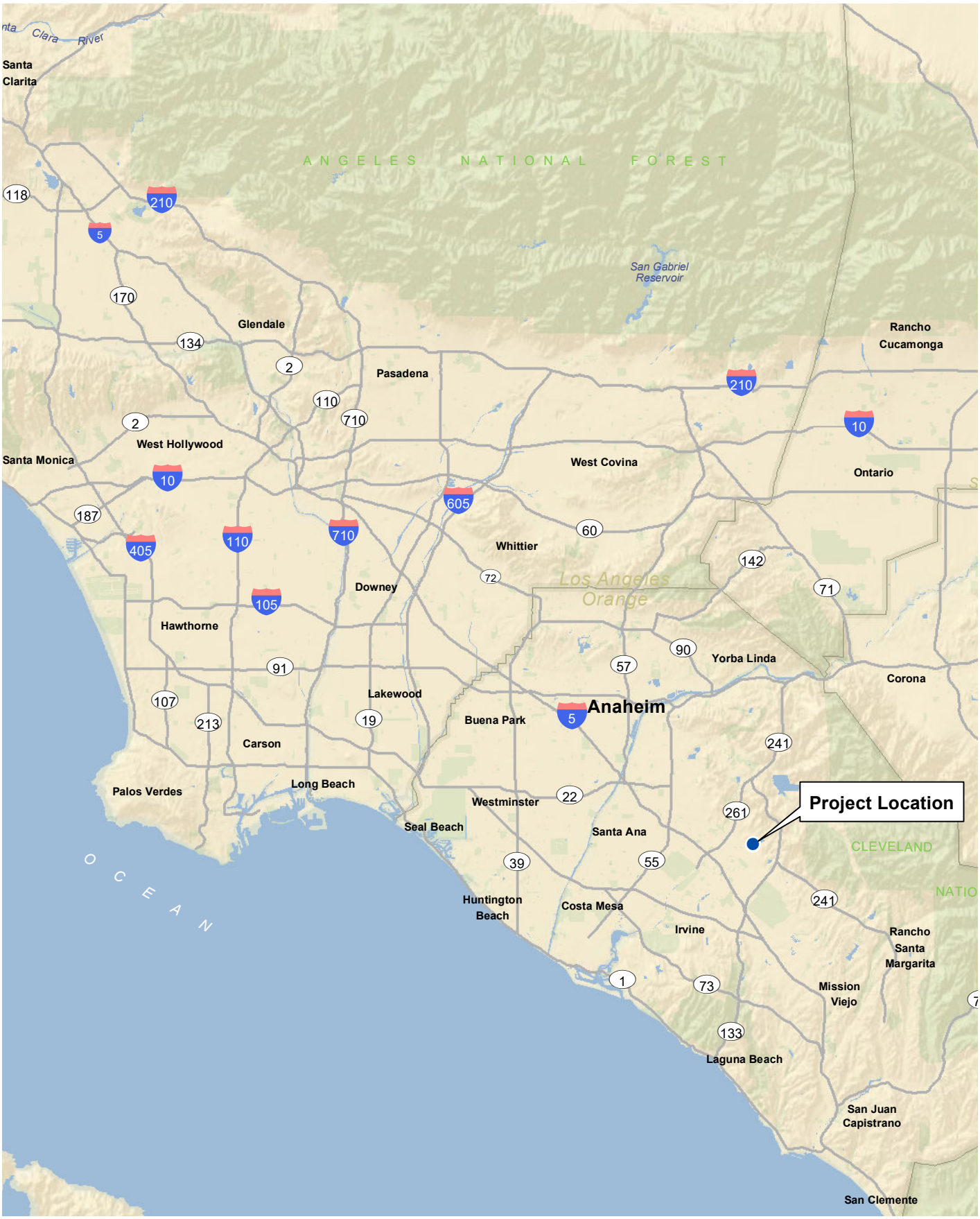
2.2 EXISTING COMPLEX SITE DESCRIPTION AND PROJECT BACKGROUND

As indicated in the Preliminary Design Report, Technical Memorandum No. 1: Filtration Options Evaluation, and Technical Memorandum No. 2: Filtration Alternatives and Recommendations, prepared by Brown and Caldwell, IRWD is planning to replace the existing Rattlesnake Reservoir Pump Station No. 2 (RRPS2) with a new Zone A to Rattlesnake Reservoir Pump Station (ZARRPS) at the Rattlesnake Reservoir Complex located off of Portola Parkway in Irvine, California.

Rattlesnake Reservoir is one of four IRWD recycled water seasonal storage reservoirs to help manage peak recycled water demands during summer months. Rattlesnake Reservoir is filled by an upstream pump station, RRPS2, located at the Rattlesnake Reservoir Complex. Rattlesnake Reservoir is typically the last reservoir to fill and serves as emergency storage for recycled water supplies from the Michelson Water Recycling Plant (MWRP) and a few irrigation wells. The new ZARRPS is being designed to meet current capacity demand and future production associated with the MWRP.

The Project is located at the Rattlesnake Reservoir Complex, which currently consists of several facilities including the Rattlesnake Reservoir, a 5-million-gallon Zone A North Reservoir, Northwood Zone A to B pump station, RRPS2, dechlorination facility, chlorination facility, strainers for Rattlesnake Reservoir and the Irvine Lake Pipeline, return water pumps in a below grade vault, Zone A to C+ pump station, Zone 3 to 5 pump station, IRWD Caretaker house for the Rattlesnake Reservoir, and several above and below grade piping and valving systems. RRPS2 and the dechlorination facility have reached the end of their useful lives and require replacement. The Northwood pump station has also reached the end of its useful life and its capacity will be replaced by a separate project currently under construction. The Northwood pump station will be demolished as part of this project. Many of the facilities in the Complex were built/modified over 50+ years and there are many abandoned in place structures/pipelines that could be removed.

IRWD stores excess recycled water at the Rattlesnake Reservoir and draws back when needed. The Rattlesnake Reservoir is an open reservoir with a storage capacity of approximately 1,100 acre-feet (af). Excess recycled water from the Zone A network is pumped to the Rattlesnake Reservoir by the existing RRPS2. When recycled water is required for use, the water is drawn from Rattlesnake Reservoir by gravity though a 24-inch diameter outlet pipeline which increases in diameter to 30 inches along the way. There are two 30-inch Hellan Strainers with 230-micron screens located on the outlet pipe at the Rattlesnake Reservoir Complex. The Zone A North Reservoir is connected downstream of the strainers. Water is distributed to customers connected to Zone A from this location through an existing distribution system.



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Regional Location

Exhibit 2-1

Zone A to Rattlesnake Reservoir Pump Station Project

N W E S

10 5 0 10 Miles

PSOMAS

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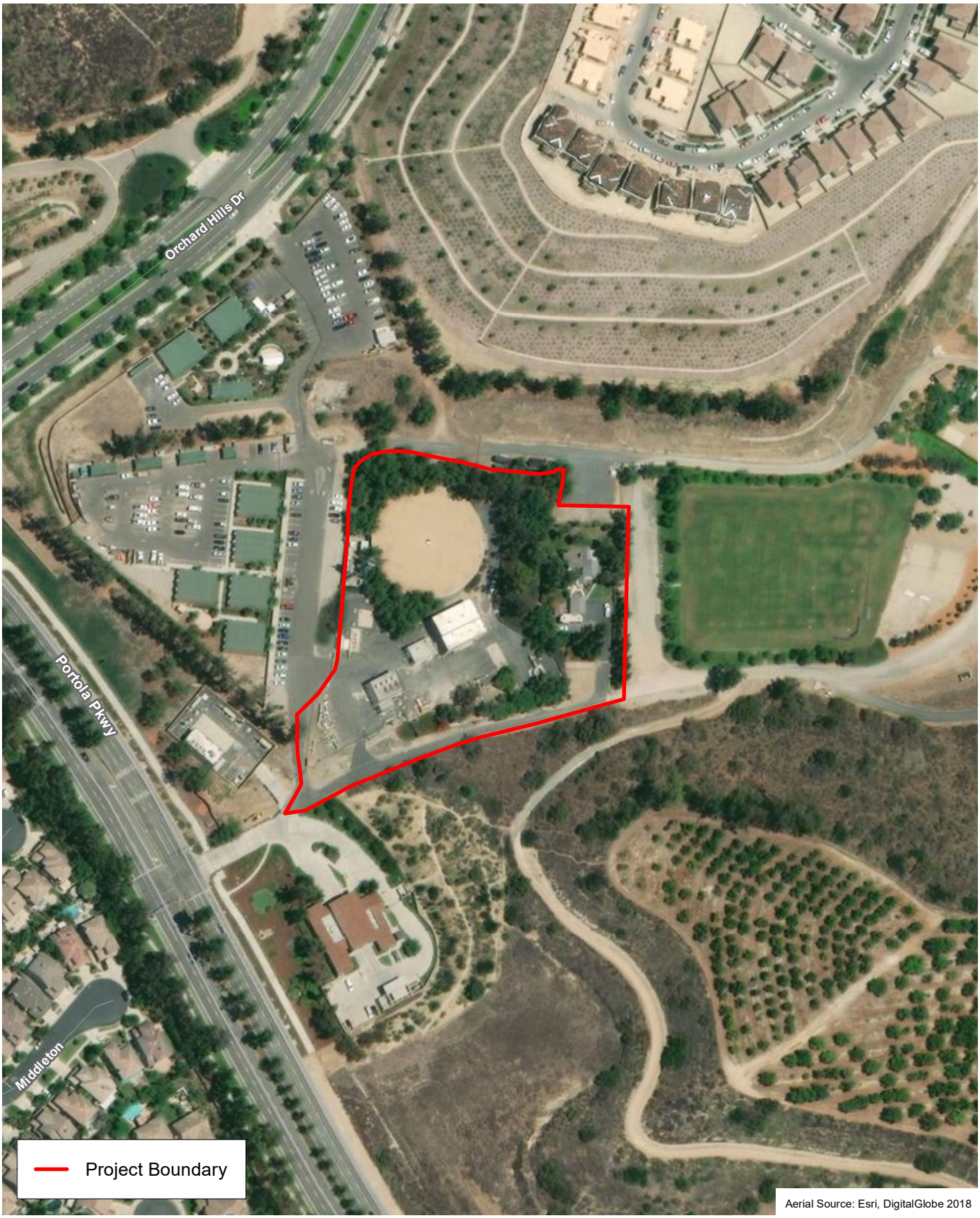

Aerial Source: Esri, DigitalGlobe 2018

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Aerial Photograph

Exhibit 2-2

Zone A to Rattlesnake Reservoir Pump Station Project

N W E S

200 100 0 200 Feet

PSOMAS

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SECTION 3.0 PROJECT DESCRIPTION

3.1 PHYSICAL CHARACTERISTICS

The proposed Project includes the following key elements:

- Demolition and replacement of the existing RRPS2 with the ZARRPS equipped with all electric motor-driven pumps to meet current capacity demand and future MWRP production including all associated pipelines and appurtenances.
- Demolition of the Northwood Zone A to B pump station.
- Demolition of the existing septic system and extension of the existing sewer piping to connect to the existing caretaker's house, the park bathroom sewer lateral, and a new bathroom to be located within the existing chlorination facility to the existing sewer system near the site.
- Demolition and removal of above- and below-grade abandoned facilities within the Complex.
- Demolition and replacement of the existing dechlorination storage and feed equipment.
- Construction of a new filtration system intended for increased algae control, demolition and removal of the existing Hellan strainers, demolition and removal of the existing Rattlesnake Reservoir return pump station, construction of the new Rattlesnake Reservoir return pump station, construction of new automatic filters and backwash pumps in an enclosed building, piping improvements and appurtenances, and electrical improvements.
- Installation of a permanent standby power generator.
- New site electrical service and undergrounding of a portion of the overhead electrical and communication cables.
- Replacement and/or upgrades to the Complex's communications equipment.
- Improvements to the site entry road and general site facilities, including pavement, curb and gutter, and drainage facilities.

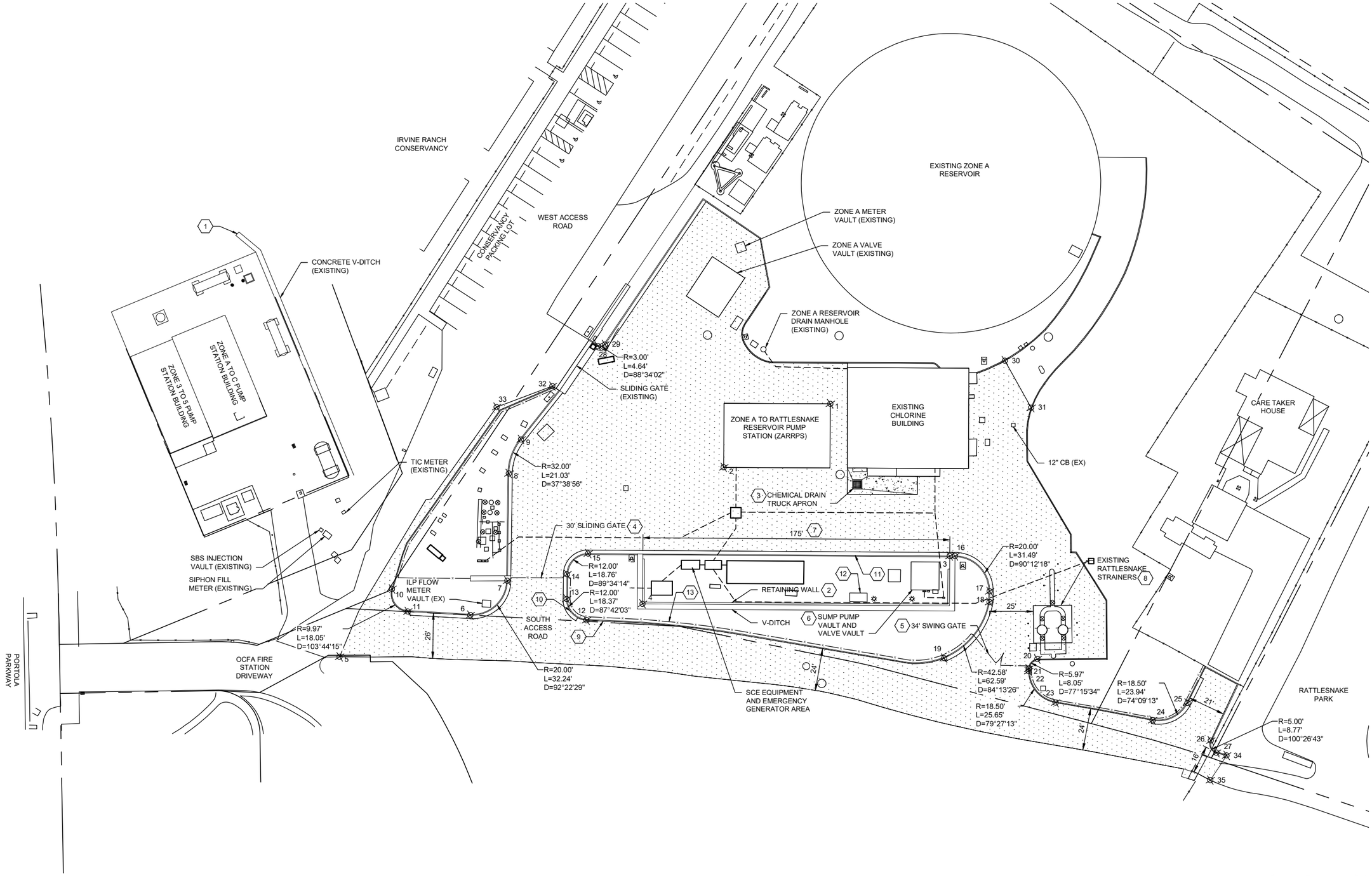
A site plan showing the key project elements is included as Exhibit 3-1, Site Plan. No changes would be made to the Complex's property limits as part of this Project.

3.2 CONSTRUCTION ACTIVITIES

Construction at the Project site is anticipated to begin in fall 2020 and the Project is anticipated to be operational in 2022. Construction activity would be phased to include demolition and construction of the new sewer line; installation of the new restroom and dechlorination facility; demolition of the existing dechlorination facility; construction of the new ZARRPS and installation of a standby generator; construction of filtration facilities, demolition of the existing RRPS2; final grading and paving; and entry road improvements.

3.3 PURPOSE

The goal of the Project is to fully replace the existing aged pump station facilities and communications equipment with new facilities and equipment based on the objectives that were developed within the *Recycled Water Distribution System Analysis* completed in 2016 by Stantec.



Source: Brown and Caldwell, September 2019

Site Plan

Exhibit 3-1

Zone A to Rattlesnake Reservoir Pump Station Project

PSOMAS

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3.4 DISCRETIONARY APPROVALS

This IS/MND is intended to serve as the primary CEQA environmental document for all actions associated with the proposed Project, including all discretionary approvals requested or required to implement the Project. In addition, this is the primary reference document for the formulation and implementation of a mitigation monitoring program for the proposed Project.

Jurisdictional agencies with potential involvement in the Project include the following:

- **California State Water Resources Control Board (SWRCB) Division of Drinking Water (DDW):** To resolve any watermain separation issues.
- **California Regional Water Quality Control Board (RWQCB), Santa Ana:** Storm water run-off and discharges.
- **Orange County Fire Authority (OCFA):** New fire hydrant locations, sodium bisulfite facility modifications.
- **South Coast Air Quality Management District (SCAQMD):** New standby power generator construction and operation permits.

SECTION 4.0 ENVIRONMENTAL CHECKLIST

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

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

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

DETERMINATION: (To be completed by the Lead Agency.)

On the basis of this initial evaluation:

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

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

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

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

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

Signature	1/3/20 Date
Jo Ann Corey Printed Name	Irvine Ranch Water District For

EVALUATION OF ENVIRONMENTAL IMPACTS:

1) A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).

2) All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.

3) Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.

4) "Negative Declaration: Less Than Significant With Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from "Earlier Analysis," as described in (5) below, may be cross-referenced).

5) Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063 (c)(3)(D). In this case, a brief discussion should identify the following:

   a) Earlier Analysis Used. Identify and state where they are available for review.

   b) Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.

   c) Mitigation Measures. For effects that are "Less than Significant with Mitigation Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.

6) Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.

7) Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.

8) This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.

9) The explanation of each issue should identify:

   a) the significance criteria or threshold, if any, used to evaluate each question; and

   b) the mitigation measure identified, if any, to reduce the impact to less than significance.

This section includes the completed Environmental Checklist Form. The checklist form is used to assist in evaluating the potential environmental impacts of the proposed Project. The Environmental Checklist Form identifies potential Project effects as follows: (1) Potentially Significant Impact; (2) Less Than Significant With Mitigation Incorporated; (3) Less Than Significant Impact; and, (4) No Impact. Substantiation and clarification for each checklist response is provided in Section 5, Environmental Evaluation. Included in each discussion are mitigation measures, as appropriate, that are recommended for implementation as part of the proposed Project.

ENVIRONMENTAL ISSUES (See attachments for information sources)	**Potentially Significant Impact**	**Less Than Significant With Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
I. AESTHETICS. Would the project:				
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☒	☐
c) Substantially degrade the existing visual character or quality of 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?	☐	☐	☒	☐
II. AGRICULTURE AND FOREST RESOURCES. In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of forestry and Fire Protection regarding the State's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:				
a) Convert Prime Farmland, Unique Farmland, 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?	☐	☐	☐	☒

ENVIRONMENTAL ISSUES (See attachments for information sources)	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
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 nonagricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒
III. AIR QUALITY. Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project**:**				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☐	☒
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?	☐	☐	☒	☐
d) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
e) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☒	☐
IV. BIOLOGICAL RESOURCES. Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. 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 native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☐	☒
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☒	☐	☐

ENVIRONMENTAL ISSUES (See attachments for information sources)	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒
V. CULTURAL RESOURCES. Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	☐	☐	☐	☒
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☒	☐	☐
c) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☒	☐	☐
VI. ENERGY. Would the project:				
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?	☐	☐	☐	☒
VII. GEOLOGY AND SOILS. Would the project:				
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☒	☐
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 18-1-B 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 waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒

ENVIRONMENTAL ISSUES (See attachments for information sources)	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☒	☐	☐
VIII. GREENHOUSE GAS EMISSIONS. Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☐	☒
IX. HAZARDS AND HAZARDOUS MATERIALS. Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 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 a significant risk of loss, injury or death involving wildland fires?	☐	☐	☐	☒
X. HYDROLOGY AND WATER QUALITY. Would the project:				
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater 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:				

ENVIRONMENTAL ISSUES (See attachments for information sources)	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
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	☐	☐	☒	☐
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?	☐	☐	☒	☐
XI. LAND USE AND PLANNING. Would the project:				
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	☐	☐	☐	☒
XII. MINERAL RESOURCES. Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒
XIII. NOISE. Would the project result in:				
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?	☐	☐	☐	☒
XIV. POPULATION AND HOUSING Would the project:				
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☒
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

ENVIRONMENTAL ISSUES (See attachments for information sources)	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
XV. PUBLIC SERVICES.				
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
Fire Protection?	☐	☐	☐	☒
Police Protection?	☐	☐	☐	☒
Schools?	☐	☐	☐	☒
Parks?	☐	☐	☐	☒
Other Public Facilities?	☐	☐	☐	☒
XVI. RECREATION.				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	☒
XVII. TRANSPORTATION/CIRCULATION. Would the project:				
a) Conflict with program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	☐	☐	☒	☐
b) Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	☐	☐	☐	☒
c) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g. farm equipment)?	☐	☐	☐	☒
d) Result in inadequate emergency access?	☐	☐	☒	☐
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:				
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), or	☐	☐	☐	☒

ENVIRONMENTAL ISSUES (See attachments for information sources)	**Potentially Significant Impact**	**Less Than Significant With Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
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 Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☒	☐	☐
XIX. UTILITIES AND SERVICE SYSTEMS. Would the project:				
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 statutes and regulations related to solid waste?	☐	☐	☐	☒
XX. WILDFIRE. If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:				
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?	☐	☐	☐	☒

ENVIRONMENTAL ISSUES (See attachments for information sources)	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
XXI. MANDATORY FINDINGS OF SIGNIFICANCE.				
a. Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of rare or endangered plants or animals, 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?	☐	☒	☐	☐

Fish and Wildlife Determination

(Per Section 21089(b) of the Public Resources Code, all project applicants and public agencies subject to the California Environmental Quality Act shall pay a Fish and Game filing fee for each proposed project that would adversely affect wildlife resources.)*

Based on the responses contained in this Environmental Checklist, there is no evidence that the project has a potential for a change that would adversely affect wildlife resources or the habitat upon which the wildlife depends. Has the presumption of adverse effect set forth in 14 CCR 753.5 (d) been rebutted by substantial evidence?

__ Yes (Certificate of Fee Exemption and County Administrative fee required)

_X_ No (Pay fee)

***Note:** Fish and Game Code Section 711.4(c)(2)(A) states that projects that are Categorically Exempt from CEQA are also exempt from filing fee.

SECTION 5.0 DISCUSSION OF ENVIRONMENTAL CHECKLIST QUESTIONS

I. AESTHETICS

IMPACT ANALYSIS

Would the Project:

a) Have a substantial adverse effect on a scenic vista?

No Impact. The City of Irvine General Plan's (2012) Land Use Element includes policies directed at the preservation of aesthetic character and value of natural landforms in the City; however, there are no scenic vistas identified in the vicinity of the Rattlesnake Complex. Due to the nature of the proposed Project, which includes replacement of the existing pump station and because no scenic vistas are identified in the Project vicinity, no impacts would occur and no mitigation is required.

b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway?

Less Than Significant Impact. According to Caltrans' California Scenic Highway Mapping System, there are no officially designated or eligible state scenic highways within or in proximity to the City of Irvine (Caltrans 2011). However, according to the City of Irvine General Plan, Culver Drive and Jeffrey Road are both designated Scenic Highways of Urban Character and are each located approximately 0.75 mile from the Rattlesnake Complex (Irvine 2012). North of the intersection with Portola Parkway, Jeffrey Road is also designated as a Scenic Highway of Natural Character. As discussed in Section 3.0, Project Description, the proposed Project would replace the existing aged pump station facilities and process and communications equipment with new facilities; no changes would be made to the Complex's property limits as part of this Project. Further, views of the Project site from both Culver Drive and Jeffrey Road are obstructed by intervening topography and vegetation. Therefore, motorists traveling along both Culver Drive and Jeffrey Road would be unaffected by the Project. No impacts would occur and no mitigation is required.

c) Would the project substantially degrade the existing visual character or quality 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?

Less Than Significant Impact. As discussed in Section 2.1, Project Location, the Rattlesnake Complex is located on the north side of Portola Parkway in Irvine and is in the vicinity of residential development, which is located on the south side of Portola Parkway. Exhibit 5-1, Site Photographs, presents photographs that depict the existing visual character of Rattlesnake Complex when viewed from Portola Parkway and the residential community located southwest of Portola Parkway.

> **View 1 – View from Portola Parkway, Looking North.** This view depicts the visual character of the site for motorists, bicyclists, and pedestrians traveling north along Portola Parkway. The foreground view is dominated by ornamental vegetation in the driveway associated with the adjacent Orange County Fire Authority Fire Station No. 55. As shown in the background of the photograph, the Rattlesnake Complex is surrounded by mature

View 1: View from Portola Parkway looking north.

View 2: View from Portola Parkway looking east.

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Site Photographs

Exhibit 5-1

Zone A to Rattlesnake Reservoir Pump Station

PSOMAS

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vegetation and trees. The only visible evidence of the Rattlesnake Complex is the brick wall that houses the booster pump stations and some low-profile pumping equipment located behind a chain-link fence.

View 2 – View from Portola Parkway, Looking East. This view depicts the visual character of the site when traveling along the south side of Portola Parkway. This view is also representative of that seen by residents in the Northwood Pointe Community. As shown, the view is predominately of mature vegetation and trees that shield the majority of the Rattlesnake Complex from sight.

As discussed in Section 3.0, Project Description, the proposed Project would replace the existing aged pump station facilities and process and communications equipment with new facilities; no changes would be made to the Complex's property limits as part of this Project. Some landscaping within Rattlesnake Complex would need to be removed during construction activities; however, the visual appearance of the Rattlesnake Complex from surrounding areas would remain largely unchanged. No impact would occur related to the visual character or quality of the site or surrounding areas, and no mitigation is required.

d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

Less Than Significant Impact. Under existing conditions, the Rattlesnake Complex has on-site security lighting; this type of lighting would remain as part of the proposed Project. As is the case with existing on-site security lighting, there would be minimal overspill beyond the physical limits of the facilities. Project impacts pertaining to light or glare would be less than significant and no mitigation is required.

II. AGRICULTURE AND FOREST RESOURCES

IMPACT ANALYSIS

Would the Project:

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?

No Impact. As shown on Exhibit 5-2, Farmland Resources, the Rattlesnake Complex is designated as Other Land with Urban and Built-Up Land located immediately southwest of the site. There are areas located to the northwest, northeast, east, and southeast that are designated as Unique Farmland and a small area to the northwest that is designated Prime Farmland. These areas are also currently being used for agricultural production.

The proposed Project would entail replacement of non-functioning and aging recycled water infrastructure within the existing Rattlesnake Complex footprint. No expansion of facilities is contemplated beyond the existing Rattlesnake Complex footprint. The proposed Project would not encroach upon these off-site designated farmland areas. Therefore, no agricultural-related impacts would result from Project implementation, and no mitigation is required.

Data Source: State of California Department of Conservation;
Division of Land Resource Protection;
Farmland Mapping & Monitoring Program (FMMP) 2014
Source: USGS 7.5 Minute Quadrangle
El Toro, CA
Aerial Source: ESRI Digital Globe 2018

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Farmland Resources

Exhibit 5-2

Zone A to Rattlesnake Reservoir Pump Station Project

N W E S

300 150 0 300 Feet

PSOMAS

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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?

No Impact. According to Section 12220(g) of the *California Public Resources Code*, "forest land is land that can support 10 percent native tree cover of any species, including hardwoods, under natural conditions, and that allows for management of one or more forest resources, including timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, and other public benefits". The Project site does not meet the definition of forest land; therefore, no impacts would occur and no mitigation is required.

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?

No Impact. As discussed previously, the proposed Project site is not designated as farmland of significance and is not being used for agricultural production. There are areas in the vicinity of the Project site that are currently used for agricultural purposes; however, proposed Project actions would not convert these areas to non-agricultural use. Further, there are no forest lands in the vicinity of the Project site; therefore, the Project would not convert forest land to non-forest use. No impacts would occur and no mitigation is required.

III. AIR QUALITY

IMPACT ANALYSIS

Would the Project:

a) Conflict with or obstruct implementation of the applicable air quality plan?

No Impact. Air quality in Orange County is regulated by the South Coast Air Quality Management District (South Coast AQMD), which is the agency principally responsible for comprehensive air pollution control in the South Coast Air Basin (SoCAB). The South Coast AQMD develops rules and regulations; establishes permitting requirements for stationary sources; inspects emissions sources; and enforces such measures through educational programs or fines, when necessary. The South Coast AQMD is directly responsible for reducing emissions from stationary (area and point), mobile, and indirect sources. It has responded to this requirement by preparing a sequence of Air Quality Management Plans (AQMPs).

On March 3, 2017, the South Coast AQMD adopted the 2016 AQMP, which is a regional and multi-agency effort (South Coast AQMD, CARB, Southern California Association of Governments [SCAG], and USEPA). The 2016 AQMP incorporates the latest scientific and technical information and planning assumptions, including the 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS); updated emission inventory methodologies for various source categories; and SCAG's latest growth forecasts. The main purpose of an AQMP is to bring an area into compliance with the requirements of federal and State air quality standards.

The two principal criteria for conformance to an AQMP are:

1. Whether the project would result in an increase in the frequency or severity of existing air quality violations; cause or contribute to new violations; or delay timely attainment of air quality standards and
2. Whether the project would exceed the assumptions in the AQMP.

With respect to the first criterion, the following analyses demonstrate that the Project would not (1) generate short-term or long-term emissions of volatile organic compounds (VOCs), oxides of nitrogen (NOx, which are O_3 precursors), or PM2.5 that could potentially cause an increase in the frequency or severity of existing air quality violations; (2) cause or contribute to new violations; or (3) delay timely attainment of air quality standards.

The South Coast AQMD has developed significance thresholds to determine whether State and federal air quality standards would be violated or whether a substantial contribution to a violation would occur. These significance thresholds have been developed for the construction and operations phases of the Project and examine the potential impacts of the Project's emissions on both a regional and local context.

Existing Conditions

Project site is located within the SoCAB and is under the jurisdiction of the South Coast AQMD. Both the State of California and the USEPA have established health-based Ambient Air Quality Standards (AAQS) for air pollutants, which are known as "criteria pollutants". The AAQS are designed to protect the health and welfare of the populace within a reasonable margin of safety. The AAQS for O_3, carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), respirable particulate matter with a diameter of 10 microns or less (PM10), PM2.5, and lead are shown in Table 1.

TABLE 1
CALIFORNIA AND FEDERAL AMBIENT AIR QUALITY STANDARDS

Pollutant	Averaging Time	California Standards	Federal Standards	
			Primary[a]	Secondary[b]
O_3	1 Hour	0.09 ppm (180 µg/m^3)	–	–
	8 Hour	0.070 ppm (137 µg/m^3)	0.070 ppm (137 µg/m^3)	Same as Primary
PM10	24 Hour	50 µg/m^3	150 µg/m^3	Same as Primary
	AAM	20 µg/m^3	–	Same as Primary
PM2.5	24 Hour	–	35 µg/m^3	Same as Primary
	AAM	12 µg/m^3	12.0 µg/m^3	15.0 µg/m^3
CO	1 Hour	20 ppm (23 mg/m^3)	35 ppm (40 mg/m^3)	–
	8 Hour	9.0 ppm (10 mg/m^3)	9 ppm (10 mg/m^3)	–
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m^3)	–	–
NO_2	AAM	0.030 ppm (57 µg/m^3)	0.053 ppm (100 µg/m^3)	Same as Primary
	1 Hour	0.18 ppm (339 µg/m^3)	0.100 ppm (188 µg/m^3)	–
SO_2	24 Hour	0.04 ppm (105 µg/m^3)	0.14 ppm	–
	3 Hour	–	–	0.5 ppm (1,300 µg/m^3)
	1 Hour	0.25 ppm (655 µg/m^3)	0.075 ppm (196 µg/m^3)	–
Lead	30-day Avg.	1.5 µg/m^3	–	–
	Calendar Quarter	–	1.5 µg/m^3	Same as Primary
	Rolling 3-month Avg.	–	0.15 µg/m^3	
Visibility Reducing Particles	8 hour	Extinction coefficient of 0.23 per km – visibility ≥ 10 miles (0.07 per km – ≥30 miles for Lake Tahoe)	**No Federal Standards**	
Sulfates	24 Hour	25 µg/m^3		
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m^3)		
Vinyl Chloride	24 Hour	0.01 ppm (26 µg/m^3)		

O_3: ozone; ppm: parts per million; µg/m^3: micrograms per cubic meter; PM10: respirable particulate matter; AAM: Annual Arithmetic Mean; –: No Standard; PM2.5: fine particulate matter; CO: carbon monoxide; mg/m^3: milligrams per cubic meter; NO_2: nitrogen dioxide; SO_2: sulfur dioxide; km: kilometer.

[a] *National Primary Standards:* The levels of air quality necessary, within an adequate margin of safety, to protect the public health.
[b] *National Secondary Standards:* The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

Note: More detailed information in the data presented in this table can be found at the CARB website (www.arb.ca.gov).

Source: CARB 2016

Regional air quality is defined by whether the area has attained or not attained State and federal air quality standards, as determined by air quality data from various monitoring stations. Areas that are considered in “nonattainment” are required to prepare plans and implement measures that will bring the region into “attainment”. When an area has been reclassified from nonattainment to attainment for a federal standard, the status is identified as “maintenance”, and there must be a plan and measures established that will keep the region in attainment for the following ten years.

For CARB, an "Unclassified" designation indicates that the air quality data for the area are incomplete and do not support a designation of attainment or nonattainment. Table 2 summarizes the attainment status of the SoCAB for the criteria pollutants.

TABLE 2
CRITERIA POLLUTANT DESIGNATIONS
IN THE SOUTH COAST AIR BASIN

Pollutant	State	Federal
O_3 (1-hour)	Nonattainment	Extreme Nonattainment
O_3 (8-hour)		Extreme Nonattainment
PM10	Nonattainment	Attainment/Maintenance
PM2.5	Nonattainment	Serious Nonattainment
CO	Attainment	Attainment/Maintenance
NO_2	Attainment	Attainment/Maintenance
SO_2	Attainment	Attainment
Lead	Attainment	Nonattainment/Attainment[a]
Visibility-Reducing Particles	Unclassified[b]	No Standards
Sulfates	Attainment	
Hydrogen Sulfide	Unclassified	

O_3: ozone; PM10: respirable particulate matter with a diameter of 10 microns or less; PM2.5: fine particulate matter with a diameter of 2.5 microns or less; CO: carbon monoxide; NO_2: nitrogen dioxide; SO_2: sulfur dioxide; CARB: California Air Resources Board; SoCAB: South Coast Air Basin

[a] Los Angeles County is classified as nonattainment for lead; the remainder of the SoCAB is in attainment of State and federal standards.
[b] "Unclassified" designation indicates that the air quality data for the area are incomplete and do not support a designation of attainment or nonattainment.

Source: CARB 2017, USEPA 2019

O_3 is formed by photochemical reactions between NOx and VOCs rather than being directly emitted. O_3 is the principal component of smog. Elevated O_3 concentrations cause eye and respiratory infection; reduce resistance to lung infection; and may aggravate pulmonary conditions in persons with lung disease. O_3 is also damaging to vegetation and untreated rubber. The entire SoCAB is designated as a nonattainment area for the State one-hour O_3 standard.

CO is formed by the incomplete combustion of fossil fuels, almost entirely from automobiles. It is a colorless, odorless gas that can cause dizziness, headaches, and fatigue. The SoCAB is designated as an attainment area for federal CO standards.

NO_2 (a "whiskey brown"-colored gas) and nitric oxide (NO) (a colorless, odorless gas) are formed from combustion devices. These compounds are referred to as NOx. NOx is a primary component of the photochemical smog reaction. The severity of health effects of NOx depends primarily on the concentration inhaled. Acute symptoms can include coughing, difficulty breathing, vomiting, headache, and eye irritation. Respiratory symptoms may also increase in severity after prolonged exposure.

SO_2 is a corrosive gas that is primarily formed from the combustion of fuels containing sulfur (e.g., from power plants) and heavy industry that use coal or oil as fuel. SO_2 irritates the respiratory tract and can result in lung disease and breathing problems for asthmatics. Atmospheric SO_2 also contributes to acid rain.

Lead is found in old paints and coatings, plumbing, and a variety of other materials including gasoline anti-knock additives. Once in the blood stream, lead can cause damage to the brain, nervous system, and other body systems. Children are highly susceptible to the effects of lead. However, lead emissions have significantly decreased due to the near elimination of the use of leaded gasoline.

Particulate matter is the term used for a mixture of solid particles and liquid droplets found in the air. Respirable particulate matter (i.e., PM10) derives from a variety of sources including road dust from paved and unpaved roads; diesel soot; combustion products; tire and brake abrasion; construction operations; and fires. Fuel combustion and certain industrial processes are primarily responsible for fine particle (i.e., PM2.5) levels. Coarse particles (PM10) can accumulate in the respiratory system and aggravate health problems such as asthma. PM2.5 can deposit itself deep in the lungs and may contain substances that are harmful to human health.

Toxic air contaminants (TACs) are a diverse group of air pollutants that may cause or contribute to an increase in deaths or in serious illness or that may pose a present or potential hazard to human health. TACs may be emitted from a variety of common sources, including motor vehicles, gasoline stations, dry cleaners, industrial operations, painting operations, and research and teaching facilities. TACs are different than the “criteria” pollutants previously discussed in that AAQS have not been established for them. TACs occurring at extremely low levels may still affect health, and it is typically difficult to identify levels of exposure that do not produce adverse health effects. TAC impacts on human health are described by having carcinogenic risk and being chronic (i.e., of long duration) or acute (i.e., severe but of short duration). Diesel particulate matter (diesel PM) is a TAC and is responsible for the majority of California’s known cancer risk from outdoor air pollutants.

The effects from air pollution can be significant, both in the short-term during smog alerts, but also from long-term exposure to pollutants. While most of the populace can overcome short-term air quality health concerns, selected segments of the population are more vulnerable to its effects. Specifically, young children, the elderly, and persons with existing health problems are most susceptible to respirator complications.

Air quality data for the Project site is represented by the Mission Viejo monitoring station located at 26081 Via Pera, Mission Viejo. The monitoring station is located approximately 8 miles southeast of the Project site. Pollutants measured at the Mission Viejo Monitoring Station include O_3, PM10, and PM2.5. The monitoring data presented in Table 3, Air Quality Levels Measured at the Mission Viejo Monitoring Station, were obtained from CARB (CARB 2019). Federal and State air quality standards are presented with the frequency that may be exceeded.

TABLE 3
AIR QUALITY LEVELS MEASURED AT THE MISSION VIEJO MONITORING STATION

Pollutant	California Standard	National Standard	Year	Max. Level[a]	Days State Standard Exceeded	Days National Standard Exceeded
O_3 (1 hour)	0.09 ppm	None	2015	0.099	2	0
			2016	0.122	5	0
			2017	0.103	3	0
O_3 (8 hour)	0.070 ppm	0.070 ppm	2015	0.088	8	8
			2016	0.094	13	13
			2017	0.084	27	25
PM10 (24 hour)	50 µg/m^3	150 µg/m^3	2015	48.0	--	--
			2016	59.3	1	0
			2017	58.2	1	0
PM2.5 (24 Hour)	None	35 µg/m^3	2015	31.5	N/A	0
			2016	24.7	N/A	0
			2017	19.5	N/A	0

–: Data Not Reported or insufficient data available to determine the value; O_3: ozone; ppm: parts per million; PM10: respirable particulate matter with a diameter of 10 microns or less; µg/m^3: micrograms per cubic meter; AAM: Annual Arithmetic Mean; NO_2: nitrogen dioxide; CO: carbon monoxide; PM2.5: fine particulate matter with a diameter of 2.5 microns or less; SO_2: sulfur dioxide. N/A indicates that there is no applicable standard.

[a] California maximum levels were used.

Source: CARB 2019.

The Mission Viejo monitoring data shows that O_3 is the air pollutant of primary concern in the Project area. At the monitoring station, the State 1-hour O_3 standard was exceeded 2 days in 2015, 5 days in 2016, and 3 days in 2017. The State and federal 8-hour O_3 standards were exceeded 8 days in 2015, 13 days in 2016, 27 days in 2017 for State standards, and 25 days in 2017 for federal standards. O_3 is a secondary pollutant and is not directly emitted from a source; it occurs as the result of photochemical reactions from ozone precursors, which include VOCs and NO_2 and sunlight.

The sensitive receptors near the Project site are single-family residences located north and southwest of the Project site. The nearest sensitive receptor is 350 feet southwest of the Project site.

Significance Criteria

Appendix G of the State CEQA Guidelines states that the significance criteria established by the applicable air quality management district may be relied upon to make significance determinations. The South Coast AQMD has established significance thresholds to assess the regional and localized impacts of Project-related air pollutant emissions; Table 4 presents the current significance thresholds.

TABLE 4
SOUTH COAST AQMD AIR QUALITY SIGNIFICANCE THRESHOLDS

Mass Daily Thresholds[a]		
Pollutant	**Construction**	**Operation**
NOx	100 lbs/day	55 lbs/day
VOC	75 lbs/day	55 lbs/day
PM10	150 lbs/day	150 lbs/day
PM2.5	55 lbs/day	55 lbs/day
SOx	150 lbs/day	150 lbs/day
CO	550 lbs/day	550 lbs/day
Lead	3 lbs/day	3 lbs/day
TACs, Odor, and GHG Thresholds		
TACs (including carcinogens and non-carcinogens)	Maximum Incremental Cancer Risk ≥ 10 in 1 million Cancer Burden > 0.5 excess cancer cases (in areas ≥ 1 in 1 million) Chronic & Acute Hazard Index ≥ 1.0 (project increment)	
Odor	Project creates an odor nuisance pursuant to South Coast AQMD Rule 402	
GHG	10,000 MT/yr CO_2e for industrial facilities	
Ambient Air Quality Standards for Criteria Pollutants[b, c]		
NO_2 1-hour average annual arithmetic mean	The South Coast AQMD is in attainment; the Project is significant if it causes or contributes to an exceedance of the following attainment standards: 0.18 ppm (State) 0.03 ppm (State) and 0.0534 ppm (federal)	
PM10 24-hour average annual average	 10.4 µg/m^3 (construction)[c] & 2.5 µg/m^3 (operation) 1.0 µg/m^3	
PM2.5 24-hour average	 10.4 µg/m^3 (construction)[c] & 2.5 µg/m^3 (operation)	
SO_2 1-hour average 24-hour average	 0.25 ppm (State) & 0.075 ppm (federal – 99th percentile) 0.04 ppm (State)	
Sulfate 24-hour average	 25 µg/m^3 (State)	
CO 1-hour average 8-hour average	South Coast AQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards: 20.0 ppm (State) and 35 ppm (federal) 9.0 ppm (State/federal)	
Lead 30-day average Rolling 3-month average	 1.5 µg/m^3 (State) 0.15 µg/m^3 (federal)	

NOx: nitrogen oxides, lbs/day: pounds per day, VOC: volatile organic compound, PM10: respirable particulate matter with a diameter of 10 microns or less, PM2.5: fine particulate matter with a diameter of 2.5 microns or less, SOx: sulfur oxides, CO: carbon monoxide, TACs: toxic air contaminants, GHG: greenhouse gases, MT/yr CO_2e: metric tons per year of carbon dioxide equivalents, NO_2: nitrogen dioxide, ppm: parts per million, µg/m^3: micrograms per cubic meter; South Coast AQMD: South Coast Air Quality Management District

[a] Source: South Coast AQMD CEQA Handbook (South Coast AQMD 1993)
[b] Ambient air quality thresholds for criteria pollutants based on South Coast AQMD Rule 1303, Table A-2 unless otherwise stated
[c] Ambient air quality threshold is based on South Coast AQMD Rule 403

Source: South Coast AQMD 2019

Construction Emissions – Regional

Criteria pollutant emissions would occur during construction from operation of construction equipment; grading and earth-moving activities, which would generate fugitive dust; export of excavated soil; import of construction materials; and operation of vehicles driven to and from the site by construction workers. Emissions would vary from day to day, depending on the level of activity; the specific type of construction activity occurring; and, for fugitive dust, prevailing weather conditions.

A construction-period mass emissions inventory was compiled based on an estimate of construction equipment as well as scheduling and Project phasing assumptions. More specifically, the mass emissions analysis considers the following:

- Combustion emissions from operating on-site stationary and mobile construction equipment;
- Fugitive dust emissions from demolition, site preparation, and grading phases; and
- Mobile-source combustion emissions and fugitive dust from worker commute and truck travel.

Project emissions were estimated using the California Emissions Estimator Model (CalEEMod) version 2016.3.2 computer program (CAPCOA 2017). CalEEMod is designed to model construction and operational emissions for land development projects and allows for the input of project- and County-specific information. CalEEMod has separate databases for specific counties and air districts, and the Orange County database was used for the proposed Project.

The mass emissions thresholds (see Table 3) are based on the rate of emissions (i.e., pounds of pollutants emitted per day). Therefore, the quantity, duration, and the intensity of construction activity are important in ensuring the analysis of worst case (i.e., maximum daily emissions) scenarios. The Project activities (e.g., grading, building) are identified by start date and duration. Each activity has associated off-road equipment (e.g., excavators, cranes) and on-road vehicles (e.g., haul trucks, concrete trucks, worker commute vehicles).

For the purposes of estimating emissions associated with construction activities, a 19-month timeframe was applied to the analysis. Construction hauling truck trips were estimated based on the phase length and amount of debris or soil to export. Project-specific inputs can be found in the CalEEMod output data, located in Appendix A of this IS/MND.

Dust control by watering was assumed, consistent with the requirements of South Coast AQMD Rule 403.

Maximum daily emissions for the peak work day are shown in Table 5, Estimated Maximum Daily Construction Emissions. If construction is delayed or occurs over a longer time period, emissions could be reduced because of (1) a more modern and cleaner-burning construction equipment fleet mix and/or (2) a less intensive buildout schedule (i.e., fewer daily emissions occurring over a longer time interval). As shown, all criteria pollutant emissions would be less than their respective thresholds. Thus, impacts would be less than significant.

TABLE 5
ESTIMATED MAXIMUM DAILY CONSTRUCTION EMISSIONS
(LBS/DAY)

Maximum Daily Emissions	VOC	NOx	CO	SOx	PM10	PM2.5
2020	2	22	19	<1	2	1
2021	4	44	39	<1	3	2
2022	4	38	38	<1	2	2
Maximum	**4**	**44**	**39**	**<1**	**3**	**2**
South Coast AQMD Daily Thresholds *(Table 4)*	***75***	***100***	***550***	***150***	***150***	***55***
Exceeds South Coast AQMD Thresholds?	**No**	**No**	**No**	**No**	**No**	**No**

lbs/day: pounds per day; VOC: volatile organic compound(s); NOx: nitrogen oxides; CO: carbon monoxide; SOx: sulfur oxides; PM10: inhalable particulate matter with a diameter of 10 microns or less; PM2.5: fine particulate matter with a diameter of 2.5 microns or less; South Coast AQMD: South Coast Air Quality Management District.

Source: CalEEMod data in Appendix A.

Construction Emissions – Local/Ambient Air Quality

The localized effects from the on-site portion of daily emissions were evaluated at receptor locations potentially impacted by the Project according to the South Coast AQMD's localized significance threshold (LST) method, which utilizes on-site emissions rate look up tables and Project-specific modeling, where appropriate. LSTs are applicable to the following criteria pollutants: NO_2, CO, PM10, and PM2.5. LSTs represent the maximum emissions from a project that are not expected to cause or contribute to an exceedance of the most stringent applicable federal or State ambient air quality standard and are developed based on the ambient concentrations of that pollutant for each source receptor area and distance to the nearest receptor. For the LST CO and NO_2 exposure analysis, receptors who could be exposed for one hour or more are considered. For PM10 and PM2.5 exposure analysis, receptors who could be exposed for 24 hours are considered. The mass rate look-up tables were developed for each source receptor area and can be used to determine whether a project may generate significant adverse localized air quality impacts. The South Coast AQMD provides LST mass rate look-up tables for projects that are less than or equal to five acres, which means this is the appropriate method for the Project. When quantifying mass emissions for localized analysis, only emissions that occur on site are considered. Consistent with the South Coast AQMD's LST method guidelines, emissions related to off-site delivery/haul truck activity and employee trips are not considered in the evaluation of localized impacts.

As shown in Table 6, localized emissions for all criteria pollutants would be less than their respective South Coast AQMD LSTs for all pollutants. Thus, impacts would be less than significant, and no mitigation is required.

TABLE 6
LOCALIZED CONSTRUCTION POLLUTANT EMISSIONS
(LBS/DAY)

	NOx	CO	PM10	PM2.5
Maximum Daily Emissions	47	44	2	2
South Coast AQMD LSTs*	94	766	14	5
Exceeds South Coast AQMD Thresholds?	**No**	**No**	**No**	**No**

lbs/day: pounds per day; NOx: nitrogen oxides; CO: carbon monoxide; PM10: respirable particulate matter with a diameter of 10 microns or less; PM2.5: fine particulate matter with a diameter of 2.5 microns or less; South Coast AQMD: South Coast Air Quality Management District; LST: Localized Significance Threshold.

* Thresholds for Source Receptor Area 20, Central Orange County Coastal, 1-acre site, 54-meter receptor distance

Source: South Coast AQMD 2009.

Long-Term Operational Emissions

IRWD staff would visit the site for routine inspection and maintenance activities similar to current operations on a daily basis. This routine inspection would occur concurrent with the current inspection schedule for the existing uses and no additional trips would occur. Therefore, new mobile pollutant emissions would be negligible. Table 7 shows the operational emission associated with the Project.

TABLE 7
ESTIMATED MAXIMUM DAILY OPERATIONAL EMISSIONS
(LBS/DAY)

Operational Emissions	VOC	NOx	CO	SOx	PM10	PM2.5
Area	<1	<1	<1	<1	<1	<1
Energy	<1	<1	<1	<1	<1	<1
Mobile	0	0	0	0	0	0
Stationary	2	11	6	<1	<1	<1
Total	**3**	**11**	**6**	**<1**	**<1**	**<1**
***South Coast AQMD Daily Operational Thresholds** (Table 4)*	***55***	***55***	***550***	***150***	***150***	***55***
Exceeds South Coast AQMD Thresholds?	**No**	**No**	**No**	**No**	**No**	**No**

lbs/day: pounds per day; VOC: volatile organic compound(s); NOx: nitrogen oxides; CO: carbon monoxide; SOx: sulfur oxides; PM10: inhalable particulate matter with a diameter of 10 microns or less; PM2.5: fine particulate matter with a diameter of 2.5 microns or less; South Coast AQMD: South Coast Air Quality Management District.

Source: CalEEMod data in Appendix A

As shown in Table 7, all operational emissions would be less than the South Coast AQMD's daily operational thresholds. The impact would be less than significant, and no mitigation is required. Therefore, regarding the first criterion for conformance to an AQMP, the Project would not (1) generate short-term or long-term emissions of VOCs, NOx, or PM2.5 that could potentially cause an increase in the frequency or severity of existing air quality violations; (2) cause or contribute to new violations; or (3) delay timely attainment of air quality standards.

With respect to the second criterion, the Project would not increase or modify SCAG's population, housing, or employment projections. The Project would accommodate the projected growth in population accounted for in the 2016 AQMP emissions forecast and would provide additional storage capacity to serve the current capacity demand and future production associated with the Michelson Water Recycling Plant. Therefore, the Project would be consistent with the region's AQMP. There would be a less than significant impact no mitigation is required.

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?

Less than Significant Impact. As noted previously in Table 2, the Orange County portion of the SoCAB is a nonattainment area for O_3, PM10, and PM2.5. The proposed Project would generate these pollutants during construction, and short-term cumulative impacts related to air quality could occur if Project construction and nearby construction activities were to occur simultaneously. With respect to local impacts, cumulative construction particulate (i.e., fugitive dust) impacts are considered when projects are located within a few hundred yards of each other. As described in the response to Question III.a, construction emissions would be below the South Coast AQMD regional and localized significance thresholds. Project construction at the Rattlesnake Reservoir may occur concurrently with nearby residential development; however, Project emissions at the site would be less than significance thresholds, and the Project's contribution to cumulative emissions would not be considerable. Therefore, short-term construction emissions of nonattainment pollutants would not be cumulatively considerable, and Project impacts would be less than significant.

As previously discussed in the Response to Question III.a, long-term emissions would be negligible and therefore not cumulatively considerable; the long-term cumulative impact would be less than significant. No mitigation is required.

d) Expose sensitive receptors to substantial pollutant concentrations?

Less Than Significant Impact. Exposure of sensitive receptors is addressed for the following situations: CO hotspots; criteria pollutants from on-site construction; and TACs from on-site construction.

<u>Carbon Monoxide Hotspot</u>

A CO hotspot is an area of localized CO pollution caused by severe vehicle congestion on major roadways, typically near intersections. If a project increases average delay at signalized intersections operating at level of service (LOS) E or F or causes an intersection that would operate at LOS D or better without the project to operate at LOS E or F with the project, a quantitative screening is required. As discussed previously in the Response to Question III.a, operational traffic would be negligible. Thus, it may be inferred that the Project would neither cause new severe congestion nor significantly worsen existing congestion. There would be no potential for a CO hotspot or exposure of sensitive receptors to substantial, Project-generated local CO emissions. The impact would be less than significant, and no mitigation is required.

<u>Criteria Pollutants from On-Site Construction</u>

Exposure of persons to NO_2, CO, PM10, and PM2.5 emissions is discussed in the LST analysis under Response III.a above. As discussed, there would be a less than significant impact and no mitigation is required.

Toxic Air Contaminant (Diesel PM) Emissions from On-Site Construction

Construction activities would result in short-term, Project-generated emissions of diesel PM from the exhaust of off-road, heavy-duty diesel equipment used for site preparation (e.g., demolition, excavation, and grading); paving; and building construction. CARB identified diesel PM as a TAC in 1998. The dose to which receptors are exposed is the primary factor used to determine health risk. Dose is a function of the concentration of a substance or substances in the environment and the duration of exposure to the substance. Thus, the risks estimated for a maximally exposed individual (MEI) are higher if a fixed exposure occurs over a longer time period. According to the Office of Environmental Health Hazard Assessment, health risk assessments—which determine the exposure of sensitive receptors to TAC emissions—should be based on a 30- to 70-year exposure period; however, such assessments should be limited to the period/duration of activities associated with a project.

For the Project, there would be few pieces of off-road, heavy-duty diesel equipment in operation, and the construction period would be short when compared to a 30- to 70-year exposure period. When considering these facts combined with the highly dispersive properties of diesel PM and additional reductions in particulate emissions from newer construction equipment, as required by USEPA and CARB regulations, it can be concluded that TAC emissions during construction of the Project would not expose sensitive receptors to substantial emissions of TACs. There would be a less than significant impact, and no mitigation is required.

d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Less than Significant Impact. The Project would not result in other emissions that would affect a substantial number of people. Objectionable odors are generally associated with agricultural activities; landfills and transfer stations; the generation or treatment of sewage; the use or generation of chemicals; food processing; or other activities that generate unpleasant odors (South Coast AQMD 1993). The proposed Project would involve the replacement of pump station with a new pump station to meet current capacity demand and future production associated with the Michelson Water Recycling Plant. None of the proposed Project elements would generate other emissions that would lead to objectionable odors. Objectionable odors associated with operations would not change from the existing conditions. There would be a less than significant impact, and no mitigation is required.

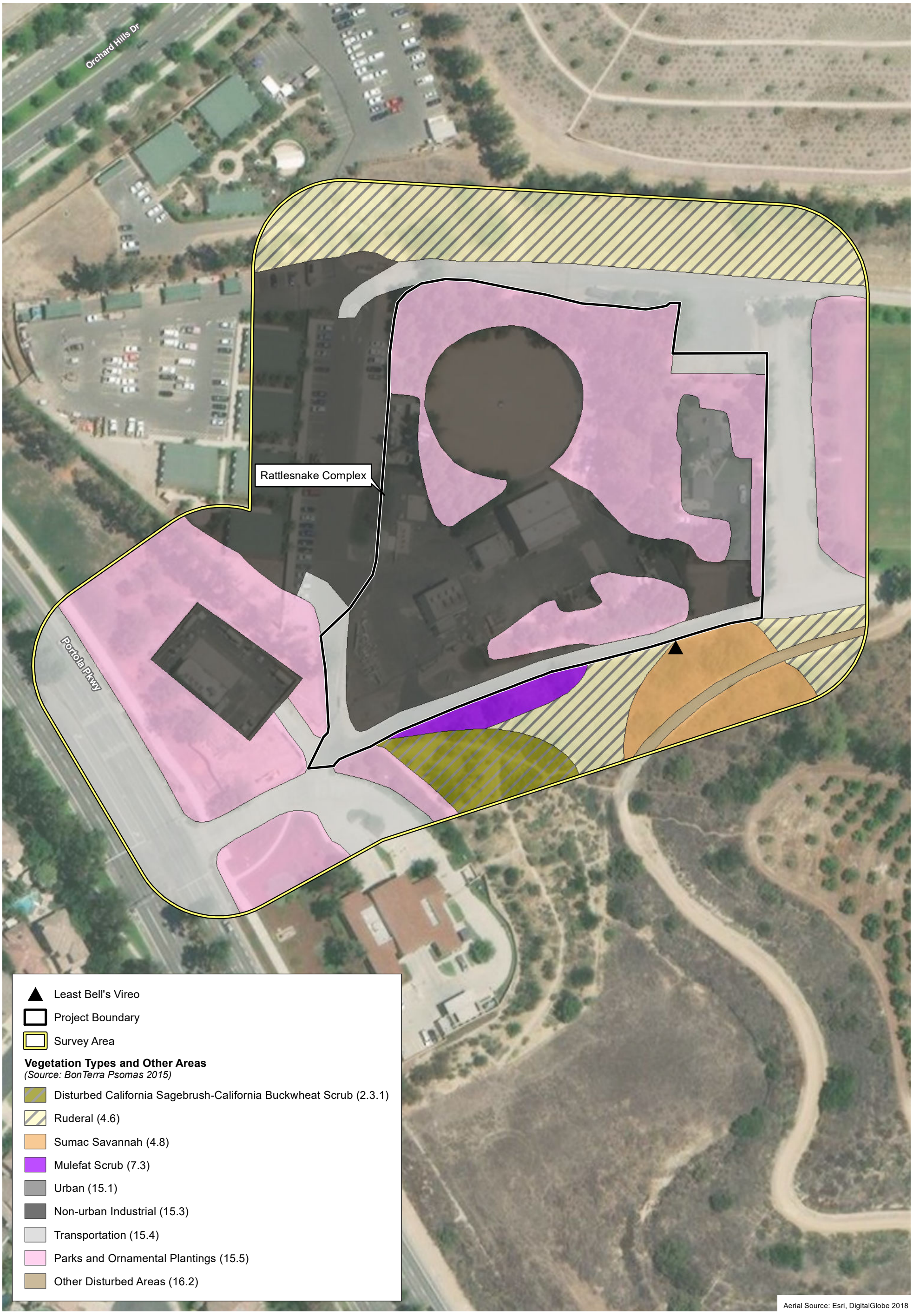
During construction, the proposed Project would operate equipment that may generate odors resulting from on-site construction equipment's diesel exhaust emissions or paving operations. However, these odors would be temporary and would dissipate rapidly from the source with an increase in distance. The Project would also be regulated from nuisance odors and other objectionable emissions by South Coast AQMD Rule 402. Rule 402 prohibits discharge from any source of air contaminants or other material which would cause injury, detriment, nuisance, or annoyance to people or the public. Therefore, Project odors would be considered less than significant, and no mitigation is required.

IV. BIOLOGICAL RESOURCES

The California Native Plant Society's (CNPS's) Inventory of Rare and Endangered Vascular Plants of California (CNPS 2019) and the California Department of Fish and Wildlife's (CDFW's) California Natural Diversity Database (CDFW 2019) were reviewed prior to conducting a survey of the Project site to identify special status plants, wildlife, and habitats known to occur within the Project vicinity. Database searches included the USGS' Tustin and El Toro 7.5-minute quadrangles. A previous biological report for the Project site was also reviewed: *Biological Resources Report, Irvine Ranch Water District, Irvine Lake Pipeline – North Conversion Project, City of Irvine, Orange County, California* prepared by BonTerra Psomas in 2015.

Psomas Senior Biologist Amber Heredia conducted a field survey on June 20, 2019 to determine whether site conditions had changed since the previous report had been prepared. In 2015, vegetation was mapped in the field on a 1 inch equals 200 feet (1″ = 200′) scale color aerial. In the event the tree canopy covered another vegetation type (e.g., oak canopy over a road) the vegetation was mapped as the corresponding vegetation type for the canopy. Nomenclature for vegetation types followed that of *The Habitat Classification System Natural Resources Geographic Information System (GIS) Project* (Gray and Bramlet 1992). The site visit determined that site conditions were the same as previously observed. A general overview of existing resources is provided in Exhibit 5-3, Biological Resources.

In general, the Project site provides limited habitat value for wildlife as it is comprised entirely of developed areas and ornamental vegetation. However, wildlife species that occur in the surrounding undeveloped habitat areas may also occasionally occur on the Project site. Amphibian and reptile species expected to occur in the vicinity include California toad (*Anaxyrus boreas halophilus*), western fence lizard (*Sceloporus occidentalis*), side-blotched lizard (*Uta stansburiana*), alligator lizard (*Elgaria multicarinata*), gopher snake (*Pituophis catenifer*), and western diamondback rattlesnake (*Crotalus atrox*). Bird species observed in the vicinity during the survey included band-tailed pigeon (*Patagioenas fasciata*), mourning dove (*Zenaida macroura*), Allen's hummingbird (*Selasphorus sasin*), red-crowned parrot (*Amazona viridigenalis*), Nuttall's woodpecker (*Picoides nuttallii*), Pacific-slope flycatcher (*Empidonax difficilis*), Cassin's kingbird (*Tyrannus vociferans*), common raven (*Corvus corax*), bushtit (*Psaltriparus minimus*), Bewick's wren (*Thryomanes bewickii*), northern mockingbird (*Mimus polyglottos*), phainopepla (*Phainopepla nitens*), yellow warbler (*Dendroica petechial*), spotted towhee (*Pipilo maculatus*), hooded oriole (*Icterus cucullatus*), house finch (*Carpodacus mexicanus*), and lesser goldfinch (*Spinus psaltria*). Small mammal species expected to occur in the vicinity include the California ground squirrel (*Spermophilus beecheyi*), dusky-footed woodrat (*Neotoma fuscipes*), and deer mouse (*Peromyscus* sp.). Medium- to large-sized mammals expected to occur in the vicinity include coyote (*Canis latrans*), northern raccoon (*Procyon lotor*), striped skunk (*Mephitis mephitis*), and bobcat (*Lynx rufus*). Bat species expected to occur in the vicinity include big brown bat (*Eptesicus fuscus*), California myotis (*Myotis californicus*), and Brazilian free-tailed bat (*Tadarida brasiliensis*).



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Biological Resources

Exhibit 5-3

Zone A Rattlesnake Reservoir Pump Station

N W E S

100 50 0 100 Feet

PSOMAS

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IMPACT ANALYSIS

Would the Project:

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

Less Than Significant With Mitigation. During the site visit, least Bell's vireo (*Vireo bellii pusillus*) was incidentally observed on the hillside immediately adjacent to the southeast corner of the facility (refer to Exhibit 5-3). A male, female and at least one juvenile were observed in the sumac savannah and ruderal vegetation. The focal point of activity appeared to be in a patch of blue elderberry (*Sambucus nigra* ssp. *caerulea*) with an understory of poison hemlock (*Conium maculatum*). The family group stayed in this portion of the hillside for an extended period of time (multiple hours), indicating that it was likely their territory. Although this area is not riparian habitat (preferred habitat for least Bell's vireo), blue elderberry provides a similar structure and least Bell's vireo occasionally use it for nesting. The hillside adjacent to the south side of the facility should be regarded as a potentially occupied territory. Riparian habitat known to be occupied by least Bell's vireo is also located approximately 1,000 feet east of the Project site along the margins of Rattlesnake Reservoir (CDFW 2019).

During the site visit, the least Bell's vireo individuals also flew across the road and foraged in the Peruvian pepper trees (*Schinus molle*) and pine trees (*Pinus* sp.) in the southeast corner of the facility and near the caretaker's house. Although observed foraging in ornamental trees on the Project site, the least Bell's vireo has no potential to nest on the Project site.

Project impacts would occur entirely within the facility; therefore, the Project would not directly impact least Bell's vireo nesting habitat. However, construction noise and increased human activity related to the Project could indirectly impact least Bell's vireo on the hillside to the south adjacent to the facility if it occurred during the summer breeding season (March 15 to September 15). If construction would occur during the breeding season, **MM BIO-1** would be required to reduce impacts to less than significant.

Burrowing owl has a limited potential to occur adjacent to the Project site. Construction noise and increased human activity associated with the Project could indirectly impact burrowing owl if it were nesting adjacent to the Project site. Burrowing owl are not common in Orange County and therefore only have a limited potential to occur; however, **MM BIO-2** would be required to ensure that this species is not impacted by construction.

b) **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 US Fish and Wildlife Services?**

c) **Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?**

No Impact. The Project site is located within the Central-Coastal Natural Communities Conservation Plan/Habitat Conservation Plan (NCCP/HCP) area.

All work would occur within the existing facility; it would not impact any riparian habitat, sensitive natural communities, jurisdictional areas, coastal sage scrub habitat, or Reserve areas.

d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

No Impact. All work would be within the existing facility, which is located in a fenced area and does not provide a movement corridor. Further, because the site currently serves as a recycled water facility, the project would not impede the use of a native wildlife nursery site.

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

Less Than Significant With Mitigation. Raptor species (i.e., birds of prey) have potential to nest on structures and in ornamental trees within and adjacent to the Project site. Trees within the facility include Peruvian pepper, pine, and gum (*Eucalyptus* spp.). If construction occurs during the raptor nesting season (i.e., February 1 to June 30), the loss of an active nest of any raptor species, including common raptor species, would be considered a violation of Sections 3503, 3503.5, and 3513 of the *California Fish and Game Code* and would be a significant impact. Implementation of **MM BIO-2** would be required to reduce this impact to a less than significant level.

Other birds also have potential to nest on structures and in ornamental trees and shrubs within and adjacent to the Project site. The Migratory Bird Treaty Act (MBTA) protects the taking of migratory birds and their nests and eggs. Bird species protected under the provisions of the MBTA are identified by the List of Migratory Birds (*Code of Federal Regulations,* Title 50, §10.13). Any impact on an active bird nest would be considered a violation of the MBTA and would be considered significant. Implementation of **MM BIO-2** would be required to reduce this impact to a less than significant level.

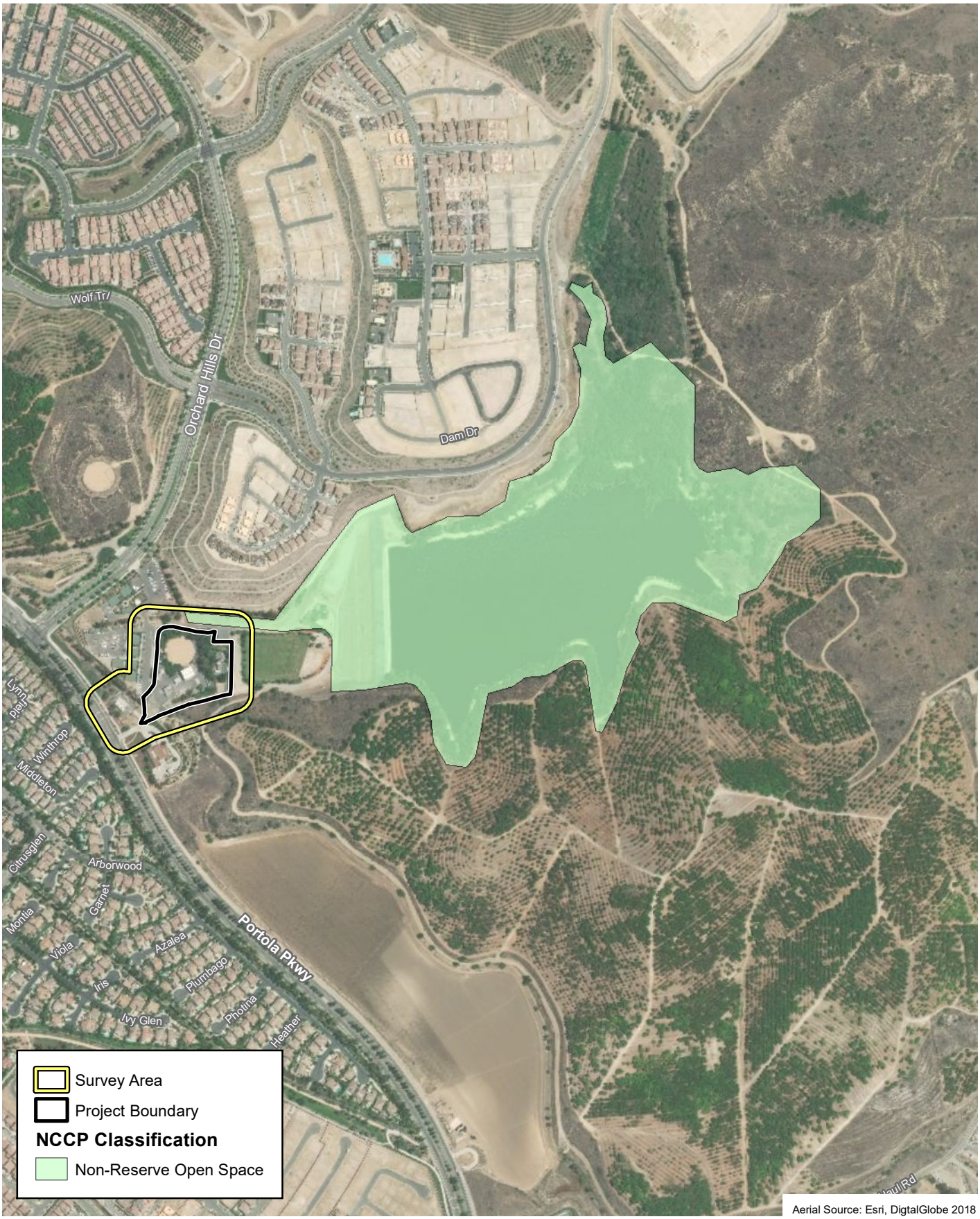
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan?

No Impact. The Project is consistent with provisions in the Central-Coastal NCCP/HCP. Non-reserve open space is located at the adjacent Rattlesnake Reservoir (refer to Exhibit 5-4, NCCP/HCP Reserve Classifications). All work would be within the existing facility and would not impact areas of Non-reserve open space.

MITIGATION PROGRAM

<u>Mitigation Measures</u>

MM BIO-1 If construction activities would occur during the breeding season for the least Bell's vireo (i.e., March 15 to September 15), IRWD will retain a qualified Biologist to conduct one pre-construction focused survey approximately 14 days prior to the start of construction and one pre-construction focused survey approximately 7 days prior to the start of construction to determine whether open space within 500 feet of the project site is occupied at the time of construction. If an active nest is found during the survey, a qualified Biologist, in consultation with IRWD, USFWS, and CDFW, will determine whether construction activities have the potential to disturb the nest and will determine the appropriate construction



Aerial Source: Esri, DigtalGlobe 2018

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NCCP/HCP Reserve Classifications

Exhibit 5-4

Zone A Rattlesnake Reservoir Pump Station

N W E S

750 375 0 750 Feet

PSOMAS

(Rev: 09/16/2019 MMD) R:\Projects\IRW_IRWD\3IRW000902\Graphics\ISMND\ex_NCCP_HCP.pdf

limitations, which may include but would not be limited to erecting sound barriers, monitoring by a qualified Biologist, and/or establishing a no construction buffer. If an active least Bell's vireo nest is observed, a protective buffer will be established and clearly delineated as an "Environmentally Sensitive Area" in the field with flagging, fencing, or other appropriate barriers, and construction personnel will be instructed on the sensitivity of the area.

MM BIO-2 To the extent possible, vegetation removal will be conducted during the non-breeding season (September 1 to January 31) in order to minimize direct impacts on nesting birds and raptors. If construction activities would be initiated during the breeding season for nesting birds/raptors (February 1–August 31), a pre-construction survey will be conducted by a qualified Biologist within five days prior to the initiation of construction (including demolition of structures). The nesting bird/raptor survey area will include a buffer of 300 feet around the work area for nesting birds and a buffer of 500 feet around the work area for nesting raptors (including burrowing owl). If no active nests are found, no further mitigation will be required.

If the Biologist finds an active nest within or immediately adjacent to the construction area, and determines that the nest may be impacted or breeding activities substantially disrupted by increased activity around the nest, the Biologist will determine an appropriate protective buffer around the nest depending on the sensitivity of the species and the nature of the construction activity. The protective buffer shall be between 25 to 300 feet for nesting birds; 300 to 500 feet for nesting raptors. The active nest will be protected within the designated buffer until nesting activity has ended. Any protective buffers will be mapped on construction plans and designated as "Environmentally Sensitive Areas". Construction can proceed within the protective buffer when the qualified Biologist has determined that the nest is no longer active (i.e., fledglings have left the nest or the nest has failed).

V. CULTURAL RESOURCES

Information in the section is based upon the records searches and literature reviews of information available from the South-Central Coastal Information Center (SCCIC) and the Native American Heritage Commission (NAHC), compiled as Appendix B to this IS/MND.

The Project intends to modify the Rattlesnake Reservoir Complex, including the pump station that pumps recycled water to IRWD's Rattlesnake Reservoir, one of four IRWD recycled water seasonal storage reservoirs, which is used to help manage peak recycled water demands during summer months. Relevant to the cultural resources analysis, the pumps are located at a depth of 33.0 feet below ground surface (bgs) with utilities and pipelines restrained to 6.0-16.0 feet bgs. The construction activities would require earth moving activities up to a maximum depth of 35.0 feet bgs (Converse Consultants 2019).

EXISTING CONDITIONS

The Project site is located within a developed environmental setting in Irvine, California within Orange County. The Project site is bounded by Portola Parkway to the west, the Orchard Hills residential community to the north, Loma Ridge Park to the east, and farmland to the south. The site currently contains several active and abandoned facilities.

Geotechnical Conditions

A geotechnical field reconnaissance was completed on February 19, 2019, followed by field investigations that included a total of five borings to depths varying from 21.5 to 51.5 feet below bgs on March 5, 2019, to develop geotechnical information to cover the construction under this Project (Converse Consultants 2019). The geotechnical testing observed artificial fill, a mixture of sand, silt, clay, and gravel (up to 2.5 inches), between 1.0 and 15.0 feet bgs. The alluvium soils at the Project site consists primarily of a mixture of sand, silt, clay, and gravel (up to 1.0 inch in largest dimension). The alluvium was observed between 15.0 and 20.0 feet bgs at two of the boring locations (BH-02 and BH-03) near the proposed pump station. However, alluvial soil was observed as high as 5.0 feet bgs in three of the of the boring locations (BH-01, BH-04, and BH-05) along the pipeline. Groundwater was encountered at depths of 34 feet bgs.

South-Central Coastal Information Center Cultural Resources Records and Literature Review

A literature review of documents on file at the SCCIC at California State University, Fullerton was completed by on July 1, 2019. The results of the record search yielded 23 studies (Table 8) within a half mile from the Project site. In general, these studies consisted of archaeological reconnaissance or Phase I cultural resource studies conducted between 1976-2012. Six studies (OR-00305, OR-00847, OR-02225, OR-02534, OR-03824, and OR-04522) reviewed the Project site as part of an overview study of the geographic area.

TABLE 8
CULTURAL RESOURCES STUDIES WITHIN ½-MILE OF THE PROJECT SITE

Report Number	Year and Author	Report Title	Proximity to Project Site
OR-00305	Archaeological Resource Management Corp (1979)	The History of Archaeological Research on Irvine Ranch Property: The Evolution of a Company Tradition	Within
OR-00847	LSA Associates, Inc. (1985)	Archaeological Resource Inventory City of Irvine and its Sphere of Influence	Within
OR-02225	The Irvine Company (1978)	The Irvine Company Planning Process and California Archaeology- A Review and Critique	Within
OR-02534	ARI (1976)	Annual Report to The Irvine Company from Archaeological Research, Inc.	Within
OR-03824	The Keith Companies Archaeological Division (2000)	A Cultural Resources Inventory of Planning Areas 1 & 2, Irvine, California	Within
OR-04522	LSA Associates, Inc. (2015)	Controlled Demolition of Archaeological Sites CA-ORA-361, CA-ORA-811, CA-ORA-1610, and CA-ORA-1615, Planning Area I, Irvine, California	Within
OR-02670	LSA Associates, Inc. (2002)	Cultural Resource Assessment Cingular Wireless Facility No. Sc 119-04 Orange County, California	Borders Project Site
OR-00142	Scientific Resource Surveys, Inc. (1976)	Archaeological Survey Report on the North Irvine Assessment District	Outside

TABLE 8
CULTURAL RESOURCES STUDIES WITHIN ½-MILE OF THE PROJECT SITE

Report Number	Year and Author	Report Title	Proximity to Project Site
OR-00252	Scientific Resource Surveys, Inc. (1978)	Cultural Resources Report- Preliminary Assessment on the Proposed San Diego Creek Watershed Erosion and Sedimentary Control System in Hicks Canyon, Hicks Canyon Wash, Rattlesnake Creek Wash, San Diego Creek, and the San Joaquin Marsh Located in Orange County	Outside
OR-00361	UNLV, Department of Anthropology (1978)	ORA-193 on Newport Bay: Implications for Gabrielino Subsistence Systems -- a Preliminary Site Report.	Outside
OR-00648	LSA Associates, Inc. (1982)	Cultural Resource Survey: Archaeological Resources: Foothill Transportation Corridor, Phase II	Outside
OR-00762	Archaeological Research, Inc. (no date)	A Discussion of Scientific Cultural Resources in Relation to the North Irvine Precise Land Use Plan	Outside
OR-01394	The Keith Companies Archaeological Division (1994)	A Cultural Resources Survey for the Northwood Point Planned Community (Northwood 5), County of Orange tentative Tract Map No. 14540	Outside
OR-01615	Petra Resources Inc. (1997)	Archaeological Monitoring Report for the Northwood High School Grading Project, City of Irvine, Orange County, California	Outside
OR-01625	LSA Associates, Inc. (1997)	Results of Archaeological and Paleontological Monitoring of the Northwood 5 Development (tentative Tract 14540), Lots 4 and 5, Irvine, California	Outside
OR-02518	RMW Paleo Associates, Inc. (2001)	"Peer Review of ""A Phase I Cultural Resources Inventory for Planning Area 5b, Irvine, California"", Dated 20 March 2001. Author, Christopher Drover, Ph.D. Prepared by The Keith Companies, Incorporated for the Irvine Community Development Company "	Outside
OR-02688	Naval Weapons Station (2002)	Replacement of a Segment of Clay Sewer Pie, Naval Weapons Station, Seal Beach, Orange County, California	Outside
OR-02940	Kyle Consulting (2002)	Cultural Resource Assessment for a Cellular Tower Site Located at 4883 Portola Parkway City of Irvine Orange County, California	Outside
OR-02946	LSA Associates, Inc. (2004)	Results of Archaeological Resource Mitigation Monitoring Fire Station 55, Irvine Orange County, California	Outside
OR-03816	The Keith Companies Archaeological Division (2001)	A Phase I Cultural Resources Inventory for Planning Area 5B, Irvine, CA	Outside

TABLE 8
CULTURAL RESOURCES STUDIES WITHIN ½-MILE OF THE PROJECT SITE

Report Number	Year and Author	Report Title	Proximity to Project Site
OR-04084	LSA Associates, Inc. (2005)	Cultural Resource Assessment of 22 Natural Treatment System Facility Sites Within the San Diego Creek Watershed - Natural Treatment System Project, Irvine Ranch Water District, Orange County, California	Outside
OR-04088	Compass Rose (2011)	Archaeological Letter Report: Myford 12 kV Deteriorated Pole Replacement Project (WO6043-4800, 0-4869), SAP TD#521413, Rattlesnake Canyon Area, Orange County, California	Outside
OR-04205	ATC Associates (2012)	Section 106 Consultation for Proposed Collocation: LA3150- Portola Parkway, 4883 Portola Parkway, Irvine	Outside

No archaeological or historical resources were identified within the Project site. However, a historic structure, the Highline Canal, was observed along the border of the Project site. The literature review and record search at the SCCIC identified three other resources (P-30-000361, P-30-001615, and P-30-100496) within a half-mile of the Project site (Table 9).

TABLE 9
CULTURAL RESOURCES WITHIN ½-MILE OF THE PROJECT SITE

Primary/Trinomial Number	Recorder/Year	Resource Description	Age	Proximity to Project Site
P-30-176748	2003 LSA Associates	Highline Canal	Historic	Borders the Project Site
P-30-000361	1972 Archaeological Research Inc	Open site near streambed (now runoff from Rattlesnake Reservoir); Lithic scatter. The site was destroyed on November 19 and 21, 2014 from controlled grading.	Prehistoric	Outside
CA-ORA-000361	2002 LSA Associates	Surface scatter of lithic artifacts; Habitation debris. The site was destroyed on November 17-19, 2014 from controlled grading.	Prehistoric	Outside
P-30-001615	2015 LSA Associates	Lithic Isolate	Prehistoric	Outside

Native American Heritage Commission Sacred Lands File Search

Psomas submitted a request to the NAHC on July 1, 2019 to review the Sacred Lands File database regarding the possibility of Native American cultural resources and/or sacred places in the project vicinity that are not documented on other databases. The results from the NAHC were received on July 19, 2019. The SLF search did not identify any known resources or sacred lands within the Project area. However, the NAHC recommends that the lead agency contact tribes that are traditionally and culturally affiliated with the geographic area. IRWD contacted the tribes listed

on their consultation list on July 15, 2019. The consultation results are discussed in Section XVIII, Tribal Cultural Resources.

IMPACT ANALYSIS

a) Would the project cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?

No Impact. A significant impact could occur if the Project were to disturb historic resources that presently exist within the Project site. Section 15064.5 of the CEQA Guidelines generally defines a historic resource as a resource that is (1) listed in or determined to be eligible for listing in the California Register of Historical Resources (California Register); (2) included in a local register of historical resources (pursuant to Section 5020.1(k) of the Public Resources Code); or (3) identified as significant in an historical resources survey (meeting the criteria in Section 5024.1(g) of the Public Resources Code). Additionally, any object, building, structure, site, area, place, record, or manuscript that a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered to be an historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record. Generally, a resource shall be considered by the lead agency to be "historically significant" if the resource meets the criteria for listing on the California Register. The California Register automatically includes all properties listed in the National Register of Historic Places (NRHP) and those formally determined to be eligible for listing in the National Register.

The SCCIC record search and literature review identified 1 built structure that may be considered a historic resource near the Project site. The Highline Canal (P-30-176748) is located on the border of the Project site, but outside of the proposed area of work. Furthermore, the Highline canal does not meet the criteria for significance. Therefore, the Project will not cause an adverse change in the significance of a historical resource.

b) Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?

Less than Significant With Mitigation. A significant impact could occur if grading or excavation activities associated with the Project were to disturb archaeological resources that presently exist within the Project site. There are no known archaeological sites on the Project site. The SCCIC record search and literature review identified three (3) resources located within a half-mile of the Project site. These resources consist of several lithic artifacts that establish prehistoric land use within the generalized area. As such, there is the possibility that undiscovered intact archaeological resources may be present below the surface in native (alluvial) sediments. The geotechnical boring (Converse Consultants 2019) identified alluvial sediment as shallow as 5.0 feet bgs to exceeding 15.0 feet bgs. These potential effects would be mitigated to a less than significant level with the implementation of **MM CULT-1**, which requires archaeological monitoring when excavating in native sediment.

c) Would the project disturb any human remains, including those interred outside of formal cemeteries?

Less than Significant With Mitigation. A Project-related significant adverse effect could occur if grading or excavation activities associated with the Project were to disturb previously interred human remains. The Project site is located within a developed area that has been subject to earth-moving activities in the past, and no known burial sites are located on or adjacent to the Project site. In the unlikely event of an unanticipated encounter with human remains in Project site, the

California Health and Safety Code and the *California Public Resources Code* require that any activity in the area of a potential find be halted and the Orange County Coroner be notified, as described in **MM CUL-2**. Implementation of **CULT-2** would reduce this impact to a less than significant level.

MITIGATION PROGRAM

Mitigation Measures

MM CULT-1 In the event that cultural (archaeological) resources are inadvertently unearthed during excavation activities, the contractor shall immediately cease all earth-disturbing activities within a 100-foot radius of the area of discovery and the contractor shall contact IRWD immediately. IRWD shall retain a qualified professional archaeologist to evaluate the significance of the find, and in consultation with IRWD, determine an appropriate course of action. If the archaeological resources are found to be significant, the archeologist, in consultation with IRWD, shall determine appropriate actions for exploration and salvage. After the find has been appropriately avoided or mitigated, work in the area may resume.

MM CULT-2 In accordance with Section 7050.5 of the *California Health and Safety Code,* if human remains are found during ground-disturbing activities, no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains shall occur. The County Coroner shall be notified of the discovery immediately. If the County Coroner determines that the remains are or believed to be Native American, s/he shall notify the NAHC in Sacramento within 24 hours of the discovery. In accordance with Section 5097.98 of the *California Public Resources Code,* the NAHC must immediately notify those persons it believes to be the most likely descended from the deceased Native American. The descendents shall complete their inspection within 48 hours of being granted access to the site by IRWD. IRWD would meet and confer with the most likely descendant regarding their recommendations prior to disturbing the site by further construction activity.

VI. ENERGY

a) Would the project result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

Less than Significant Impact. Southern California Edison (SCE) and the Southern California Gas Company (SCGC) are utility companies that currently provide, and would continue to provide, electrical and natural gas services, respectively, to the Project site.

Construction

Project construction would require the use of construction equipment for excavation and building activities; all off-road construction equipment is assumed to use diesel fuel. Construction also includes the vehicles of construction workers and vendors traveling to and from the Project site. Off-road construction equipment use was calculated from the equipment data (mix, hours per day, horsepower, load factor, and days per phase) provided in the CalEEMod 2016.3.2 construction output files included in Appendix A of this IS/MND. The total horsepower hours for the Project

was then multiplied by fuel usage estimates per hours of construction activities included in the OFFROAD Model. Energy data can be found in Appendix A of this IS/MND.

Fuel consumption from construction worker, vendor, and delivery/haul trucks was calculated using the trip rates and distances provided in the CalEEMod construction output files. Total vehicle miles traveled (VMT) was then calculated for each type of construction-related trip and divided by the corresponding miles per gallon factor using California Air Resources Board's (CARB's) EMissions FACtor 2014 (EMFAC 2014) model. EMFAC provides the total annual VMT and fuel consumed for each vehicle type. Construction vendor and delivery/haul trucks were assumed to be heavy-duty diesel trucks. As shown in Table 10, a total of 9,557 gallons of gasoline and 27,161 gallons of diesel fuel is estimated to be consumed during Project construction.

TABLE 10
ENERGY USE DURING CONSTRUCTION

Source	Gasoline (gallons)	Diesel Fuel (gallons)
Off-road Construction Equipment	0	26,472
Worker commute trips	8,592	11
Vendor trips	958	10
On-road haul trips	7	669
Totals	9,557	27,161
See Appendix A for Energy data. Data based on data from CalEEMod, OFFROAD and EMFAC2014.		

Fuel energy consumed during construction would be temporary in nature and would not occur after completion of construction activities. It would also not represent a significant demand on energy resources. Furthermore, there are no unusual Project characteristics that would necessitate the use of construction equipment that would be less energy-efficient than at comparable construction sites in other parts of the State. Therefore, the proposed construction activities would not result in inefficient, wasteful, or unnecessary fuel consumption.

Operations

The proposed Project is designed to replace existing aging recycled water infrastructure to meet the current capacity demand and as well as future production associated with the MWRP. The energy consumption associated with the addition of the new Project components within operations phase of the Project is shown in Table 11 below.

TABLE 11
MAXIMUM ENERGY USE DURING OPERATIONS

Land Use	Gasoline (gallons/yr)	Diesel (gallons/yr)	Natural Gas (kBTU/yr)	Electricity (kWh/yr)
Project Land Uses	0	0	47,234	4,531,280
Note: yr: year; kBTU: kilo-British Thermal Unit; kWh: kilowatt hour See Appendix A for Energy data. Data based on data from CalEEMod, OFFROAD and EMFAC2014.				

As discussed previously, the proposed Project would enable continued use of recycled water as well as expand the capacity for future development of recycled water. The increased water production locally would reduce the need for more energy intensive water imports. The Project structures would also be required to comply with the requirements of the State's Building Energy

Efficiency Standards (Title 24, Part 6) and the mandatory green building standards within CALGreen (Title 24, Part 11) which would reduce electrical, heating, solid waste disposal, and water demands. Because the Project would enable the continued use and future expansion of recycled water production and would comply with State of California energy efficiency standards, the proposed Project would not result in an inefficient, wasteful, or unnecessary consumption of energy. There would be a less than significant impact and no mitigation is required.

b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

No Impact. The Project would be required to comply with the State of California's Title 24 Building Standards and CALGreen requirements for energy efficiency. In addition, the Project would enable continued and expanded recycled water production capacity to meet local water demands as opposed to importing more energy intensive water from outside the region. Because the Project complies with the latest applicable energy efficiency standards and supports the use of recycled water, the Project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

VII. GEOLOGY AND SOILS

Information in this section is derived from the *Geotechnical Investigation Report, Irvine Ranch Water District (IRWD), Zone A to Rattlesnake Reservoir Pump Station, 4769 Portola Parkway, City of Irvine, Orange County, California, Converse Project No. 18-32-144-01* (Geotechnical Investigation) prepared by Converse Consultants and dated May 7, 2019. (Converse 2019; Appendix C).

IMPACT ANALYSIS

Would the Project:

a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:

i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.

ii) Strong seismic ground shaking?

Less than Significant Impact. The Project site is not located within a currently designated State of California Fault Zone. There are no known active faults projecting toward or extending across the site. Based on regional mapping, a northwest-southeast trending unnamed inactive concealed fault is located approximately 3,400 feet southwest of the Project site. Based on site observations, there is no indication that the inferred fault poses any increased risk to the site. The potential for surface rupture resulting from the movement of nearby major faults is considered low.

The proposed site is situated in a seismically active region. As is the case for most areas of Southern California, ground shaking resulting from earthquakes associated with nearby and more distant faults may occur at the site. During the life of the project, seismic activity associated with active faults can be expected to generate moderate to strong ground shaking at the site.

Table 12 contains a list of active and potentially active faults within 100 kilometers of the Project site.

TABLE 12
SEISMIC CHARACTERISTICS OF NEARBY ACTIVE FAULTS

Fault Name	Approximate Distance (Miles (km))	Moment Magnitude (Mw)
Whittier	10.7 (17.2)	6.8
Elsinore-Glen Ivy	10.9 (17.5)	6.8
Chino-Central Ave. (Elsinore)	11.2 (18.0)	6.7
Newport-Inglewood (L.A. Basin)	13.4 (21.5)	7.1
Newport-Inglewood (Offshore)	13.6 (21.9)	7.1
Elysian Park Thrust	14.3 (23.0)	6.7
Compton Thrust	15.3 (24.6)	6.8
San Jose	23.4 (37.7)	6.4
Elsinore-Temecula	23.7 (38.1)	6.8
Palos Verdes	25.0 (40.2)	7.3
Sierra Madre	29.2 (47.0)	7.2
Cucamonga	29.3 (47.1)	6.9
Coronado Bank	33.4 (53.8)	7.6
Raymond	34.4 (55.4)	6.5
San Jacinto-San Bernardino	34.5 (55.5)	6.7
San Jacinto-San Jacinto Valley	35.5 (57.1)	6.9
Clamshell-Sawpit	36.2 (58.3)	6.5
Verdugo	37.1 (59.7)	6.9
Hollywood	39.4 (63.4)	6.4
San-Andres-San Bernardino	41.2 (66.3)	7.5
San Andreas-Mojave	42.2 (67.9)	7.4
Cleghorn	43.5 (70.0)	6.5
Rose Canyon	45.2 (72.8)	7.2
Santa Monica	45.7 (73.6)	6.6
San Jacinto-Anza	47.7 (76.7)	7.2
North Frontal Fault Zone (West)	48.1 (77.4)	7.2
Elsinore-Julian	48.6 (78.2)	7.1
Malibu Coast	50.0 (80.5)	6.7
Sierra Madre (San Fernando)	50.9 (81.9)	6.7
San Gabriel	51.1 (82.3)	7.2
Northridge (E. Oak Ridge)	53.0 (85.3)	7.0
Anacapa-Dume	58.6 (94.3)	7.5
Converse 2019		

There would be less than significant impacts related to fault rupture and strong seismic ground shaking with implementation of the specific recommendations of the Geotechnical Investigation prepared for the Project.

iii) Seismic-related ground failure, including liquefaction?

Less Than Significant Impact. Liquefaction is defined as the phenomenon in which a cohesionless soil mass within the upper 50 feet of the ground surface suffers a substantial reduction in its shear strength, due to the development of excess pore pressures. During earthquakes, excess pore pressures in saturated soil deposits may develop as a result of induced cyclic shear stresses, resulting in liquefaction.

Soil liquefaction generally occurs in submerged granular soils and non-plastic silts during or after strong ground shaking. There are several general requirements for liquefaction to occur. They are as follows.

- Soils must be submerged.
- Soils must be loose to medium-dense.
- Ground motion must be intense.
- Duration of shaking must be sufficient for the soils to lose shear resistance.

The current high groundwater level is at 34 feet below ground surface (bgs). Based on a site-specific liquefaction analysis, liquefaction was observed at depth between 45 and 50 feet bgs. The Project site has potential for up to 2.0 inches liquefaction-induced settlement.

Seismically induced lateral spreading involves primarily lateral movement of earth materials over underlying materials which are liquefied due to ground shaking. It differs from the slope failure in that complete ground failure involving large movement does not occur due to the relatively smaller gradient of the initial ground surface. Lateral spreading is demonstrated by near-vertical cracks with predominantly horizontal movement of the soil mass involved. Based on the analysis and due to the flat nature of site, the risk of lateral spreading is considered low.

Impacts related to seismic-related ground failure, including liquefaction, would be less than significant and no mitigation would be required.

iv) Landslides?

Less Than Significant Impact. Seismically induced landslides and other slope failures are common occurrences during or soon after earthquakes. According to the Geotechnical Investigation, there is hill ascending to the southeast of the Project site. The base of the hill is located approximately 225 feet southeast of the edge of the Rattlesnake Reservoir. The hill ascends approximately 180 feet over a distance of 940 feet for a slope ratio of approximately 5H:1V (horizontal:vertical). Based on the slope ratio of this hill and the relatively flat nature of the remainder of the site and surrounding area, the risk of landslides affecting the site is considered low. There would be less than significant impacts related to secondary seismic hazards with implementation of the specific recommendations of the Geotechnical Investigation prepared for the Project.

b) Result in substantial soil erosion or the loss of topsoil?

Less Than Significant Impact. The largest source of erosion and topsoil loss is uncontrolled drainage during construction. As discussed in more detail in Section XI, Hydrology and Water

Quality, the National Pollutant Discharge Elimination System (NPDES) permit program controls water pollution by regulating point sources that discharge pollutants into "waters of the U.S." Construction activities shall be conducted in compliance with the statewide NPDES General Permit for Storm Water Discharges Associated with the Construction and Land Disturbance Activities (Order No 2012-0006-DWQ, NPDES No. CAS000002), adopted by the State Water Resources Control Board (SWRCB) on July 17, 2012. In compliance with the NPDES permit, erosion potential during construction of the proposed Project would be managed with Best Management Practices (BMPs) implemented on the Project site as part of a Storm Water Pollution Prevention Plan (SWPPP) during construction activities in accordance with NPDES requirements. Implementation of the BMPs would ensure that construction-related erosion impacts would be less than significant.

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?

Less Than Significant Impact. Potential impacts related to liquefaction and subsequent lateral spreading would be less than significant at the Project site as discussed previously in the Response to Question VI.a(iii).

The Geotechnical Investigation concludes that the proposed Project site is suitable for development from a geotechnical standpoint provided that the recommendations provided in the Geotechnical Investigation are incorporated into the Project. There would be less than significant impacts related to development on an unstable geologic unit or soil with implementation of the specific recommendations of the Geotechnical Investigation prepared for the Project.

d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?

Less Than Significant Impact. According to the Geotechnical Investigation, artificial fill was observed in borings at a depth between 1.0 to 15.0 feet bgs. Based on the exploratory borings and laboratory test results, the fill materials at the Project consist of a mixture of sand, silt, clay and gravel. Gravel up to 2.5 inches in largest dimension was observed in all borings. Based on hammer blow counts (16 to 39), coarse fill material (silty sand) ranged from medium dense to dense. Stiffness of these materials are expected to be medium stiff to stiff. Relative compaction of coarse fill material ranged from 83 to 85 percent and sandy silt to sandy clay are expected to be less than 90 percent. Numerous improvements have been constructed at the Rattlesnake Complex over the last 50 years consisting both above and below grade structures. It is therefore anticipated that this artificial fill was brought due to the construction of previous improvements. Any artificial fill, if encountered in the soil borings at different depths, was indistinguishable from native alluvial soils.

The alluvium soils at the Project site consists primarily of a mixture of sand, silt, clay and gravel. Gravel up to 1.0 inch in largest dimension was observed in the boring at depth between 15 and 20 feet bgs.

There would be less than significant impacts related to expansive soils with implementation of the specific recommendations of the Geotechnical Investigation prepared for the Project.

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?

No Impact. The proposed Project would not involve the use of septic tanks or alternative wastewater disposal systems. No impacts would occur and no mitigation is required.

f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Less than Significant With Mitigation. A significant impact could occur if grading or excavation activities associated with the Project were to disturb paleontological resources that presently exist within the Project site. There are no known paleontological resources within the Project site. Shallow excavations into younger Quaternary Alluvium, which is common in floodplains and would also constitute the upper layers of native soils, are unlikely to produce significant fossil vertebrate remains. Deeper excavations that extend into older Quaternary deposits may encounter significant vertebrate fossils; however, the Project does not include activities that would excavate soils to such depths (i.e., into older Quaternary deposits) that could reveal paleontological resources. These potential effects may be mitigated to a less than significant level with the implementation of **MM GEO-1**, which requires retention of a qualified Paleontologist to be available "on-call" throughout the duration of grading activities, would reduce potential impacts to less than significant levels.

MITIGATION PROGRAM

<u>Mitigation Measure</u>

MM GEO-1 Prior to the initiation of grading, IRWD shall retain a qualified Paleontologist to be available "on-call" throughout the duration of grading activities that exceed five feet in depth in previously undisturbed soils. In the event that prehistoric or historic subsurface cultural resources are discovered during ground-disturbing activities, all work within 50 feet of the resources will be halted and IRWD will consult with the qualified Paleontologist to assess the significance of the find according to Section 15064.5 of the California Environmental Quality Act (CEQA) Guidelines. If any find is determined to be significant, IRWD and the Paleontologist will meet to determine the appropriate avoidance measures or other appropriate mitigation. IRWD will make the final determination. All significant cultural materials recovered will be reviewed by the consulting Paleontologist and discussed with IRWD. IRWD and the consulting Paleontologist will discuss the subject to scientific analysis, professional museum curation, and documentation according to current professional standards and IRWD will make the final determination. The qualified Paleontologist shall be retained to review Project design plans and to consult with IRWD as to when and where monitoring is required during construction. Based on observations, monitoring may be reduced or discontinued if the qualified Paleontologist determines that the possibility of encountering fossiliferious deposits is low. The qualified Paleontologist will prepare a final monitoring report to be submitted to IRWD.

VIII. GREENHOUSE GASES

IMPACT ANALYSIS

Would the Project:

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Less Than Significant Impact. Climate change refers to any significant change in climate, such as the average temperature, precipitation, or wind patterns, over a period of time. Climate change may result from natural factors, natural processes, and/or human activities that change the composition of the atmosphere and alter the surface and features of the land. Significant changes in global climate patterns have been associated with global warming, which is an average increase in the temperature of the atmosphere near the Earth's surface; this is attributed to an accumulation of greenhouse gas (GHG) emissions in the atmosphere. GHGs trap heat in the atmosphere, which in turn increases the Earth's surface temperature. Some GHGs occur naturally and are emitted into the atmosphere through natural processes, while others are created and emitted solely through human activities. The majority of climate scientists attribute climate change to the increase in GHG emissions generated by human activities.

GHGs, as defined under California's Assembly Bill (AB) 32, include carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). General discussions on climate change often include water vapor, O_3, and aerosols in the GHG category. Water vapor and atmospheric O_3 are not gases that are formed directly in the construction or operation of development projects, nor can they be controlled in these projects. Aerosols are not gases. While these elements have a role in climate change, they are not considered by regulatory bodies, such as CARB, or climate change groups, such as The Climate Registry, as gases to be reported or analyzed for control. Therefore, no further discussion of water vapor, O_3, or aerosols is provided herein.

GHGs vary widely in the power of their climatic effects; therefore, climate scientists have established a unit called global warming potential (GWP). The GWP of a gas is a measure of both its potency and lifespan in the atmosphere as compared to CO_2. For example, since CH_4 and N_2O are approximately 21 and 310 times more powerful than CO_2, respectively, in their ability to trap heat in the atmosphere, they have GWPs of 21 and 310, respectively (CO_2 has a GWP of 1). Carbon dioxide equivalent (CO_2e) is a quantity that enables all GHG emissions to be considered as a group despite their varying GWP. The GWP of each GHG is multiplied by the emission rate of that gas to produce the CO_2e emissions.

On June 1, 2005, Governor Arnold Schwarzenegger signed Executive Order S-3-05, which proclaims that California is vulnerable to the impacts of climate change. It declares that increased temperatures could reduce snowpack in the Sierra Nevada Mountains; could further exacerbate California's air quality problems; and could potentially cause a rise in sea levels. In an effort to avoid or reduce the impacts of climate change, Executive Order S-3-05 calls for a reduction in GHG emissions to the year 2000 level by 2010, to year 1990 levels by 2020, and to 80 percent below 1990 levels by 2050.

AB 32, the California Global Warming Solutions Act of 2006 (*California Health and Safety Code* §38501), recognizes that California is the source of substantial amounts of GHG emissions. The statute states that:

> *Global warming poses a serious threat to the economic well-being, public health, natural resources, and the environment of California. The potential adverse impacts of global warming include the exacerbation of air quality problems, a reduction in the quality and supply of water to the state from the Sierra snowpack, a rise in sea levels resulting in the displacement of thousands of coastal businesses and residences, damage to marine ecosystems and the natural environment, and an increase in the incidences of infectious diseases, asthma, and other human health-related problems.*

In order to avert these consequences, AB 32 establishes a State goal of reducing GHG emissions to 1990 levels by the year 2020, which is a reduction of approximately 16 percent from forecasted emission levels, with further reductions to follow (CARB 2011). To help achieve this reduction, on November 17, 2008, Governor Arnold Schwarzenegger signed Executive Order S-14-08, raising California's renewable energy goals to 33 percent by 2020.

California Executive Order B-30-15 (April 29, 2015) set an "interim" statewide emission target to reduce GHG emissions to 40 percent below 1990 levels by 2030 and directed State agencies with jurisdiction over GHG emissions to implement measures pursuant to statutory authority to achieve this 2030 target and the 2050 target of 80 percent below 1990 levels.

On September 8, 2016, the Governor signed Senate Bill 32 (SB 32) to codify the GHG reduction goals of EO B-30-15, requiring the State to reduce GHG emissions by 40 percent below 1990 levels by 2030 (Health and Safety Code Section 38566). This goal is expected to keep the State on track to meeting the goal set by EO S-3-05 of reducing GHG emissions by 80 percent below 1990 levels by 2050 (California Legislative Information 2017a). SB 32's findings state that CARB will "achieve the state's more stringent greenhouse gas emission reductions in a manner that benefits the state's most disadvantaged communities and is transparent and accountable to the public and the Legislature."

Orange County has not formally adopted a quantitative GHG emissions significance criterion to date. Beginning in April 2008, the South Coast AQMD convened a Working Group to provide guidance to local lead agencies on determining significance for GHG emissions in their CEQA documents. On December 5, 2008, the South Coast AQMD Governing Board adopted its staff proposal for an interim CEQA GHG significance threshold of 10,000 metric tons of CO_2 equivalent per year ($MTCO_2e$/yr) for projects where the South Coast AQMD is the lead agency (South Coast AQMD 2008). In September 2010, the Working Group proposed that the 10,000 $MTCO_2e$/yr threshold be expanded to apply to industrial projects where South Coast AQMD is not the lead agency (South Coast AQMD 2010). The Working Group has not convened since the fall of 2010. As of July 2017, the proposal has not been considered or approved for use by the South Coast AQMD Board. However, this threshold is selected by IRWD as appropriate for the proposed Project.

<u>Proposed Project Greenhouse Gas Emissions</u>

Construction GHG emissions are generated by vehicle engine exhaust from construction equipment, on-road hauling trucks, vendor trips, and worker commuting trips. Construction GHG emissions were calculated concurrently with air quality criteria pollutant emissions by using CalEEMod Version 2016.3.2 and the Project information as described in Section III, Air Quality.

The results are output in $MTCO_2e$ for each year of construction. The estimated construction GHG emissions for the Project are shown in Table 13.

TABLE 13
ESTIMATED ANNUAL GREENHOUSE GAS EMISSIONS FROM CONSTRUCTION

Year	Emissions ($MTCO_2e$)
2020	108
2021	529
2022	181
Total	818
Annual Emissions*	**27**

$MTCO_2e$: metric tons of carbon dioxide equivalent
* Combined total amortized over 30 years
Source: CalEEMod data in Appendix A.

GHG emissions generated from construction activities are finite and occur for a relatively short-term period. Unlike the numerous opportunities available to reduce a project's long-term GHG emissions through design features, operational restrictions, use of green-building materials, and other methods, GHG emissions-reduction measures for construction equipment are relatively limited. Therefore, South Coast AQMD staff recommended that construction emissions be amortized over a 30-year project lifetime, so that GHG reduction measures will address construction GHG emissions as part of the operational GHG reduction strategies (South Coast AQMD 2008). As shown in Table 13, Estimated Annual Greenhouse Gas Emissions from Construction, the 30-year amortized construction emissions would be 27 $MTCO_2e$/yr.

Operational GHG emissions for the Project are estimated by including the electricity required to power the new pumps and facility; emergency generator testing, the electricity embodied in water consumption; and the energy associated with solid waste disposal. Estimated Project operational GHG emissions are shown in Table 14, Estimated Total Project Annual Greenhouse Gas Emissions. The Project would not require additional IRWD employees or generate regular vehicle trips. Water consumption and solid waste generation would be negligible with respect to the generation of GHGs.

TABLE 14
ESTIMATED TOTAL PROJECT ANNUAL GREENHOUSE GAS EMISSIONS

Source	Emissions ($MTCO_2e$/yr.[a])
Area	<1
Energy	1,451
Mobile	0
Stationary	7
Waste	1
Water	3
Total Operational Emissions	1,463
Construction Amortized	27[a]
Total Annual GHG emissions[b]	**1,490**
Project Threshold	**10,000**
Exceed Threshold?	**No**

$MTCO_2e$/yr.: metric tons of carbon dioxide equivalent per year.

[a] Total derived by dividing construction emissions (see Table 12) by 30.
[b] Total annual emissions are the sum of amortized construction emissions and operational emissions.

As shown in Table 14, the total annual GHG emissions would be less than the 10,000 $MTCO_2e$/yr threshold for industrial projects. There would be a less than significant impact and no mitigation measures are required.

b) Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

No Impact. As discussed above, the principal State plan and policy adopted for the purpose of reducing GHG emissions is the AB 32 Scoping Plan. The quantitative goal of AB 32 is to reduce GHG emissions to 1990 levels by 2020 and adapt to climate change. increasing the capacity for production of recycled water. Use of recycled water addresses the need for climate change adaptation by increasing the use of local water supplies. This is consistent with one of the water sector goals within the Scoping Plan which states, “Make conservation a California way of life by using and reusing water more efficiently through greater water conservation, drought tolerant landscaping, stormwater capture, water recycling, and reuse to help meet future water demands and adapt to climate change”. The Project would also result in less energy intensive water production due to local production of water as opposed to more energy intensive water that is transported from northern California. Similarly, the Project supports the GHG reduction goals of Executive Orders S-3-05 and B-30-15. Therefore, the Project does not conflict with these plans and regulations.

Implementation of the Project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions. There would be no impact.

IX. HAZARDS AND HAZARDOUS MATERIALS

IMPACT ANALYSIS

Would the Project:

a) **Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?**

b) **Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?**

Less than Significant Impact. Project construction activities would require the transport and use of standard construction equipment and materials, some of which may include a hazardous component such as transport and storage of fuels. These activities would be conducted in compliance with existing federal, State, and local regulations.

Daily Project operations would not involve the use or transport of hazardous materials. The Project site is located near several major transportation facilities and arterials, including Jamboree Road, Santiago Canyon Road/Chapman Avenue, State Route (SR) 241, and SR 261. These roadways may be used to transport hazardous materials; however, the proposed Project would neither increase the frequency of transport, nor would it introduce hazards that would increase the likelihood for accidental release of hazardous materials into the environment. Additionally, improvements to the Rattlesnake Complex would not require any new or additional chemical storage or transport beyond existing operational activities. As such, a less than significant impact related to the transport, use, or disposal of hazardous materials or the release of hazardous materials into the environment would occur.

c) **Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?**

Less Than Significant Impact. The nearest school to the proposed Project site is Northwood High School, located approximately 0.3 mile west of the Rattlesnake Complex. Additionally, there is a proposed elementary (K-8) school that would be located approximately 0.75 mile west of the Rattlesnake Complex. Temporary construction activities may require the use of materials listed as hazardous; however, these materials would be routine construction materials and would not be required in large quantities. Therefore, the potential impacts associated with the transport and use of hazardous materials during construction would be less than significant, and no mitigation is required.

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?**

No Impact. An EDR Radius Map™ with Geocheck® Report was prepared for the Project by Environmental Data Resources, Inc. (EDR 2019). Search parameters were based on a one-mile radius of the Project site and consisted of a search of federal, State, local, tribal, and other databases. The complete list of databases and additional information regarding the identified sites

can be found in Appendix D. According to the EDR Radius Maps, Rattlesnake Reservoir is listed within a cluster of 8 sites. The following site is listed within ¼-mile of the proposed Project:

> **Orchard Hills (49553 Portola Parkway, Irvine).** This is a cluster of three sites identified in the Small Quantity Generator and Aboveground Petroleum Storage databases. According to the EDR Report, no violations have been reported.

Of the hazardous materials sites identified, none pose a hazard to the proposed Project. Based on a search of hazardous materials sites compiled pursuant to Section 65962.5 of the *California Government Code,* no sites qualifying for the Cortese List, or subject to corrective action, are identified proximate to the Project site. No impacts related to known hazardous materials sites would occur and no mitigation is required.

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the Project area?

No Impact. The Project site is not located within an adopted Airport Land Use Plan or in the vicinity of a private airstrip, heliport, or helistop. The nearest airport is John Wayne Airport, located approximately seven miles southwest of the Rattlesnake Complex. The Project would be located outside the John Wayne Airport influence area and would not expose additional people to safety hazards related to airport operations. Implementation of the proposed Project would not impact the airport facilities or their operation; no mitigation would be required.

f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

No Impact. Construction of the proposed project is not anticipated to physically interfere with an adopted emergency response plan or evacuation plan because all construction activities and staging areas would be within the boundaries of IRWD's Rattlesnake Complex. Implementation of the proposed Project would provide additional recycled water services to IRWD's existing and future customers and would not alter traffic conditions or modify the local or regional circulation system. Additionally, should an emergency occur at the proposed Project site, the internal street systems would provide access to the outlying arterial roadway system. Therefore, no impacts related to the adopted emergency response or evacuation plans would occur and no mitigation is required.

g) Expose people or structure, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?

No Impact. According to the Fire and Resource Assessment Program *Very High Fire Hazard Severity Zones in LRA As Recommended by CAL FIRE* map for the City of Irvine, the project area is not located within or near the areas in the southeast portions of campus that are susceptible to wildfires, therefore, further analysis of the hazards related to wildfire is not warranted (CAL FIRE 2019).

X. HYDROLOGY AND WATER QUALITY

IMPACT ANALYSIS

Would the Project:

a) Violate any water quality standards or waste discharge requirements?

e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

Short-Term Construction-Related Water Quality Impacts

Less Than Significant Impact. Potential impacts of construction activities on water quality focus on sediments, turbidity, and pollutants associated with sediments. Construction-related activities that are primarily responsible for sediment releases are related to exposing soils to potential mobilization by rainfall, runoff, and wind. These activities include grading and other earth-disturbance activities. Non-sediment-related pollutants that are also of concern during construction include waste construction materials and chemicals, liquid products, and petroleum products used in building construction or the maintenance of heavy equipment. Construction impacts from implementation of the proposed Project would be minimized through compliance with the Construction General Permit. This permit requires the development and implementation of a SWPPP for the proposed Project site, which must include erosion- and sediment-control BMPs that meet or exceed measures required by the NPDES Construction General Permit, as well as BMPs that control the other potential construction-related pollutants. A SWPPP would be developed, as required by and in compliance with, the NPDES Construction General Permit. Erosion-control BMPs are designed to prevent erosion, whereas sediment controls are designed to trap sediment once it has been mobilized. The NPDES Construction General Permit requires the SWPPP to include BMPs to be selected and implemented based on the phase of construction and weather conditions.

The SWPPP would be designed and implemented to address site-specific conditions related to Project construction. The SWPPP would identify and describe the sources of sediment and other pollutants that may affect the quality of storm water discharges; it would also ensure the implementation and maintenance of BMPs to reduce or eliminate sediment, pollutants adhering to sediment, and other non-sediment pollutants in storm water and non-storm water discharges.

Compliance with the NPDES Construction General Permit and the preparation of a SWPPP would ensure that any impacts to downstream waters resulting from construction activities on the Project site would be less than significant. Erosion-control and treatment-control BMPs would be implemented per NPDES requirements.

In addition to the requirements of the NPDES General Construction Permit, all areas of exposed soils would be re-vegetated and/or watered to stabilize slopes and to reduce erosion as recommended in the Geotechnical Investigation and discussed in the Response to Question VI.b (Converse 2019).

Furthermore, the Project would comply with the General Waste Discharge Requirements issued by the Santa Ana Regional Water Quality Control Board (R8-2015-0004, NPDES No. CAG998001, General Waste Discharge Requirements for Discharges to Surface Waters that Pose an Insignificant [De Minimis] Threat to Water Quality) (RWQCB 2015), including provisions requiring notification, testing, and reporting of dewatering and testing-related discharges, which

would mitigate any impacts of such discharges. As such, the project would comply with applicable local, State, and federal regulations.

Long-Term Operational Water Quality Impacts

Less Than Significant Impact. The Project site currently contains several active and abandoned facilities, both above and below grade. The remaining portion of the site is covered with paved areas, trees and landscaping. Implementation of the proposed Project would expand existing recycled water infrastructure uses and would not introduce new uses to the site; as such, development of the Project would not introduce substantial amounts of urban pollutants to the storm water runoff beyond existing conditions. Therefore, impacts related to long-term operational water quality impacts would not represent a significant impact.

b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

No Impact. Implementation of the proposed Project would not substantially change the nature of the existing facilities, impacts related to groundwater supplies and groundwater recharge would not represent a significant impact. Additionally, implementation of the Project would make recycled water supplies available to a greater number of existing and future IRWD customers which would reduce demands for domestic water supplies, and thereby reduce the dependence on groundwater sources. Therefore, no impacts would occur and no mitigation is required.

c) Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would:

i) result in substantial erosion or siltation on- or off-site?

ii) substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner in which would result in flooding on- or off-site?

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?

Less Than Significant Impact. As discussed in Section 3.0, Project Description, the proposed Project would replace the existing aged pump station facilities and process and communications equipment with new facilities; no changes would be made to the Complex's property limits as part of this Project. Therefore, Project implementation would not alter the existing drainage pattern by substantially increasing the rate or amount of surface runoff or altering the course of a stream or river. Impacts would be less than significant and no mitigation is required.

d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?

No Impact. According to the *City of Irvine General Plan* (Figure J-3, Flood Hazard Areas), the proposed Project site is not located within the a 100-year flood hazard area, and the Project would not expose people or structures to flood hazard conditions. No impact would occur and no mitigation is required.

The Rattlesnake Reservoir and its associated earthfill dam is located approximately 0.13 mile east of the Rattlesnake Complex. The proposed Project would not introduce any new uses that would expose people or structures to hazards associated with the failure of this dam; therefore, no impacts would occur.

Given the proximity of the Rattlesnake Reservoir, it is possible that a seiche, or standing wave, resulting from failure of the reservoirs earthfill dam could impact the Project site. However, the likelihood of the seiche effects reaching the Project site is low due to intervening topography and physical distance. Furthermore, the Rattlesnake Complex is located within developed areas and would not be subject to mudflow. The proposed Project would not introduce any uses that would expose people or structures to hazards associated with a seiche or mudflows. Consequently, no impacts are anticipated and no mitigation is required.

XI. LAND USE AND PLANNING

IMPACT ANALYSIS

Would the Project:

a) Physically divide an established community?

No Impact. As discussed in Section 2.1, Project Location, the Rattlesnake Complex is located on the north side of Portola Parkway and is in the vicinity of residential development, which is located on the south side of Portola Parkway; however, implementation of the proposed Project would not divide an established community. The Rattlesnake Complex is an existing utility, and proposed improvements would be limited to the existing development footprint. No impact would occur and no mitigation is required.

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?

No Impact. The Rattlesnake Complex is currently zoned 6.1/Institutional with a land use designation Public Facilities. The Project does not propose to change the existing land use designation of the site, and, pursuant to Government Code Section 53091(e), the proposed Project would be exempt from city zoning ordinances because it involves the construction of facilities for the production, generation, storage, treatment, or transmission of water. Implementation of the proposed Project would not conflict with applicable plans, policies, and regulations. Therefore, no impacts would occur and no mitigation is required.

XII. MINERAL RESOURCES

IMPACT ANALYSIS

Would the Project:

a) **Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?**

b) **Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?**

No Impact. The Rattlesnake Complex is designated as MRZ-3, defined as areas containing mineral deposits the significance of which cannot be evaluated from available date (Irvine 2012). The site is not designated MRZ-2, which indicates the presence of significant mineral resources. Additionally, the Rattlesnake Complex is an existing utility, and proposed improvements would be limited to the existing development footprint. No impacts to mineral resources would occur and no mitigation is required.

XIII. NOISE

NOISE DESCRIPTORS

Several rating scales (or noise "metrics") exist to analyze the effects of noise on a community. These scales include the equivalent noise level (L_{eq}) and the community noise equivalent level (CNEL). Average noise levels over a period of minutes or hours are usually expressed as A-weighted decibels (dBA) L_{eq}, which is the equivalent noise level for that period of time. The period of time averaging may be specified; $L_{eq(3)}$ would be a 3-hour average. When no period is specified, a one-hour average is assumed. Noise of short duration (i.e., substantially less than the averaging period) is averaged into ambient noise during the period of interest. Thus, a loud noise lasting many seconds or a few minutes may have minimal effect on the measured sound level averaged over a one-hour period.

To evaluate community noise impacts, CNEL was developed to account for human sensitivity to evening and night-time noise. CNEL separates a 24-hour day into three periods: daytime (7:00 AM to 7:00 PM), evening (7:00 PM to 10:00 PM), and nighttime (10:00 PM to 7:00 AM). The evening sound levels are assigned a 5 dBA penalty, and the night-time sound levels are assigned a 10 dBA penalty prior to averaging them with daytime hourly sound levels.

Several statistical descriptors are also often used to describe noise, including L_{max} and L_{min}. L_{max} and L_{min} are the highest and lowest A-weighted sound levels that occur during a noise event, respectively.

Regulatory Background

For the evaluation of potential noise impacts, IRWD complies with the City of Irvine Noise Ordinances.

City of Irvine Municipal Code

The City of Irvine Municipal Code (CIMC) (Title 6, Division 8, Chapter 2) contains the City of Irvine Noise Ordinance. The Noise Ordinance is designed to control unnecessary, excessive, and annoying sounds from sources on private property by setting limits that cannot be exceeded at

adjacent properties. Noise Ordinance requirements cannot be applied to mobile noise sources (e.g., heavy trucks traveling on public roadways, trains, or aircraft). Control of noise generated by these transportation sources is preempted by federal and State laws, and is therefore not subject to the provisions of the Noise Ordinance. However, the Noise Ordinance does apply to vehicles while they are on private property. All activities within the City are subject to the Noise Ordinance unless specifically exempted. All new development must implement measures to ensure that activities at the new development do not violate the Noise Ordinance.

The Noise Ordinance specifies that noise generated on a site cannot exceed defined noise levels at adjacent properties for a specified period of time as shown in Table 15, City of Irvine Noise Ordinance Standards for Zones 1 Through 4. Both interior and exterior noise level limits are specified by noise zones. The applicable noise zone is based on the land use being exposed to the noise. The residential units west of Portola Parkway are in Zone 1. There are also residential uses located to the northeast of the Project site approximately 650 feet away. The Orange County Fire Authority Station 55 is located adjacent to the Project site to the south and the Irvine Ranch Conservancy is located adjacent to the Project site to the north.

TABLE 15
CITY OF IRVINE NOISE ORDINANCE STANDARDS FOR ZONES 1 THROUGH 4

Noise Levels for a Period Not Exceeding (minutes/hour)							
			Minutes				
			30	15	5	1	0 (anytime)
Noise Zone[a]		Time Period	Noise Level – dBA				
1	Exterior	7:00 AM–10:00 PM	55	60	65[b]	70	75
		10:00 PM–7:00 AM	50	55	60	65[b]	70
	Interior	7:00 AM–10:00 PM	–	–	55	60	65
		10:00 PM–7:00 AM	–	–	45	50	55
2	Exterior	Any time	55	60	65	70	75
	Interior	Any time	–	–	55	60	65
3	Exterior	Any time	60	65	70	75	80
	Interior	Any time	--	--	55	60	65
4	Exterior	Any time	70	75	80	85	90
	Interior	Any time	--	--	55	60	65

dBA: A-weighted decibel(s)

[a] Noise zone 1: All hospitals, libraries, churches, schools and residential properties.
Noise zone 2: All professional office and public institutional properties.
Noise zone 3: All commercial properties excluding professional office properties.
Noise zone 4: All industrial properties.

[b] This standard does not apply to multi-family residence private balconies. Multi-family developments with balconies that do not meet the 65 CNEL are required to provide occupancy disclosure notices to all future tenants regarding potential noise impacts.

Source: City of Irvine 2015.

CIMC Section 6-8-205, Special Provisions, limits construction activities to between the hours of 7:00 AM and 7:00 PM Mondays through Fridays, and 9:00 AM and 6:00 PM on Saturdays, with no construction activities permitted outside of the hours listed above or on Sundays or federal holidays unless a temporary waiver is granted by the Chief Building Official or his or her authorized representative. Any waiver granted shall take impact upon the community into consideration.

Noise-Sensitive Receptors and Existing Conditions at the Project Site

Noise-sensitive land uses typically include residences, hospitals, convalescent and day care facilities, schools, and libraries, which could all be adversely affected by an increase in noise levels. The project site is located within the existing IRWD Rattlesnake Reservoir Complex. The nearest noise sensitive receptors (residential uses) are located to the west of the site across Portola Parkway approximately 260 feet away.

IMPACT ANALYSIS

a) Would the project result in 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?

Less than Significant Impact. Construction and operational noise associated with the Project would result in impacts that are less than significant, as described below.

Construction Noise

Project construction activities would generally not occur between 7:00 PM and 7:00 AM on weekdays or before 9:00 AM or after 6:00 PM Saturdays, or at any time on Sundays or federal holidays, consistent with the CIMC Section 6-8-205, as discussed above. However, due to operational constraints and to reduce impacts to customers, night work may be required for pipeline installation or similar activities, which would occur within the Project site. Should night work be required for this Project, IRWD would coordinate directly with the City of Irvine. Noise would be generated by construction equipment at the Project site. Construction activities may require use of a variety of equipment including, but not limited to excavators, dump trucks, and cranes. No pile driving or blasting is anticipated.

Local residents located to the west of the Project site would be subject to temporary elevated noise levels due to Project-related construction equipment. Construction activities are carried out in discrete steps, each of which has its own mix of equipment and, consequently, its own noise characteristics. These various sequential phases would change the character of the noise levels surrounding the construction site as work progresses. Construction noise levels reported in the U.S. Environmental Protection Agency's (USEPA's) Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances were used to estimate future construction noise levels for the Project (USEPA 1971). Typically, the estimated construction noise levels are governed primarily by equipment that produces the highest noise levels. Construction noise levels for each generalized construction phase (ground clearing/demolition, excavation, foundation construction, building construction, paving, and site cleanup) are based on a typical construction equipment mix for an industrial Project and do not include use of atypical, very loud, and vibration-intensive equipment (e.g., pile drivers).

The degree to which noise-sensitive receptors are affected by construction activities depends heavily on their proximity. Estimated noise levels attributable to the development of the proposed Project are shown in Table 16, and calculations are included in Appendix E, Noise Calculations. Table 16 shows both noise levels from construction equipment at the nearest use in each cardinal direction from the Project site. Noise levels from general Project-related construction activities would range from 61 to 83 dBA L_{eq}. Noise level reductions from existing intervening buildings were not included.

TABLE 16
CONSTRUCTION NOISE LEVELS AT NOISE-SENSITIVE USES

Construction Phase	Noise Levels (L_{eq} dBA)		
	Residential Use to the West of the Project Site (340 feet)	OCFA Fire Station to the South of the Project Site (175 feet)	Irvine Ranch Conservancy to the North of the Project Site (100 feet)
Ground Clearing/Demolition	67	73	78
Excavation	72	78	83
Foundation Construction	61	67	72
Building Construction	70	76	81
Paving and Site Cleanup	72	78	83

L_{eq} dBA: Average noise energy level;
Note: Noise levels from construction activities do not take into account attenuation provided by intervening structures.
Source: USEPA 1971.

Demolition debris and excavated soils from the Project site will be removed by truck. During the demolition and grading phase, it is estimated that 312 one-way truck trips would occur over 420 work days. Noise impacts related to Project related truck trips would be less than significant due to the relatively small number of average daily truck trips occurring during the construction period and because construction traffic would be limited to the least noise sensitive hours of the day.

Noise from construction activities on-site would be intermittently audible above the existing ambient noise environment. Because construction noise would occur during the least noise-sensitive portions of the day, as per CIMC Section 6-8-205, and would occur for a relatively short duration, noise associated with Project-related construction would result in less than significant impacts and no mitigation is required.

Operational Noise

The proposed Project elements may have the potential to generate noise from pumps, standby generator, and other machinery. The noise sources would be enclosed in masonry buildings that substantially attenuate noise. Noise associated with the existing and proposed machinery are required to comply with the noise limits established under CIMC Section 6-8-203. The Project would also not require additional IRWD employees, nor would it generate regular vehicle trips. IRWD staff would periodically visit the Rattlesnake Complex for routine inspection and maintenance activities similar to current operations. As such, there would be no increase in traffic related noise associated with the Project. Further, proposed demolition of the Northwood Pump Station would eliminate an existing noise source and reduce the ambient noise levels in the Project area. Because machinery that have the potential for noise generation are required to limit noise levels to levels below the City's limits, noise associated with the Project would result in less than significant noise impacts and no mitigation is required.

b) Expose persons to or generation of excessive ground borne vibration or ground borne noise levels?

Less than Significant Impact. The proposed Project would not generate or expose persons or structures to excessive groundborne vibration from the construction. There are no applicable City standards for vibration-induced annoyance or structural damage from vibration. Caltrans vibration damage potential guideline thresholds are shown in Table 17. These thresholds represent the

vibration limits for structural damage to uses proximate to the Project site from continuous sources of vibration.

TABLE 17
VIBRATION RELATED BUILDING DAMAGE THRESHOLDS

Building Class	Continuous Source PPV (in/sec)	Single-Event Source PPV (in/sec)
Class I: buildings in steel or reinforced concrete, such as factories, retaining walls, bridges, steel towers, open channels, underground chambers and tunnels with and without concrete alignment	0.5	1.2
Class II: buildings with foundation walls and floors in concrete, walls in concrete or masonry, stone masonry retaining walls, underground chambers and tunnels with masonry alignments, conduits in loose material	0.3	0.7
Blass III: buildings as mentioned above but with wooden ceilings and walls in masonry	0.2	0.5
Class IV: construction very sensitive to vibrations; objects of historic interest	0.12	0.3
Source: Caltrans 2013.		

The Caltrans vibration annoyance potential guideline thresholds are shown in Table 18. Based on the guidance in Table 18, the “strongly perceptible” vibration level of 0.9 ppv in/sec is considered as a threshold for a potentially significant vibration impact for human annoyance.

TABLE 18
VIBRATION ANNOYANCE CRITERIA

Average Human Response	ppv (in/sec)
Severe	2.0
Strongly perceptible	0.9
Distinctly perceptible	0.24
Barely perceptible	0.035
ppv: peak particle velocity; in/sec: inch(es) per second Source: Caltrans 2013.	

Pile driving and blasting are generally the sources of the most severe vibration during construction. Neither pile driving nor blasting would be used during Project construction. Conventional construction equipment would be used for demolition and grading activities. Table 19 summarizes typical vibration levels measured during construction activities for various vibration-inducing pieces of equipment.

TABLE 19
VIBRATION LEVELS FOR CONSTRUCTION EQUIPMENT

Equipment		ppv at 25 ft (in/sec)
Pile driver (impact)	upper range	1.518
	typical	0.644
Pile driver (sonic)	upper range	0.734
	typical	0.170
Vibratory roller		0.210
Large bulldozer		0.089
Caisson drilling		0.089
Loaded trucks		0.076
Jackhammer		0.035
Small bulldozer		0.003

ppv: peak particle velocity; ft: feet; in/sec: inches per second.

Source: Caltrans 2013; FTA 2006.

Table 20, Vibration Annoyance Criteria at Sensitive Uses, shows the vibration annoyance criteria from construction-generated vibration activities proposed at the Project site. Table 20 shows the ppv generated by Project-related construction activities at the nearest uses proximate to the Project site. As shown in Table 20, ppv would not exceed the criteria threshold when construction activities occur under maximum (i.e., closest to the receptor) exposure conditions. Because vibration levels would be below the significance thresholds, vibration generated by the Project's construction equipment would not be expected to generate strongly perceptible levels of vibration at the nearest uses and would result in less than significant vibration impacts related to vibration annoyance.

TABLE 20
VIBRATION ANNOYANCE CRITERIA AT SENSITIVE USES

Equipment	Vibration Levels (ppv)		
	Residential Uses West of the Project Site (340 feet)	OCFA Fire Station South of the Project Site (175 feet)	Irvine Ranch Conservancy North of the Project Site (100 feet)
Vibratory roller	0.004	0.011	0.026
Large bulldozer	0.002	0.005	0.011
Small bulldozer	0.000	0.000	0.000
Jackhammer	0.001	0.002	0.004
Loaded trucks	0.002	0.004	0.010
Criteria*	**0.900**	**0.900**	**0.900**
Exceeds Criteria?	**No**	**No**	**No**

ppv: peak particle velocity; Max: maximum; avg: average; ft: feet

*Criteria derived from "Strongly Perceptible" vibration annoyance criteria, as shown in Table 16.

Source: USEPA 1971 (Calculations can be found in Attachment B).

Table 21, Structural Damage Criteria at Sensitive Uses, shows the peak particle velocity levels (ppv) relative to building damage to nearby uses from the Project's construction activities.

TABLE 21
BUILDING DAMANGE CRITERIA AT SENSITIVE USES

Equipment	Vibration Levels (ppv)		
	Residential Use to the West of the Project Site (340 feet)	**OCFA Fire Station to the South of the Project Site (175 feet)**	**Irvine Ranch Conservancy to the North of the Project Site (100 feet)**
Vibratory roller	0.004	0.011	0.026
Large bulldozer	0.002	0.005	0.011
Small bulldozer	0.000	0.000	0.000
Jackhammer	0.001	0.002	0.004
Loaded trucks	0.002	0.004	0.010
Criteria*	**0.200**	**0.200**	**0.200**
Exceeds Criteria?	**No**	**No**	**No**

ppv: peak particle velocity; Max: maximum; avg: average; ft: feet
*Criteria derived from "Severe" vibration annoyance criteria.
Source: USEPA 1971 (Calculations can be found in Attachment B).

As shown in Table 21, all ppv levels would be below the building damage threshold at adjacent offsite structures. As such, impacts related to the potential for cosmetic building damage would be less than significant and no mitigation is required.

c) For a project located within an airport land use plan or, where such plan has not been adopted, within two miles of a private or public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

No Impact. The Project is not located within an Airport Land Use Plan area or in the vicinity of a private airstrip or heliport, and it would not expose people to excessive noise levels associated with airport operations or aircraft travel. The closest airport to the Project site is John Wayne Airport, located more than seven miles southwest of the existing Rattlesnake Complex. No impacts would result, and no mitigation is required.

XIV. POPULATION AND HOUSING

IMPACT ANALYSIS

Would the Project:

a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

No Impact. As discussed in Section 3.0, Project Description, the proposed Project would replace the existing aged pump station facilities and process and communications equipment with new

facilities. Implementation of the Project would not increase employment and population in the area and, because the Project is intended to serve existing IRWD customers or new customers within established or planned areas of the City of Irvine. The Project would not extend recycled water service into an area that is not currently developed or approved for future development; therefore, the Project would not result in either direct or indirect population growth. Additionally, as described in Section XI, Land Use and Planning, the Project would not displace existing housing or population, resulting in construction of replacement housing elsewhere. Therefore, no impacts would occur and no mitigation is required.

XV. PUBLIC SERVICES

IMPACT ANALYSIS

a) **Would the Project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services: fire protection, police protection, schools, parks, and other public facilities?**

No Impact. Due to the nature of the proposed Project, no new demand for public services such as fire protection, police protection, schools, parks, libraries, or other public facilities would occur. Any increase in maintenance of the proposed facilities would be the responsibility of the IRWD. No impact would occur, and no mitigation is required.

XVI. RECREATION

IMPACT ANALYSIS

Would the Project:

a) **Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?**

b) **Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?**

No Impact. The proposed Project would replace the existing aged pump station facilities and equipment with new facilities. As mentioned previously, the Project is not anticipated to induce population growth; therefore, it would not directly or indirectly impact any local recreational facilities through increase of use. Physical impacts to the adjacent, private IRWD-owned park would be limited to minor trenching through an existing turf area. All impacted areas would be returned to existing conditions following construction activities. No impacts related to demand or use of recreational facilities would occur and no mitigation is required.

XVII. TRANSPORTATION

IMPACT ANALYSIS

Would the Project:

a) Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

Less Than Significant Impact. Implementation of the proposed Project is expected to generate short-term traffic impacts generated during the construction period. Vehicle trips would be generated by trucks hauling materials and supplies to the site and workers commuting to and from the Project site. As discussed previously in Section XIII, Noise, it is anticipated that on average 312 one-way truck trips would occur over 420 construction days. It is anticipated that these trips would occur throughout the day and would not be concentrated during traffic peak hours. Therefore, short-term construction-related impacts would be less than significant.

Under existing conditions, a small number of vehicle trips are associated with routine inspection and maintenance at the existing Rattlesnake Complex. It is anticipated that routine inspection and maintenance trips would continue and no new operational trips would occur with implementation of the proposed Project. Therefore, because there would be no increase in daily trips associated with daily operation of the Project components, no Project-related traffic impacts are anticipated.

The proposed Project would not result in any long-term trip generation or associated traffic impacts, as the proposed Project involves replacement of the existing aged pump station and equipment. Additionally, the proposed Project does not involve any activities that would conflict with non-vehicular modes of transportation. Impacts would be less than significant, and no mitigation is required.

b) Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?

No Impact. The nearest intersection to the proposed Project that has been designated by the Orange County Transportation Authority as a Congestion Management Program intersection is Irvine Boulevard and Culver Drive. This intersection is approximately 1.5 miles southwest of the Rattlesnake Complex. Due to the nominal amount of traffic generated by the proposed Project and its distance from the designated intersection, no impact would occur at the intersection and no mitigation is required.

c) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g. farm equipment)?

No Impact. The Project does not propose any modifications to the existing circulation system in the Project's vicinity. Further, traffic patterns and the types of vehicles traveling along the roads near the Rattlesnake Complex would not be affected. Therefore, no impact would occur related to hazards due to a design feature or incompatible uses. No impact would occur and no mitigation is required.

d) Result in inadequate emergency access?

Less Than Significant Impact. The proposed Project would involve replacement of the existing aged pump station facilities and process and communications equipment with new facilities. During construction, existing access routes would be maintained at the Project site. Furthermore,

emergency access routes are already in place at the Project site, and proposed Project actions would not alter access. Therefore, no impact to local or regional emergency access routes would occur and no mitigation is required.

XVIII. TRIBAL CULTURAL RESOURCES

Section V of this IS/MND provides an evaluation of cultural resources and human remains. As noted in that section, a cultural resource record search and literature review was conducted at the California Historical Resources Information System (CHRIS), which maintains records and literature regarding cultural resources within California. The South Central Coastal Informational Center (SCCIC) is a designated branch of the CHRIS and houses records recorded in San Bernardino, Los Angeles, Orange, and Ventura Counties. The CHRIS office for Orange County is located at the SCCIC at California State University, Fullerton. The literature review at the SCCIC revealed that 23 cultural resources studies have been undertaken within ½-mile of Project site, six of these studies included a portion of the Project area. No known archaeological resources, including prehistoric archaeological sites, are located on the within the Project area; however, three prehistoric archaeological sites and one historic-era archaeological site are located within a ½-mile of the project area. Additionally, the the NAHC conducted a SLF search for the project. The search results for the SLF are negative. Nevertheless, consistent with requirements of AB 52, the IRWD has sent letters to tribes that have expressed an interest in being consulted regarding Native American resources for the projects being undertaken by IRWD.

Letters were sent to interested tribal organizations on July 15, 2019. On July 23, 2019. The Gabrieleño Band of Mission Indians – Kizh Nation requested consultation with IRWD regarding the Project. Based on coordination to date, IRWD has reached out to the Gabrieleño Band of Mission Indians – Kizh Nation on multiple occasions and offered several dates for consultation; however, the Gabrieleño Band of Mission Indians – Kizh Nation has been unable to confirm a date within a reasonable timeframe despite a good-faith-effort on the part of IRWD. Therefore, IRWD concluded consultation

IMPACT ANALYSIS

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:

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).

No Impact. The Project does not propose any modifications to the existing circulation system in the Project's For purposes of impact analysis, a tribal cultural resource is considered a site, feature, place, cultural landscape, sacred place, or object which is of cultural value to a California Native American Tribe and is either eligible for the CRHR or a local register. As indicated in Section V of this IS/MND, based on a SCCIC record search and NAHC Sacred Lands File database search, the results indicate there are no resources on the Project site that are currently listed on the CRHR. Therefore, the proposed Project would not have an impact on tribal cultural resources associated with an impact to a resource that is listed or eligible for listing on the CRHR or a local register.

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.

Less Than Significant With Mitigation. The second component of this threshold is if the proposed Project would impact a tribal cultural 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, the lead agency shall consider the significance of the resource to a Native American tribe. Subdivision (c) states:

> A resource may be listed as an historical resource in the California Register if it meets any of the following CRHR criteria:
>
> (1) Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.
>
> (2) Is associated with the lives of persons important in our past.
>
> (3) Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values.
>
> (4) Has yielded, or may be likely to yield, information important in prehistory or history.

Based on information available through the record searches at the SCCIC and the NAHC, and the long-term past use of the Project area, there is no information available that indicates there are significant tribal resources within the Project area that would be significant pursuant to criteria set forth in subdivision (c) of Public Resource Code Section 5024.1. However, as noted in Section above, IRWD requested consultation with tribes that notified IRWD of a desire to be consulted with regarding the Project.

IRWD received one response. Mr. Salas (the Tribal Chair), for the Gabrieliño Band of Mission Indians – Kizh Nation, responded on July 23, 2019. Consultation between the Gabrieliño Band of Mission Indians – Kizh Nation and IRWD was initially scheduled on August 8, 2019; however, the representative from the Gabrieliño Band of Mission Indians – Kizh Nation failed to attend the consultation meeting. Several other dates were provided by IRWD to the Gabrieliño Band of Mission Indians – Kizh Nation with no results. Therefore, IRWD has concluded consultation.

Nevertheless, although no archaeological resources important to Native Americans have been identified within the Project area as a result of the SCCIC record search, NAHC SLF search, and attempts at consultation, there is always the possibility that undiscovered intact cultural resources, including tribal cultural resources may be present below the surface in native sediments. Implementation of **MM TCR-1** would reduce potential impacts related to tribal cultural resources to less than significant.

MITIGATION PROGRAM

Mitigation Measure

MM TCR-1 Prior to the commencement of earthwork activities, IRWD shall provide written notification to the Native American representatives from the Gabrieleno Band of Mission Indians - Kizh Nation indicating the date and time of the commencement of earthwork activities. The representatives from the Gabrieleno Band of Mission Indians - Kizh Nation ("tribal representative") shall be provided reasonable access to the Project site in a manner that does not interfere with the earthwork activities. Tribal representatives, at their own expense, and in a manner that does not interfere with earthwork activities, shall be allowed to monitor subsurface ground-disturbing construction activities to the depth of 20 feet below the undisturbed ground surface. If any cultural resources are identified during the monitoring and evidence is presented that the discovery proves to be potentially significant under CEQA, as determined by IRWD's consulting Project Archaeologist, the tribal representative and the Project Archaeologist will determine the appropriate actions for explorations and/or recovery.

XIX. UTILITIES AND SERVICE SYSTEMS

IMPACT ANALYSIS

Would the Project:

a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?

Less than Significant Impact. The proposed Project is a utility project that involves the replacement of aging infrastructure to meet current capacity demand and future production associated the MWRP. As detailed in Section 3.0, Project Description, the project would include installation of new pipelines, new electrical service, and replacement and/or upgrades to the existing communications equipment. The Project would not require any further relocation or construction of new or expanded facilities beyond what is currently proposed and analyzed as part of this IS/MND.

b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?

No Impact. The proposed Project involves replacement of the existing RRPS2 with the new ZARRPS at the Rattlesnake Reservoir Complex and would not result in additional demand for water supply. Instead, the Project would improve the reliability of IRWD's recycled water supply through improvements to the distribution system. No additional impacts related to water-related facilities are anticipated and no mitigation is required.

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?

No Impact. As noted previously in the responses to Questions XIX.a and XIX.e, the proposed Project would replace the existing aged pump station facilities and process and communications

equipment with new facilities, and would not generate significant quantities of wastewater. No impacts would occur related to capacity of wastewater infrastructure or wastewater treatment facilities.

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?

Less Than Significant Impact. Solid waste generated from the Project site would most likely be disposed of at the Frank R. Bowerman Landfill, which is part of the Orange County landfill system operated by OC Waste & Recycling. The landfill is permitted to receive a maximum of 11,500 tons per day (tpd) maximum with an 8,500 TPD annual average. The Frank R. Bowerman Landfill is approximately 725 acres with 530 acres allocated for waste disposal. The landfill opened in 1990 and is scheduled to close in approximately 2075 (OC Waste & Recycling 2019; Arnau 2019). The increase in solid waste disposal resulting from implementation of the Project could be accommodated within the permitted capacity of the County's overall landfill system, which includes the Frank R. Bowerman Landfill (Arnau 2019). A less than significant impact related to landfill capacity would occur from implementation of the proposed Project and no mitigation is required.

e) Comply with federal, State, and local statutes and regulations related to solid waste?

No Impact. Solid waste practices in California are governed by multiple federal, State, and local agencies that enforce legislation and regulations to ensure landfill operations minimize impacts to public health and safety and the environment. OC Waste & Recycling is obligated to obtain a Solid Waste Facilities Permit, a Storm Water Discharge Permit, and a permit to construct and operate gas management systems and to meet Waste Discharge Requirements. The Local Enforcement Agency (SCAQMD) and the SWRCB enforce landfill regulations related to health, air quality, and water quality, respectively. The proposed Project would not inhibit OC Waste & Recycling's compliance with the requirements of each of these governing bodies. No impact would occur and no mitigation is required.

XX. WILDFIRE

IMPACT ANALYSIS

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

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?

No Impact. According to the Fire and Resource Assessment Program *Very High Fire Hazard Severity Zones in LRA As Recommended by CAL FIRE* map for the City of Irvine, the project area is not located within or near the areas in the southeast portions of campus that are susceptible to wildfires, therefore, further analysis of the hazards related to wildfire is not warranted (CAL FIRE 2019).

XXI. MANDATORY FINDINGS OF SIGNIFICANCE

IMPACT ANALYSIS

Does the Project:

a) Have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?

Less Than Significant With Mitigation. As described throughout the analysis in Section 5.0, with the incorporation of the identified mitigation measures, implementation of the proposed Project would not degrade the quality of the environment; would not substantially reduce the habitats of fish or wildlife species; would not cause a fish or wildlife population to drop below self-sustaining levels; would not threaten to eliminate a plant or animal; and would not eliminate important examples of major periods of California history or prehistory. With respect to the quality of the environment, the Project would not preclude the ability to achieve long-term environmental goals.

b) Have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental efforts of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probably future projects)?

Less Than Significant Impact. While the Project may have the potential to impact the environment on a project-specific basis, these impacts would be limited in nature, as detailed throughout Section 5.0 of this IS/MND and would not contribute to a cumulative impact.

c) Have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

Less Than Significant With Mitigation. Based on the analysis of the above-listed topics, the proposed Project could have the potential to impact human beings, either directly or indirectly; however, the implementation of the mitigation measures described throughout this document would reduce all potential impacts to less than significant levels.

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SECTION 7.0 REFERENCES

Arnau, J. 2019 (June 25). Personal Communication Email Between J. Arnau (OC Waste and Recycling) and M.Larum.

Brown and Caldwell. 2019 (May 17). *Preliminary Design Report Zone A to Rattlesnake Reservoir Pump Station*. Irvine, CA.

———. 2019b. *Technical Memorandum No. 1: Filtration Options Evaluations.* Irvine, CA.

———. 2019c. *Technical Memorandum No. 2: Filtration Alternatives and Recommendations.* Irvine, CA.

California Air Pollution Control Officers Association (CAPCOA). 2017. California Emission Estimator Model (CalEEMod)TM Version 2016.3.2, Developed by Trinity Consultants in Collaboration with South Coast AQMD and other California Air Districts. Sacramento, CA: CAPCOA.

California Air Resources Board (CARB). 2019 (July 23, last accessed). iADAM—Top 4 Summary. Sacramento, CA: CARB. https://www.arb.ca.gov/adam/topfour/topfourdisplay.php.

———.2019b. Emission Factor Model (EMFAC 2014). Web database: https://www.arb.ca.gov/emfac/2014/

———.2019c. (February) Off-Road 2017 Orion Database. https://www.arb.ca.gov/msei/ordiesel.htm

———. 2017 (November, last updated). Area Designations Maps / State and National. Sacramento, CA: CARB. https://ww3.arb.ca.gov/desig/adm/adm.htm.

———. 2016 (May 4) Ambient Air Quality Standards. Sacramento, CA: CARB. https://ww3.arb.ca.gov/research/aaqs/aaqs2.pdf.

———. 2011 (August 19). Final Supplement to the AB 32 Scoping Plan Functional Equivalent Document. Sacramento, CA: CARB. http://www.arb.ca.gov/cc/scopingplan/document/final_supplement_to_sp_fed.pdf.

California Building Standards Commission (CBSC). 2016 (February, access date). Welcome to the California Building Standards Commission. Sacramento, CA: CBSC. http://www.bsc.ca.gov/.

California Department of Transportation. 2013 (September) Transportation and Construction Vibration Guidance Manual. Sacramento, CA: Caltrans. http://www.dot.ca.gov/hq/env/noise/pub/TCVGM_ Sep13_FINAL.pdf.

———. 2011 (September 7). California Scenic Highway Mapping System. http://www.dot.ca.gov/hq/LandArch/16_livability/scenic_highways/index.htm.

California Energy Commission. 2018 (March) 2019 Energy Efficiency Building Standards. https://www.energy.ca.gov/title24/2019standards/documents/2018_Title_24_2019_Building_Standards_FAQ.pdf

———. 2016 (March) 2016 Energy Efficiency Building Standards. https://ww2.energy.ca.gov/title24/2016standards/rulemaking/documents/2016_Building_Energy_Efficiency_Standards_FAQ.pdf

California Office of the State Fire Marshal (CAL FIRE). 2019 (August 4, last viewed). *Very High Fire Hazard Severity Zones in LRP As Recommended by CAL FIRE*. https://osfm.fire.ca.gov/media/5884/c30_irvine_vhfhsz.pdf

California Regional Water Quality Control Board Santa-Ana Region (RWQCB). 2015 (June 19). *Issuance of Updated General Waste Discharge Requirements for Discharges to Surface Waters that Pose an Insignificant [De Minimis] Threat to Water Quality – Order No. RS-2015-0004, NPDES No. CAG998001*. Riverside, CA: RWQCB.

Converse Consultants. 2019 (May). *Geotechnical Investigation Report, Irvine Ranch Water District (IRWD), Zone A to Rattlesnake Reservoir Pump Station, 4769 Portola Parkway, City of Irvine, Orange County, California, Converse Project No. 18-32-144-01* (Geotechnical Investigation)

Environmental Data Resources, Inc. (EDR). 2019 (June 19). *The EDR Radius Map™ Report with GeoCheck®*: *Rattlesnake Reservoir, 4769 Portola Parkway, Irvine, California 92620* (Inquiry Number 5688367.2s). Shelton, CT: EDR.

Irvine, City of. 2015. *Municipal Code, City of Irvine, California.* Tallahassee, FL: Municipal Code Corporation for the City.

———. 2013 (December). *City of Irvine: Zoning Map.* http://legacy.cityofirvine.org/civica/filebank/blobdload.asp?BlobID=13672

———. 2012 (June). *City of Irvine General Plan*. http://www.cityofirvine.org/civica/filebank/blobdload.asp?BlobID=20686.

———. 2012 (May). *City of Irvine CEQA Manual, Volume 2: Technical Guidelines*. http://legacy.cityofirvine.org/civica/filebank/blobdload.asp?BlobID=21575.

———. 2008 (July). *City of Irvine Energy Plan* https://alfresco.cityofirvine.org/alfresco/guestDownload/direct?path=/Company%20Home/Shared/CS/Environmental%20Programs/Environmental%20Policies/Irvine_Energy_Plan.pdf

OC Waste & Recycling. 2019 (June 25, access date). Frank R. Bowerman Landfill. Santa Ana, CA: http://www.oclandfills.com/landfill/active/bowerman.

South Coast Air Quality Management District (South Coast AQMD). 2019 (March). South Coast AQMD Air Quality Significance Thresholds. Diamond Bar, CA: South Coast AQMD. http://www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf.

———. 2010 (September 28). Greenhouse Gas CEQA Significance Threshold Stakeholder Working Group #15 (slide presentation). Diamond Bar, CA. South Coast AQMD. http://www.aqmd.gov/ceqa/handbook/GHG/2010/ sept28mtg/ghgmtg15-web.pdf.

———. 2009. (October 29, revised). Table C-1: 2006-2008 Thresholds for Construction and Operation with Gradual Conversion of NOx to NO_2. Diamond Bar, CA: South Coast

AQMD. http://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/appendix-c-mass-rate-lst-look-up-tables.pdf?sfvrsn=2.

———. 2008 (July, as revised). Final Localized Significance Threshold Methodology. Diamond Bar, CA: South Coast AQMD. http://www.aqmd.gov/ceqa/handbook/LST/Method_final.pdf.

———. 1993 (as amended). CEQA Air Quality Handbook. Diamond Bar, CA: South Coast AQMD.

U.S. Environmental Protection Agency (USEPA). 2019 (June 30, current as of). *Nonattainment Areas for Criteria Pollutants (Green Book)*. Research Triangle Park, NC:. https://www3.epa.gov/airquality/greenbook/kbtc.html.

———. 1971 (December 31). Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances.

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Appendix A

CalEEMod Calculations

IRWD Zone A to Rattlesnake Reservoir

Orange County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	2.26	1000sqft	0.05	2,260.00	0
Parking Lot	37.20	1000sqft	0.85	37,200.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	30
Climate Zone	8			**Operational Year**	2023
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - .

Construction Phase - .

Off-road Equipment - Estimate for Jackhammer

Off-road Equipment - No equipment

Off-road Equipment - .

Off-road Equipment - .

Off-road Equipment - Estimate for Jackhammer

Off-road Equipment - .

Off-road Equipment - .

Off-road Equipment - .

Off-road Equipment - .

Off-road Equipment - .

Off-road Equipment - .

Off-road Equipment - .

Trips and VMT - .

Demolition - .

Grading - .

Vehicle Trips - .

Energy Use - .

Water And Wastewater - Default Assumptions

Construction Off-road Equipment Mitigation -

Operational Off-Road Equipment -

Stationary Sources - Emergency Generators and Fire Pumps - .

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	100.00	80.00

tblConstructionPhase	NumDays	100.00	80.00
tblConstructionPhase	NumDays	100.00	200.00
tblConstructionPhase	NumDays	10.00	120.00
tblConstructionPhase	NumDays	10.00	20.00
tblConstructionPhase	NumDays	10.00	80.00
tblConstructionPhase	NumDays	10.00	20.00
tblConstructionPhase	NumDays	10.00	240.00
tblConstructionPhase	NumDays	10.00	120.00
tblConstructionPhase	NumDays	2.00	120.00
tblConstructionPhase	NumDays	5.00	120.00
tblEnergyUse	LightingElect	2.99	709.46
tblEnergyUse	LightingElect	0.35	0.00
tblEnergyUse	NT24E	3.83	908.77
tblEnergyUse	T24E	1.63	386.76
tblGrading	MaterialImported	0.00	456.00
tblOffRoadEquipment	HorsePower	88.00	3.00
tblOffRoadEquipment	HorsePower	88.00	3.00
tblOffRoadEquipment	LoadFactor	0.34	0.73
tblOffRoadEquipment	LoadFactor	0.34	0.73
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	UsageHours	4.00	8.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	7.00

tblOffRoadEquipment	UsageHours	6.00	8.00
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	1,500.00
tblStationaryGeneratorsPumpsUse	HoursPerDay	0.00	1.00
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	12.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00
tblTripsAndVMT	HaulingTripLength	20.00	25.00
tblTripsAndVMT	HaulingTripLength	20.00	25.00
tblTripsAndVMT	HaulingTripLength	20.00	25.00
tblTripsAndVMT	HaulingTripLength	20.00	25.00
tblTripsAndVMT	HaulingTripLength	20.00	25.00
tblTripsAndVMT	HaulingTripLength	20.00	25.00
tblTripsAndVMT	HaulingTripLength	20.00	25.00
tblTripsAndVMT	HaulingTripLength	20.00	25.00
tblTripsAndVMT	HaulingTripLength	20.00	25.00
tblTripsAndVMT	HaulingTripLength	20.00	25.00
tblTripsAndVMT	HaulingTripLength	20.00	25.00
tblTripsAndVMT	HaulingTripLength	20.00	25.00
tblVehicleTrips	ST_TR	1.32	0.00
tblVehicleTrips	SU_TR	0.68	0.00
tblVehicleTrips	WD_TR	6.97	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	0.0670	0.7044	0.5885	1.2100e-003	0.0164	0.0302	0.0466	4.0200e-003	0.0278	0.0318	0.0000	107.3144	107.3144	0.0303	0.0000	108.0716
2021	0.3294	3.5046	2.6948	5.9300e-003	0.0541	0.1475	0.2016	0.0139	0.1357	0.1496	0.0000	524.8495	524.8495	0.1532	0.0000	528.6802
2022	0.0971	0.9195	1.0742	2.0500e-003	0.0162	0.0418	0.0580	4.0100e-003	0.0385	0.0425	0.0000	179.9218	179.9218	0.0540	0.0000	181.2719
Maximum	**0.3294**	**3.5046**	**2.6948**	**5.9300e-003**	**0.0541**	**0.1475**	**0.2016**	**0.0139**	**0.1357**	**0.1496**	**0.0000**	**524.8495**	**524.8495**	**0.1532**	**0.0000**	**528.6802**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	0.0670	0.7044	0.5885	1.2100e-003	0.0145	0.0302	0.0448	3.7500e-003	0.0278	0.0316	0.0000	107.3143	107.3143	0.0303	0.0000	108.0715
2021	0.3294	3.5046	2.6948	5.9300e-003	0.0510	0.1475	0.1985	0.0134	0.1357	0.1491	0.0000	524.8489	524.8489	0.1532	0.0000	528.6796
2022	0.0971	0.9195	1.0742	2.0500e-003	0.0146	0.0418	0.0564	3.7700e-003	0.0385	0.0422	0.0000	179.9216	179.9216	0.0540	0.0000	181.2717
Maximum	**0.3294**	**3.5046**	**2.6948**	**5.9300e-003**	**0.0510**	**0.1475**	**0.1985**	**0.0134**	**0.1357**	**0.1491**	**0.0000**	**524.8489**	**524.8489**	**0.1532**	**0.0000**	**528.6796**

IRWD Zone A to Rattlesnake Reservoir - Orange County, Annual

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**7.59**	**0.00**	**2.15**	**4.47**	**0.00**	**0.44**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**9-24-2020**	**12-23-2020**	0.6990	0.6990
2	**12-24-2020**	**3-23-2021**	0.7003	0.7003
3	**3-24-2021**	**6-23-2021**	0.9073	0.9073
4	**6-24-2021**	**9-23-2021**	0.9500	0.9500
5	**9-24-2021**	**12-23-2021**	1.1941	1.1941
6	**12-24-2021**	**3-23-2022**	0.9165	0.9165
7	**3-24-2022**	**6-23-2022**	0.2511	0.2511
		Highest	1.1941	1.1941

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0122	0.0000	5.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	9.8000e-004	9.8000e-004	0.0000	0.0000	1.0400e-003
Energy	2.5000e-004	2.3200e-003	1.9400e-003	1.0000e-005		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004	0.0000	1,446.2827	1,446.2827	0.0597	0.0124	1,451.4627
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Stationary	0.0148	0.0661	0.0377	7.0000e-005		2.1700e-003	2.1700e-003		2.1700e-003	2.1700e-003	0.0000	6.8544	6.8544	9.6000e-004	0.0000	6.8784
Waste						0.0000	0.0000		0.0000	0.0000	0.5684	0.0000	0.5684	0.0336	0.0000	1.4081
Water						0.0000	0.0000		0.0000	0.0000	0.1658	2.1683	2.3341	0.0171	4.2000e-004	2.8874
Total	**0.0272**	**0.0684**	**0.0401**	**8.0000e-005**	**0.0000**	**2.3500e-003**	**2.3500e-003**	**0.0000**	**2.3500e-003**	**2.3500e-003**	**0.7342**	**1,455.3062**	**1,456.0404**	**0.1113**	**0.0128**	**1,462.6376**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0122	0.0000	5.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	9.8000e-004	9.8000e-004	0.0000	0.0000	1.0400e-003
Energy	2.5000e-004	2.3200e-003	1.9400e-003	1.0000e-005		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004	0.0000	1,446.2827	1,446.2827	0.0597	0.0124	1,451.4627
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Stationary	0.0148	0.0661	0.0377	7.0000e-005		2.1700e-003	2.1700e-003		2.1700e-003	2.1700e-003	0.0000	6.8544	6.8544	9.6000e-004	0.0000	6.8784
Waste						0.0000	0.0000		0.0000	0.0000	0.5684	0.0000	0.5684	0.0336	0.0000	1.4081
Water						0.0000	0.0000		0.0000	0.0000	0.1658	2.1683	2.3341	0.0171	4.2000e-004	2.8874
Total	**0.0272**	**0.0684**	**0.0401**	**8.0000e-005**	**0.0000**	**2.3500e-003**	**2.3500e-003**	**0.0000**	**2.3500e-003**	**2.3500e-003**	**0.7342**	**1,455.3062**	**1,456.0404**	**0.1113**	**0.0128**	**1,462.6376**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

IRWD Zone A to Rattlesnake Reservoir - Orange County, Annual

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition 1 and 2	Demolition	9/24/2020	3/10/2021	5	120	Demo of Northwood Zone A to B Pump, Demo of spetic tank and leach field
2	Trenching 1 and 2	Trenching	9/24/2020	3/10/2021	5	120	Install/Commission swer line, install temp fill pipelines
3	Demolition 3	Demolition	11/19/2020	3/10/2021	5	80	demo of staircases
4	Building Construction 1	Building Construction	11/19/2020	3/10/2021	5	80	Install of new restroom
5	Building Construction 2	Building Construction	11/19/2020	3/10/2021	5	80	Install new dechlorination facility, etc
6	Demolition 4	Demolition	3/11/2021	4/7/2021	5	20	Decom and demo existing dechlor facility
7	Demolition 5	Demolition	3/11/2021	2/9/2022	5	240	Decom and demo misc pipes and structures
8	Building Construction 3 and 4	Building Construction	4/8/2021	1/12/2022	5	200	Construct ZARRPS and generator, etc
9	Demolition 6 and 7	Demolition	11/18/2021	5/4/2022	5	120	Demo temp fill lines and modify sump pump for truck access
10	Grading 1	Grading	11/18/2021	5/4/2022	5	120	Grading
11	Paving 1	Paving	11/18/2021	5/4/2022	5	120	Paving
12	Demolition 8	Demolition	1/13/2022	2/9/2022	5	20	Decommission and demo existing RRPS2, etc

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0.85

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition 1 and 2	Concrete/Industrial Saws	0	8.00	81	0.73
Demolition 1 and 2	Cranes	2	8.00	231	0.29

Demolition 1 and 2	Excavators	1	8.00	158	0.38
Demolition 1 and 2	Rubber Tired Dozers	0	1.00	247	0.40
Demolition 1 and 2	Tractors/Loaders/Backhoes	0	6.00	97	0.37
Trenching 1 and 2	Excavators	2	8.00	158	0.38
Trenching 1 and 2	Graders	0	8.00	187	0.41
Trenching 1 and 2	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Demolition 3	Concrete/Industrial Saws	0	8.00	81	0.73
Demolition 3	Cranes	0	4.00	231	0.29
Demolition 3	Excavators	1	8.00	158	0.38
Demolition 3	Forklifts	0	6.00	89	0.20
Demolition 3	Other General Industrial Equipment	1	8.00	3	0.73
Demolition 3	Rubber Tired Dozers	0	1.00	247	0.40
Demolition 3	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Building Construction 1	Concrete/Industrial Saws	0	8.00	81	0.73
Building Construction 1	Cranes	0	4.00	231	0.29
Building Construction 1	Forklifts	0	6.00	89	0.20
Building Construction 1	Other General Industrial Equipment	1	8.00	3	0.73
Building Construction 1	Rubber Tired Dozers	0	1.00	247	0.40
Building Construction 1	Tractors/Loaders/Backhoes	0	6.00	97	0.37
Building Construction 2	Cement and Mortar Mixers	0	6.00	9	0.56
Building Construction 2	Cranes	0	4.00	231	0.29
Building Construction 2	Forklifts	0	6.00	89	0.20
Building Construction 2	Pavers	0	7.00	130	0.42
Building Construction 2	Rollers	0	7.00	80	0.38
Building Construction 2	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Demolition 4	Air Compressors	0	6.00	78	0.48
Demolition 4	Concrete/Industrial Saws	0	8.00	81	0.73

Demolition 4	Cranes	2	8.00	231	0.29
Demolition 4	Excavators	1	8.00	158	0.38
Demolition 4	Rubber Tired Dozers	0	1.00	247	0.40
Demolition 4	Tractors/Loaders/Backhoes	0	6.00	97	0.37
Demolition 5	Concrete/Industrial Saws	0	8.00	81	0.73
Demolition 5	Cranes	1	8.00	231	0.29
Demolition 5	Excavators	1	8.00	158	0.38
Demolition 5	Rubber Tired Dozers	0	1.00	247	0.40
Demolition 5	Tractors/Loaders/Backhoes	0	6.00	97	0.37
Building Construction 3 and 4	Cranes	3	8.00	231	0.29
Building Construction 3 and 4	Excavators	2	8.00	158	0.38
Building Construction 3 and 4	Forklifts	0	6.00	89	0.20
Building Construction 3 and 4	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Demolition 6 and 7	Concrete/Industrial Saws	0	8.00	81	0.73
Demolition 6 and 7	Cranes	1	8.00	231	0.29
Demolition 6 and 7	Excavators	2	8.00	158	0.38
Demolition 6 and 7	Rubber Tired Dozers	0	1.00	247	0.40
Demolition 6 and 7	Tractors/Loaders/Backhoes	0	6.00	97	0.37
Grading 1	Concrete/Industrial Saws	0	8.00	81	0.73
Grading 1	Excavators	1	8.00	158	0.38
Grading 1	Rubber Tired Dozers	0	1.00	247	0.40
Grading 1	Tractors/Loaders/Backhoes	0	6.00	97	0.37
Paving 1	Cement and Mortar Mixers	1	6.00	9	0.56
Paving 1	Excavators	1	8.00	158	0.38
Paving 1	Pavers	1	7.00	130	0.42
Paving 1	Rollers	1	7.00	80	0.38
Paving 1	Tractors/Loaders/Backhoes	0	7.00	97	0.37

Demolition 8	Concrete/Industrial Saws	0	8.00	81	0.73
Demolition 8	Cranes	2	8.00	231	0.29
Demolition 8	Excavators	1	8.00	158	0.38
Demolition 8	Rubber Tired Dozers	0	1.00	247	0.40
Demolition 8	Tractors/Loaders/Backhoes	0	6.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition 1 and 2	3	8.00	0.00	46.00	14.70	6.90	25.00	LD_Mix	HDT_Mix	HHDT
Trenching 1 and 2	2	5.00	0.00	0.00	14.70	6.90	25.00	LD_Mix	HDT_Mix	HHDT
Demolition 3	2	5.00	0.00	2.00	14.70	6.90	25.00	LD_Mix	HDT_Mix	HHDT
Building Construction 1	1	17.00	6.00	0.00	14.70	6.90	25.00	LD_Mix	HDT_Mix	HHDT
Building Construction 2	0	17.00	6.00	0.00	14.70	6.90	25.00	LD_Mix	HDT_Mix	HHDT
Demolition 4	3	8.00	0.00	20.00	14.70	6.90	25.00	LD_Mix	HDT_Mix	HHDT
Demolition 5	2	5.00	0.00	8.00	14.70	6.90	25.00	LD_Mix	HDT_Mix	HHDT
Building Construction 3 and 4	5	17.00	6.00	0.00	14.70	6.90	25.00	LD_Mix	HDT_Mix	HHDT
Demolition 6 and 7	3	8.00	0.00	1.00	14.70	6.90	25.00	LD_Mix	HDT_Mix	HHDT
Grading 1	1	3.00	0.00	57.00	14.70	6.90	25.00	LD_Mix	HDT_Mix	HHDT
Paving 1	4	10.00	0.00	0.00	14.70	6.90	25.00	LD_Mix	HDT_Mix	HHDT
Demolition 8	3	8.00	0.00	22.00	14.70	6.90	25.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Demolition 1 and 2 - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.9200e-003	0.0000	2.9200e-003	4.4000e-004	0.0000	4.4000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0409	0.4685	0.2662	5.9000e-004		0.0199	0.0199		0.0183	0.0183	0.0000	52.0981	52.0981	0.0169	0.0000	52.5193
Total	**0.0409**	**0.4685**	**0.2662**	**5.9000e-004**	**2.9200e-003**	**0.0199**	**0.0229**	**4.4000e-004**	**0.0183**	**0.0188**	**0.0000**	**52.0981**	**52.0981**	**0.0169**	**0.0000**	**52.5193**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.2000e-004	4.5200e-003	1.1600e-003	1.0000e-005	4.4000e-004	2.0000e-005	4.6000e-004	1.2000e-004	1.0000e-005	1.3000e-004	0.0000	1.2785	1.2785	1.3000e-004	0.0000	1.2818
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.1100e-003	7.8000e-004	8.8000e-003	3.0000e-005	3.1200e-003	2.0000e-005	3.1400e-003	8.3000e-004	2.0000e-005	8.5000e-004	0.0000	2.6985	2.6985	6.0000e-005	0.0000	2.7000
Total	**1.2300e-003**	**5.3000e-003**	**9.9600e-003**	**4.0000e-005**	**3.5600e-003**	**4.0000e-005**	**3.6000e-003**	**9.5000e-004**	**3.0000e-005**	**9.8000e-004**	**0.0000**	**3.9769**	**3.9769**	**1.9000e-004**	**0.0000**	**3.9818**

3.2 Demolition 1 and 2 - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.1400e-003	0.0000	1.1400e-003	1.7000e-004	0.0000	1.7000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0409	0.4685	0.2662	5.9000e-004		0.0199	0.0199		0.0183	0.0183	0.0000	52.0980	52.0980	0.0169	0.0000	52.5192
Total	**0.0409**	**0.4685**	**0.2662**	**5.9000e-004**	**1.1400e-003**	**0.0199**	**0.0211**	**1.7000e-004**	**0.0183**	**0.0185**	**0.0000**	**52.0980**	**52.0980**	**0.0169**	**0.0000**	**52.5192**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.2000e-004	4.5200e-003	1.1600e-003	1.0000e-005	4.4000e-004	2.0000e-005	4.6000e-004	1.2000e-004	1.0000e-005	1.3000e-004	0.0000	1.2785	1.2785	1.3000e-004	0.0000	1.2818
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.1100e-003	7.8000e-004	8.8000e-003	3.0000e-005	3.1200e-003	2.0000e-005	3.1400e-003	8.3000e-004	2.0000e-005	8.5000e-004	0.0000	2.6985	2.6985	6.0000e-005	0.0000	2.7000
Total	**1.2300e-003**	**5.3000e-003**	**9.9600e-003**	**4.0000e-005**	**3.5600e-003**	**4.0000e-005**	**3.6000e-003**	**9.5000e-004**	**3.0000e-005**	**9.8000e-004**	**0.0000**	**3.9769**	**3.9769**	**1.9000e-004**	**0.0000**	**3.9818**

3.2 Demolition 1 and 2 - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.0200e-003	0.0000	2.0200e-003	3.1000e-004	0.0000	3.1000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0259	0.2904	0.1773	4.1000e-004		0.0122	0.0122		0.0112	0.0112	0.0000	35.9544	35.9544	0.0116	0.0000	36.2451
Total	**0.0259**	**0.2904**	**0.1773**	**4.1000e-004**	**2.0200e-003**	**0.0122**	**0.0142**	**3.1000e-004**	**0.0112**	**0.0115**	**0.0000**	**35.9544**	**35.9544**	**0.0116**	**0.0000**	**36.2451**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	8.0000e-005	2.8700e-003	8.0000e-004	1.0000e-005	4.2000e-004	1.0000e-005	4.3000e-004	1.1000e-004	1.0000e-005	1.2000e-004	0.0000	0.8715	0.8715	9.0000e-005	0.0000	0.8738
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.2000e-004	4.8000e-004	5.6300e-003	2.0000e-005	2.1500e-003	1.0000e-005	2.1700e-003	5.7000e-004	1.0000e-005	5.8000e-004	0.0000	1.7977	1.7977	4.0000e-005	0.0000	1.7987
Total	**8.0000e-004**	**3.3500e-003**	**6.4300e-003**	**3.0000e-005**	**2.5700e-003**	**2.0000e-005**	**2.6000e-003**	**6.8000e-004**	**2.0000e-005**	**7.0000e-004**	**0.0000**	**2.6692**	**2.6692**	**1.3000e-004**	**0.0000**	**2.6724**

3.2 Demolition 1 and 2 - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					7.9000e-004	0.0000	7.9000e-004	1.2000e-004	0.0000	1.2000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0259	0.2904	0.1773	4.1000e-004		0.0122	0.0122		0.0112	0.0112	0.0000	35.9543	35.9543	0.0116	0.0000	36.2450
Total	**0.0259**	**0.2904**	**0.1773**	**4.1000e-004**	**7.9000e-004**	**0.0122**	**0.0130**	**1.2000e-004**	**0.0112**	**0.0114**	**0.0000**	**35.9543**	**35.9543**	**0.0116**	**0.0000**	**36.2450**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	8.0000e-005	2.8700e-003	8.0000e-004	1.0000e-005	4.2000e-004	1.0000e-005	4.3000e-004	1.1000e-004	1.0000e-005	1.2000e-004	0.0000	0.8715	0.8715	9.0000e-005	0.0000	0.8738
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.2000e-004	4.8000e-004	5.6300e-003	2.0000e-005	2.1500e-003	1.0000e-005	2.1700e-003	5.7000e-004	1.0000e-005	5.8000e-004	0.0000	1.7977	1.7977	4.0000e-005	0.0000	1.7987
Total	**8.0000e-004**	**3.3500e-003**	**6.4300e-003**	**3.0000e-005**	**2.5700e-003**	**2.0000e-005**	**2.6000e-003**	**6.8000e-004**	**2.0000e-005**	**7.0000e-004**	**0.0000**	**2.6692**	**2.6692**	**1.3000e-004**	**0.0000**	**2.6724**

3.3 Trenching 1 and 2 - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0174	0.1713	0.2320	3.7000e-004		8.3000e-003	8.3000e-003		7.6300e-003	7.6300e-003	0.0000	32.2127	32.2127	0.0104	0.0000	32.4731
Total	**0.0174**	**0.1713**	**0.2320**	**3.7000e-004**		**8.3000e-003**	**8.3000e-003**		**7.6300e-003**	**7.6300e-003**	**0.0000**	**32.2127**	**32.2127**	**0.0104**	**0.0000**	**32.4731**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.9000e-004	4.8000e-004	5.5000e-003	2.0000e-005	1.9500e-003	1.0000e-005	1.9600e-003	5.2000e-004	1.0000e-005	5.3000e-004	0.0000	1.6865	1.6865	4.0000e-005	0.0000	1.6875
Total	**6.9000e-004**	**4.8000e-004**	**5.5000e-003**	**2.0000e-005**	**1.9500e-003**	**1.0000e-005**	**1.9600e-003**	**5.2000e-004**	**1.0000e-005**	**5.3000e-004**	**0.0000**	**1.6865**	**1.6865**	**4.0000e-005**	**0.0000**	**1.6875**

3.3 Trenching 1 and 2 - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0174	0.1713	0.2320	3.7000e-004		8.3000e-003	8.3000e-003		7.6300e-003	7.6300e-003	0.0000	32.2127	32.2127	0.0104	0.0000	32.4731
Total	**0.0174**	**0.1713**	**0.2320**	**3.7000e-004**		**8.3000e-003**	**8.3000e-003**		**7.6300e-003**	**7.6300e-003**	**0.0000**	**32.2127**	**32.2127**	**0.0104**	**0.0000**	**32.4731**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.9000e-004	4.8000e-004	5.5000e-003	2.0000e-005	1.9500e-003	1.0000e-005	1.9600e-003	5.2000e-004	1.0000e-005	5.3000e-004	0.0000	1.6865	1.6865	4.0000e-005	0.0000	1.6875
Total	**6.9000e-004**	**4.8000e-004**	**5.5000e-003**	**2.0000e-005**	**1.9500e-003**	**1.0000e-005**	**1.9600e-003**	**5.2000e-004**	**1.0000e-005**	**5.3000e-004**	**0.0000**	**1.6865**	**1.6865**	**4.0000e-005**	**0.0000**	**1.6875**

3.3 Trenching 1 and 2 - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0112	0.1055	0.1603	2.5000e-004		5.1200e-003	5.1200e-003		4.7100e-003	4.7100e-003	0.0000	22.2346	22.2346	7.1900e-003	0.0000	22.4143
Total	**0.0112**	**0.1055**	**0.1603**	**2.5000e-004**		**5.1200e-003**	**5.1200e-003**		**4.7100e-003**	**4.7100e-003**	**0.0000**	**22.2346**	**22.2346**	**7.1900e-003**	**0.0000**	**22.4143**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.5000e-004	3.0000e-004	3.5200e-003	1.0000e-005	1.3400e-003	1.0000e-005	1.3500e-003	3.6000e-004	1.0000e-005	3.7000e-004	0.0000	1.1236	1.1236	2.0000e-005	0.0000	1.1242
Total	**4.5000e-004**	**3.0000e-004**	**3.5200e-003**	**1.0000e-005**	**1.3400e-003**	**1.0000e-005**	**1.3500e-003**	**3.6000e-004**	**1.0000e-005**	**3.7000e-004**	**0.0000**	**1.1236**	**1.1236**	**2.0000e-005**	**0.0000**	**1.1242**

3.3 Trenching 1 and 2 - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0112	0.1055	0.1603	2.5000e-004		5.1200e-003	5.1200e-003		4.7100e-003	4.7100e-003	0.0000	22.2345	22.2345	7.1900e-003	0.0000	22.4143
Total	**0.0112**	**0.1055**	**0.1603**	**2.5000e-004**		**5.1200e-003**	**5.1200e-003**		**4.7100e-003**	**4.7100e-003**	**0.0000**	**22.2345**	**22.2345**	**7.1900e-003**	**0.0000**	**22.4143**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.5000e-004	3.0000e-004	3.5200e-003	1.0000e-005	1.3400e-003	1.0000e-005	1.3500e-003	3.6000e-004	1.0000e-005	3.7000e-004	0.0000	1.1236	1.1236	2.0000e-005	0.0000	1.1242
Total	**4.5000e-004**	**3.0000e-004**	**3.5200e-003**	**1.0000e-005**	**1.3400e-003**	**1.0000e-005**	**1.3500e-003**	**3.6000e-004**	**1.0000e-005**	**3.7000e-004**	**0.0000**	**1.1236**	**1.1236**	**2.0000e-005**	**0.0000**	**1.1242**

3.4 Demolition 3 - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					9.0000e-005	0.0000	9.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.8000e-003	0.0374	0.0507	8.0000e-005		1.8100e-003	1.8100e-003		1.6700e-003	1.6700e-003	0.0000	7.0324	7.0324	2.2700e-003	0.0000	7.0892
Total	**3.8000e-003**	**0.0374**	**0.0507**	**8.0000e-005**	**9.0000e-005**	**1.8100e-003**	**1.9000e-003**	**1.0000e-005**	**1.6700e-003**	**1.6800e-003**	**0.0000**	**7.0324**	**7.0324**	**2.2700e-003**	**0.0000**	**7.0892**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	1.3000e-004	3.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	1.0000e-005	0.0000	0.0364	0.0364	0.0000	0.0000	0.0365
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.0000e-004	2.1000e-004	2.4000e-003	1.0000e-005	8.5000e-004	1.0000e-005	8.6000e-004	2.3000e-004	1.0000e-005	2.3000e-004	0.0000	0.7364	0.7364	2.0000e-005	0.0000	0.7368
Total	**3.0000e-004**	**3.4000e-004**	**2.4300e-003**	**1.0000e-005**	**8.7000e-004**	**1.0000e-005**	**8.8000e-004**	**2.3000e-004**	**1.0000e-005**	**2.4000e-004**	**0.0000**	**0.7728**	**0.7728**	**2.0000e-005**	**0.0000**	**0.7733**

3.4 Demolition 3 - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					4.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.8000e-003	0.0374	0.0507	8.0000e-005		1.8100e-003	1.8100e-003		1.6700e-003	1.6700e-003	0.0000	7.0323	7.0323	2.2700e-003	0.0000	7.0892
Total	**3.8000e-003**	**0.0374**	**0.0507**	**8.0000e-005**	**4.0000e-005**	**1.8100e-003**	**1.8500e-003**	**1.0000e-005**	**1.6700e-003**	**1.6800e-003**	**0.0000**	**7.0323**	**7.0323**	**2.2700e-003**	**0.0000**	**7.0892**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	1.3000e-004	3.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	1.0000e-005	0.0000	0.0364	0.0364	0.0000	0.0000	0.0365
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.0000e-004	2.1000e-004	2.4000e-003	1.0000e-005	8.5000e-004	1.0000e-005	8.6000e-004	2.3000e-004	1.0000e-005	2.3000e-004	0.0000	0.7364	0.7364	2.0000e-005	0.0000	0.7368
Total	**3.0000e-004**	**3.4000e-004**	**2.4300e-003**	**1.0000e-005**	**8.7000e-004**	**1.0000e-005**	**8.8000e-004**	**2.3000e-004**	**1.0000e-005**	**2.4000e-004**	**0.0000**	**0.7728**	**0.7728**	**2.0000e-005**	**0.0000**	**0.7733**

3.4 Demolition 3 - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.4000e-004	0.0000	1.4000e-004	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.6200e-003	0.0528	0.0802	1.3000e-004		2.5600e-003	2.5600e-003		2.3500e-003	2.3500e-003	0.0000	11.1173	11.1173	3.6000e-003	0.0000	11.2072
Total	**5.6200e-003**	**0.0528**	**0.0802**	**1.3000e-004**	**1.4000e-004**	**2.5600e-003**	**2.7000e-003**	**2.0000e-005**	**2.3500e-003**	**2.3700e-003**	**0.0000**	**11.1173**	**11.1173**	**3.6000e-003**	**0.0000**	**11.2072**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	1.9000e-004	5.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0568	0.0568	1.0000e-005	0.0000	0.0570
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.5000e-004	3.0000e-004	3.5200e-003	1.0000e-005	1.3400e-003	1.0000e-005	1.3500e-003	3.6000e-004	1.0000e-005	3.7000e-004	0.0000	1.1236	1.1236	2.0000e-005	0.0000	1.1242
Total	**4.6000e-004**	**4.9000e-004**	**3.5700e-003**	**1.0000e-005**	**1.3600e-003**	**1.0000e-005**	**1.3700e-003**	**3.7000e-004**	**1.0000e-005**	**3.8000e-004**	**0.0000**	**1.1804**	**1.1804**	**3.0000e-005**	**0.0000**	**1.1811**

3.4 Demolition 3 - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					6.0000e-005	0.0000	6.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.6200e-003	0.0528	0.0802	1.3000e-004		2.5600e-003	2.5600e-003		2.3500e-003	2.3500e-003	0.0000	11.1173	11.1173	3.6000e-003	0.0000	11.2072
Total	**5.6200e-003**	**0.0528**	**0.0802**	**1.3000e-004**	**6.0000e-005**	**2.5600e-003**	**2.6200e-003**	**1.0000e-005**	**2.3500e-003**	**2.3600e-003**	**0.0000**	**11.1173**	**11.1173**	**3.6000e-003**	**0.0000**	**11.2072**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	1.9000e-004	5.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0568	0.0568	1.0000e-005	0.0000	0.0570
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.5000e-004	3.0000e-004	3.5200e-003	1.0000e-005	1.3400e-003	1.0000e-005	1.3500e-003	3.6000e-004	1.0000e-005	3.7000e-004	0.0000	1.1236	1.1236	2.0000e-005	0.0000	1.1242
Total	**4.6000e-004**	**4.9000e-004**	**3.5700e-003**	**1.0000e-005**	**1.3600e-003**	**1.0000e-005**	**1.3700e-003**	**3.7000e-004**	**1.0000e-005**	**3.8000e-004**	**0.0000**	**1.1804**	**1.1804**	**3.0000e-005**	**0.0000**	**1.1811**

3.5 Building Construction 1 - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.0000e-004	9.8600e-003	2.6800e-003	2.0000e-005	5.9000e-004	5.0000e-005	6.4000e-004	1.7000e-004	5.0000e-005	2.2000e-004	0.0000	2.2639	2.2639	1.9000e-004	0.0000	2.2686
Worker	1.0300e-003	7.2000e-004	8.1700e-003	3.0000e-005	2.8900e-003	2.0000e-005	2.9100e-003	7.7000e-004	2.0000e-005	7.9000e-004	0.0000	2.5037	2.5037	6.0000e-005	0.0000	2.5051
Total	**1.3300e-003**	**0.0106**	**0.0109**	**5.0000e-005**	**3.4800e-003**	**7.0000e-005**	**3.5500e-003**	**9.4000e-004**	**7.0000e-005**	**1.0100e-003**	**0.0000**	**4.7675**	**4.7675**	**2.5000e-004**	**0.0000**	**4.7737**

3.5 Building Construction 1 - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.0000e-004	9.8600e-003	2.6800e-003	2.0000e-005	5.9000e-004	5.0000e-005	6.4000e-004	1.7000e-004	5.0000e-005	2.2000e-004	0.0000	2.2639	2.2639	1.9000e-004	0.0000	2.2686
Worker	1.0300e-003	7.2000e-004	8.1700e-003	3.0000e-005	2.8900e-003	2.0000e-005	2.9100e-003	7.7000e-004	2.0000e-005	7.9000e-004	0.0000	2.5037	2.5037	6.0000e-005	0.0000	2.5051
Total	**1.3300e-003**	**0.0106**	**0.0109**	**5.0000e-005**	**3.4800e-003**	**7.0000e-005**	**3.5500e-003**	**9.4000e-004**	**7.0000e-005**	**1.0100e-003**	**0.0000**	**4.7675**	**4.7675**	**2.5000e-004**	**0.0000**	**4.7737**

3.5 Building Construction 1 - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.0000e-004	0.0140	3.9300e-003	4.0000e-005	9.3000e-004	3.0000e-005	9.5000e-004	2.7000e-004	3.0000e-005	2.9000e-004	0.0000	3.5475	3.5475	2.9000e-004	0.0000	3.5547
Worker	1.5300e-003	1.0300e-003	0.0120	4.0000e-005	4.5700e-003	3.0000e-005	4.6000e-003	1.2100e-003	3.0000e-005	1.2400e-003	0.0000	3.8201	3.8201	8.0000e-005	0.0000	3.8221
Total	**1.9300e-003**	**0.0150**	**0.0159**	**8.0000e-005**	**5.5000e-003**	**6.0000e-005**	**5.5500e-003**	**1.4800e-003**	**6.0000e-005**	**1.5300e-003**	**0.0000**	**7.3676**	**7.3676**	**3.7000e-004**	**0.0000**	**7.3769**

3.5 Building Construction 1 - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.0000e-004	0.0140	3.9300e-003	4.0000e-005	9.3000e-004	3.0000e-005	9.5000e-004	2.7000e-004	3.0000e-005	2.9000e-004	0.0000	3.5475	3.5475	2.9000e-004	0.0000	3.5547
Worker	1.5300e-003	1.0300e-003	0.0120	4.0000e-005	4.5700e-003	3.0000e-005	4.6000e-003	1.2100e-003	3.0000e-005	1.2400e-003	0.0000	3.8201	3.8201	8.0000e-005	0.0000	3.8221
Total	**1.9300e-003**	**0.0150**	**0.0159**	**8.0000e-005**	**5.5000e-003**	**6.0000e-005**	**5.5500e-003**	**1.4800e-003**	**6.0000e-005**	**1.5300e-003**	**0.0000**	**7.3676**	**7.3676**	**3.7000e-004**	**0.0000**	**7.3769**

3.6 Building Construction 2 - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.0000e-004	9.8600e-003	2.6800e-003	2.0000e-005	5.9000e-004	5.0000e-005	6.4000e-004	1.7000e-004	5.0000e-005	2.2000e-004	0.0000	2.2639	2.2639	1.9000e-004	0.0000	2.2686
Worker	1.0300e-003	7.2000e-004	8.1700e-003	3.0000e-005	2.8900e-003	2.0000e-005	2.9100e-003	7.7000e-004	2.0000e-005	7.9000e-004	0.0000	2.5037	2.5037	6.0000e-005	0.0000	2.5051
Total	**1.3300e-003**	**0.0106**	**0.0109**	**5.0000e-005**	**3.4800e-003**	**7.0000e-005**	**3.5500e-003**	**9.4000e-004**	**7.0000e-005**	**1.0100e-003**	**0.0000**	**4.7675**	**4.7675**	**2.5000e-004**	**0.0000**	**4.7737**

3.6 Building Construction 2 - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.0000e-004	9.8600e-003	2.6800e-003	2.0000e-005	5.9000e-004	5.0000e-005	6.4000e-004	1.7000e-004	5.0000e-005	2.2000e-004	0.0000	2.2639	2.2639	1.9000e-004	0.0000	2.2686
Worker	1.0300e-003	7.2000e-004	8.1700e-003	3.0000e-005	2.8900e-003	2.0000e-005	2.9100e-003	7.7000e-004	2.0000e-005	7.9000e-004	0.0000	2.5037	2.5037	6.0000e-005	0.0000	2.5051
Total	**1.3300e-003**	**0.0106**	**0.0109**	**5.0000e-005**	**3.4800e-003**	**7.0000e-005**	**3.5500e-003**	**9.4000e-004**	**7.0000e-005**	**1.0100e-003**	**0.0000**	**4.7675**	**4.7675**	**2.5000e-004**	**0.0000**	**4.7737**

3.6 Building Construction 2 - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.0000e-004	0.0140	3.9300e-003	4.0000e-005	9.3000e-004	3.0000e-005	9.5000e-004	2.7000e-004	3.0000e-005	2.9000e-004	0.0000	3.5475	3.5475	2.9000e-004	0.0000	3.5547
Worker	1.5300e-003	1.0300e-003	0.0120	4.0000e-005	4.5700e-003	3.0000e-005	4.6000e-003	1.2100e-003	3.0000e-005	1.2400e-003	0.0000	3.8201	3.8201	8.0000e-005	0.0000	3.8221
Total	**1.9300e-003**	**0.0150**	**0.0159**	**8.0000e-005**	**5.5000e-003**	**6.0000e-005**	**5.5500e-003**	**1.4800e-003**	**6.0000e-005**	**1.5300e-003**	**0.0000**	**7.3676**	**7.3676**	**3.7000e-004**	**0.0000**	**7.3769**

3.6 Building Construction 2 - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.0000e-004	0.0140	3.9300e-003	4.0000e-005	9.3000e-004	3.0000e-005	9.5000e-004	2.7000e-004	3.0000e-005	2.9000e-004	0.0000	3.5475	3.5475	2.9000e-004	0.0000	3.5547
Worker	1.5300e-003	1.0300e-003	0.0120	4.0000e-005	4.5700e-003	3.0000e-005	4.6000e-003	1.2100e-003	3.0000e-005	1.2400e-003	0.0000	3.8201	3.8201	8.0000e-005	0.0000	3.8221
Total	**1.9300e-003**	**0.0150**	**0.0159**	**8.0000e-005**	**5.5000e-003**	**6.0000e-005**	**5.5500e-003**	**1.4800e-003**	**6.0000e-005**	**1.5300e-003**	**0.0000**	**7.3676**	**7.3676**	**3.7000e-004**	**0.0000**	**7.3769**

3.7 Demolition 4 - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.1400e-003	0.0000	2.1400e-003	3.2000e-004	0.0000	3.2000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0106	0.1185	0.0724	1.7000e-004		4.9800e-003	4.9800e-003		4.5800e-003	4.5800e-003	0.0000	14.6753	14.6753	4.7500e-003	0.0000	14.7939
Total	**0.0106**	**0.1185**	**0.0724**	**1.7000e-004**	**2.1400e-003**	**4.9800e-003**	**7.1200e-003**	**3.2000e-004**	**4.5800e-003**	**4.9000e-003**	**0.0000**	**14.6753**	**14.6753**	**4.7500e-003**	**0.0000**	**14.7939**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	9.0000e-005	3.0600e-003	8.6000e-004	1.0000e-005	2.1000e-004	1.0000e-005	2.2000e-004	6.0000e-005	1.0000e-005	7.0000e-005	0.0000	0.9279	0.9279	1.0000e-004	0.0000	0.9304
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.9000e-004	2.0000e-004	2.3000e-003	1.0000e-005	8.8000e-004	1.0000e-005	8.8000e-004	2.3000e-004	1.0000e-005	2.4000e-004	0.0000	0.7338	0.7338	2.0000e-005	0.0000	0.7341
Total	**3.8000e-004**	**3.2600e-003**	**3.1600e-003**	**2.0000e-005**	**1.0900e-003**	**2.0000e-005**	**1.1000e-003**	**2.9000e-004**	**2.0000e-005**	**3.1000e-004**	**0.0000**	**1.6617**	**1.6617**	**1.2000e-004**	**0.0000**	**1.6645**

3.7 Demolition 4 - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					8.3000e-004	0.0000	8.3000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0106	0.1185	0.0724	1.7000e-004		4.9800e-003	4.9800e-003		4.5800e-003	4.5800e-003	0.0000	14.6752	14.6752	4.7500e-003	0.0000	14.7939
Total	**0.0106**	**0.1185**	**0.0724**	**1.7000e-004**	**8.3000e-004**	**4.9800e-003**	**5.8100e-003**	**1.3000e-004**	**4.5800e-003**	**4.7100e-003**	**0.0000**	**14.6752**	**14.6752**	**4.7500e-003**	**0.0000**	**14.7939**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	9.0000e-005	3.0600e-003	8.6000e-004	1.0000e-005	2.1000e-004	1.0000e-005	2.2000e-004	6.0000e-005	1.0000e-005	7.0000e-005	0.0000	0.9279	0.9279	1.0000e-004	0.0000	0.9304
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.9000e-004	2.0000e-004	2.3000e-003	1.0000e-005	8.8000e-004	1.0000e-005	8.8000e-004	2.3000e-004	1.0000e-005	2.4000e-004	0.0000	0.7338	0.7338	2.0000e-005	0.0000	0.7341
Total	**3.8000e-004**	**3.2600e-003**	**3.1600e-003**	**2.0000e-005**	**1.0900e-003**	**2.0000e-005**	**1.1000e-003**	**2.9000e-004**	**2.0000e-005**	**3.1000e-004**	**0.0000**	**1.6617**	**1.6617**	**1.2000e-004**	**0.0000**	**1.6645**

3.8 Demolition 5 - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					7.6000e-004	0.0000	7.6000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0681	0.7423	0.5570	1.1600e-003		0.0319	0.0319		0.0294	0.0294	0.0000	101.8285	101.8285	0.0329	0.0000	102.6518
Total	**0.0681**	**0.7423**	**0.5570**	**1.1600e-003**	**7.6000e-004**	**0.0319**	**0.0327**	**1.1000e-004**	**0.0294**	**0.0295**	**0.0000**	**101.8285**	**101.8285**	**0.0329**	**0.0000**	**102.6518**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.0000e-005	1.0800e-003	3.0000e-004	0.0000	8.0000e-005	0.0000	9.0000e-005	2.0000e-005	0.0000	3.0000e-005	0.0000	0.3279	0.3279	3.0000e-005	0.0000	0.3287
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.9400e-003	1.3100e-003	0.0152	5.0000e-005	5.8200e-003	4.0000e-005	5.8600e-003	1.5500e-003	4.0000e-005	1.5800e-003	0.0000	4.8611	4.8611	1.0000e-004	0.0000	4.8637
Total	**1.9700e-003**	**2.3900e-003**	**0.0155**	**5.0000e-005**	**5.9000e-003**	**4.0000e-005**	**5.9500e-003**	**1.5700e-003**	**4.0000e-005**	**1.6100e-003**	**0.0000**	**5.1890**	**5.1890**	**1.3000e-004**	**0.0000**	**5.1924**

3.8 Demolition 5 - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.9000e-004	0.0000	2.9000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0681	0.7423	0.5570	1.1600e-003		0.0319	0.0319		0.0294	0.0294	0.0000	101.8283	101.8283	0.0329	0.0000	102.6517
Total	**0.0681**	**0.7423**	**0.5570**	**1.1600e-003**	**2.9000e-004**	**0.0319**	**0.0322**	**4.0000e-005**	**0.0294**	**0.0294**	**0.0000**	**101.8283**	**101.8283**	**0.0329**	**0.0000**	**102.6517**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.0000e-005	1.0800e-003	3.0000e-004	0.0000	8.0000e-005	0.0000	9.0000e-005	2.0000e-005	0.0000	3.0000e-005	0.0000	0.3279	0.3279	3.0000e-005	0.0000	0.3287
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.9400e-003	1.3100e-003	0.0152	5.0000e-005	5.8200e-003	4.0000e-005	5.8600e-003	1.5500e-003	4.0000e-005	1.5800e-003	0.0000	4.8611	4.8611	1.0000e-004	0.0000	4.8637
Total	**1.9700e-003**	**2.3900e-003**	**0.0155**	**5.0000e-005**	**5.9000e-003**	**4.0000e-005**	**5.9500e-003**	**1.5700e-003**	**4.0000e-005**	**1.6100e-003**	**0.0000**	**5.1890**	**5.1890**	**1.3000e-004**	**0.0000**	**5.1924**

3.8 Demolition 5 - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.0000e-004	0.0000	1.0000e-004	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.0600e-003	0.0835	0.0721	1.5000e-004		3.6400e-003	3.6400e-003		3.3400e-003	3.3400e-003	0.0000	13.4480	13.4480	4.3500e-003	0.0000	13.5567
Total	**8.0600e-003**	**0.0835**	**0.0721**	**1.5000e-004**	**1.0000e-004**	**3.6400e-003**	**3.7400e-003**	**2.0000e-005**	**3.3400e-003**	**3.3600e-003**	**0.0000**	**13.4480**	**13.4480**	**4.3500e-003**	**0.0000**	**13.5567**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	1.3000e-004	4.0000e-005	0.0000	7.0000e-005	0.0000	7.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0427	0.0427	0.0000	0.0000	0.0428
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.4000e-004	1.6000e-004	1.8700e-003	1.0000e-005	7.7000e-004	0.0000	7.7000e-004	2.0000e-004	0.0000	2.1000e-004	0.0000	0.6183	0.6183	1.0000e-005	0.0000	0.6186
Total	**2.4000e-004**	**2.9000e-004**	**1.9100e-003**	**1.0000e-005**	**8.4000e-004**	**0.0000**	**8.4000e-004**	**2.2000e-004**	**0.0000**	**2.3000e-004**	**0.0000**	**0.6610**	**0.6610**	**1.0000e-005**	**0.0000**	**0.6614**

3.8 Demolition 5 - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					4.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.0600e-003	0.0835	0.0721	1.5000e-004		3.6400e-003	3.6400e-003		3.3400e-003	3.3400e-003	0.0000	13.4479	13.4479	4.3500e-003	0.0000	13.5567
Total	**8.0600e-003**	**0.0835**	**0.0721**	**1.5000e-004**	**4.0000e-005**	**3.6400e-003**	**3.6800e-003**	**1.0000e-005**	**3.3400e-003**	**3.3500e-003**	**0.0000**	**13.4479**	**13.4479**	**4.3500e-003**	**0.0000**	**13.5567**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	1.3000e-004	4.0000e-005	0.0000	7.0000e-005	0.0000	7.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0427	0.0427	0.0000	0.0000	0.0428
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.4000e-004	1.6000e-004	1.8700e-003	1.0000e-005	7.7000e-004	0.0000	7.7000e-004	2.0000e-004	0.0000	2.1000e-004	0.0000	0.6183	0.6183	1.0000e-005	0.0000	0.6186
Total	**2.4000e-004**	**2.9000e-004**	**1.9100e-003**	**1.0000e-005**	**8.4000e-004**	**0.0000**	**8.4000e-004**	**2.2000e-004**	**0.0000**	**2.3000e-004**	**0.0000**	**0.6610**	**0.6610**	**1.0000e-005**	**0.0000**	**0.6614**

3.9 Building Construction 3 and 4 - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1629	1.8101	1.1993	2.6500e-003		0.0768	0.0768		0.0706	0.0706	0.0000	233.1044	233.1044	0.0754	0.0000	234.9892
Total	**0.1629**	**1.8101**	**1.1993**	**2.6500e-003**		**0.0768**	**0.0768**		**0.0706**	**0.0706**	**0.0000**	**233.1044**	**233.1044**	**0.0754**	**0.0000**	**234.9892**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.5700e-003	0.0549	0.0154	1.4000e-004	3.6300e-003	1.1000e-004	3.7400e-003	1.0500e-003	1.1000e-004	1.1500e-003	0.0000	13.9005	13.9005	1.1300e-003	0.0000	13.9287
Worker	5.9800e-003	4.0200e-003	0.0469	1.7000e-004	0.0179	1.2000e-004	0.0180	4.7600e-003	1.1000e-004	4.8700e-003	0.0000	14.9685	14.9685	3.2000e-004	0.0000	14.9766
Total	**7.5500e-003**	**0.0589**	**0.0623**	**3.1000e-004**	**0.0216**	**2.3000e-004**	**0.0218**	**5.8100e-003**	**2.2000e-004**	**6.0200e-003**	**0.0000**	**28.8691**	**28.8691**	**1.4500e-003**	**0.0000**	**28.9052**

3.9 Building Construction 3 and 4 - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1629	1.8101	1.1993	2.6500e-003		0.0768	0.0768		0.0706	0.0706	0.0000	233.1041	233.1041	0.0754	0.0000	234.9889
Total	**0.1629**	**1.8101**	**1.1993**	**2.6500e-003**		**0.0768**	**0.0768**		**0.0706**	**0.0706**	**0.0000**	**233.1041**	**233.1041**	**0.0754**	**0.0000**	**234.9889**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.5700e-003	0.0549	0.0154	1.4000e-004	3.6300e-003	1.1000e-004	3.7400e-003	1.0500e-003	1.1000e-004	1.1500e-003	0.0000	13.9005	13.9005	1.1300e-003	0.0000	13.9287
Worker	5.9800e-003	4.0200e-003	0.0469	1.7000e-004	0.0179	1.2000e-004	0.0180	4.7600e-003	1.1000e-004	4.8700e-003	0.0000	14.9685	14.9685	3.2000e-004	0.0000	14.9766
Total	**7.5500e-003**	**0.0589**	**0.0623**	**3.1000e-004**	**0.0216**	**2.3000e-004**	**0.0218**	**5.8100e-003**	**2.2000e-004**	**6.0200e-003**	**0.0000**	**28.8691**	**28.8691**	**1.4500e-003**	**0.0000**	**28.9052**

3.9 Building Construction 3 and 4 - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	6.1000e-003	0.0644	0.0488	1.1000e-004		2.7700e-003	2.7700e-003		2.5500e-003	2.5500e-003	0.0000	9.7124	9.7124	3.1400e-003	0.0000	9.7909
Total	**6.1000e-003**	**0.0644**	**0.0488**	**1.1000e-004**		**2.7700e-003**	**2.7700e-003**		**2.5500e-003**	**2.5500e-003**	**0.0000**	**9.7124**	**9.7124**	**3.1400e-003**	**0.0000**	**9.7909**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	6.0000e-005	2.1600e-003	6.2000e-004	1.0000e-005	1.5000e-004	0.0000	1.6000e-004	4.0000e-005	0.0000	5.0000e-005	0.0000	0.5735	0.5735	5.0000e-005	0.0000	0.5746
Worker	2.4000e-004	1.5000e-004	1.8200e-003	1.0000e-005	7.5000e-004	0.0000	7.5000e-004	2.0000e-004	0.0000	2.0000e-004	0.0000	0.6006	0.6006	1.0000e-005	0.0000	0.6009
Total	**3.0000e-004**	**2.3100e-003**	**2.4400e-003**	**2.0000e-005**	**9.0000e-004**	**0.0000**	**9.1000e-004**	**2.4000e-004**	**0.0000**	**2.5000e-004**	**0.0000**	**1.1741**	**1.1741**	**6.0000e-005**	**0.0000**	**1.1755**

3.9 Building Construction 3 and 4 - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	6.1000e-003	0.0644	0.0488	1.1000e-004		2.7700e-003	2.7700e-003		2.5500e-003	2.5500e-003	0.0000	9.7124	9.7124	3.1400e-003	0.0000	9.7909
Total	**6.1000e-003**	**0.0644**	**0.0488**	**1.1000e-004**		**2.7700e-003**	**2.7700e-003**		**2.5500e-003**	**2.5500e-003**	**0.0000**	**9.7124**	**9.7124**	**3.1400e-003**	**0.0000**	**9.7909**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	6.0000e-005	2.1600e-003	6.2000e-004	1.0000e-005	1.5000e-004	0.0000	1.6000e-004	4.0000e-005	0.0000	5.0000e-005	0.0000	0.5735	0.5735	5.0000e-005	0.0000	0.5746
Worker	2.4000e-004	1.5000e-004	1.8200e-003	1.0000e-005	7.5000e-004	0.0000	7.5000e-004	2.0000e-004	0.0000	2.0000e-004	0.0000	0.6006	0.6006	1.0000e-005	0.0000	0.6009
Total	**3.0000e-004**	**2.3100e-003**	**2.4400e-003**	**2.0000e-005**	**9.0000e-004**	**0.0000**	**9.1000e-004**	**2.4000e-004**	**0.0000**	**2.5000e-004**	**0.0000**	**1.1741**	**1.1741**	**6.0000e-005**	**0.0000**	**1.1755**

3.10 Demolition 6 and 7 - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					4.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0139	0.1465	0.1364	2.6000e-004		6.4900e-003	6.4900e-003		5.9700e-003	5.9700e-003	0.0000	22.6306	22.6306	7.3200e-003	0.0000	22.8136
Total	**0.0139**	**0.1465**	**0.1364**	**2.6000e-004**	**4.0000e-005**	**6.4900e-003**	**6.5300e-003**	**1.0000e-005**	**5.9700e-003**	**5.9800e-003**	**0.0000**	**22.6306**	**22.6306**	**7.3200e-003**	**0.0000**	**22.8136**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0124	0.0124	0.0000	0.0000	0.0124
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.7000e-004	3.2000e-004	3.6800e-003	1.0000e-005	1.4100e-003	1.0000e-005	1.4100e-003	3.7000e-004	1.0000e-005	3.8000e-004	0.0000	1.1740	1.1740	3.0000e-005	0.0000	1.1746
Total	**4.7000e-004**	**3.6000e-004**	**3.6900e-003**	**1.0000e-005**	**1.4200e-003**	**1.0000e-005**	**1.4200e-003**	**3.7000e-004**	**1.0000e-005**	**3.8000e-004**	**0.0000**	**1.1864**	**1.1864**	**3.0000e-005**	**0.0000**	**1.1870**

3.10 Demolition 6 and 7 - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0139	0.1465	0.1364	2.6000e-004		6.4900e-003	6.4900e-003		5.9700e-003	5.9700e-003	0.0000	22.6306	22.6306	7.3200e-003	0.0000	22.8136
Total	**0.0139**	**0.1465**	**0.1364**	**2.6000e-004**	**2.0000e-005**	**6.4900e-003**	**6.5100e-003**	**0.0000**	**5.9700e-003**	**5.9700e-003**	**0.0000**	**22.6306**	**22.6306**	**7.3200e-003**	**0.0000**	**22.8136**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0124	0.0124	0.0000	0.0000	0.0124
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.7000e-004	3.2000e-004	3.6800e-003	1.0000e-005	1.4100e-003	1.0000e-005	1.4100e-003	3.7000e-004	1.0000e-005	3.8000e-004	0.0000	1.1740	1.1740	3.0000e-005	0.0000	1.1746
Total	**4.7000e-004**	**3.6000e-004**	**3.6900e-003**	**1.0000e-005**	**1.4200e-003**	**1.0000e-005**	**1.4200e-003**	**3.7000e-004**	**1.0000e-005**	**3.8000e-004**	**0.0000**	**1.1864**	**1.1864**	**3.0000e-005**	**0.0000**	**1.1870**

3.10 Demolition 6 and 7 - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.2000e-004	0.0000	1.2000e-004	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0342	0.3405	0.3697	7.1000e-004		0.0152	0.0152		0.0140	0.0140	0.0000	62.2237	62.2237	0.0201	0.0000	62.7268
Total	**0.0342**	**0.3405**	**0.3697**	**7.1000e-004**	**1.2000e-004**	**0.0152**	**0.0153**	**2.0000e-005**	**0.0140**	**0.0140**	**0.0000**	**62.2237**	**62.2237**	**0.0201**	**0.0000**	**62.7268**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	1.0000e-004	3.0000e-005	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0336	0.0336	0.0000	0.0000	0.0337
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2200e-003	7.9000e-004	9.4300e-003	3.0000e-005	3.8600e-003	2.0000e-005	3.8900e-003	1.0300e-003	2.0000e-005	1.0500e-003	0.0000	3.1090	3.1090	6.0000e-005	0.0000	3.1106
Total	**1.2200e-003**	**8.9000e-004**	**9.4600e-003**	**3.0000e-005**	**3.8700e-003**	**2.0000e-005**	**3.9000e-003**	**1.0300e-003**	**2.0000e-005**	**1.0500e-003**	**0.0000**	**3.1426**	**3.1426**	**6.0000e-005**	**0.0000**	**3.1442**

3.10 Demolition 6 and 7 - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					5.0000e-005	0.0000	5.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0342	0.3405	0.3697	7.1000e-004		0.0152	0.0152		0.0140	0.0140	0.0000	62.2236	62.2236	0.0201	0.0000	62.7267
Total	**0.0342**	**0.3405**	**0.3697**	**7.1000e-004**	**5.0000e-005**	**0.0152**	**0.0153**	**1.0000e-005**	**0.0140**	**0.0140**	**0.0000**	**62.2236**	**62.2236**	**0.0201**	**0.0000**	**62.7267**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	1.0000e-004	3.0000e-005	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0336	0.0336	0.0000	0.0000	0.0337
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2200e-003	7.9000e-004	9.4300e-003	3.0000e-005	3.8600e-003	2.0000e-005	3.8900e-003	1.0300e-003	2.0000e-005	1.0500e-003	0.0000	3.1090	3.1090	6.0000e-005	0.0000	3.1106
Total	**1.2200e-003**	**8.9000e-004**	**9.4600e-003**	**3.0000e-005**	**3.8700e-003**	**2.0000e-005**	**3.9000e-003**	**1.0300e-003**	**2.0000e-005**	**1.0500e-003**	**0.0000**	**3.1426**	**3.1426**	**6.0000e-005**	**0.0000**	**3.1442**

3.11 Grading 1 - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.6700e-003	0.0345	0.0524	8.0000e-005		1.6700e-003	1.6700e-003		1.5400e-003	1.5400e-003	0.0000	7.2603	7.2603	2.3500e-003	0.0000	7.3190
Total	**3.6700e-003**	**0.0345**	**0.0524**	**8.0000e-005**	**3.0000e-005**	**1.6700e-003**	**1.7000e-003**	**0.0000**	**1.5400e-003**	**1.5400e-003**	**0.0000**	**7.2603**	**7.2603**	**2.3500e-003**	**0.0000**	**7.3190**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	7.0000e-005	2.3200e-003	6.5000e-004	1.0000e-005	5.0000e-004	1.0000e-005	5.1000e-004	1.3000e-004	1.0000e-005	1.3000e-004	0.0000	0.7052	0.7052	7.0000e-005	0.0000	0.7071
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.8000e-004	1.2000e-004	1.3800e-003	0.0000	5.3000e-004	0.0000	5.3000e-004	1.4000e-004	0.0000	1.4000e-004	0.0000	0.4403	0.4403	1.0000e-005	0.0000	0.4405
Total	**2.5000e-004**	**2.4400e-003**	**2.0300e-003**	**1.0000e-005**	**1.0300e-003**	**1.0000e-005**	**1.0400e-003**	**2.7000e-004**	**1.0000e-005**	**2.7000e-004**	**0.0000**	**1.1455**	**1.1455**	**8.0000e-005**	**0.0000**	**1.1476**

3.11 Grading 1 - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.6700e-003	0.0345	0.0524	8.0000e-005		1.6700e-003	1.6700e-003		1.5400e-003	1.5400e-003	0.0000	7.2603	7.2603	2.3500e-003	0.0000	7.3190
Total	**3.6700e-003**	**0.0345**	**0.0524**	**8.0000e-005**	**1.0000e-005**	**1.6700e-003**	**1.6800e-003**	**0.0000**	**1.5400e-003**	**1.5400e-003**	**0.0000**	**7.2603**	**7.2603**	**2.3500e-003**	**0.0000**	**7.3190**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	7.0000e-005	2.3200e-003	6.5000e-004	1.0000e-005	5.0000e-004	1.0000e-005	5.1000e-004	1.3000e-004	1.0000e-005	1.3000e-004	0.0000	0.7052	0.7052	7.0000e-005	0.0000	0.7071
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.8000e-004	1.2000e-004	1.3800e-003	0.0000	5.3000e-004	0.0000	5.3000e-004	1.4000e-004	0.0000	1.4000e-004	0.0000	0.4403	0.4403	1.0000e-005	0.0000	0.4405
Total	**2.5000e-004**	**2.4400e-003**	**2.0300e-003**	**1.0000e-005**	**1.0300e-003**	**1.0000e-005**	**1.0400e-003**	**2.7000e-004**	**1.0000e-005**	**2.7000e-004**	**0.0000**	**1.1455**	**1.1455**	**8.0000e-005**	**0.0000**	**1.1476**

3.11 Grading 1 - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.9100e-003	0.0782	0.1432	2.3000e-004		3.7800e-003	3.7800e-003		3.4800e-003	3.4800e-003	0.0000	19.9587	19.9587	6.4600e-003	0.0000	20.1201
Total	**8.9100e-003**	**0.0782**	**0.1432**	**2.3000e-004**	**3.0000e-005**	**3.7800e-003**	**3.8100e-003**	**0.0000**	**3.4800e-003**	**3.4800e-003**	**0.0000**	**19.9587**	**19.9587**	**6.4600e-003**	**0.0000**	**20.1201**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.7000e-004	5.8400e-003	1.8000e-003	2.0000e-005	5.7000e-004	2.0000e-005	5.9000e-004	1.5000e-004	2.0000e-005	1.7000e-004	0.0000	1.9137	1.9137	2.0000e-004	0.0000	1.9187
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.6000e-004	2.9000e-004	3.5400e-003	1.0000e-005	1.4500e-003	1.0000e-005	1.4600e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.1659	1.1659	2.0000e-005	0.0000	1.1665
Total	**6.3000e-004**	**6.1300e-003**	**5.3400e-003**	**3.0000e-005**	**2.0200e-003**	**3.0000e-005**	**2.0500e-003**	**5.3000e-004**	**3.0000e-005**	**5.6000e-004**	**0.0000**	**3.0796**	**3.0796**	**2.2000e-004**	**0.0000**	**3.0851**

3.11 Grading 1 - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.9100e-003	0.0782	0.1432	2.3000e-004		3.7800e-003	3.7800e-003		3.4800e-003	3.4800e-003	0.0000	19.9587	19.9587	6.4600e-003	0.0000	20.1200
Total	**8.9100e-003**	**0.0782**	**0.1432**	**2.3000e-004**	**1.0000e-005**	**3.7800e-003**	**3.7900e-003**	**0.0000**	**3.4800e-003**	**3.4800e-003**	**0.0000**	**19.9587**	**19.9587**	**6.4600e-003**	**0.0000**	**20.1200**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.7000e-004	5.8400e-003	1.8000e-003	2.0000e-005	5.7000e-004	2.0000e-005	5.9000e-004	1.5000e-004	2.0000e-005	1.7000e-004	0.0000	1.9137	1.9137	2.0000e-004	0.0000	1.9187
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.6000e-004	2.9000e-004	3.5400e-003	1.0000e-005	1.4500e-003	1.0000e-005	1.4600e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.1659	1.1659	2.0000e-005	0.0000	1.1665
Total	**6.3000e-004**	**6.1300e-003**	**5.3400e-003**	**3.0000e-005**	**2.0200e-003**	**3.0000e-005**	**2.0500e-003**	**5.3000e-004**	**3.0000e-005**	**5.6000e-004**	**0.0000**	**3.0796**	**3.0796**	**2.2000e-004**	**0.0000**	**3.0851**

3.12 Paving 1 - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0105	0.1021	0.1230	1.9000e-004		5.2500e-003	5.2500e-003		4.8400e-003	4.8400e-003	0.0000	16.8168	16.8168	5.3200e-003	0.0000	16.9498
Paving	3.0000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0108**	**0.1021**	**0.1230**	**1.9000e-004**		**5.2500e-003**	**5.2500e-003**		**4.8400e-003**	**4.8400e-003**	**0.0000**	**16.8168**	**16.8168**	**5.3200e-003**	**0.0000**	**16.9498**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.9000e-004	3.9000e-004	4.6000e-003	2.0000e-005	1.7600e-003	1.0000e-005	1.7700e-003	4.7000e-004	1.0000e-005	4.8000e-004	0.0000	1.4675	1.4675	3.0000e-005	0.0000	1.4683
Total	**5.9000e-004**	**3.9000e-004**	**4.6000e-003**	**2.0000e-005**	**1.7600e-003**	**1.0000e-005**	**1.7700e-003**	**4.7000e-004**	**1.0000e-005**	**4.8000e-004**	**0.0000**	**1.4675**	**1.4675**	**3.0000e-005**	**0.0000**	**1.4683**

3.12 Paving 1 - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0105	0.1021	0.1230	1.9000e-004		5.2500e-003	5.2500e-003		4.8400e-003	4.8400e-003	0.0000	16.8168	16.8168	5.3200e-003	0.0000	16.9498
Paving	3.0000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0108**	**0.1021**	**0.1230**	**1.9000e-004**		**5.2500e-003**	**5.2500e-003**		**4.8400e-003**	**4.8400e-003**	**0.0000**	**16.8168**	**16.8168**	**5.3200e-003**	**0.0000**	**16.9498**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.9000e-004	3.9000e-004	4.6000e-003	2.0000e-005	1.7600e-003	1.0000e-005	1.7700e-003	4.7000e-004	1.0000e-005	4.8000e-004	0.0000	1.4675	1.4675	3.0000e-005	0.0000	1.4683
Total	**5.9000e-004**	**3.9000e-004**	**4.6000e-003**	**2.0000e-005**	**1.7600e-003**	**1.0000e-005**	**1.7700e-003**	**4.7000e-004**	**1.0000e-005**	**4.8000e-004**	**0.0000**	**1.4675**	**1.4675**	**3.0000e-005**	**0.0000**	**1.4683**

3.12 Paving 1 - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0252	0.2376	0.3361	5.3000e-004		0.0119	0.0119		0.0110	0.0110	0.0000	46.2466	46.2466	0.0146	0.0000	46.6122
Paving	8.2000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0260**	**0.2376**	**0.3361**	**5.3000e-004**		**0.0119**	**0.0119**		**0.0110**	**0.0110**	**0.0000**	**46.2466**	**46.2466**	**0.0146**	**0.0000**	**46.6122**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.5300e-003	9.8000e-004	0.0118	4.0000e-005	4.8300e-003	3.0000e-005	4.8600e-003	1.2800e-003	3.0000e-005	1.3100e-003	0.0000	3.8862	3.8862	8.0000e-005	0.0000	3.8882
Total	**1.5300e-003**	**9.8000e-004**	**0.0118**	**4.0000e-005**	**4.8300e-003**	**3.0000e-005**	**4.8600e-003**	**1.2800e-003**	**3.0000e-005**	**1.3100e-003**	**0.0000**	**3.8862**	**3.8862**	**8.0000e-005**	**0.0000**	**3.8882**

3.12 Paving 1 - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0252	0.2376	0.3361	5.3000e-004		0.0119	0.0119		0.0110	0.0110	0.0000	46.2465	46.2465	0.0146	0.0000	46.6122
Paving	8.2000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0260**	**0.2376**	**0.3361**	**5.3000e-004**		**0.0119**	**0.0119**		**0.0110**	**0.0110**	**0.0000**	**46.2465**	**46.2465**	**0.0146**	**0.0000**	**46.6122**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.5300e-003	9.8000e-004	0.0118	4.0000e-005	4.8300e-003	3.0000e-005	4.8600e-003	1.2800e-003	3.0000e-005	1.3100e-003	0.0000	3.8862	3.8862	8.0000e-005	0.0000	3.8882
Total	**1.5300e-003**	**9.8000e-004**	**0.0118**	**4.0000e-005**	**4.8300e-003**	**3.0000e-005**	**4.8600e-003**	**1.2800e-003**	**3.0000e-005**	**1.3100e-003**	**0.0000**	**3.8862**	**3.8862**	**8.0000e-005**	**0.0000**	**3.8882**

3.13 Demolition 8 - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.4100e-003	0.0000	2.4100e-003	3.6000e-004	0.0000	3.6000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.4800e-003	0.1015	0.0704	1.7000e-004		4.3300e-003	4.3300e-003		3.9900e-003	3.9900e-003	0.0000	14.6753	14.6753	4.7500e-003	0.0000	14.7940
Total	**9.4800e-003**	**0.1015**	**0.0704**	**1.7000e-004**	**2.4100e-003**	**4.3300e-003**	**6.7400e-003**	**3.6000e-004**	**3.9900e-003**	**4.3500e-003**	**0.0000**	**14.6753**	**14.6753**	**4.7500e-003**	**0.0000**	**14.7940**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	9.0000e-005	3.0800e-003	9.5000e-004	1.0000e-005	2.4000e-004	1.0000e-005	2.5000e-004	6.0000e-005	1.0000e-005	7.0000e-005	0.0000	1.0072	1.0072	1.0000e-004	0.0000	1.0098
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.8000e-004	1.8000e-004	2.1400e-003	1.0000e-005	8.8000e-004	1.0000e-005	8.8000e-004	2.3000e-004	1.0000e-005	2.4000e-004	0.0000	0.7066	0.7066	1.0000e-005	0.0000	0.7069
Total	**3.7000e-004**	**3.2600e-003**	**3.0900e-003**	**2.0000e-005**	**1.1200e-003**	**2.0000e-005**	**1.1300e-003**	**2.9000e-004**	**2.0000e-005**	**3.1000e-004**	**0.0000**	**1.7138**	**1.7138**	**1.1000e-004**	**0.0000**	**1.7168**

3.13 Demolition 8 - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					9.4000e-004	0.0000	9.4000e-004	1.4000e-004	0.0000	1.4000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.4800e-003	0.1015	0.0704	1.7000e-004		4.3300e-003	4.3300e-003		3.9900e-003	3.9900e-003	0.0000	14.6753	14.6753	4.7500e-003	0.0000	14.7940
Total	**9.4800e-003**	**0.1015**	**0.0704**	**1.7000e-004**	**9.4000e-004**	**4.3300e-003**	**5.2700e-003**	**1.4000e-004**	**3.9900e-003**	**4.1300e-003**	**0.0000**	**14.6753**	**14.6753**	**4.7500e-003**	**0.0000**	**14.7940**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	9.0000e-005	3.0800e-003	9.5000e-004	1.0000e-005	2.4000e-004	1.0000e-005	2.5000e-004	6.0000e-005	1.0000e-005	7.0000e-005	0.0000	1.0072	1.0072	1.0000e-004	0.0000	1.0098
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.8000e-004	1.8000e-004	2.1400e-003	1.0000e-005	8.8000e-004	1.0000e-005	8.8000e-004	2.3000e-004	1.0000e-005	2.4000e-004	0.0000	0.7066	0.7066	1.0000e-005	0.0000	0.7069
Total	**3.7000e-004**	**3.2600e-003**	**3.0900e-003**	**2.0000e-005**	**1.1200e-003**	**2.0000e-005**	**1.1300e-003**	**2.9000e-004**	**2.0000e-005**	**3.1000e-004**	**0.0000**	**1.7138**	**1.7138**	**1.1000e-004**	**0.0000**	**1.7168**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	16.60	8.40	6.90	59.00	28.00	13.00	92	5	3
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Light Industry	0.563406	0.043070	0.209298	0.109958	0.015015	0.005784	0.026182	0.017546	0.001775	0.001524	0.004941	0.000598	0.000904
Parking Lot	0.563406	0.043070	0.209298	0.109958	0.015015	0.005784	0.026182	0.017546	0.001775	0.001524	0.004941	0.000598	0.000904

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	1,443.7621	1,443.7621	0.0596	0.0123	1,448.9272
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	1,443.7621	1,443.7621	0.0596	0.0123	1,448.9272
NaturalGas Mitigated	2.5000e-004	2.3200e-003	1.9400e-003	1.0000e-005		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004	0.0000	2.5206	2.5206	5.0000e-005	5.0000e-005	2.5356
NaturalGas Unmitigated	2.5000e-004	2.3200e-003	1.9400e-003	1.0000e-005		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004	0.0000	2.5206	2.5206	5.0000e-005	5.0000e-005	2.5356

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Light Industry	47234	2.5000e-004	2.3200e-003	1.9400e-003	1.0000e-005		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004	0.0000	2.5206	2.5206	5.0000e-005	5.0000e-005	2.5356
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**2.5000e-004**	**2.3200e-003**	**1.9400e-003**	**1.0000e-005**		**1.8000e-004**	**1.8000e-004**		**1.8000e-004**	**1.8000e-004**	**0.0000**	**2.5206**	**2.5206**	**5.0000e-005**	**5.0000e-005**	**2.5356**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Light Industry	47234	2.5000e-004	2.3200e-003	1.9400e-003	1.0000e-005		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004	0.0000	2.5206	2.5206	5.0000e-005	5.0000e-005	2.5356
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**2.5000e-004**	**2.3200e-003**	**1.9400e-003**	**1.0000e-005**		**1.8000e-004**	**1.8000e-004**		**1.8000e-004**	**1.8000e-004**	**0.0000**	**2.5206**	**2.5206**	**5.0000e-005**	**5.0000e-005**	**2.5356**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	4.53128e+006	1,443.7621	0.0596	0.0123	1,448.9272
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**1,443.7621**	**0.0596**	**0.0123**	**1,448.9272**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	4.53128e+006	1,443.7621	0.0596	0.0123	1,448.9272
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**1,443.7621**	**0.0596**	**0.0123**	**1,448.9272**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0122	0.0000	5.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	9.8000e-004	9.8000e-004	0.0000	0.0000	1.0400e-003
Unmitigated	0.0122	0.0000	5.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	9.8000e-004	9.8000e-004	0.0000	0.0000	1.0400e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	1.5600e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0106					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	5.0000e-005	0.0000	5.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	9.8000e-004	9.8000e-004	0.0000	0.0000	1.0400e-003
Total	**0.0122**	**0.0000**	**5.0000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**9.8000e-004**	**9.8000e-004**	**0.0000**	**0.0000**	**1.0400e-003**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	1.5600e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0106					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	5.0000e-005	0.0000	5.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	9.8000e-004	9.8000e-004	0.0000	0.0000	1.0400e-003
Total	**0.0122**	**0.0000**	**5.0000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**9.8000e-004**	**9.8000e-004**	**0.0000**	**0.0000**	**1.0400e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	2.3341	0.0171	4.2000e-004	2.8874
Unmitigated	2.3341	0.0171	4.2000e-004	2.8874

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	0.522625 / 0	2.3341	0.0171	4.2000e-004	2.8874
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**2.3341**	**0.0171**	**4.2000e-004**	**2.8874**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	0.522625 / 0	2.3341	0.0171	4.2000e-004	2.8874
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**2.3341**	**0.0171**	**4.2000e-004**	**2.8874**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.5684	0.0336	0.0000	1.4081
Unmitigated	0.5684	0.0336	0.0000	1.4081

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	2.8	0.5684	0.0336	0.0000	1.4081
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**0.5684**	**0.0336**	**0.0000**	**1.4081**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	2.8	0.5684	0.0336	0.0000	1.4081
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**0.5684**	**0.0336**	**0.0000**	**1.4081**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	1	1	12	1500	0.73	Diesel

Boilers

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

User Defined Equipment

Equipment Type	Number

10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	tons/yr										MT/yr					
Emergency Generator - Diesel (750 - 9999 HP)	0.0148	0.0661	0.0377	7.0000e-005		2.1700e-003	2.1700e-003		2.1700e-003	2.1700e-003	0.0000	6.8544	6.8544	9.6000e-004	0.0000	6.8784
Total	**0.0148**	**0.0661**	**0.0377**	**7.0000e-005**		**2.1700e-003**	**2.1700e-003**		**2.1700e-003**	**2.1700e-003**	**0.0000**	**6.8544**	**6.8544**	**9.6000e-004**	**0.0000**	**6.8784**

11.0 Vegetation

IRWD Zone A to Rattlesnake Reservoir

Orange County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	2.26	1000sqft	0.05	2,260.00	0
Parking Lot	37.20	1000sqft	0.85	37,200.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	30
Climate Zone	8			**Operational Year**	2023
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - .

Construction Phase - .

Off-road Equipment - Estimate for Jackhammer

Off-road Equipment - No equipment

Off-road Equipment - .

Off-road Equipment - .

Off-road Equipment - Estimate for Jackhammer

Off-road Equipment - .

Off-road Equipment - .

Off-road Equipment - .

Off-road Equipment - .

Off-road Equipment - .

Off-road Equipment - .

Off-road Equipment - .

Trips and VMT - .

Demolition - .

Grading - .

Vehicle Trips - .

Energy Use - .

Water And Wastewater - Default Assumptions

Construction Off-road Equipment Mitigation -

Operational Off-Road Equipment -

Stationary Sources - Emergency Generators and Fire Pumps - .

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	100.00	80.00

tblConstructionPhase	NumDays	100.00	80.00
tblConstructionPhase	NumDays	100.00	200.00
tblConstructionPhase	NumDays	10.00	120.00
tblConstructionPhase	NumDays	10.00	20.00
tblConstructionPhase	NumDays	10.00	80.00
tblConstructionPhase	NumDays	10.00	20.00
tblConstructionPhase	NumDays	10.00	240.00
tblConstructionPhase	NumDays	10.00	120.00
tblConstructionPhase	NumDays	2.00	120.00
tblConstructionPhase	NumDays	5.00	120.00
tblEnergyUse	LightingElect	2.99	709.46
tblEnergyUse	LightingElect	0.35	0.00
tblEnergyUse	NT24E	3.83	908.77
tblEnergyUse	T24E	1.63	386.76
tblGrading	MaterialImported	0.00	456.00
tblOffRoadEquipment	HorsePower	88.00	3.00
tblOffRoadEquipment	HorsePower	88.00	3.00
tblOffRoadEquipment	LoadFactor	0.34	0.73
tblOffRoadEquipment	LoadFactor	0.34	0.73
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	UsageHours	4.00	8.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	7.00

tblOffRoadEquipment	UsageHours	6.00	8.00
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	1,500.00
tblStationaryGeneratorsPumpsUse	HoursPerDay	0.00	1.00
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	12.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00
tblTripsAndVMT	HaulingTripLength	20.00	25.00
tblTripsAndVMT	HaulingTripLength	20.00	25.00
tblTripsAndVMT	HaulingTripLength	20.00	25.00
tblTripsAndVMT	HaulingTripLength	20.00	25.00
tblTripsAndVMT	HaulingTripLength	20.00	25.00
tblTripsAndVMT	HaulingTripLength	20.00	25.00
tblTripsAndVMT	HaulingTripLength	20.00	25.00
tblTripsAndVMT	HaulingTripLength	20.00	25.00
tblTripsAndVMT	HaulingTripLength	20.00	25.00
tblTripsAndVMT	HaulingTripLength	20.00	25.00
tblTripsAndVMT	HaulingTripLength	20.00	25.00
tblVehicleTrips	ST_TR	1.32	0.00
tblVehicleTrips	SU_TR	0.68	0.00
tblVehicleTrips	WD_TR	6.97	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	2.1286	21.9406	19.3682	0.0413	0.7601	0.9228	1.6829	0.1932	0.8493	1.0425	0.0000	4,052.7380	4,052.7380	1.0520	0.0000	4,079.0386
2021	4.2884	44.3605	38.7374	0.0785	0.7645	1.9437	2.5062	0.1943	1.7891	1.9377	0.0000	7,620.2759	7,620.2759	2.2684	0.0000	7,676.9845
2022	3.8370	37.7404	38.0403	0.0783	0.6733	1.6596	2.2071	0.1501	1.5278	1.6726	0.0000	7,600.6293	7,600.6293	2.2668	0.0000	7,657.2995
Maximum	**4.2884**	**44.3605**	**38.7374**	**0.0785**	**0.7645**	**1.9437**	**2.5062**	**0.1943**	**1.7891**	**1.9377**	**0.0000**	**7,620.2759**	**7,620.2759**	**2.2684**	**0.0000**	**7,676.9845**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	2.1286	21.9406	19.3682	0.0413	0.7063	0.9228	1.6291	0.1851	0.8493	1.0343	0.0000	4,052.7380	4,052.7380	1.0520	0.0000	4,079.0386
2021	4.2884	44.3605	38.7374	0.0785	0.7107	1.9437	2.4999	0.1862	1.7891	1.9367	0.0000	7,620.2759	7,620.2759	2.2684	0.0000	7,676.9845
2022	3.8370	37.7404	38.0403	0.0783	0.5413	1.6596	2.2009	0.1439	1.5278	1.6717	0.0000	7,600.6292	7,600.6292	2.2668	0.0000	7,657.2995
Maximum	**4.2884**	**44.3605**	**38.7374**	**0.0785**	**0.7107**	**1.9437**	**2.4999**	**0.1862**	**1.7891**	**1.9367**	**0.0000**	**7,620.2759**	**7,620.2759**	**2.2684**	**0.0000**	**7,676.9845**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**10.90**	**0.00**	**1.04**	**4.19**	**0.00**	**0.22**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.0669	4.0000e-005	4.0300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		8.6400e-003	8.6400e-003	2.0000e-005		9.2000e-003
Energy	1.4000e-003	0.0127	0.0107	8.0000e-005		9.6000e-004	9.6000e-004		9.6000e-004	9.6000e-004		15.2245	15.2245	2.9000e-004	2.8000e-004	15.3150
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Stationary	2.4616	11.0081	6.2766	0.0118		0.3621	0.3621		0.3621	0.3621		1,259.2712	1,259.2712	0.1766		1,263.6849
Total	**2.5299**	**11.0209**	**6.2913**	**0.0119**	**0.0000**	**0.3631**	**0.3631**	**0.0000**	**0.3631**	**0.3631**		**1,274.5043**	**1,274.5043**	**0.1769**	**2.8000e-004**	**1,279.0091**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.0669	4.0000e-005	4.0300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		8.6400e-003	8.6400e-003	2.0000e-005		9.2000e-003
Energy	1.4000e-003	0.0127	0.0107	8.0000e-005		9.6000e-004	9.6000e-004		9.6000e-004	9.6000e-004		15.2245	15.2245	2.9000e-004	2.8000e-004	15.3150
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Stationary	2.4616	11.0081	6.2766	0.0118		0.3621	0.3621		0.3621	0.3621		1,259.2712	1,259.2712	0.1766		1,263.6849
Total	**2.5299**	**11.0209**	**6.2913**	**0.0119**	**0.0000**	**0.3631**	**0.3631**	**0.0000**	**0.3631**	**0.3631**		**1,274.5043**	**1,274.5043**	**0.1769**	**2.8000e-004**	**1,279.0091**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

IRWD Zone A to Rattlesnake Reservoir - Orange County, Summer

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition 1 and 2	Demolition	9/24/2020	3/10/2021	5	120	Demo of Northwood Zone A to B Pump, Demo of spetic tank and leach field
2	Trenching 1 and 2	Trenching	9/24/2020	3/10/2021	5	120	Install/Commission swer line, install temp fill pipelines
3	Demolition 3	Demolition	11/19/2020	3/10/2021	5	80	demo of staircases
4	Building Construction 1	Building Construction	11/19/2020	3/10/2021	5	80	Install of new restroom
5	Building Construction 2	Building Construction	11/19/2020	3/10/2021	5	80	Install new dechlorination facility, etc
6	Demolition 4	Demolition	3/11/2021	4/7/2021	5	20	Decom and demo existing dechlor facility
7	Demolition 5	Demolition	3/11/2021	2/9/2022	5	240	Decom and demo misc pipes and structures
8	Building Construction 3 and 4	Building Construction	4/8/2021	1/12/2022	5	200	Construct ZARRPS and generator, etc
9	Demolition 6 and 7	Demolition	11/18/2021	5/4/2022	5	120	Demo temp fill lines and modify sump pump for truck access
10	Grading 1	Grading	11/18/2021	5/4/2022	5	120	Grading
11	Paving 1	Paving	11/18/2021	5/4/2022	5	120	Paving
12	Demolition 8	Demolition	1/13/2022	2/9/2022	5	20	Decommission and demo existing RRPS2, etc

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0.85

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition 1 and 2	Concrete/Industrial Saws	0	8.00	81	0.73
Demolition 1 and 2	Cranes	2	8.00	231	0.29

Demolition 1 and 2	Excavators	1	8.00	158	0.38
Demolition 1 and 2	Rubber Tired Dozers	0	1.00	247	0.40
Demolition 1 and 2	Tractors/Loaders/Backhoes	0	6.00	97	0.37
Trenching 1 and 2	Excavators	2	8.00	158	0.38
Trenching 1 and 2	Graders	0	8.00	187	0.41
Trenching 1 and 2	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Demolition 3	Concrete/Industrial Saws	0	8.00	81	0.73
Demolition 3	Cranes	0	4.00	231	0.29
Demolition 3	Excavators	1	8.00	158	0.38
Demolition 3	Forklifts	0	6.00	89	0.20
Demolition 3	Other General Industrial Equipment	1	8.00	3	0.73
Demolition 3	Rubber Tired Dozers	0	1.00	247	0.40
Demolition 3	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Building Construction 1	Concrete/Industrial Saws	0	8.00	81	0.73
Building Construction 1	Cranes	0	4.00	231	0.29
Building Construction 1	Forklifts	0	6.00	89	0.20
Building Construction 1	Other General Industrial Equipment	1	8.00	3	0.73
Building Construction 1	Rubber Tired Dozers	0	1.00	247	0.40
Building Construction 1	Tractors/Loaders/Backhoes	0	6.00	97	0.37
Building Construction 2	Cement and Mortar Mixers	0	6.00	9	0.56
Building Construction 2	Cranes	0	4.00	231	0.29
Building Construction 2	Forklifts	0	6.00	89	0.20
Building Construction 2	Pavers	0	7.00	130	0.42
Building Construction 2	Rollers	0	7.00	80	0.38
Building Construction 2	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Demolition 4	Air Compressors	0	6.00	78	0.48
Demolition 4	Concrete/Industrial Saws	0	8.00	81	0.73

IRWD Zone A to Rattlesnake Reservoir - Orange County, Summer

Demolition 4	Cranes	2	8.00	231	0.29
Demolition 4	Excavators	1	8.00	158	0.38
Demolition 4	Rubber Tired Dozers	0	1.00	247	0.40
Demolition 4	Tractors/Loaders/Backhoes	0	6.00	97	0.37
Demolition 5	Concrete/Industrial Saws	0	8.00	81	0.73
Demolition 5	Cranes	1	8.00	231	0.29
Demolition 5	Excavators	1	8.00	158	0.38
Demolition 5	Rubber Tired Dozers	0	1.00	247	0.40
Demolition 5	Tractors/Loaders/Backhoes	0	6.00	97	0.37
Building Construction 3 and 4	Cranes	3	8.00	231	0.29
Building Construction 3 and 4	Excavators	2	8.00	158	0.38
Building Construction 3 and 4	Forklifts	0	6.00	89	0.20
Building Construction 3 and 4	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Demolition 6 and 7	Concrete/Industrial Saws	0	8.00	81	0.73
Demolition 6 and 7	Cranes	1	8.00	231	0.29
Demolition 6 and 7	Excavators	2	8.00	158	0.38
Demolition 6 and 7	Rubber Tired Dozers	0	1.00	247	0.40
Demolition 6 and 7	Tractors/Loaders/Backhoes	0	6.00	97	0.37
Grading 1	Concrete/Industrial Saws	0	8.00	81	0.73
Grading 1	Excavators	1	8.00	158	0.38
Grading 1	Rubber Tired Dozers	0	1.00	247	0.40
Grading 1	Tractors/Loaders/Backhoes	0	6.00	97	0.37
Paving 1	Cement and Mortar Mixers	1	6.00	9	0.56
Paving 1	Excavators	1	8.00	158	0.38
Paving 1	Pavers	1	7.00	130	0.42
Paving 1	Rollers	1	7.00	80	0.38
Paving 1	Tractors/Loaders/Backhoes	0	7.00	97	0.37

Demolition 8	Concrete/Industrial Saws	0	8.00	81	0.73
Demolition 8	Cranes	2	8.00	231	0.29
Demolition 8	Excavators	1	8.00	158	0.38
Demolition 8	Rubber Tired Dozers	0	1.00	247	0.40
Demolition 8	Tractors/Loaders/Backhoes	0	6.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition 1 and 2	3	8.00	0.00	46.00	14.70	6.90	25.00	LD_Mix	HDT_Mix	HHDT
Trenching 1 and 2	2	5.00	0.00	0.00	14.70	6.90	25.00	LD_Mix	HDT_Mix	HHDT
Demolition 3	2	5.00	0.00	2.00	14.70	6.90	25.00	LD_Mix	HDT_Mix	HHDT
Building Construction 1	1	17.00	6.00	0.00	14.70	6.90	25.00	LD_Mix	HDT_Mix	HHDT
Building Construction 2	0	17.00	6.00	0.00	14.70	6.90	25.00	LD_Mix	HDT_Mix	HHDT
Demolition 4	3	8.00	0.00	20.00	14.70	6.90	25.00	LD_Mix	HDT_Mix	HHDT
Demolition 5	2	5.00	0.00	8.00	14.70	6.90	25.00	LD_Mix	HDT_Mix	HHDT
Building Construction 3 and 4	5	17.00	6.00	0.00	14.70	6.90	25.00	LD_Mix	HDT_Mix	HHDT
Demolition 6 and 7	3	8.00	0.00	1.00	14.70	6.90	25.00	LD_Mix	HDT_Mix	HHDT
Grading 1	1	3.00	0.00	57.00	14.70	6.90	25.00	LD_Mix	HDT_Mix	HHDT
Paving 1	4	10.00	0.00	0.00	14.70	6.90	25.00	LD_Mix	HDT_Mix	HHDT
Demolition 8	3	8.00	0.00	22.00	14.70	6.90	25.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Demolition 1 and 2 - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0824	0.0000	0.0824	0.0125	0.0000	0.0125			0.0000			0.0000
Off-Road	1.1518	13.1957	7.4985	0.0167		0.5614	0.5614		0.5165	0.5165		1,617.6977	1,617.6977	0.5232		1,630.7776
Total	**1.1518**	**13.1957**	**7.4985**	**0.0167**	**0.0824**	**0.5614**	**0.6438**	**0.0125**	**0.5165**	**0.5290**		**1,617.6977**	**1,617.6977**	**0.5232**		**1,630.7776**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	3.4700e-003	0.1229	0.0321	3.6000e-004	0.0127	4.2000e-004	0.0131	3.3600e-003	4.0000e-004	3.7600e-003		39.9052	39.9052	4.0800e-003		40.0072
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0307	0.0194	0.2619	8.7000e-004	0.0894	5.9000e-004	0.0900	0.0237	5.4000e-004	0.0243		87.2035	87.2035	1.9900e-003		87.2532
Total	**0.0342**	**0.1423**	**0.2939**	**1.2300e-003**	**0.1021**	**1.0100e-003**	**0.1032**	**0.0271**	**9.4000e-004**	**0.0280**		**127.1087**	**127.1087**	**6.0700e-003**		**127.2604**

3.2 Demolition 1 and 2 - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0321	0.0000	0.0321	4.8600e-003	0.0000	4.8600e-003			0.0000			0.0000
Off-Road	1.1518	13.1957	7.4985	0.0167		0.5614	0.5614		0.5165	0.5165	0.0000	1,617.6977	1,617.6977	0.5232		1,630.7776
Total	**1.1518**	**13.1957**	**7.4985**	**0.0167**	**0.0321**	**0.5614**	**0.5935**	**4.8600e-003**	**0.5165**	**0.5214**	**0.0000**	**1,617.6977**	**1,617.6977**	**0.5232**		**1,630.7776**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	3.4700e-003	0.1229	0.0321	3.6000e-004	0.0127	4.2000e-004	0.0131	3.3600e-003	4.0000e-004	3.7600e-003		39.9052	39.9052	4.0800e-003		40.0072
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0307	0.0194	0.2619	8.7000e-004	0.0894	5.9000e-004	0.0900	0.0237	5.4000e-004	0.0243		87.2035	87.2035	1.9900e-003		87.2532
Total	**0.0342**	**0.1423**	**0.2939**	**1.2300e-003**	**0.1021**	**1.0100e-003**	**0.1032**	**0.0271**	**9.4000e-004**	**0.0280**		**127.1087**	**127.1087**	**6.0700e-003**		**127.2604**

3.2 Demolition 1 and 2 - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0824	0.0000	0.0824	0.0125	0.0000	0.0125			0.0000			0.0000
Off-Road	1.0550	11.8521	7.2375	0.0167		0.4982	0.4982		0.4584	0.4584		1,617.6695	1,617.6695	0.5232		1,630.7492
Total	**1.0550**	**11.8521**	**7.2375**	**0.0167**	**0.0824**	**0.4982**	**0.5806**	**0.0125**	**0.4584**	**0.4708**		**1,617.6695**	**1,617.6695**	**0.5232**		**1,630.7492**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	3.3100e-003	0.1133	0.0323	3.5000e-004	0.0175	3.8000e-004	0.0179	4.5400e-003	3.6000e-004	4.9000e-003		39.4161	39.4161	4.0400e-003		39.5171
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0289	0.0175	0.2430	8.4000e-004	0.0894	5.8000e-004	0.0900	0.0237	5.3000e-004	0.0243		84.1755	84.1755	1.8000e-003		84.2206
Total	**0.0322**	**0.1308**	**0.2753**	**1.1900e-003**	**0.1069**	**9.6000e-004**	**0.1079**	**0.0283**	**8.9000e-004**	**0.0292**		**123.5916**	**123.5916**	**5.8400e-003**		**123.7377**

3.2 Demolition 1 and 2 - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0321	0.0000	0.0321	4.8600e-003	0.0000	4.8600e-003			0.0000			0.0000
Off-Road	1.0550	11.8521	7.2375	0.0167		0.4982	0.4982		0.4584	0.4584	0.0000	1,617.6695	1,617.6695	0.5232		1,630.7492
Total	**1.0550**	**11.8521**	**7.2375**	**0.0167**	**0.0321**	**0.4982**	**0.5303**	**4.8600e-003**	**0.4584**	**0.4632**	**0.0000**	**1,617.6695**	**1,617.6695**	**0.5232**		**1,630.7492**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	3.3100e-003	0.1133	0.0323	3.5000e-004	0.0175	3.8000e-004	0.0179	4.5400e-003	3.6000e-004	4.9000e-003		39.4161	39.4161	4.0400e-003		39.5171
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0289	0.0175	0.2430	8.4000e-004	0.0894	5.8000e-004	0.0900	0.0237	5.3000e-004	0.0243		84.1755	84.1755	1.8000e-003		84.2206
Total	**0.0322**	**0.1308**	**0.2753**	**1.1900e-003**	**0.1069**	**9.6000e-004**	**0.1079**	**0.0283**	**8.9000e-004**	**0.0292**		**123.5916**	**123.5916**	**5.8400e-003**		**123.7377**

3.3 Trenching 1 and 2 - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.4900	4.8253	6.5356	0.0103		0.2337	0.2337		0.2150	0.2150		1,000.2368	1,000.2368	0.3235		1,008.3243
Total	**0.4900**	**4.8253**	**6.5356**	**0.0103**		**0.2337**	**0.2337**		**0.2150**	**0.2150**		**1,000.2368**	**1,000.2368**	**0.3235**		**1,008.3243**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0192	0.0121	0.1637	5.5000e-004	0.0559	3.7000e-004	0.0563	0.0148	3.4000e-004	0.0152		54.5022	54.5022	1.2400e-003		54.5332
Total	**0.0192**	**0.0121**	**0.1637**	**5.5000e-004**	**0.0559**	**3.7000e-004**	**0.0563**	**0.0148**	**3.4000e-004**	**0.0152**		**54.5022**	**54.5022**	**1.2400e-003**		**54.5332**

3.3 Trenching 1 and 2 - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.4900	4.8253	6.5356	0.0103		0.2337	0.2337		0.2150	0.2150	0.0000	1,000.2368	1,000.2368	0.3235		1,008.3243
Total	**0.4900**	**4.8253**	**6.5356**	**0.0103**		**0.2337**	**0.2337**		**0.2150**	**0.2150**	**0.0000**	**1,000.2368**	**1,000.2368**	**0.3235**		**1,008.3243**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0192	0.0121	0.1637	5.5000e-004	0.0559	3.7000e-004	0.0563	0.0148	3.4000e-004	0.0152		54.5022	54.5022	1.2400e-003		54.5332
Total	**0.0192**	**0.0121**	**0.1637**	**5.5000e-004**	**0.0559**	**3.7000e-004**	**0.0563**	**0.0148**	**3.4000e-004**	**0.0152**		**54.5022**	**54.5022**	**1.2400e-003**		**54.5332**

3.3 Trenching 1 and 2 - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.4584	4.3068	6.5436	0.0103		0.2089	0.2089		0.1922	0.1922		1,000.3839	1,000.3839	0.3235		1,008.4726
Total	**0.4584**	**4.3068**	**6.5436**	**0.0103**		**0.2089**	**0.2089**		**0.1922**	**0.1922**		**1,000.3839**	**1,000.3839**	**0.3235**		**1,008.4726**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0181	0.0109	0.1519	5.3000e-004	0.0559	3.6000e-004	0.0563	0.0148	3.3000e-004	0.0152		52.6097	52.6097	1.1300e-003		52.6379
Total	**0.0181**	**0.0109**	**0.1519**	**5.3000e-004**	**0.0559**	**3.6000e-004**	**0.0563**	**0.0148**	**3.3000e-004**	**0.0152**		**52.6097**	**52.6097**	**1.1300e-003**		**52.6379**

3.3 Trenching 1 and 2 - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.4584	4.3068	6.5436	0.0103		0.2089	0.2089		0.1922	0.1922	0.0000	1,000.3839	1,000.3839	0.3235		1,008.4726
Total	**0.4584**	**4.3068**	**6.5436**	**0.0103**		**0.2089**	**0.2089**		**0.1922**	**0.1922**	**0.0000**	**1,000.3839**	**1,000.3839**	**0.3235**		**1,008.4726**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0181	0.0109	0.1519	5.3000e-004	0.0559	3.6000e-004	0.0563	0.0148	3.3000e-004	0.0152		52.6097	52.6097	1.1300e-003		52.6379
Total	**0.0181**	**0.0109**	**0.1519**	**5.3000e-004**	**0.0559**	**3.6000e-004**	**0.0563**	**0.0148**	**3.3000e-004**	**0.0152**		**52.6097**	**52.6097**	**1.1300e-003**		**52.6379**

3.4 Demolition 3 - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					5.8800e-003	0.0000	5.8800e-003	8.9000e-004	0.0000	8.9000e-004			0.0000			0.0000
Off-Road	0.2450	2.4126	3.2678	5.1700e-003		0.1169	0.1169		0.1075	0.1075		500.1184	500.1184	0.1618		504.1621
Total	**0.2450**	**2.4126**	**3.2678**	**5.1700e-003**	**5.8800e-003**	**0.1169**	**0.1228**	**8.9000e-004**	**0.1075**	**0.1084**		**500.1184**	**500.1184**	**0.1618**		**504.1621**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	2.3000e-004	8.0200e-003	2.0900e-003	2.0000e-005	1.2000e-003	3.0000e-005	1.2200e-003	3.1000e-004	3.0000e-005	3.4000e-004		2.6025	2.6025	2.7000e-004		2.6092
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0192	0.0121	0.1637	5.5000e-004	0.0559	3.7000e-004	0.0563	0.0148	3.4000e-004	0.0152		54.5022	54.5022	1.2400e-003		54.5332
Total	**0.0194**	**0.0201**	**0.1658**	**5.7000e-004**	**0.0571**	**4.0000e-004**	**0.0575**	**0.0151**	**3.7000e-004**	**0.0155**		**57.1047**	**57.1047**	**1.5100e-003**		**57.1424**

3.4 Demolition 3 - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.3000e-003	0.0000	2.3000e-003	3.5000e-004	0.0000	3.5000e-004			0.0000			0.0000
Off-Road	0.2450	2.4126	3.2678	5.1700e-003		0.1169	0.1169		0.1075	0.1075	0.0000	500.1184	500.1184	0.1618		504.1621
Total	**0.2450**	**2.4126**	**3.2678**	**5.1700e-003**	**2.3000e-003**	**0.1169**	**0.1192**	**3.5000e-004**	**0.1075**	**0.1079**	**0.0000**	**500.1184**	**500.1184**	**0.1618**		**504.1621**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	2.3000e-004	8.0200e-003	2.0900e-003	2.0000e-005	1.2000e-003	3.0000e-005	1.2200e-003	3.1000e-004	3.0000e-005	3.4000e-004		2.6025	2.6025	2.7000e-004		2.6092
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0192	0.0121	0.1637	5.5000e-004	0.0559	3.7000e-004	0.0563	0.0148	3.4000e-004	0.0152		54.5022	54.5022	1.2400e-003		54.5332
Total	**0.0194**	**0.0201**	**0.1658**	**5.7000e-004**	**0.0571**	**4.0000e-004**	**0.0575**	**0.0151**	**3.7000e-004**	**0.0155**		**57.1047**	**57.1047**	**1.5100e-003**		**57.1424**

3.4 Demolition 3 - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					5.8800e-003	0.0000	5.8800e-003	8.9000e-004	0.0000	8.9000e-004			0.0000			0.0000
Off-Road	0.2292	2.1534	3.2718	5.1700e-003		0.1044	0.1044		0.0961	0.0961		500.1920	500.1920	0.1618		504.2363
Total	**0.2292**	**2.1534**	**3.2718**	**5.1700e-003**	**5.8800e-003**	**0.1044**	**0.1103**	**8.9000e-004**	**0.0961**	**0.0970**		**500.1920**	**500.1920**	**0.1618**		**504.2363**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	2.2000e-004	7.3900e-003	2.1000e-003	2.0000e-005	8.1000e-004	2.0000e-005	8.3000e-004	2.1000e-004	2.0000e-005	2.4000e-004		2.5706	2.5706	2.6000e-004		2.5772
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0181	0.0109	0.1519	5.3000e-004	0.0559	3.6000e-004	0.0563	0.0148	3.3000e-004	0.0152		52.6097	52.6097	1.1300e-003		52.6379
Total	**0.0183**	**0.0183**	**0.1540**	**5.5000e-004**	**0.0567**	**3.8000e-004**	**0.0571**	**0.0150**	**3.5000e-004**	**0.0154**		**55.1803**	**55.1803**	**1.3900e-003**		**55.2151**

3.4 Demolition 3 - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.3000e-003	0.0000	2.3000e-003	3.5000e-004	0.0000	3.5000e-004			0.0000			0.0000
Off-Road	0.2292	2.1534	3.2718	5.1700e-003		0.1044	0.1044		0.0961	0.0961	0.0000	500.1920	500.1920	0.1618		504.2363
Total	**0.2292**	**2.1534**	**3.2718**	**5.1700e-003**	**2.3000e-003**	**0.1044**	**0.1067**	**3.5000e-004**	**0.0961**	**0.0964**	**0.0000**	**500.1920**	**500.1920**	**0.1618**		**504.2363**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	2.2000e-004	7.3900e-003	2.1000e-003	2.0000e-005	8.1000e-004	2.0000e-005	8.3000e-004	2.1000e-004	2.0000e-005	2.4000e-004		2.5706	2.5706	2.6000e-004		2.5772
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0181	0.0109	0.1519	5.3000e-004	0.0559	3.6000e-004	0.0563	0.0148	3.3000e-004	0.0152		52.6097	52.6097	1.1300e-003		52.6379
Total	**0.0183**	**0.0183**	**0.1540**	**5.5000e-004**	**0.0567**	**3.8000e-004**	**0.0571**	**0.0150**	**3.5000e-004**	**0.0154**		**55.1803**	**55.1803**	**1.3900e-003**		**55.2151**

3.5 Building Construction 1 - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0192	0.6251	0.1650	1.4900e-003	0.0383	3.2600e-003	0.0416	0.0110	3.1200e-003	0.0142		162.6774	162.6774	0.0132		163.0063
Worker	0.0653	0.0412	0.5565	1.8600e-003	0.1900	1.2600e-003	0.1913	0.0504	1.1600e-003	0.0516		185.3074	185.3074	4.2200e-003		185.4130
Total	**0.0845**	**0.6662**	**0.7214**	**3.3500e-003**	**0.2284**	**4.5200e-003**	**0.2329**	**0.0614**	**4.2800e-003**	**0.0657**		**347.9848**	**347.9848**	**0.0174**		**348.4193**

3.5 Building Construction 1 - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0192	0.6251	0.1650	1.4900e-003	0.0383	3.2600e-003	0.0416	0.0110	3.1200e-003	0.0142		162.6774	162.6774	0.0132		163.0063
Worker	0.0653	0.0412	0.5565	1.8600e-003	0.1900	1.2600e-003	0.1913	0.0504	1.1600e-003	0.0516		185.3074	185.3074	4.2200e-003		185.4130
Total	**0.0845**	**0.6662**	**0.7214**	**3.3500e-003**	**0.2284**	**4.5200e-003**	**0.2329**	**0.0614**	**4.2800e-003**	**0.0657**		**347.9848**	**347.9848**	**0.0174**		**348.4193**

3.5 Building Construction 1 - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0160	0.5629	0.1527	1.4800e-003	0.0383	1.1700e-003	0.0395	0.0110	1.1200e-003	0.0122		161.2755	161.2755	0.0127		161.5917
Worker	0.0614	0.0371	0.5163	1.7900e-003	0.1900	1.2300e-003	0.1913	0.0504	1.1300e-003	0.0515		178.8730	178.8730	3.8300e-003		178.9688
Total	**0.0774**	**0.6000**	**0.6690**	**3.2700e-003**	**0.2284**	**2.4000e-003**	**0.2308**	**0.0614**	**2.2500e-003**	**0.0637**		**340.1485**	**340.1485**	**0.0165**		**340.5604**

3.5 Building Construction 1 - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0160	0.5629	0.1527	1.4800e-003	0.0383	1.1700e-003	0.0395	0.0110	1.1200e-003	0.0122		161.2755	161.2755	0.0127		161.5917
Worker	0.0614	0.0371	0.5163	1.7900e-003	0.1900	1.2300e-003	0.1913	0.0504	1.1300e-003	0.0515		178.8730	178.8730	3.8300e-003		178.9688
Total	**0.0774**	**0.6000**	**0.6690**	**3.2700e-003**	**0.2284**	**2.4000e-003**	**0.2308**	**0.0614**	**2.2500e-003**	**0.0637**		**340.1485**	**340.1485**	**0.0165**		**340.5604**

3.6 Building Construction 2 - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0192	0.6251	0.1650	1.4900e-003	0.0383	3.2600e-003	0.0416	0.0110	3.1200e-003	0.0142		162.6774	162.6774	0.0132		163.0063
Worker	0.0653	0.0412	0.5565	1.8600e-003	0.1900	1.2600e-003	0.1913	0.0504	1.1600e-003	0.0516		185.3074	185.3074	4.2200e-003		185.4130
Total	**0.0845**	**0.6662**	**0.7214**	**3.3500e-003**	**0.2284**	**4.5200e-003**	**0.2329**	**0.0614**	**4.2800e-003**	**0.0657**		**347.9848**	**347.9848**	**0.0174**		**348.4193**

3.6 Building Construction 2 - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0192	0.6251	0.1650	1.4900e-003	0.0383	3.2600e-003	0.0416	0.0110	3.1200e-003	0.0142		162.6774	162.6774	0.0132		163.0063
Worker	0.0653	0.0412	0.5565	1.8600e-003	0.1900	1.2600e-003	0.1913	0.0504	1.1600e-003	0.0516		185.3074	185.3074	4.2200e-003		185.4130
Total	**0.0845**	**0.6662**	**0.7214**	**3.3500e-003**	**0.2284**	**4.5200e-003**	**0.2329**	**0.0614**	**4.2800e-003**	**0.0657**		**347.9848**	**347.9848**	**0.0174**		**348.4193**

3.6 Building Construction 2 - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0160	0.5629	0.1527	1.4800e-003	0.0383	1.1700e-003	0.0395	0.0110	1.1200e-003	0.0122		161.2755	161.2755	0.0127		161.5917
Worker	0.0614	0.0371	0.5163	1.7900e-003	0.1900	1.2300e-003	0.1913	0.0504	1.1300e-003	0.0515		178.8730	178.8730	3.8300e-003		178.9688
Total	**0.0774**	**0.6000**	**0.6690**	**3.2700e-003**	**0.2284**	**2.4000e-003**	**0.2308**	**0.0614**	**2.2500e-003**	**0.0637**		**340.1485**	**340.1485**	**0.0165**		**340.5604**

3.6 Building Construction 2 - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0160	0.5629	0.1527	1.4800e-003	0.0383	1.1700e-003	0.0395	0.0110	1.1200e-003	0.0122		161.2755	161.2755	0.0127		161.5917
Worker	0.0614	0.0371	0.5163	1.7900e-003	0.1900	1.2300e-003	0.1913	0.0504	1.1300e-003	0.0515		178.8730	178.8730	3.8300e-003		178.9688
Total	**0.0774**	**0.6000**	**0.6690**	**3.2700e-003**	**0.2284**	**2.4000e-003**	**0.2308**	**0.0614**	**2.2500e-003**	**0.0637**		**340.1485**	**340.1485**	**0.0165**		**340.5604**

3.7 Demolition 4 - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.2140	0.0000	0.2140	0.0324	0.0000	0.0324			0.0000			0.0000
Off-Road	1.0550	11.8521	7.2375	0.0167		0.4982	0.4982		0.4584	0.4584		1,617.6695	1,617.6695	0.5232		1,630.7492
Total	**1.0550**	**11.8521**	**7.2375**	**0.0167**	**0.2140**	**0.4982**	**0.7122**	**0.0324**	**0.4584**	**0.4908**		**1,617.6695**	**1,617.6695**	**0.5232**		**1,630.7492**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	8.6500e-003	0.2956	0.0842	9.2000e-004	0.0218	9.9000e-004	0.0228	5.9600e-003	9.5000e-004	6.9000e-003		102.8246	102.8246	0.0105		103.0881
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0289	0.0175	0.2430	8.4000e-004	0.0894	5.8000e-004	0.0900	0.0237	5.3000e-004	0.0243		84.1755	84.1755	1.8000e-003		84.2206
Total	**0.0375**	**0.3130**	**0.3272**	**1.7600e-003**	**0.1112**	**1.5700e-003**	**0.1128**	**0.0297**	**1.4800e-003**	**0.0312**		**187.0001**	**187.0001**	**0.0123**		**187.3087**

3.7 Demolition 4 - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0835	0.0000	0.0835	0.0126	0.0000	0.0126			0.0000			0.0000
Off-Road	1.0550	11.8521	7.2375	0.0167		0.4982	0.4982		0.4584	0.4584	0.0000	1,617.6695	1,617.6695	0.5232		1,630.7492
Total	**1.0550**	**11.8521**	**7.2375**	**0.0167**	**0.0835**	**0.4982**	**0.5817**	**0.0126**	**0.4584**	**0.4710**	**0.0000**	**1,617.6695**	**1,617.6695**	**0.5232**		**1,630.7492**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	8.6500e-003	0.2956	0.0842	9.2000e-004	0.0218	9.9000e-004	0.0228	5.9600e-003	9.5000e-004	6.9000e-003		102.8246	102.8246	0.0105		103.0881
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0289	0.0175	0.2430	8.4000e-004	0.0894	5.8000e-004	0.0900	0.0237	5.3000e-004	0.0243		84.1755	84.1755	1.8000e-003		84.2206
Total	**0.0375**	**0.3130**	**0.3272**	**1.7600e-003**	**0.1112**	**1.5700e-003**	**0.1128**	**0.0297**	**1.4800e-003**	**0.0312**		**187.0001**	**187.0001**	**0.0123**		**187.3087**

3.8 Demolition 5 - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.1300e-003	0.0000	7.1300e-003	1.0800e-003	0.0000	1.0800e-003			0.0000			0.0000
Off-Road	0.6421	7.0027	5.2547	0.0109		0.3013	0.3013		0.2772	0.2772		1,058.9307	1,058.9307	0.3425		1,067.4927
Total	**0.6421**	**7.0027**	**5.2547**	**0.0109**	**7.1300e-003**	**0.3013**	**0.3085**	**1.0800e-003**	**0.2772**	**0.2783**		**1,058.9307**	**1,058.9307**	**0.3425**		**1,067.4927**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	2.9000e-004	9.8500e-003	2.8100e-003	3.0000e-005	8.0000e-004	3.0000e-005	8.3000e-004	2.2000e-004	3.0000e-005	2.5000e-004		3.4275	3.4275	3.5000e-004		3.4363
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0181	0.0109	0.1519	5.3000e-004	0.0559	3.6000e-004	0.0563	0.0148	3.3000e-004	0.0152		52.6097	52.6097	1.1300e-003		52.6379
Total	**0.0183**	**0.0208**	**0.1547**	**5.6000e-004**	**0.0567**	**3.9000e-004**	**0.0571**	**0.0150**	**3.6000e-004**	**0.0154**		**56.0372**	**56.0372**	**1.4800e-003**		**56.0741**

3.8 Demolition 5 - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.7800e-003	0.0000	2.7800e-003	4.2000e-004	0.0000	4.2000e-004			0.0000			0.0000
Off-Road	0.6421	7.0027	5.2547	0.0109		0.3013	0.3013		0.2772	0.2772	0.0000	1,058.9307	1,058.9307	0.3425		1,067.4927
Total	**0.6421**	**7.0027**	**5.2547**	**0.0109**	**2.7800e-003**	**0.3013**	**0.3041**	**4.2000e-004**	**0.2772**	**0.2776**	**0.0000**	**1,058.9307**	**1,058.9307**	**0.3425**		**1,067.4927**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	2.9000e-004	9.8500e-003	2.8100e-003	3.0000e-005	8.0000e-004	3.0000e-005	8.3000e-004	2.2000e-004	3.0000e-005	2.5000e-004		3.4275	3.4275	3.5000e-004		3.4363
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0181	0.0109	0.1519	5.3000e-004	0.0559	3.6000e-004	0.0563	0.0148	3.3000e-004	0.0152		52.6097	52.6097	1.1300e-003		52.6379
Total	**0.0183**	**0.0208**	**0.1547**	**5.6000e-004**	**0.0567**	**3.9000e-004**	**0.0571**	**0.0150**	**3.6000e-004**	**0.0154**		**56.0372**	**56.0372**	**1.4800e-003**		**56.0741**

3.8 Demolition 5 - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.1300e-003	0.0000	7.1300e-003	1.0800e-003	0.0000	1.0800e-003			0.0000			0.0000
Off-Road	0.5754	5.9613	5.1475	0.0109		0.2597	0.2597		0.2389	0.2389		1,058.8456	1,058.8456	0.3425		1,067.4069
Total	**0.5754**	**5.9613**	**5.1475**	**0.0109**	**7.1300e-003**	**0.2597**	**0.2668**	**1.0800e-003**	**0.2389**	**0.2400**		**1,058.8456**	**1,058.8456**	**0.3425**		**1,067.4069**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	2.7000e-004	9.0200e-003	2.8200e-003	3.0000e-005	4.9000e-003	3.0000e-005	4.9200e-003	1.2200e-003	3.0000e-005	1.2500e-003		3.3822	3.3822	3.5000e-004		3.3909
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0171	9.8900e-003	0.1417	5.1000e-004	0.0559	3.5000e-004	0.0562	0.0148	3.3000e-004	0.0152		50.6601	50.6601	1.0200e-003		50.6856
Total	**0.0173**	**0.0189**	**0.1446**	**5.4000e-004**	**0.0608**	**3.8000e-004**	**0.0612**	**0.0160**	**3.6000e-004**	**0.0164**		**54.0422**	**54.0422**	**1.3700e-003**		**54.0765**

3.8 Demolition 5 - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.7800e-003	0.0000	2.7800e-003	4.2000e-004	0.0000	4.2000e-004			0.0000			0.0000
Off-Road	0.5754	5.9613	5.1475	0.0109		0.2597	0.2597		0.2389	0.2389	0.0000	1,058.8456	1,058.8456	0.3425		1,067.4069
Total	**0.5754**	**5.9613**	**5.1475**	**0.0109**	**2.7800e-003**	**0.2597**	**0.2624**	**4.2000e-004**	**0.2389**	**0.2393**	**0.0000**	**1,058.8456**	**1,058.8456**	**0.3425**		**1,067.4069**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	2.7000e-004	9.0200e-003	2.8200e-003	3.0000e-005	4.9000e-003	3.0000e-005	4.9200e-003	1.2200e-003	3.0000e-005	1.2500e-003		3.3822	3.3822	3.5000e-004		3.3909
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0171	9.8900e-003	0.1417	5.1000e-004	0.0559	3.5000e-004	0.0562	0.0148	3.3000e-004	0.0152		50.6601	50.6601	1.0200e-003		50.6856
Total	**0.0173**	**0.0189**	**0.1446**	**5.4000e-004**	**0.0608**	**3.8000e-004**	**0.0612**	**0.0160**	**3.6000e-004**	**0.0164**		**54.0422**	**54.0422**	**1.3700e-003**		**54.0765**

3.9 Building Construction 3 and 4 - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6971	18.8548	12.4922	0.0276		0.7995	0.7995		0.7356	0.7356		2,676.6002	2,676.6002	0.8657		2,698.2419
Total	**1.6971**	**18.8548**	**12.4922**	**0.0276**		**0.7995**	**0.7995**		**0.7356**	**0.7356**		**2,676.6002**	**2,676.6002**	**0.8657**		**2,698.2419**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0160	0.5629	0.1527	1.4800e-003	0.0383	1.1700e-003	0.0395	0.0110	1.1200e-003	0.0122		161.2755	161.2755	0.0127		161.5917
Worker	0.0614	0.0371	0.5163	1.7900e-003	0.1900	1.2300e-003	0.1913	0.0504	1.1300e-003	0.0515		178.8730	178.8730	3.8300e-003		178.9688
Total	**0.0774**	**0.6000**	**0.6690**	**3.2700e-003**	**0.2284**	**2.4000e-003**	**0.2308**	**0.0614**	**2.2500e-003**	**0.0637**		**340.1485**	**340.1485**	**0.0165**		**340.5604**

3.9 Building Construction 3 and 4 - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6971	18.8548	12.4922	0.0276		0.7995	0.7995		0.7356	0.7356	0.0000	2,676.6002	2,676.6002	0.8657		2,698.2419
Total	**1.6971**	**18.8548**	**12.4922**	**0.0276**		**0.7995**	**0.7995**		**0.7356**	**0.7356**	**0.0000**	**2,676.6002**	**2,676.6002**	**0.8657**		**2,698.2419**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0160	0.5629	0.1527	1.4800e-003	0.0383	1.1700e-003	0.0395	0.0110	1.1200e-003	0.0122		161.2755	161.2755	0.0127		161.5917
Worker	0.0614	0.0371	0.5163	1.7900e-003	0.1900	1.2300e-003	0.1913	0.0504	1.1300e-003	0.0515		178.8730	178.8730	3.8300e-003		178.9688
Total	**0.0774**	**0.6000**	**0.6690**	**3.2700e-003**	**0.2284**	**2.4000e-003**	**0.2308**	**0.0614**	**2.2500e-003**	**0.0637**		**340.1485**	**340.1485**	**0.0165**		**340.5604**

3.9 Building Construction 3 and 4 - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5238	16.1068	12.1873	0.0276		0.6930	0.6930		0.6376	0.6376		2,676.5216	2,676.5216	0.8656		2,698.1626
Total	**1.5238**	**16.1068**	**12.1873**	**0.0276**		**0.6930**	**0.6930**		**0.6376**	**0.6376**		**2,676.5216**	**2,676.5216**	**0.8656**		**2,698.1626**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0151	0.5325	0.1474	1.4600e-003	0.0383	1.0200e-003	0.0394	0.0110	9.7000e-004	0.0120		159.6916	159.6916	0.0123		159.9978
Worker	0.0580	0.0336	0.4819	1.7300e-003	0.1900	1.2100e-003	0.1912	0.0504	1.1100e-003	0.0515		172.2442	172.2442	3.4800e-003		172.3312
Total	**0.0730**	**0.5662**	**0.6293**	**3.1900e-003**	**0.2284**	**2.2300e-003**	**0.2306**	**0.0614**	**2.0800e-003**	**0.0635**		**331.9358**	**331.9358**	**0.0157**		**332.3290**

3.9 Building Construction 3 and 4 - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5238	16.1068	12.1873	0.0276		0.6930	0.6930		0.6376	0.6376	0.0000	2,676.5216	2,676.5216	0.8656		2,698.1626
Total	**1.5238**	**16.1068**	**12.1873**	**0.0276**		**0.6930**	**0.6930**		**0.6376**	**0.6376**	**0.0000**	**2,676.5216**	**2,676.5216**	**0.8656**		**2,698.1626**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0151	0.5325	0.1474	1.4600e-003	0.0383	1.0200e-003	0.0394	0.0110	9.7000e-004	0.0120		159.6916	159.6916	0.0123		159.9978
Worker	0.0580	0.0336	0.4819	1.7300e-003	0.1900	1.2100e-003	0.1912	0.0504	1.1100e-003	0.0515		172.2442	172.2442	3.4800e-003		172.3312
Total	**0.0730**	**0.5662**	**0.6293**	**3.1900e-003**	**0.2284**	**2.2300e-003**	**0.2306**	**0.0614**	**2.0800e-003**	**0.0635**		**331.9358**	**331.9358**	**0.0157**		**332.3290**

3.10 Demolition 6 and 7 - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.6700e-003	0.0000	2.6700e-003	4.1000e-004	0.0000	4.1000e-004			0.0000			0.0000
Off-Road	0.8713	9.1561	8.5265	0.0161		0.4058	0.4058		0.3733	0.3733		1,559.1227	1,559.1227	0.5043		1,571.7290
Total	**0.8713**	**9.1561**	**8.5265**	**0.0161**	**2.6700e-003**	**0.4058**	**0.4084**	**4.1000e-004**	**0.3733**	**0.3737**		**1,559.1227**	**1,559.1227**	**0.5043**		**1,571.7290**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	7.0000e-005	2.4600e-003	7.0000e-004	1.0000e-005	5.6000e-004	1.0000e-005	5.7000e-004	1.4000e-004	1.0000e-005	1.5000e-004		0.8569	0.8569	9.0000e-005		0.8591
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0289	0.0175	0.2430	8.4000e-004	0.0894	5.8000e-004	0.0900	0.0237	5.3000e-004	0.0243		84.1755	84.1755	1.8000e-003		84.2206
Total	**0.0289**	**0.0199**	**0.2437**	**8.5000e-004**	**0.0900**	**5.9000e-004**	**0.0906**	**0.0239**	**5.4000e-004**	**0.0244**		**85.0324**	**85.0324**	**1.8900e-003**		**85.0797**

3.10 Demolition 6 and 7 - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.0400e-003	0.0000	1.0400e-003	1.6000e-004	0.0000	1.6000e-004			0.0000			0.0000
Off-Road	0.8713	9.1561	8.5265	0.0161		0.4058	0.4058		0.3733	0.3733	0.0000	1,559.1227	1,559.1227	0.5043		1,571.7290
Total	**0.8713**	**9.1561**	**8.5265**	**0.0161**	**1.0400e-003**	**0.4058**	**0.4068**	**1.6000e-004**	**0.3733**	**0.3735**	**0.0000**	**1,559.1227**	**1,559.1227**	**0.5043**		**1,571.7290**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	7.0000e-005	2.4600e-003	7.0000e-004	1.0000e-005	5.6000e-004	1.0000e-005	5.7000e-004	1.4000e-004	1.0000e-005	1.5000e-004		0.8569	0.8569	9.0000e-005		0.8591
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0289	0.0175	0.2430	8.4000e-004	0.0894	5.8000e-004	0.0900	0.0237	5.3000e-004	0.0243		84.1755	84.1755	1.8000e-003		84.2206
Total	**0.0289**	**0.0199**	**0.2437**	**8.5000e-004**	**0.0900**	**5.9000e-004**	**0.0906**	**0.0239**	**5.4000e-004**	**0.0244**		**85.0324**	**85.0324**	**1.8900e-003**		**85.0797**

3.10 Demolition 6 and 7 - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.6700e-003	0.0000	2.6700e-003	4.1000e-004	0.0000	4.1000e-004			0.0000			0.0000
Off-Road	0.7778	7.7382	8.4026	0.0161		0.3456	0.3456		0.3179	0.3179		1,558.8609	1,558.8609	0.5042		1,571.4651
Total	**0.7778**	**7.7382**	**8.4026**	**0.0161**	**2.6700e-003**	**0.3456**	**0.3482**	**4.1000e-004**	**0.3179**	**0.3183**		**1,558.8609**	**1,558.8609**	**0.5042**		**1,571.4651**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	7.0000e-005	2.2500e-003	7.1000e-004	1.0000e-005	2.3000e-004	1.0000e-005	2.4000e-004	6.0000e-005	1.0000e-005	7.0000e-005		0.8455	0.8455	9.0000e-005		0.8477
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0273	0.0158	0.2268	8.1000e-004	0.0894	5.7000e-004	0.0900	0.0237	5.2000e-004	0.0242		81.0561	81.0561	1.6400e-003		81.0970
Total	**0.0274**	**0.0181**	**0.2275**	**8.2000e-004**	**0.0897**	**5.8000e-004**	**0.0902**	**0.0238**	**5.3000e-004**	**0.0243**		**81.9016**	**81.9016**	**1.7300e-003**		**81.9448**

3.10 Demolition 6 and 7 - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.0400e-003	0.0000	1.0400e-003	1.6000e-004	0.0000	1.6000e-004			0.0000			0.0000
Off-Road	0.7778	7.7382	8.4026	0.0161		0.3456	0.3456		0.3179	0.3179	0.0000	1,558.8609	1,558.8609	0.5042		1,571.4651
Total	**0.7778**	**7.7382**	**8.4026**	**0.0161**	**1.0400e-003**	**0.3456**	**0.3466**	**1.6000e-004**	**0.3179**	**0.3181**	**0.0000**	**1,558.8609**	**1,558.8609**	**0.5042**		**1,571.4651**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	7.0000e-005	2.2500e-003	7.1000e-004	1.0000e-005	2.3000e-004	1.0000e-005	2.4000e-004	6.0000e-005	1.0000e-005	7.0000e-005		0.8455	0.8455	9.0000e-005		0.8477
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0273	0.0158	0.2268	8.1000e-004	0.0894	5.7000e-004	0.0900	0.0237	5.2000e-004	0.0242		81.0561	81.0561	1.6400e-003		81.0970
Total	**0.0274**	**0.0181**	**0.2275**	**8.2000e-004**	**0.0897**	**5.8000e-004**	**0.0902**	**0.0238**	**5.3000e-004**	**0.0243**		**81.9016**	**81.9016**	**1.7300e-003**		**81.9448**

3.11 Grading 1 - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					4.3000e-004	0.0000	4.3000e-004	7.0000e-005	0.0000	7.0000e-005			0.0000			0.0000
Off-Road	0.2292	2.1534	3.2718	5.1700e-003		0.1044	0.1044		0.0961	0.0961		500.1920	500.1920	0.1618		504.2363
Total	**0.2292**	**2.1534**	**3.2718**	**5.1700e-003**	**4.3000e-004**	**0.1044**	**0.1049**	**7.0000e-005**	**0.0961**	**0.0962**		**500.1920**	**500.1920**	**0.1618**		**504.2363**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	4.1100e-003	0.1404	0.0400	4.4000e-004	0.0319	4.7000e-004	0.0324	8.1300e-003	4.5000e-004	8.5800e-003		48.8417	48.8417	5.0100e-003		48.9669
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0108	6.5500e-003	0.0911	3.2000e-004	0.0335	2.2000e-004	0.0338	8.8900e-003	2.0000e-004	9.0900e-003		31.5658	31.5658	6.8000e-004		31.5827
Total	**0.0149**	**0.1469**	**0.1311**	**7.6000e-004**	**0.0655**	**6.9000e-004**	**0.0661**	**0.0170**	**6.5000e-004**	**0.0177**		**80.4075**	**80.4075**	**5.6900e-003**		**80.5496**

3.11 Grading 1 - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.7000e-004	0.0000	1.7000e-004	3.0000e-005	0.0000	3.0000e-005			0.0000			0.0000
Off-Road	0.2292	2.1534	3.2718	5.1700e-003		0.1044	0.1044		0.0961	0.0961	0.0000	500.1920	500.1920	0.1618		504.2363
Total	**0.2292**	**2.1534**	**3.2718**	**5.1700e-003**	**1.7000e-004**	**0.1044**	**0.1046**	**3.0000e-005**	**0.0961**	**0.0961**	**0.0000**	**500.1920**	**500.1920**	**0.1618**		**504.2363**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	4.1100e-003	0.1404	0.0400	4.4000e-004	0.0319	4.7000e-004	0.0324	8.1300e-003	4.5000e-004	8.5800e-003		48.8417	48.8417	5.0100e-003		48.9669
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0108	6.5500e-003	0.0911	3.2000e-004	0.0335	2.2000e-004	0.0338	8.8900e-003	2.0000e-004	9.0900e-003		31.5658	31.5658	6.8000e-004		31.5827
Total	**0.0149**	**0.1469**	**0.1311**	**7.6000e-004**	**0.0655**	**6.9000e-004**	**0.0661**	**0.0170**	**6.5000e-004**	**0.0177**		**80.4075**	**80.4075**	**5.6900e-003**		**80.5496**

3.11 Grading 1 - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					4.3000e-004	0.0000	4.3000e-004	7.0000e-005	0.0000	7.0000e-005			0.0000			0.0000
Off-Road	0.2024	1.7770	3.2551	5.1700e-003		0.0859	0.0859		0.0790	0.0790		500.0153	500.0153	0.1617		504.0582
Total	**0.2024**	**1.7770**	**3.2551**	**5.1700e-003**	**4.3000e-004**	**0.0859**	**0.0864**	**7.0000e-005**	**0.0790**	**0.0791**		**500.0153**	**500.0153**	**0.1617**		**504.0582**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	3.9000e-003	0.1285	0.0402	4.3000e-004	0.0132	4.1000e-004	0.0136	3.5300e-003	3.9000e-004	3.9200e-003		48.1960	48.1960	4.9600e-003		48.3199
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0102	5.9400e-003	0.0850	3.0000e-004	0.0335	2.1000e-004	0.0338	8.8900e-003	2.0000e-004	9.0900e-003		30.3960	30.3960	6.1000e-004		30.4114
Total	**0.0141**	**0.1345**	**0.1253**	**7.3000e-004**	**0.0467**	**6.2000e-004**	**0.0473**	**0.0124**	**5.9000e-004**	**0.0130**		**78.5920**	**78.5920**	**5.5700e-003**		**78.7313**

3.11 Grading 1 - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.7000e-004	0.0000	1.7000e-004	3.0000e-005	0.0000	3.0000e-005			0.0000			0.0000
Off-Road	0.2024	1.7770	3.2551	5.1700e-003		0.0859	0.0859		0.0790	0.0790	0.0000	500.0153	500.0153	0.1617		504.0582
Total	**0.2024**	**1.7770**	**3.2551**	**5.1700e-003**	**1.7000e-004**	**0.0859**	**0.0861**	**3.0000e-005**	**0.0790**	**0.0791**	**0.0000**	**500.0153**	**500.0153**	**0.1617**		**504.0582**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	3.9000e-003	0.1285	0.0402	4.3000e-004	0.0132	4.1000e-004	0.0136	3.5300e-003	3.9000e-004	3.9200e-003		48.1960	48.1960	4.9600e-003		48.3199
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0102	5.9400e-003	0.0850	3.0000e-004	0.0335	2.1000e-004	0.0338	8.8900e-003	2.0000e-004	9.0900e-003		30.3960	30.3960	6.1000e-004		30.4114
Total	**0.0141**	**0.1345**	**0.1253**	**7.3000e-004**	**0.0467**	**6.2000e-004**	**0.0473**	**0.0124**	**5.9000e-004**	**0.0130**		**78.5920**	**78.5920**	**5.5700e-003**		**78.7313**

3.12 Paving 1 - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6545	6.3839	7.6902	0.0121		0.3278	0.3278		0.3025	0.3025		1,158.5852	1,158.5852	0.3664		1,167.7450
Paving	0.0186					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.6731**	**6.3839**	**7.6902**	**0.0121**		**0.3278**	**0.3278**		**0.3025**	**0.3025**		**1,158.5852**	**1,158.5852**	**0.3664**		**1,167.7450**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0361	0.0218	0.3037	1.0600e-003	0.1118	7.2000e-004	0.1125	0.0296	6.7000e-004	0.0303		105.2194	105.2194	2.2500e-003		105.2758
Total	**0.0361**	**0.0218**	**0.3037**	**1.0600e-003**	**0.1118**	**7.2000e-004**	**0.1125**	**0.0296**	**6.7000e-004**	**0.0303**		**105.2194**	**105.2194**	**2.2500e-003**		**105.2758**

3.12 Paving 1 - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6545	6.3839	7.6902	0.0121		0.3278	0.3278		0.3025	0.3025	0.0000	1,158.5852	1,158.5852	0.3664		1,167.7450
Paving	0.0186					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.6731**	**6.3839**	**7.6902**	**0.0121**		**0.3278**	**0.3278**		**0.3025**	**0.3025**	**0.0000**	**1,158.5852**	**1,158.5852**	**0.3664**		**1,167.7450**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0361	0.0218	0.3037	1.0600e-003	0.1118	7.2000e-004	0.1125	0.0296	6.7000e-004	0.0303		105.2194	105.2194	2.2500e-003		105.2758
Total	**0.0361**	**0.0218**	**0.3037**	**1.0600e-003**	**0.1118**	**7.2000e-004**	**0.1125**	**0.0296**	**6.7000e-004**	**0.0303**		**105.2194**	**105.2194**	**2.2500e-003**		**105.2758**

3.12 Paving 1 - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.5730	5.3998	7.6377	0.0121		0.2709	0.2709		0.2501	0.2501		1,158.5941	1,158.5941	0.3664		1,167.7539
Paving	0.0186					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.5916**	**5.3998**	**7.6377**	**0.0121**		**0.2709**	**0.2709**		**0.2501**	**0.2501**		**1,158.5941**	**1,158.5941**	**0.3664**		**1,167.7539**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0341	0.0198	0.2835	1.0200e-003	0.1118	7.1000e-004	0.1125	0.0296	6.5000e-004	0.0303		101.3201	101.3201	2.0500e-003		101.3713
Total	**0.0341**	**0.0198**	**0.2835**	**1.0200e-003**	**0.1118**	**7.1000e-004**	**0.1125**	**0.0296**	**6.5000e-004**	**0.0303**		**101.3201**	**101.3201**	**2.0500e-003**		**101.3713**

3.12 Paving 1 - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.5730	5.3998	7.6377	0.0121		0.2709	0.2709		0.2501	0.2501	0.0000	1,158.5940	1,158.5940	0.3664		1,167.7539
Paving	0.0186					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.5916**	**5.3998**	**7.6377**	**0.0121**		**0.2709**	**0.2709**		**0.2501**	**0.2501**	**0.0000**	**1,158.5940**	**1,158.5940**	**0.3664**		**1,167.7539**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0341	0.0198	0.2835	1.0200e-003	0.1118	7.1000e-004	0.1125	0.0296	6.5000e-004	0.0303		101.3201	101.3201	2.0500e-003		101.3713
Total	**0.0341**	**0.0198**	**0.2835**	**1.0200e-003**	**0.1118**	**7.1000e-004**	**0.1125**	**0.0296**	**6.5000e-004**	**0.0303**		**101.3201**	**101.3201**	**2.0500e-003**		**101.3713**

3.13 Demolition 8 - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.2407	0.0000	0.2407	0.0365	0.0000	0.0365			0.0000			0.0000
Off-Road	0.9484	10.1455	7.0398	0.0167		0.4334	0.4334		0.3987	0.3987		1,617.6760	1,617.6760	0.5232		1,630.7557
Total	**0.9484**	**10.1455**	**7.0398**	**0.0167**	**0.2407**	**0.4334**	**0.6741**	**0.0365**	**0.3987**	**0.4352**		**1,617.6760**	**1,617.6760**	**0.5232**		**1,630.7557**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	9.0300e-003	0.2976	0.0931	1.0000e-003	0.0239	9.4000e-004	0.0249	6.5500e-003	9.0000e-004	7.4500e-003		111.6118	111.6118	0.0115		111.8987
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0273	0.0158	0.2268	8.1000e-004	0.0894	5.7000e-004	0.0900	0.0237	5.2000e-004	0.0242		81.0561	81.0561	1.6400e-003		81.0970
Total	**0.0363**	**0.3134**	**0.3199**	**1.8100e-003**	**0.1134**	**1.5100e-003**	**0.1149**	**0.0303**	**1.4200e-003**	**0.0317**		**192.6679**	**192.6679**	**0.0131**		**192.9958**

3.13 Demolition 8 - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0939	0.0000	0.0939	0.0142	0.0000	0.0142			0.0000			0.0000
Off-Road	0.9484	10.1455	7.0398	0.0167		0.4334	0.4334		0.3987	0.3987	0.0000	1,617.6760	1,617.6760	0.5232		1,630.7557
Total	**0.9484**	**10.1455**	**7.0398**	**0.0167**	**0.0939**	**0.4334**	**0.5273**	**0.0142**	**0.3987**	**0.4129**	**0.0000**	**1,617.6760**	**1,617.6760**	**0.5232**		**1,630.7557**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	9.0300e-003	0.2976	0.0931	1.0000e-003	0.0239	9.4000e-004	0.0249	6.5500e-003	9.0000e-004	7.4500e-003		111.6118	111.6118	0.0115		111.8987
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0273	0.0158	0.2268	8.1000e-004	0.0894	5.7000e-004	0.0900	0.0237	5.2000e-004	0.0242		81.0561	81.0561	1.6400e-003		81.0970
Total	**0.0363**	**0.3134**	**0.3199**	**1.8100e-003**	**0.1134**	**1.5100e-003**	**0.1149**	**0.0303**	**1.4200e-003**	**0.0317**		**192.6679**	**192.6679**	**0.0131**		**192.9958**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	16.60	8.40	6.90	59.00	28.00	13.00	92	5	3
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Light Industry	0.563406	0.043070	0.209298	0.109958	0.015015	0.005784	0.026182	0.017546	0.001775	0.001524	0.004941	0.000598	0.000904
Parking Lot	0.563406	0.043070	0.209298	0.109958	0.015015	0.005784	0.026182	0.017546	0.001775	0.001524	0.004941	0.000598	0.000904

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	1.4000e-003	0.0127	0.0107	8.0000e-005		9.6000e-004	9.6000e-004		9.6000e-004	9.6000e-004		15.2245	15.2245	2.9000e-004	2.8000e-004	15.3150
NaturalGas Unmitigated	1.4000e-003	0.0127	0.0107	8.0000e-005		9.6000e-004	9.6000e-004		9.6000e-004	9.6000e-004		15.2245	15.2245	2.9000e-004	2.8000e-004	15.3150

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Light Industry	129.408	1.4000e-003	0.0127	0.0107	8.0000e-005		9.6000e-004	9.6000e-004		9.6000e-004	9.6000e-004		15.2245	15.2245	2.9000e-004	2.8000e-004	15.3150
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**1.4000e-003**	**0.0127**	**0.0107**	**8.0000e-005**		**9.6000e-004**	**9.6000e-004**		**9.6000e-004**	**9.6000e-004**		**15.2245**	**15.2245**	**2.9000e-004**	**2.8000e-004**	**15.3150**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Light Industry	0.129408	1.4000e-003	0.0127	0.0107	8.0000e-005		9.6000e-004	9.6000e-004		9.6000e-004	9.6000e-004		15.2245	15.2245	2.9000e-004	2.8000e-004	15.3150
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**1.4000e-003**	**0.0127**	**0.0107**	**8.0000e-005**		**9.6000e-004**	**9.6000e-004**		**9.6000e-004**	**9.6000e-004**		**15.2245**	**15.2245**	**2.9000e-004**	**2.8000e-004**	**15.3150**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0669	4.0000e-005	4.0300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		8.6400e-003	8.6400e-003	2.0000e-005		9.2000e-003
Unmitigated	0.0669	4.0000e-005	4.0300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		8.6400e-003	8.6400e-003	2.0000e-005		9.2000e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	8.5700e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0579					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	3.7000e-004	4.0000e-005	4.0300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		8.6400e-003	8.6400e-003	2.0000e-005		9.2000e-003
Total	**0.0669**	**4.0000e-005**	**4.0300e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**		**8.6400e-003**	**8.6400e-003**	**2.0000e-005**		**9.2000e-003**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	8.5700e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0579					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	3.7000e-004	4.0000e-005	4.0300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		8.6400e-003	8.6400e-003	2.0000e-005		9.2000e-003
Total	**0.0669**	**4.0000e-005**	**4.0300e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**		**8.6400e-003**	**8.6400e-003**	**2.0000e-005**		**9.2000e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	1	1	12	1500	0.73	Diesel

Boilers

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

User Defined Equipment

Equipment Type	Number

10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	lb/day										lb/day					
Emergency Generator - Diesel (750 - 9999 HP)	2.4616	11.0081	6.2766	0.0118		0.3621	0.3621		0.3621	0.3621		1,259.2712	1,259.2712	0.1766		1,263.6849
Total	**2.4616**	**11.0081**	**6.2766**	**0.0118**		**0.3621**	**0.3621**		**0.3621**	**0.3621**		**1,259.2712**	**1,259.2712**	**0.1766**		**1,263.6849**

11.0 Vegetation

IRWD Zone A to Rattlesnake Reservoir

Orange County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	2.26	1000sqft	0.05	2,260.00	0
Parking Lot	37.20	1000sqft	0.85	37,200.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	30
Climate Zone	8			**Operational Year**	2023
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

IRWD Zone A to Rattlesnake Reservoir - Orange County, Winter

Project Characteristics -

Land Use - .

Construction Phase - .

Off-road Equipment - Estimate for Jackhammer

Off-road Equipment - No equipment

Off-road Equipment - .

Off-road Equipment - .

Off-road Equipment - Estimate for Jackhammer

Off-road Equipment - .

Off-road Equipment - .

Off-road Equipment - .

Off-road Equipment - .

Off-road Equipment - .

Off-road Equipment - .

Off-road Equipment - .

Trips and VMT - .

Demolition - .

Grading - .

Vehicle Trips - .

Energy Use - .

Water And Wastewater - Default Assumptions

Construction Off-road Equipment Mitigation -

Operational Off-Road Equipment -

Stationary Sources - Emergency Generators and Fire Pumps - .

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	100.00	80.00

tblConstructionPhase	NumDays	100.00	80.00
tblConstructionPhase	NumDays	100.00	200.00
tblConstructionPhase	NumDays	10.00	120.00
tblConstructionPhase	NumDays	10.00	20.00
tblConstructionPhase	NumDays	10.00	80.00
tblConstructionPhase	NumDays	10.00	20.00
tblConstructionPhase	NumDays	10.00	240.00
tblConstructionPhase	NumDays	10.00	120.00
tblConstructionPhase	NumDays	2.00	120.00
tblConstructionPhase	NumDays	5.00	120.00
tblEnergyUse	LightingElect	2.99	709.46
tblEnergyUse	LightingElect	0.35	0.00
tblEnergyUse	NT24E	3.83	908.77
tblEnergyUse	T24E	1.63	386.76
tblGrading	MaterialImported	0.00	456.00
tblOffRoadEquipment	HorsePower	88.00	3.00
tblOffRoadEquipment	HorsePower	88.00	3.00
tblOffRoadEquipment	LoadFactor	0.34	0.73
tblOffRoadEquipment	LoadFactor	0.34	0.73
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	UsageHours	4.00	8.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	7.00

tblOffRoadEquipment	UsageHours	6.00	8.00
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	1,500.00
tblStationaryGeneratorsPumpsUse	HoursPerDay	0.00	1.00
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	12.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00
tblTripsAndVMT	HaulingTripLength	20.00	25.00
tblTripsAndVMT	HaulingTripLength	20.00	25.00
tblTripsAndVMT	HaulingTripLength	20.00	25.00
tblTripsAndVMT	HaulingTripLength	20.00	25.00
tblTripsAndVMT	HaulingTripLength	20.00	25.00
tblTripsAndVMT	HaulingTripLength	20.00	25.00
tblTripsAndVMT	HaulingTripLength	20.00	25.00
tblTripsAndVMT	HaulingTripLength	20.00	25.00
tblTripsAndVMT	HaulingTripLength	20.00	25.00
tblTripsAndVMT	HaulingTripLength	20.00	25.00
tblTripsAndVMT	HaulingTripLength	20.00	25.00
tblVehicleTrips	ST_TR	1.32	0.00
tblVehicleTrips	SU_TR	0.68	0.00
tblVehicleTrips	WD_TR	6.97	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	2.1564	21.9547	19.2724	0.0409	0.7601	0.9229	1.6830	0.1932	0.8494	1.0426	0.0000	4,013.8370	4,013.8370	1.0528	0.0000	4,040.1559
2021	4.3098	44.3708	38.6531	0.0782	0.7645	1.9437	2.5062	0.1943	1.7892	1.9377	0.0000	7,591.4185	7,591.4185	2.2686	0.0000	7,648.1320
2022	3.8576	37.7492	37.9602	0.0780	0.6733	1.6597	2.2072	0.1501	1.5278	1.6727	0.0000	7,572.7205	7,572.7205	2.2670	0.0000	7,629.3954
Maximum	**4.3098**	**44.3708**	**38.6531**	**0.0782**	**0.7645**	**1.9437**	**2.5062**	**0.1943**	**1.7892**	**1.9377**	**0.0000**	**7,591.4185**	**7,591.4185**	**2.2686**	**0.0000**	**7,648.1320**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	2.1564	21.9547	19.2724	0.0409	0.7063	0.9229	1.6292	0.1851	0.8494	1.0345	0.0000	4,013.8370	4,013.8370	1.0528	0.0000	4,040.1559
2021	4.3098	44.3708	38.6531	0.0782	0.7107	1.9437	2.5000	0.1862	1.7892	1.9368	0.0000	7,591.4185	7,591.4185	2.2686	0.0000	7,648.1320
2022	3.8576	37.7492	37.9602	0.0780	0.5413	1.6597	2.2010	0.1439	1.5278	1.6717	0.0000	7,572.7204	7,572.7204	2.2670	0.0000	7,629.3954
Maximum	**4.3098**	**44.3708**	**38.6531**	**0.0782**	**0.7107**	**1.9437**	**2.5000**	**0.1862**	**1.7892**	**1.9368**	**0.0000**	**7,591.4185**	**7,591.4185**	**2.2686**	**0.0000**	**7,648.1320**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**10.90**	**0.00**	**1.04**	**4.19**	**0.00**	**0.22**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.0669	4.0000e-005	4.0300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		8.6400e-003	8.6400e-003	2.0000e-005		9.2000e-003
Energy	1.4000e-003	0.0127	0.0107	8.0000e-005		9.6000e-004	9.6000e-004		9.6000e-004	9.6000e-004		15.2245	15.2245	2.9000e-004	2.8000e-004	15.3150
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Stationary	2.4616	11.0081	6.2766	0.0118		0.3621	0.3621		0.3621	0.3621		1,259.2712	1,259.2712	0.1766		1,263.6849
Total	**2.5299**	**11.0209**	**6.2913**	**0.0119**	**0.0000**	**0.3631**	**0.3631**	**0.0000**	**0.3631**	**0.3631**		**1,274.5043**	**1,274.5043**	**0.1769**	**2.8000e-004**	**1,279.0091**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.0669	4.0000e-005	4.0300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		8.6400e-003	8.6400e-003	2.0000e-005		9.2000e-003
Energy	1.4000e-003	0.0127	0.0107	8.0000e-005		9.6000e-004	9.6000e-004		9.6000e-004	9.6000e-004		15.2245	15.2245	2.9000e-004	2.8000e-004	15.3150
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Stationary	2.4616	11.0081	6.2766	0.0118		0.3621	0.3621		0.3621	0.3621		1,259.2712	1,259.2712	0.1766		1,263.6849
Total	**2.5299**	**11.0209**	**6.2913**	**0.0119**	**0.0000**	**0.3631**	**0.3631**	**0.0000**	**0.3631**	**0.3631**		**1,274.5043**	**1,274.5043**	**0.1769**	**2.8000e-004**	**1,279.0091**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

IRWD Zone A to Rattlesnake Reservoir - Orange County, Winter

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition 1 and 2	Demolition	9/24/2020	3/10/2021	5	120	Demo of Northwood Zone A to B Pump, Demo of spetic tank and leach field
2	Trenching 1 and 2	Trenching	9/24/2020	3/10/2021	5	120	Install/Commission swer line, install temp fill pipelines
3	Demolition 3	Demolition	11/19/2020	3/10/2021	5	80	demo of staircases
4	Building Construction 1	Building Construction	11/19/2020	3/10/2021	5	80	Install of new restroom
5	Building Construction 2	Building Construction	11/19/2020	3/10/2021	5	80	Install new dechlorination facility, etc
6	Demolition 4	Demolition	3/11/2021	4/7/2021	5	20	Decom and demo existing dechlor facility
7	Demolition 5	Demolition	3/11/2021	2/9/2022	5	240	Decom and demo misc pipes and structures
8	Building Construction 3 and 4	Building Construction	4/8/2021	1/12/2022	5	200	Construct ZARRPS and generator, etc
9	Demolition 6 and 7	Demolition	11/18/2021	5/4/2022	5	120	Demo temp fill lines and modify sump pump for truck access
10	Grading 1	Grading	11/18/2021	5/4/2022	5	120	Grading
11	Paving 1	Paving	11/18/2021	5/4/2022	5	120	Paving
12	Demolition 8	Demolition	1/13/2022	2/9/2022	5	20	Decommission and demo existing RRPS2, etc

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0.85

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition 1 and 2	Concrete/Industrial Saws	0	8.00	81	0.73
Demolition 1 and 2	Cranes	2	8.00	231	0.29

Demolition 1 and 2	Excavators	1	8.00	158	0.38
Demolition 1 and 2	Rubber Tired Dozers	0	1.00	247	0.40
Demolition 1 and 2	Tractors/Loaders/Backhoes	0	6.00	97	0.37
Trenching 1 and 2	Excavators	2	8.00	158	0.38
Trenching 1 and 2	Graders	0	8.00	187	0.41
Trenching 1 and 2	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Demolition 3	Concrete/Industrial Saws	0	8.00	81	0.73
Demolition 3	Cranes	0	4.00	231	0.29
Demolition 3	Excavators	1	8.00	158	0.38
Demolition 3	Forklifts	0	6.00	89	0.20
Demolition 3	Other General Industrial Equipment	1	8.00	3	0.73
Demolition 3	Rubber Tired Dozers	0	1.00	247	0.40
Demolition 3	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Building Construction 1	Concrete/Industrial Saws	0	8.00	81	0.73
Building Construction 1	Cranes	0	4.00	231	0.29
Building Construction 1	Forklifts	0	6.00	89	0.20
Building Construction 1	Other General Industrial Equipment	1	8.00	3	0.73
Building Construction 1	Rubber Tired Dozers	0	1.00	247	0.40
Building Construction 1	Tractors/Loaders/Backhoes	0	6.00	97	0.37
Building Construction 2	Cement and Mortar Mixers	0	6.00	9	0.56
Building Construction 2	Cranes	0	4.00	231	0.29
Building Construction 2	Forklifts	0	6.00	89	0.20
Building Construction 2	Pavers	0	7.00	130	0.42
Building Construction 2	Rollers	0	7.00	80	0.38
Building Construction 2	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Demolition 4	Air Compressors	0	6.00	78	0.48
Demolition 4	Concrete/Industrial Saws	0	8.00	81	0.73

IRWD Zone A to Rattlesnake Reservoir - Orange County, Winter

Demolition 4	Cranes	2	8.00	231	0.29
Demolition 4	Excavators	1	8.00	158	0.38
Demolition 4	Rubber Tired Dozers	0	1.00	247	0.40
Demolition 4	Tractors/Loaders/Backhoes	0	6.00	97	0.37
Demolition 5	Concrete/Industrial Saws	0	8.00	81	0.73
Demolition 5	Cranes	1	8.00	231	0.29
Demolition 5	Excavators	1	8.00	158	0.38
Demolition 5	Rubber Tired Dozers	0	1.00	247	0.40
Demolition 5	Tractors/Loaders/Backhoes	0	6.00	97	0.37
Building Construction 3 and 4	Cranes	3	8.00	231	0.29
Building Construction 3 and 4	Excavators	2	8.00	158	0.38
Building Construction 3 and 4	Forklifts	0	6.00	89	0.20
Building Construction 3 and 4	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Demolition 6 and 7	Concrete/Industrial Saws	0	8.00	81	0.73
Demolition 6 and 7	Cranes	1	8.00	231	0.29
Demolition 6 and 7	Excavators	2	8.00	158	0.38
Demolition 6 and 7	Rubber Tired Dozers	0	1.00	247	0.40
Demolition 6 and 7	Tractors/Loaders/Backhoes	0	6.00	97	0.37
Grading 1	Concrete/Industrial Saws	0	8.00	81	0.73
Grading 1	Excavators	1	8.00	158	0.38
Grading 1	Rubber Tired Dozers	0	1.00	247	0.40
Grading 1	Tractors/Loaders/Backhoes	0	6.00	97	0.37
Paving 1	Cement and Mortar Mixers	1	6.00	9	0.56
Paving 1	Excavators	1	8.00	158	0.38
Paving 1	Pavers	1	7.00	130	0.42
Paving 1	Rollers	1	7.00	80	0.38
Paving 1	Tractors/Loaders/Backhoes	0	7.00	97	0.37

Demolition 8	Concrete/Industrial Saws	0	8.00	81	0.73
Demolition 8	Cranes	2	8.00	231	0.29
Demolition 8	Excavators	1	8.00	158	0.38
Demolition 8	Rubber Tired Dozers	0	1.00	247	0.40
Demolition 8	Tractors/Loaders/Backhoes	0	6.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition 1 and 2	3	8.00	0.00	46.00	14.70	6.90	25.00	LD_Mix	HDT_Mix	HHDT
Trenching 1 and 2	2	5.00	0.00	0.00	14.70	6.90	25.00	LD_Mix	HDT_Mix	HHDT
Demolition 3	2	5.00	0.00	2.00	14.70	6.90	25.00	LD_Mix	HDT_Mix	HHDT
Building Construction 1	1	17.00	6.00	0.00	14.70	6.90	25.00	LD_Mix	HDT_Mix	HHDT
Building Construction 2	0	17.00	6.00	0.00	14.70	6.90	25.00	LD_Mix	HDT_Mix	HHDT
Demolition 4	3	8.00	0.00	20.00	14.70	6.90	25.00	LD_Mix	HDT_Mix	HHDT
Demolition 5	2	5.00	0.00	8.00	14.70	6.90	25.00	LD_Mix	HDT_Mix	HHDT
Building Construction 3 and 4	5	17.00	6.00	0.00	14.70	6.90	25.00	LD_Mix	HDT_Mix	HHDT
Demolition 6 and 7	3	8.00	0.00	1.00	14.70	6.90	25.00	LD_Mix	HDT_Mix	HHDT
Grading 1	1	3.00	0.00	57.00	14.70	6.90	25.00	LD_Mix	HDT_Mix	HHDT
Paving 1	4	10.00	0.00	0.00	14.70	6.90	25.00	LD_Mix	HDT_Mix	HHDT
Demolition 8	3	8.00	0.00	22.00	14.70	6.90	25.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Demolition 1 and 2 - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0824	0.0000	0.0824	0.0125	0.0000	0.0125			0.0000			0.0000
Off-Road	1.1518	13.1957	7.4985	0.0167		0.5614	0.5614		0.5165	0.5165		1,617.6977	1,617.6977	0.5232		1,630.7776
Total	**1.1518**	**13.1957**	**7.4985**	**0.0167**	**0.0824**	**0.5614**	**0.6438**	**0.0125**	**0.5165**	**0.5290**		**1,617.6977**	**1,617.6977**	**0.5232**		**1,630.7776**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	3.5400e-003	0.1249	0.0334	3.5000e-004	0.0127	4.3000e-004	0.0131	3.3600e-003	4.1000e-004	3.7700e-003		39.4115	39.4115	4.1600e-003		39.5155
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0347	0.0213	0.2420	8.3000e-004	0.0894	5.9000e-004	0.0900	0.0237	5.4000e-004	0.0243		82.5297	82.5297	1.8800e-003		82.5768
Total	**0.0383**	**0.1462**	**0.2755**	**1.1800e-003**	**0.1021**	**1.0200e-003**	**0.1032**	**0.0271**	**9.5000e-004**	**0.0280**		**121.9412**	**121.9412**	**6.0400e-003**		**122.0923**

3.2 Demolition 1 and 2 - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0321	0.0000	0.0321	4.8600e-003	0.0000	4.8600e-003			0.0000			0.0000
Off-Road	1.1518	13.1957	7.4985	0.0167		0.5614	0.5614		0.5165	0.5165	0.0000	1,617.6977	1,617.6977	0.5232		1,630.7776
Total	**1.1518**	**13.1957**	**7.4985**	**0.0167**	**0.0321**	**0.5614**	**0.5935**	**4.8600e-003**	**0.5165**	**0.5214**	**0.0000**	**1,617.6977**	**1,617.6977**	**0.5232**		**1,630.7776**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	3.5400e-003	0.1249	0.0334	3.5000e-004	0.0127	4.3000e-004	0.0131	3.3600e-003	4.1000e-004	3.7700e-003		39.4115	39.4115	4.1600e-003		39.5155
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0347	0.0213	0.2420	8.3000e-004	0.0894	5.9000e-004	0.0900	0.0237	5.4000e-004	0.0243		82.5297	82.5297	1.8800e-003		82.5768
Total	**0.0383**	**0.1462**	**0.2755**	**1.1800e-003**	**0.1021**	**1.0200e-003**	**0.1032**	**0.0271**	**9.5000e-004**	**0.0280**		**121.9412**	**121.9412**	**6.0400e-003**		**122.0923**

3.2 Demolition 1 and 2 - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0824	0.0000	0.0824	0.0125	0.0000	0.0125			0.0000			0.0000
Off-Road	1.0550	11.8521	7.2375	0.0167		0.4982	0.4982		0.4584	0.4584		1,617.6695	1,617.6695	0.5232		1,630.7492
Total	**1.0550**	**11.8521**	**7.2375**	**0.0167**	**0.0824**	**0.4982**	**0.5806**	**0.0125**	**0.4584**	**0.4708**		**1,617.6695**	**1,617.6695**	**0.5232**		**1,630.7492**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	3.3800e-003	0.1151	0.0336	3.5000e-004	0.0175	3.8000e-004	0.0179	4.5400e-003	3.7000e-004	4.9000e-003		38.9267	38.9267	4.1200e-003		39.0296
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0327	0.0192	0.2242	8.0000e-004	0.0894	5.8000e-004	0.0900	0.0237	5.3000e-004	0.0243		79.6666	79.6666	1.7100e-003		79.7092
Total	**0.0361**	**0.1343**	**0.2578**	**1.1500e-003**	**0.1069**	**9.6000e-004**	**0.1079**	**0.0283**	**9.0000e-004**	**0.0292**		**118.5933**	**118.5933**	**5.8300e-003**		**118.7388**

3.2 Demolition 1 and 2 - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0321	0.0000	0.0321	4.8600e-003	0.0000	4.8600e-003			0.0000			0.0000
Off-Road	1.0550	11.8521	7.2375	0.0167		0.4982	0.4982		0.4584	0.4584	0.0000	1,617.6695	1,617.6695	0.5232		1,630.7492
Total	**1.0550**	**11.8521**	**7.2375**	**0.0167**	**0.0321**	**0.4982**	**0.5303**	**4.8600e-003**	**0.4584**	**0.4632**	**0.0000**	**1,617.6695**	**1,617.6695**	**0.5232**		**1,630.7492**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	3.3800e-003	0.1151	0.0336	3.5000e-004	0.0175	3.8000e-004	0.0179	4.5400e-003	3.7000e-004	4.9000e-003		38.9267	38.9267	4.1200e-003		39.0296
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0327	0.0192	0.2242	8.0000e-004	0.0894	5.8000e-004	0.0900	0.0237	5.3000e-004	0.0243		79.6666	79.6666	1.7100e-003		79.7092
Total	**0.0361**	**0.1343**	**0.2578**	**1.1500e-003**	**0.1069**	**9.6000e-004**	**0.1079**	**0.0283**	**9.0000e-004**	**0.0292**		**118.5933**	**118.5933**	**5.8300e-003**		**118.7388**

3.3 Trenching 1 and 2 - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.4900	4.8253	6.5356	0.0103		0.2337	0.2337		0.2150	0.2150		1,000.2368	1,000.2368	0.3235		1,008.3243
Total	**0.4900**	**4.8253**	**6.5356**	**0.0103**		**0.2337**	**0.2337**		**0.2150**	**0.2150**		**1,000.2368**	**1,000.2368**	**0.3235**		**1,008.3243**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0217	0.0133	0.1513	5.2000e-004	0.0559	3.7000e-004	0.0563	0.0148	3.4000e-004	0.0152		51.5811	51.5811	1.1800e-003		51.6105
Total	**0.0217**	**0.0133**	**0.1513**	**5.2000e-004**	**0.0559**	**3.7000e-004**	**0.0563**	**0.0148**	**3.4000e-004**	**0.0152**		**51.5811**	**51.5811**	**1.1800e-003**		**51.6105**

3.3 Trenching 1 and 2 - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.4900	4.8253	6.5356	0.0103		0.2337	0.2337		0.2150	0.2150	0.0000	1,000.2368	1,000.2368	0.3235		1,008.3243
Total	**0.4900**	**4.8253**	**6.5356**	**0.0103**		**0.2337**	**0.2337**		**0.2150**	**0.2150**	**0.0000**	**1,000.2368**	**1,000.2368**	**0.3235**		**1,008.3243**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0217	0.0133	0.1513	5.2000e-004	0.0559	3.7000e-004	0.0563	0.0148	3.4000e-004	0.0152		51.5811	51.5811	1.1800e-003		51.6105
Total	**0.0217**	**0.0133**	**0.1513**	**5.2000e-004**	**0.0559**	**3.7000e-004**	**0.0563**	**0.0148**	**3.4000e-004**	**0.0152**		**51.5811**	**51.5811**	**1.1800e-003**		**51.6105**

3.3 Trenching 1 and 2 - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.4584	4.3068	6.5436	0.0103		0.2089	0.2089		0.1922	0.1922		1,000.3839	1,000.3839	0.3235		1,008.4726
Total	**0.4584**	**4.3068**	**6.5436**	**0.0103**		**0.2089**	**0.2089**		**0.1922**	**0.1922**		**1,000.3839**	**1,000.3839**	**0.3235**		**1,008.4726**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0204	0.0120	0.1401	5.0000e-004	0.0559	3.6000e-004	0.0563	0.0148	3.3000e-004	0.0152		49.7916	49.7916	1.0700e-003		49.8183
Total	**0.0204**	**0.0120**	**0.1401**	**5.0000e-004**	**0.0559**	**3.6000e-004**	**0.0563**	**0.0148**	**3.3000e-004**	**0.0152**		**49.7916**	**49.7916**	**1.0700e-003**		**49.8183**

3.3 Trenching 1 and 2 - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.4584	4.3068	6.5436	0.0103		0.2089	0.2089		0.1922	0.1922	0.0000	1,000.3839	1,000.3839	0.3235		1,008.4726
Total	**0.4584**	**4.3068**	**6.5436**	**0.0103**		**0.2089**	**0.2089**		**0.1922**	**0.1922**	**0.0000**	**1,000.3839**	**1,000.3839**	**0.3235**		**1,008.4726**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0204	0.0120	0.1401	5.0000e-004	0.0559	3.6000e-004	0.0563	0.0148	3.3000e-004	0.0152		49.7916	49.7916	1.0700e-003		49.8183
Total	**0.0204**	**0.0120**	**0.1401**	**5.0000e-004**	**0.0559**	**3.6000e-004**	**0.0563**	**0.0148**	**3.3000e-004**	**0.0152**		**49.7916**	**49.7916**	**1.0700e-003**		**49.8183**

3.4 Demolition 3 - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					5.8800e-003	0.0000	5.8800e-003	8.9000e-004	0.0000	8.9000e-004			0.0000			0.0000
Off-Road	0.2450	2.4126	3.2678	5.1700e-003		0.1169	0.1169		0.1075	0.1075		500.1184	500.1184	0.1618		504.1621
Total	**0.2450**	**2.4126**	**3.2678**	**5.1700e-003**	**5.8800e-003**	**0.1169**	**0.1228**	**8.9000e-004**	**0.1075**	**0.1084**		**500.1184**	**500.1184**	**0.1618**		**504.1621**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	2.3000e-004	8.1500e-003	2.1800e-003	2.0000e-005	1.2000e-003	3.0000e-005	1.2200e-003	3.1000e-004	3.0000e-005	3.4000e-004		2.5703	2.5703	2.7000e-004		2.5771
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0217	0.0133	0.1513	5.2000e-004	0.0559	3.7000e-004	0.0563	0.0148	3.4000e-004	0.0152		51.5811	51.5811	1.1800e-003		51.6105
Total	**0.0219**	**0.0215**	**0.1535**	**5.4000e-004**	**0.0571**	**4.0000e-004**	**0.0575**	**0.0151**	**3.7000e-004**	**0.0155**		**54.1514**	**54.1514**	**1.4500e-003**		**54.1876**

3.4 Demolition 3 - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.3000e-003	0.0000	2.3000e-003	3.5000e-004	0.0000	3.5000e-004			0.0000			0.0000
Off-Road	0.2450	2.4126	3.2678	5.1700e-003		0.1169	0.1169		0.1075	0.1075	0.0000	500.1184	500.1184	0.1618		504.1621
Total	**0.2450**	**2.4126**	**3.2678**	**5.1700e-003**	**2.3000e-003**	**0.1169**	**0.1192**	**3.5000e-004**	**0.1075**	**0.1079**	**0.0000**	**500.1184**	**500.1184**	**0.1618**		**504.1621**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	2.3000e-004	8.1500e-003	2.1800e-003	2.0000e-005	1.2000e-003	3.0000e-005	1.2200e-003	3.1000e-004	3.0000e-005	3.4000e-004		2.5703	2.5703	2.7000e-004		2.5771
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0217	0.0133	0.1513	5.2000e-004	0.0559	3.7000e-004	0.0563	0.0148	3.4000e-004	0.0152		51.5811	51.5811	1.1800e-003		51.6105
Total	**0.0219**	**0.0215**	**0.1535**	**5.4000e-004**	**0.0571**	**4.0000e-004**	**0.0575**	**0.0151**	**3.7000e-004**	**0.0155**		**54.1514**	**54.1514**	**1.4500e-003**		**54.1876**

3.4 Demolition 3 - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					5.8800e-003	0.0000	5.8800e-003	8.9000e-004	0.0000	8.9000e-004			0.0000			0.0000
Off-Road	0.2292	2.1534	3.2718	5.1700e-003		0.1044	0.1044		0.0961	0.0961		500.1920	500.1920	0.1618		504.2363
Total	**0.2292**	**2.1534**	**3.2718**	**5.1700e-003**	**5.8800e-003**	**0.1044**	**0.1103**	**8.9000e-004**	**0.0961**	**0.0970**		**500.1920**	**500.1920**	**0.1618**		**504.2363**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	2.2000e-004	7.5000e-003	2.1900e-003	2.0000e-005	8.1000e-004	3.0000e-005	8.3000e-004	2.1000e-004	2.0000e-005	2.4000e-004		2.5387	2.5387	2.7000e-004		2.5454
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0204	0.0120	0.1401	5.0000e-004	0.0559	3.6000e-004	0.0563	0.0148	3.3000e-004	0.0152		49.7916	49.7916	1.0700e-003		49.8183
Total	**0.0207**	**0.0195**	**0.1423**	**5.2000e-004**	**0.0567**	**3.9000e-004**	**0.0571**	**0.0150**	**3.5000e-004**	**0.0154**		**52.3303**	**52.3303**	**1.3400e-003**		**52.3637**

3.4 Demolition 3 - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.3000e-003	0.0000	2.3000e-003	3.5000e-004	0.0000	3.5000e-004			0.0000			0.0000
Off-Road	0.2292	2.1534	3.2718	5.1700e-003		0.1044	0.1044		0.0961	0.0961	0.0000	500.1920	500.1920	0.1618		504.2363
Total	**0.2292**	**2.1534**	**3.2718**	**5.1700e-003**	**2.3000e-003**	**0.1044**	**0.1067**	**3.5000e-004**	**0.0961**	**0.0964**	**0.0000**	**500.1920**	**500.1920**	**0.1618**		**504.2363**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	2.2000e-004	7.5000e-003	2.1900e-003	2.0000e-005	8.1000e-004	3.0000e-005	8.3000e-004	2.1000e-004	2.0000e-005	2.4000e-004		2.5387	2.5387	2.7000e-004		2.5454
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0204	0.0120	0.1401	5.0000e-004	0.0559	3.6000e-004	0.0563	0.0148	3.3000e-004	0.0152		49.7916	49.7916	1.0700e-003		49.8183
Total	**0.0207**	**0.0195**	**0.1423**	**5.2000e-004**	**0.0567**	**3.9000e-004**	**0.0571**	**0.0150**	**3.5000e-004**	**0.0154**		**52.3303**	**52.3303**	**1.3400e-003**		**52.3637**

3.5 Building Construction 1 - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0200	0.6249	0.1808	1.4600e-003	0.0383	3.3200e-003	0.0417	0.0110	3.1700e-003	0.0142		158.6796	158.6796	0.0138		159.0252
Worker	0.0738	0.0452	0.5143	1.7600e-003	0.1900	1.2600e-003	0.1913	0.0504	1.1600e-003	0.0516		175.3756	175.3756	4.0000e-003		175.4756
Total	**0.0939**	**0.6701**	**0.6951**	**3.2200e-003**	**0.2284**	**4.5800e-003**	**0.2329**	**0.0614**	**4.3300e-003**	**0.0658**		**334.0552**	**334.0552**	**0.0178**		**334.5008**

3.5 Building Construction 1 - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0200	0.6249	0.1808	1.4600e-003	0.0383	3.3200e-003	0.0417	0.0110	3.1700e-003	0.0142		158.6796	158.6796	0.0138		159.0252
Worker	0.0738	0.0452	0.5143	1.7600e-003	0.1900	1.2600e-003	0.1913	0.0504	1.1600e-003	0.0516		175.3756	175.3756	4.0000e-003		175.4756
Total	**0.0939**	**0.6701**	**0.6951**	**3.2200e-003**	**0.2284**	**4.5800e-003**	**0.2329**	**0.0614**	**4.3300e-003**	**0.0658**		**334.0552**	**334.0552**	**0.0178**		**334.5008**

3.5 Building Construction 1 - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0168	0.5616	0.1675	1.4400e-003	0.0383	1.2100e-003	0.0396	0.0110	1.1600e-003	0.0122		157.3134	157.3134	0.0133		157.6450
Worker	0.0695	0.0408	0.4765	1.7000e-003	0.1900	1.2300e-003	0.1913	0.0504	1.1300e-003	0.0515		169.2915	169.2915	3.6300e-003		169.3821
Total	**0.0863**	**0.6024**	**0.6439**	**3.1400e-003**	**0.2284**	**2.4400e-003**	**0.2308**	**0.0614**	**2.2900e-003**	**0.0637**		**326.6049**	**326.6049**	**0.0169**		**327.0271**

3.5 Building Construction 1 - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0168	0.5616	0.1675	1.4400e-003	0.0383	1.2100e-003	0.0396	0.0110	1.1600e-003	0.0122		157.3134	157.3134	0.0133		157.6450
Worker	0.0695	0.0408	0.4765	1.7000e-003	0.1900	1.2300e-003	0.1913	0.0504	1.1300e-003	0.0515		169.2915	169.2915	3.6300e-003		169.3821
Total	**0.0863**	**0.6024**	**0.6439**	**3.1400e-003**	**0.2284**	**2.4400e-003**	**0.2308**	**0.0614**	**2.2900e-003**	**0.0637**		**326.6049**	**326.6049**	**0.0169**		**327.0271**

3.6 Building Construction 2 - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0200	0.6249	0.1808	1.4600e-003	0.0383	3.3200e-003	0.0417	0.0110	3.1700e-003	0.0142		158.6796	158.6796	0.0138		159.0252
Worker	0.0738	0.0452	0.5143	1.7600e-003	0.1900	1.2600e-003	0.1913	0.0504	1.1600e-003	0.0516		175.3756	175.3756	4.0000e-003		175.4756
Total	**0.0939**	**0.6701**	**0.6951**	**3.2200e-003**	**0.2284**	**4.5800e-003**	**0.2329**	**0.0614**	**4.3300e-003**	**0.0658**		**334.0552**	**334.0552**	**0.0178**		**334.5008**

3.6 Building Construction 2 - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0200	0.6249	0.1808	1.4600e-003	0.0383	3.3200e-003	0.0417	0.0110	3.1700e-003	0.0142		158.6796	158.6796	0.0138		159.0252
Worker	0.0738	0.0452	0.5143	1.7600e-003	0.1900	1.2600e-003	0.1913	0.0504	1.1600e-003	0.0516		175.3756	175.3756	4.0000e-003		175.4756
Total	**0.0939**	**0.6701**	**0.6951**	**3.2200e-003**	**0.2284**	**4.5800e-003**	**0.2329**	**0.0614**	**4.3300e-003**	**0.0658**		**334.0552**	**334.0552**	**0.0178**		**334.5008**

3.6 Building Construction 2 - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0168	0.5616	0.1675	1.4400e-003	0.0383	1.2100e-003	0.0396	0.0110	1.1600e-003	0.0122		157.3134	157.3134	0.0133		157.6450
Worker	0.0695	0.0408	0.4765	1.7000e-003	0.1900	1.2300e-003	0.1913	0.0504	1.1300e-003	0.0515		169.2915	169.2915	3.6300e-003		169.3821
Total	**0.0863**	**0.6024**	**0.6439**	**3.1400e-003**	**0.2284**	**2.4400e-003**	**0.2308**	**0.0614**	**2.2900e-003**	**0.0637**		**326.6049**	**326.6049**	**0.0169**		**327.0271**

3.6 Building Construction 2 - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0168	0.5616	0.1675	1.4400e-003	0.0383	1.2100e-003	0.0396	0.0110	1.1600e-003	0.0122		157.3134	157.3134	0.0133		157.6450
Worker	0.0695	0.0408	0.4765	1.7000e-003	0.1900	1.2300e-003	0.1913	0.0504	1.1300e-003	0.0515		169.2915	169.2915	3.6300e-003		169.3821
Total	**0.0863**	**0.6024**	**0.6439**	**3.1400e-003**	**0.2284**	**2.4400e-003**	**0.2308**	**0.0614**	**2.2900e-003**	**0.0637**		**326.6049**	**326.6049**	**0.0169**		**327.0271**

3.7 Demolition 4 - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.2140	0.0000	0.2140	0.0324	0.0000	0.0324			0.0000			0.0000
Off-Road	1.0550	11.8521	7.2375	0.0167		0.4982	0.4982		0.4584	0.4584		1,617.6695	1,617.6695	0.5232		1,630.7492
Total	**1.0550**	**11.8521**	**7.2375**	**0.0167**	**0.2140**	**0.4982**	**0.7122**	**0.0324**	**0.4584**	**0.4908**		**1,617.6695**	**1,617.6695**	**0.5232**		**1,630.7492**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	8.8200e-003	0.3001	0.0876	9.1000e-004	0.0218	1.0000e-003	0.0228	5.9600e-003	9.6000e-004	6.9200e-003		101.5478	101.5478	0.0107		101.8163
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0327	0.0192	0.2242	8.0000e-004	0.0894	5.8000e-004	0.0900	0.0237	5.3000e-004	0.0243		79.6666	79.6666	1.7100e-003		79.7092
Total	**0.0415**	**0.3193**	**0.3118**	**1.7100e-003**	**0.1112**	**1.5800e-003**	**0.1128**	**0.0297**	**1.4900e-003**	**0.0312**		**181.2144**	**181.2144**	**0.0125**		**181.5255**

3.7 Demolition 4 - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0835	0.0000	0.0835	0.0126	0.0000	0.0126			0.0000			0.0000
Off-Road	1.0550	11.8521	7.2375	0.0167		0.4982	0.4982		0.4584	0.4584	0.0000	1,617.6695	1,617.6695	0.5232		1,630.7492
Total	**1.0550**	**11.8521**	**7.2375**	**0.0167**	**0.0835**	**0.4982**	**0.5817**	**0.0126**	**0.4584**	**0.4710**	**0.0000**	**1,617.6695**	**1,617.6695**	**0.5232**		**1,630.7492**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	8.8200e-003	0.3001	0.0876	9.1000e-004	0.0218	1.0000e-003	0.0228	5.9600e-003	9.6000e-004	6.9200e-003		101.5478	101.5478	0.0107		101.8163
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0327	0.0192	0.2242	8.0000e-004	0.0894	5.8000e-004	0.0900	0.0237	5.3000e-004	0.0243		79.6666	79.6666	1.7100e-003		79.7092
Total	**0.0415**	**0.3193**	**0.3118**	**1.7100e-003**	**0.1112**	**1.5800e-003**	**0.1128**	**0.0297**	**1.4900e-003**	**0.0312**		**181.2144**	**181.2144**	**0.0125**		**181.5255**

3.8 Demolition 5 - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.1300e-003	0.0000	7.1300e-003	1.0800e-003	0.0000	1.0800e-003			0.0000			0.0000
Off-Road	0.6421	7.0027	5.2547	0.0109		0.3013	0.3013		0.2772	0.2772		1,058.9307	1,058.9307	0.3425		1,067.4927
Total	**0.6421**	**7.0027**	**5.2547**	**0.0109**	**7.1300e-003**	**0.3013**	**0.3085**	**1.0800e-003**	**0.2772**	**0.2783**		**1,058.9307**	**1,058.9307**	**0.3425**		**1,067.4927**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	2.9000e-004	0.0100	2.9200e-003	3.0000e-005	8.0000e-004	3.0000e-005	8.3000e-004	2.2000e-004	3.0000e-005	2.5000e-004		3.3849	3.3849	3.6000e-004		3.3939
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0204	0.0120	0.1401	5.0000e-004	0.0559	3.6000e-004	0.0563	0.0148	3.3000e-004	0.0152		49.7916	49.7916	1.0700e-003		49.8183
Total	**0.0207**	**0.0220**	**0.1431**	**5.3000e-004**	**0.0567**	**3.9000e-004**	**0.0571**	**0.0150**	**3.6000e-004**	**0.0154**		**53.1765**	**53.1765**	**1.4300e-003**		**53.2121**

3.8 Demolition 5 - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.7800e-003	0.0000	2.7800e-003	4.2000e-004	0.0000	4.2000e-004			0.0000			0.0000
Off-Road	0.6421	7.0027	5.2547	0.0109		0.3013	0.3013		0.2772	0.2772	0.0000	1,058.9307	1,058.9307	0.3425		1,067.4927
Total	**0.6421**	**7.0027**	**5.2547**	**0.0109**	**2.7800e-003**	**0.3013**	**0.3041**	**4.2000e-004**	**0.2772**	**0.2776**	**0.0000**	**1,058.9307**	**1,058.9307**	**0.3425**		**1,067.4927**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	2.9000e-004	0.0100	2.9200e-003	3.0000e-005	8.0000e-004	3.0000e-005	8.3000e-004	2.2000e-004	3.0000e-005	2.5000e-004		3.3849	3.3849	3.6000e-004		3.3939
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0204	0.0120	0.1401	5.0000e-004	0.0559	3.6000e-004	0.0563	0.0148	3.3000e-004	0.0152		49.7916	49.7916	1.0700e-003		49.8183
Total	**0.0207**	**0.0220**	**0.1431**	**5.3000e-004**	**0.0567**	**3.9000e-004**	**0.0571**	**0.0150**	**3.6000e-004**	**0.0154**		**53.1765**	**53.1765**	**1.4300e-003**		**53.2121**

3.8 Demolition 5 - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.1300e-003	0.0000	7.1300e-003	1.0800e-003	0.0000	1.0800e-003			0.0000			0.0000
Off-Road	0.5754	5.9613	5.1475	0.0109		0.2597	0.2597		0.2389	0.2389		1,058.8456	1,058.8456	0.3425		1,067.4069
Total	**0.5754**	**5.9613**	**5.1475**	**0.0109**	**7.1300e-003**	**0.2597**	**0.2668**	**1.0800e-003**	**0.2389**	**0.2400**		**1,058.8456**	**1,058.8456**	**0.3425**		**1,067.4069**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	2.8000e-004	9.1500e-003	2.9300e-003	3.0000e-005	4.9000e-003	3.0000e-005	4.9300e-003	1.2200e-003	3.0000e-005	1.2500e-003		3.3399	3.3399	3.5000e-004		3.3488
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0194	0.0109	0.1306	4.8000e-004	0.0559	3.5000e-004	0.0562	0.0148	3.3000e-004	0.0152		47.9489	47.9489	9.7000e-004		47.9731
Total	**0.0196**	**0.0200**	**0.1335**	**5.1000e-004**	**0.0608**	**3.8000e-004**	**0.0612**	**0.0160**	**3.6000e-004**	**0.0164**		**51.2889**	**51.2889**	**1.3200e-003**		**51.3219**

3.8 Demolition 5 - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.7800e-003	0.0000	2.7800e-003	4.2000e-004	0.0000	4.2000e-004			0.0000			0.0000
Off-Road	0.5754	5.9613	5.1475	0.0109		0.2597	0.2597		0.2389	0.2389	0.0000	1,058.8456	1,058.8456	0.3425		1,067.4069
Total	**0.5754**	**5.9613**	**5.1475**	**0.0109**	**2.7800e-003**	**0.2597**	**0.2624**	**4.2000e-004**	**0.2389**	**0.2393**	**0.0000**	**1,058.8456**	**1,058.8456**	**0.3425**		**1,067.4069**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	2.8000e-004	9.1500e-003	2.9300e-003	3.0000e-005	4.9000e-003	3.0000e-005	4.9300e-003	1.2200e-003	3.0000e-005	1.2500e-003		3.3399	3.3399	3.5000e-004		3.3488
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0194	0.0109	0.1306	4.8000e-004	0.0559	3.5000e-004	0.0562	0.0148	3.3000e-004	0.0152		47.9489	47.9489	9.7000e-004		47.9731
Total	**0.0196**	**0.0200**	**0.1335**	**5.1000e-004**	**0.0608**	**3.8000e-004**	**0.0612**	**0.0160**	**3.6000e-004**	**0.0164**		**51.2889**	**51.2889**	**1.3200e-003**		**51.3219**

3.9 Building Construction 3 and 4 - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6971	18.8548	12.4922	0.0276		0.7995	0.7995		0.7356	0.7356		2,676.6002	2,676.6002	0.8657		2,698.2419
Total	**1.6971**	**18.8548**	**12.4922**	**0.0276**		**0.7995**	**0.7995**		**0.7356**	**0.7356**		**2,676.6002**	**2,676.6002**	**0.8657**		**2,698.2419**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0168	0.5616	0.1675	1.4400e-003	0.0383	1.2100e-003	0.0396	0.0110	1.1600e-003	0.0122		157.3134	157.3134	0.0133		157.6450
Worker	0.0695	0.0408	0.4765	1.7000e-003	0.1900	1.2300e-003	0.1913	0.0504	1.1300e-003	0.0515		169.2915	169.2915	3.6300e-003		169.3821
Total	**0.0863**	**0.6024**	**0.6439**	**3.1400e-003**	**0.2284**	**2.4400e-003**	**0.2308**	**0.0614**	**2.2900e-003**	**0.0637**		**326.6049**	**326.6049**	**0.0169**		**327.0271**

3.9 Building Construction 3 and 4 - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6971	18.8548	12.4922	0.0276		0.7995	0.7995		0.7356	0.7356	0.0000	2,676.6002	2,676.6002	0.8657		2,698.2419
Total	**1.6971**	**18.8548**	**12.4922**	**0.0276**		**0.7995**	**0.7995**		**0.7356**	**0.7356**	**0.0000**	**2,676.6002**	**2,676.6002**	**0.8657**		**2,698.2419**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0168	0.5616	0.1675	1.4400e-003	0.0383	1.2100e-003	0.0396	0.0110	1.1600e-003	0.0122		157.3134	157.3134	0.0133		157.6450
Worker	0.0695	0.0408	0.4765	1.7000e-003	0.1900	1.2300e-003	0.1913	0.0504	1.1300e-003	0.0515		169.2915	169.2915	3.6300e-003		169.3821
Total	**0.0863**	**0.6024**	**0.6439**	**3.1400e-003**	**0.2284**	**2.4400e-003**	**0.2308**	**0.0614**	**2.2900e-003**	**0.0637**		**326.6049**	**326.6049**	**0.0169**		**327.0271**

3.9 Building Construction 3 and 4 - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5238	16.1068	12.1873	0.0276		0.6930	0.6930		0.6376	0.6376		2,676.5216	2,676.5216	0.8656		2,698.1626
Total	**1.5238**	**16.1068**	**12.1873**	**0.0276**		**0.6930**	**0.6930**		**0.6376**	**0.6376**		**2,676.5216**	**2,676.5216**	**0.8656**		**2,698.1626**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0158	0.5309	0.1615	1.4300e-003	0.0383	1.0600e-003	0.0394	0.0110	1.0100e-003	0.0120		155.7536	155.7536	0.0128		156.0742
Worker	0.0658	0.0370	0.4440	1.6300e-003	0.1900	1.2100e-003	0.1912	0.0504	1.1100e-003	0.0515		163.0264	163.0264	3.2900e-003		163.1086
Total	**0.0816**	**0.5679**	**0.6055**	**3.0600e-003**	**0.2284**	**2.2700e-003**	**0.2306**	**0.0614**	**2.1200e-003**	**0.0635**		**318.7800**	**318.7800**	**0.0161**		**319.1828**

3.9 Building Construction 3 and 4 - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5238	16.1068	12.1873	0.0276		0.6930	0.6930		0.6376	0.6376	0.0000	2,676.5216	2,676.5216	0.8656		2,698.1626
Total	**1.5238**	**16.1068**	**12.1873**	**0.0276**		**0.6930**	**0.6930**		**0.6376**	**0.6376**	**0.0000**	**2,676.5216**	**2,676.5216**	**0.8656**		**2,698.1626**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0158	0.5309	0.1615	1.4300e-003	0.0383	1.0600e-003	0.0394	0.0110	1.0100e-003	0.0120		155.7536	155.7536	0.0128		156.0742
Worker	0.0658	0.0370	0.4440	1.6300e-003	0.1900	1.2100e-003	0.1912	0.0504	1.1100e-003	0.0515		163.0264	163.0264	3.2900e-003		163.1086
Total	**0.0816**	**0.5679**	**0.6055**	**3.0600e-003**	**0.2284**	**2.2700e-003**	**0.2306**	**0.0614**	**2.1200e-003**	**0.0635**		**318.7800**	**318.7800**	**0.0161**		**319.1828**

3.10 Demolition 6 and 7 - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.6700e-003	0.0000	2.6700e-003	4.1000e-004	0.0000	4.1000e-004			0.0000			0.0000
Off-Road	0.8713	9.1561	8.5265	0.0161		0.4058	0.4058		0.3733	0.3733		1,559.1227	1,559.1227	0.5043		1,571.7290
Total	**0.8713**	**9.1561**	**8.5265**	**0.0161**	**2.6700e-003**	**0.4058**	**0.4084**	**4.1000e-004**	**0.3733**	**0.3737**		**1,559.1227**	**1,559.1227**	**0.5043**		**1,571.7290**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	7.0000e-005	2.5000e-003	7.3000e-004	1.0000e-005	5.6000e-004	1.0000e-005	5.7000e-004	1.4000e-004	1.0000e-005	1.5000e-004		0.8462	0.8462	9.0000e-005		0.8485
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0327	0.0192	0.2242	8.0000e-004	0.0894	5.8000e-004	0.0900	0.0237	5.3000e-004	0.0243		79.6666	79.6666	1.7100e-003		79.7092
Total	**0.0328**	**0.0217**	**0.2249**	**8.1000e-004**	**0.0900**	**5.9000e-004**	**0.0906**	**0.0239**	**5.4000e-004**	**0.0244**		**80.5128**	**80.5128**	**1.8000e-003**		**80.5577**

3.10 Demolition 6 and 7 - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.0400e-003	0.0000	1.0400e-003	1.6000e-004	0.0000	1.6000e-004			0.0000			0.0000
Off-Road	0.8713	9.1561	8.5265	0.0161		0.4058	0.4058		0.3733	0.3733	0.0000	1,559.1227	1,559.1227	0.5043		1,571.7290
Total	**0.8713**	**9.1561**	**8.5265**	**0.0161**	**1.0400e-003**	**0.4058**	**0.4068**	**1.6000e-004**	**0.3733**	**0.3735**	**0.0000**	**1,559.1227**	**1,559.1227**	**0.5043**		**1,571.7290**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	7.0000e-005	2.5000e-003	7.3000e-004	1.0000e-005	5.6000e-004	1.0000e-005	5.7000e-004	1.4000e-004	1.0000e-005	1.5000e-004		0.8462	0.8462	9.0000e-005		0.8485
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0327	0.0192	0.2242	8.0000e-004	0.0894	5.8000e-004	0.0900	0.0237	5.3000e-004	0.0243		79.6666	79.6666	1.7100e-003		79.7092
Total	**0.0328**	**0.0217**	**0.2249**	**8.1000e-004**	**0.0900**	**5.9000e-004**	**0.0906**	**0.0239**	**5.4000e-004**	**0.0244**		**80.5128**	**80.5128**	**1.8000e-003**		**80.5577**

3.10 Demolition 6 and 7 - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.6700e-003	0.0000	2.6700e-003	4.1000e-004	0.0000	4.1000e-004			0.0000			0.0000
Off-Road	0.7778	7.7382	8.4026	0.0161		0.3456	0.3456		0.3179	0.3179		1,558.8609	1,558.8609	0.5042		1,571.4651
Total	**0.7778**	**7.7382**	**8.4026**	**0.0161**	**2.6700e-003**	**0.3456**	**0.3482**	**4.1000e-004**	**0.3179**	**0.3183**		**1,558.8609**	**1,558.8609**	**0.5042**		**1,571.4651**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	7.0000e-005	2.2900e-003	7.3000e-004	1.0000e-005	2.3000e-004	1.0000e-005	2.4000e-004	6.0000e-005	1.0000e-005	7.0000e-005		0.8350	0.8350	9.0000e-005		0.8372
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0310	0.0174	0.2089	7.7000e-004	0.0894	5.7000e-004	0.0900	0.0237	5.2000e-004	0.0242		76.7183	76.7183	1.5500e-003		76.7570
Total	**0.0311**	**0.0197**	**0.2097**	**7.8000e-004**	**0.0897**	**5.8000e-004**	**0.0902**	**0.0238**	**5.3000e-004**	**0.0243**		**77.5533**	**77.5533**	**1.6400e-003**		**77.5942**

3.10 Demolition 6 and 7 - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.0400e-003	0.0000	1.0400e-003	1.6000e-004	0.0000	1.6000e-004			0.0000			0.0000
Off-Road	0.7778	7.7382	8.4026	0.0161		0.3456	0.3456		0.3179	0.3179	0.0000	1,558.8609	1,558.8609	0.5042		1,571.4651
Total	**0.7778**	**7.7382**	**8.4026**	**0.0161**	**1.0400e-003**	**0.3456**	**0.3466**	**1.6000e-004**	**0.3179**	**0.3181**	**0.0000**	**1,558.8609**	**1,558.8609**	**0.5042**		**1,571.4651**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	7.0000e-005	2.2900e-003	7.3000e-004	1.0000e-005	2.3000e-004	1.0000e-005	2.4000e-004	6.0000e-005	1.0000e-005	7.0000e-005		0.8350	0.8350	9.0000e-005		0.8372
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0310	0.0174	0.2089	7.7000e-004	0.0894	5.7000e-004	0.0900	0.0237	5.2000e-004	0.0242		76.7183	76.7183	1.5500e-003		76.7570
Total	**0.0311**	**0.0197**	**0.2097**	**7.8000e-004**	**0.0897**	**5.8000e-004**	**0.0902**	**0.0238**	**5.3000e-004**	**0.0243**		**77.5533**	**77.5533**	**1.6400e-003**		**77.5942**

3.11 Grading 1 - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					4.3000e-004	0.0000	4.3000e-004	7.0000e-005	0.0000	7.0000e-005			0.0000			0.0000
Off-Road	0.2292	2.1534	3.2718	5.1700e-003		0.1044	0.1044		0.0961	0.0961		500.1920	500.1920	0.1618		504.2363
Total	**0.2292**	**2.1534**	**3.2718**	**5.1700e-003**	**4.3000e-004**	**0.1044**	**0.1049**	**7.0000e-005**	**0.0961**	**0.0962**		**500.1920**	**500.1920**	**0.1618**		**504.2363**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	4.1900e-003	0.1426	0.0416	4.3000e-004	0.0319	4.8000e-004	0.0324	8.1300e-003	4.6000e-004	8.5800e-003		48.2352	48.2352	5.1000e-003		48.3627
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0123	7.2000e-003	0.0841	3.0000e-004	0.0335	2.2000e-004	0.0338	8.8900e-003	2.0000e-004	9.0900e-003		29.8750	29.8750	6.4000e-004		29.8910
Total	**0.0165**	**0.1498**	**0.1257**	**7.3000e-004**	**0.0655**	**7.0000e-004**	**0.0662**	**0.0170**	**6.6000e-004**	**0.0177**		**78.1102**	**78.1102**	**5.7400e-003**		**78.2537**

3.11 Grading 1 - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.7000e-004	0.0000	1.7000e-004	3.0000e-005	0.0000	3.0000e-005			0.0000			0.0000
Off-Road	0.2292	2.1534	3.2718	5.1700e-003		0.1044	0.1044		0.0961	0.0961	0.0000	500.1920	500.1920	0.1618		504.2363
Total	**0.2292**	**2.1534**	**3.2718**	**5.1700e-003**	**1.7000e-004**	**0.1044**	**0.1046**	**3.0000e-005**	**0.0961**	**0.0961**	**0.0000**	**500.1920**	**500.1920**	**0.1618**		**504.2363**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	4.1900e-003	0.1426	0.0416	4.3000e-004	0.0319	4.8000e-004	0.0324	8.1300e-003	4.6000e-004	8.5800e-003		48.2352	48.2352	5.1000e-003		48.3627
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0123	7.2000e-003	0.0841	3.0000e-004	0.0335	2.2000e-004	0.0338	8.8900e-003	2.0000e-004	9.0900e-003		29.8750	29.8750	6.4000e-004		29.8910
Total	**0.0165**	**0.1498**	**0.1257**	**7.3000e-004**	**0.0655**	**7.0000e-004**	**0.0662**	**0.0170**	**6.6000e-004**	**0.0177**		**78.1102**	**78.1102**	**5.7400e-003**		**78.2537**

3.11 Grading 1 - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					4.3000e-004	0.0000	4.3000e-004	7.0000e-005	0.0000	7.0000e-005			0.0000			0.0000
Off-Road	0.2024	1.7770	3.2551	5.1700e-003		0.0859	0.0859		0.0790	0.0790		500.0153	500.0153	0.1617		504.0582
Total	**0.2024**	**1.7770**	**3.2551**	**5.1700e-003**	**4.3000e-004**	**0.0859**	**0.0864**	**7.0000e-005**	**0.0790**	**0.0791**		**500.0153**	**500.0153**	**0.1617**		**504.0582**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	3.9800e-003	0.1304	0.0417	4.3000e-004	0.0132	4.1000e-004	0.0136	3.5300e-003	3.9000e-004	3.9200e-003		47.5937	47.5937	5.0400e-003		47.7197
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0116	6.5200e-003	0.0784	2.9000e-004	0.0335	2.1000e-004	0.0338	8.8900e-003	2.0000e-004	9.0900e-003		28.7694	28.7694	5.8000e-004		28.7839
Total	**0.0156**	**0.1369**	**0.1201**	**7.2000e-004**	**0.0467**	**6.2000e-004**	**0.0474**	**0.0124**	**5.9000e-004**	**0.0130**		**76.3630**	**76.3630**	**5.6200e-003**		**76.5036**

3.11 Grading 1 - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.7000e-004	0.0000	1.7000e-004	3.0000e-005	0.0000	3.0000e-005			0.0000			0.0000
Off-Road	0.2024	1.7770	3.2551	5.1700e-003		0.0859	0.0859		0.0790	0.0790	0.0000	500.0153	500.0153	0.1617		504.0582
Total	**0.2024**	**1.7770**	**3.2551**	**5.1700e-003**	**1.7000e-004**	**0.0859**	**0.0861**	**3.0000e-005**	**0.0790**	**0.0791**	**0.0000**	**500.0153**	**500.0153**	**0.1617**		**504.0582**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	3.9800e-003	0.1304	0.0417	4.3000e-004	0.0132	4.1000e-004	0.0136	3.5300e-003	3.9000e-004	3.9200e-003		47.5937	47.5937	5.0400e-003		47.7197
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0116	6.5200e-003	0.0784	2.9000e-004	0.0335	2.1000e-004	0.0338	8.8900e-003	2.0000e-004	9.0900e-003		28.7694	28.7694	5.8000e-004		28.7839
Total	**0.0156**	**0.1369**	**0.1201**	**7.2000e-004**	**0.0467**	**6.2000e-004**	**0.0474**	**0.0124**	**5.9000e-004**	**0.0130**		**76.3630**	**76.3630**	**5.6200e-003**		**76.5036**

3.12 Paving 1 - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6545	6.3839	7.6902	0.0121		0.3278	0.3278		0.3025	0.3025		1,158.5852	1,158.5852	0.3664		1,167.7450
Paving	0.0186					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.6731**	**6.3839**	**7.6902**	**0.0121**		**0.3278**	**0.3278**		**0.3025**	**0.3025**		**1,158.5852**	**1,158.5852**	**0.3664**		**1,167.7450**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0409	0.0240	0.2803	1.0000e-003	0.1118	7.2000e-004	0.1125	0.0296	6.7000e-004	0.0303		99.5832	99.5832	2.1300e-003		99.6365
Total	**0.0409**	**0.0240**	**0.2803**	**1.0000e-003**	**0.1118**	**7.2000e-004**	**0.1125**	**0.0296**	**6.7000e-004**	**0.0303**		**99.5832**	**99.5832**	**2.1300e-003**		**99.6365**

3.12 Paving 1 - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6545	6.3839	7.6902	0.0121		0.3278	0.3278		0.3025	0.3025	0.0000	1,158.5852	1,158.5852	0.3664		1,167.7450
Paving	0.0186					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.6731**	**6.3839**	**7.6902**	**0.0121**		**0.3278**	**0.3278**		**0.3025**	**0.3025**	**0.0000**	**1,158.5852**	**1,158.5852**	**0.3664**		**1,167.7450**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0409	0.0240	0.2803	1.0000e-003	0.1118	7.2000e-004	0.1125	0.0296	6.7000e-004	0.0303		99.5832	99.5832	2.1300e-003		99.6365
Total	**0.0409**	**0.0240**	**0.2803**	**1.0000e-003**	**0.1118**	**7.2000e-004**	**0.1125**	**0.0296**	**6.7000e-004**	**0.0303**		**99.5832**	**99.5832**	**2.1300e-003**		**99.6365**

3.12 Paving 1 - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.5730	5.3998	7.6377	0.0121		0.2709	0.2709		0.2501	0.2501		1,158.5941	1,158.5941	0.3664		1,167.7539
Paving	0.0186					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.5916**	**5.3998**	**7.6377**	**0.0121**		**0.2709**	**0.2709**		**0.2501**	**0.2501**		**1,158.5941**	**1,158.5941**	**0.3664**		**1,167.7539**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0387	0.0217	0.2612	9.6000e-004	0.1118	7.1000e-004	0.1125	0.0296	6.5000e-004	0.0303		95.8979	95.8979	1.9400e-003		95.9463
Total	**0.0387**	**0.0217**	**0.2612**	**9.6000e-004**	**0.1118**	**7.1000e-004**	**0.1125**	**0.0296**	**6.5000e-004**	**0.0303**		**95.8979**	**95.8979**	**1.9400e-003**		**95.9463**

3.12 Paving 1 - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.5730	5.3998	7.6377	0.0121		0.2709	0.2709		0.2501	0.2501	0.0000	1,158.5940	1,158.5940	0.3664		1,167.7539
Paving	0.0186					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.5916**	**5.3998**	**7.6377**	**0.0121**		**0.2709**	**0.2709**		**0.2501**	**0.2501**	**0.0000**	**1,158.5940**	**1,158.5940**	**0.3664**		**1,167.7539**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0387	0.0217	0.2612	9.6000e-004	0.1118	7.1000e-004	0.1125	0.0296	6.5000e-004	0.0303		95.8979	95.8979	1.9400e-003		95.9463
Total	**0.0387**	**0.0217**	**0.2612**	**9.6000e-004**	**0.1118**	**7.1000e-004**	**0.1125**	**0.0296**	**6.5000e-004**	**0.0303**		**95.8979**	**95.8979**	**1.9400e-003**		**95.9463**

3.13 Demolition 8 - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.2407	0.0000	0.2407	0.0365	0.0000	0.0365			0.0000			0.0000
Off-Road	0.9484	10.1455	7.0398	0.0167		0.4334	0.4334		0.3987	0.3987		1,617.6760	1,617.6760	0.5232		1,630.7557
Total	**0.9484**	**10.1455**	**7.0398**	**0.0167**	**0.2407**	**0.4334**	**0.6741**	**0.0365**	**0.3987**	**0.4352**		**1,617.6760**	**1,617.6760**	**0.5232**		**1,630.7557**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	9.2100e-003	0.3019	0.0967	9.8000e-004	0.0239	9.5000e-004	0.0249	6.5500e-003	9.1000e-004	7.4600e-003		110.2169	110.2169	0.0117		110.5089
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0310	0.0174	0.2089	7.7000e-004	0.0894	5.7000e-004	0.0900	0.0237	5.2000e-004	0.0242		76.7183	76.7183	1.5500e-003		76.7570
Total	**0.0402**	**0.3193**	**0.3056**	**1.7500e-003**	**0.1134**	**1.5200e-003**	**0.1149**	**0.0303**	**1.4300e-003**	**0.0317**		**186.9352**	**186.9352**	**0.0132**		**187.2659**

3.13 Demolition 8 - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0939	0.0000	0.0939	0.0142	0.0000	0.0142			0.0000			0.0000
Off-Road	0.9484	10.1455	7.0398	0.0167		0.4334	0.4334		0.3987	0.3987	0.0000	1,617.6760	1,617.6760	0.5232		1,630.7557
Total	**0.9484**	**10.1455**	**7.0398**	**0.0167**	**0.0939**	**0.4334**	**0.5273**	**0.0142**	**0.3987**	**0.4129**	**0.0000**	**1,617.6760**	**1,617.6760**	**0.5232**		**1,630.7557**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	9.2100e-003	0.3019	0.0967	9.8000e-004	0.0239	9.5000e-004	0.0249	6.5500e-003	9.1000e-004	7.4600e-003		110.2169	110.2169	0.0117		110.5089
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0310	0.0174	0.2089	7.7000e-004	0.0894	5.7000e-004	0.0900	0.0237	5.2000e-004	0.0242		76.7183	76.7183	1.5500e-003		76.7570
Total	**0.0402**	**0.3193**	**0.3056**	**1.7500e-003**	**0.1134**	**1.5200e-003**	**0.1149**	**0.0303**	**1.4300e-003**	**0.0317**		**186.9352**	**186.9352**	**0.0132**		**187.2659**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	16.60	8.40	6.90	59.00	28.00	13.00	92	5	3
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Light Industry	0.563406	0.043070	0.209298	0.109958	0.015015	0.005784	0.026182	0.017546	0.001775	0.001524	0.004941	0.000598	0.000904
Parking Lot	0.563406	0.043070	0.209298	0.109958	0.015015	0.005784	0.026182	0.017546	0.001775	0.001524	0.004941	0.000598	0.000904

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	1.4000e-003	0.0127	0.0107	8.0000e-005		9.6000e-004	9.6000e-004		9.6000e-004	9.6000e-004		15.2245	15.2245	2.9000e-004	2.8000e-004	15.3150
NaturalGas Unmitigated	1.4000e-003	0.0127	0.0107	8.0000e-005		9.6000e-004	9.6000e-004		9.6000e-004	9.6000e-004		15.2245	15.2245	2.9000e-004	2.8000e-004	15.3150

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Light Industry	129.408	1.4000e-003	0.0127	0.0107	8.0000e-005		9.6000e-004	9.6000e-004		9.6000e-004	9.6000e-004		15.2245	15.2245	2.9000e-004	2.8000e-004	15.3150
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**1.4000e-003**	**0.0127**	**0.0107**	**8.0000e-005**		**9.6000e-004**	**9.6000e-004**		**9.6000e-004**	**9.6000e-004**		**15.2245**	**15.2245**	**2.9000e-004**	**2.8000e-004**	**15.3150**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Light Industry	0.129408	1.4000e-003	0.0127	0.0107	8.0000e-005		9.6000e-004	9.6000e-004		9.6000e-004	9.6000e-004		15.2245	15.2245	2.9000e-004	2.8000e-004	15.3150
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**1.4000e-003**	**0.0127**	**0.0107**	**8.0000e-005**		**9.6000e-004**	**9.6000e-004**		**9.6000e-004**	**9.6000e-004**		**15.2245**	**15.2245**	**2.9000e-004**	**2.8000e-004**	**15.3150**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0669	4.0000e-005	4.0300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		8.6400e-003	8.6400e-003	2.0000e-005		9.2000e-003
Unmitigated	0.0669	4.0000e-005	4.0300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		8.6400e-003	8.6400e-003	2.0000e-005		9.2000e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	8.5700e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0579					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	3.7000e-004	4.0000e-005	4.0300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		8.6400e-003	8.6400e-003	2.0000e-005		9.2000e-003
Total	**0.0669**	**4.0000e-005**	**4.0300e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**		**8.6400e-003**	**8.6400e-003**	**2.0000e-005**		**9.2000e-003**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	8.5700e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0579					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	3.7000e-004	4.0000e-005	4.0300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		8.6400e-003	8.6400e-003	2.0000e-005		9.2000e-003
Total	**0.0669**	**4.0000e-005**	**4.0300e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**		**8.6400e-003**	**8.6400e-003**	**2.0000e-005**		**9.2000e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	1	1	12	1500	0.73	Diesel

Boilers

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

User Defined Equipment

Equipment Type	Number

10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	lb/day										lb/day					
Emergency Generator - Diesel (750 - 9999 HP)	2.4616	11.0081	6.2766	0.0118		0.3621	0.3621		0.3621	0.3621		1,259.2712	1,259.2712	0.1766		1,263.6849
Total	**2.4616**	**11.0081**	**6.2766**	**0.0118**		**0.3621**	**0.3621**		**0.3621**	**0.3621**		**1,259.2712**	**1,259.2712**	**0.1766**		**1,263.6849**

11.0 Vegetation

Onroad Fuel Use
Vehicle Fuels

Construction Phase (gallons/construction period	**Gasoline**	**Diesel**
Construction Vehicles	0	26,472
Worker Trips	8,592	11
Vendor Trips	958	10
Haul Trucks	7	669
Total	9,557	27,161

Operations Phase (gallons/year)		**Gasoline**	**Diesel**	**Natural Gas (kBTU/yr)**	**Electricity (kWh/yr)**
	0	0	0	47,234	4,531,280
	0	0	0	0	0
All Land Uses		0	0	47,234	4,531,280

Offroad Fuel Use

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Horsepower Category	Load Factor	Num Days	Year	Fuel Consumption Rate (gal/hour)	Total Fuel Consumption (gal/construction period)
Demolition 1 and 2	Concrete/Industrial Saws	0	8	81	100	0.73	120	2020	4.7	0
Demolition 1 and 2	Cranes	2	8	231	300	0.29	120	2020	3.3	1,844
Demolition 1 and 2	Excavators	1	8	158	175	0.38	120	2020	2.9	1,053
Demolition 1 and 2	Rubber Tired Dozers	0	1	247	300	0.4	120	2020	4.5	0
Demolition 1 and 2	Tractors/Loaders/Backhoes	0	6	97	100	0.37	120	2020	1.6	0
Trenching 1 and 2	Excavators	2	8	158	175	0.38	120	2020	2.9	2,105
Trenching 1 and 2	Graders	0	8	187	175	0.41	120	2020	3.1	0
Trenching 1 and 2	Tractors/Loaders/Backhoes	0	8	97	100	0.37	120	2020	1.6	0
Demolition 3	Concrete/Industrial Saws	0	8	81	100	0.73	80	2020	4.7	0
Demolition 3	Cranes	0	4	231	300	0.29	80	2020	3.3	0
Demolition 3	Excavators	1	8	158	175	0.38	80	2020	2.9	702
Demolition 3	Forklifts	0	6	89	100	0.2	80	2020	2.0	0
Demolition 3	Other General Industrial Equipme	1	8	3	100	0.73	80	2020	1.4	646
Demolition 3	Rubber Tired Dozers	0	1	247	300	0.4	80	2020	4.5	0
Demolition 3	Tractors/Loaders/Backhoes	0	8	97	100	0.37	80	2020	1.6	0
Building Construction 1	Concrete/Industrial Saws	0	8	81	100	0.73	80	2020	4.7	0
Building Construction 1	Cranes	0	4	231	300	0.29	80	2020	3.3	0
Building Construction 1	Forklifts	0	6	89	100	0.2	80	2020	2.0	0
Building Construction 1	Other General Industrial Equipme	1	8	3	100	0.73	80	2020	1.4	646
Building Construction 1	Rubber Tired Dozers	0	1	247	300	0.4	80	2020	4.5	0
Building Construction 1	Tractors/Loaders/Backhoes	0	6	97	100	0.37	80	2020	1.6	0
Building Construction 2	Cement and Mortar Mixers	0	6	9	25	0.56	80	2020	0.4	0
Building Construction 2	Cranes	0	4	231	300	0.29	80	2020	3.3	0
Building Construction 2	Forklifts	0	6	89	100	0.2	80	2020	2.0	0
Building Construction 2	Pavers	0	7	130	100	0.42	80	2020	1.7	0
Building Construction 2	Rollers	0	7	80	100	0.38	80	2020	1.7	0
Building Construction 2	Tractors/Loaders/Backhoes	0	7	97	100	0.37	80	2020	1.6	0
Demolition 4	Air Compressors	0	6	78	100	0.48	20	2020	1.3	0
Demolition 4	Concrete/Industrial Saws	0	8	81	100	0.73	20	2020	4.7	0
Demolition 4	Cranes	2	8	231	300	0.29	20	2020	3.3	307
Demolition 4	Excavators	1	8	158	175	0.38	20	2020	2.9	175
Demolition 4	Rubber Tired Dozers	0	1	247	300	0.4	20	2020	4.5	0
Demolition 4	Tractors/Loaders/Backhoes	0	6	97	100	0.37	20	2020	1.6	0
Demolition 5	Concrete/Industrial Saws	0	8	81	100	0.73	240	2020	4.7	0
Demolition 5	Cranes	1	8	231	300	0.29	240	2020	3.3	1,844
Demolition 5	Excavators	1	8	158	175	0.38	240	2020	2.9	2,105
Demolition 5	Rubber Tired Dozers	0	1	247	300	0.4	240	2020	4.5	0
Demolition 5	Tractors/Loaders/Backhoes	0	6	97	100	0.37	240	2020	1.6	0
Building Construction 3 and 4	Cranes	3	8	231	300	0.29	200	2020	3.3	4,610
Building Construction 3 and 4	Excavators	2	8	158	175	0.38	200	2020	2.9	3,509
Building Construction 3 and 4	Forklifts	0	6	89	100	0.2	200	2020	2.0	0
Building Construction 3 and 4	Tractors/Loaders/Backhoes	0	8	97	100	0.37	200	2020	1.6	0
Demolition 6 and 7	Concrete/Industrial Saws	0	8	81	100	0.73	120	2020	4.7	0
Demolition 6 and 7	Cranes	1	8	231	300	0.29	120	2020	3.3	922
Demolition 6 and 7	Excavators	2	8	158	175	0.38	120	2020	2.9	2,105
Demolition 6 and 7	Rubber Tired Dozers	0	1	247	300	0.4	120	2020	4.5	0
Demolition 6 and 7	Tractors/Loaders/Backhoes	0	6	97	100	0.37	120	2020	1.6	0
Grading 1	Concrete/Industrial Saws	0	8	81	100	0.73	120	2020	4.7	0
Grading 1	Excavators	1	8	158	175	0.38	120	2020	2.9	1,053
Grading 1	Rubber Tired Dozers	0	1	247	300	0.4	120	2020	4.5	0
Grading 1	Tractors/Loaders/Backhoes	0	6	97	100	0.37	120	2020	1.6	0
Paving 1	Cement and Mortar Mixers	1	6	9	25	0.56	120	2020	0.4	156
Paving 1	Excavators	1	8	158	175	0.38	120	2020	2.9	1,053
Paving 1	Pavers	1	7	130	100	0.42	120	2020	1.7	612
Paving 1	Rollers	1	7	80	100	0.38	120	2020	1.7	541
Paving 1	Tractors/Loaders/Backhoes	0	7	97	100	0.37	120	2020	1.6	0
Demolition 8	Concrete/Industrial Saws	0	8	81	100	0.73	20	2020	4.7	0
Demolition 8	Cranes	2	8	231	300	0.29	20	2020	3.3	307
Demolition 8	Excavators	1	8	158	175	0.38	20	2020	2.9	175
Demolition 8	Rubber Tired Dozers	0	1	247	300	0.4	20	2020	4.5	0
Demolition 8	Tractors/Loaders/Backhoes	0	6	97	100	0.37	20	2020	1.6	0
									Total	**26,472**

Onroad Fuel Use

Input							**Gasoline Consumption**			**Diesel Consumption**		
Phase Name	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker	Vendor	Haul	Worker	Vendor	Haul
Demolition 1 and 2	8	0	46	14.7	6.9	25						
Trenching 1 and 2	5	0	0	14.7	6.9	25						
Demolition 3	5	0	2	14.7	6.9	25						
Building Construction 1	17	6	0	14.7	6.9	25						
Building Construction 2	17	6	0	14.7	6.9	25						
Demolition 4	8	0	20	14.7	6.9	25						
Demolition 5	5	0	8	14.7	6.9	25						
Building Construction 3 and 4	17	6	0	14.7	6.9	25						
Demolition 6 and 7	8	0	1	14.7	6.9	25						
Grading 1	3	0	57	14.7	6.9	25						
Paving 1	10	0	0	14.7	6.9	25						
Demolition 8	8	0	22	14.7	6.9	25						
Adjusted												
Demolition 1 and 2	960	0	46	14.7	6.9	25	681	0	2	1	0	197
Trenching 1 and 2	600	0	0	14.7	6.9	25	425	0	0	1	0	0
Demolition 3	400	0	2	14.7	6.9	25	284	0	0	0	0	9
Building Construction 1	1360	480	0	14.7	6.9	25	964	213	0	1	2	0
Building Construction 2	1360	480	0	14.7	6.9	25	964	213	0	1	2	0
Demolition 4	160	0	20	14.7	6.9	25	113	0	1	0	0	86
Demolition 5	1200	0	8	14.7	6.9	25	851	0	0	1	0	34
Building Construction 3 and 4	3400	1200	0	14.7	6.9	25	2,410	532	0	3	6	0
Demolition 6 and 7	960	0	1	14.7	6.9	25	681	0	0	1	0	4
Grading 1	360	0	57	14.7	6.9	25	255	0	3	0	0	244
Paving 1	1200	0	0	14.7	6.9	25	851	0	0	1	0	0
Demolition 8	160	0	22	14.7	6.9	25	113	0	1	0	0	94
Total							**8,592**	**958**	**7**	**11**	**10**	**669**

Appendix B

Cultural Resources Appendices

(Confidential)

Appendix C

Geotechnical Investigation

Converse Consultants
Geotechnical Engineering
Environmental & Groundwater Science
Inspection & Testing Services

GEOTECHNICAL INVESTIGATION REPORT

IRVINE RANCH WATER DISTRICT (IRWD)
ZONE A TO RATTLESNAKE RESERVOIR PUMP STATION

4769 PORTOLA PARKWAY
CITY OF IRVINE, ORANGE COUNTY, CALIFORNIA

CONVERSE PROJECT NO. 18-32-144-01

Presented By:
CONVERSE CONSULTANTS
3176 Pullman Street, Suite 108
Costa Mesa, CA 92626
714-444-9660

May 7, 2019

Converse Consultants
Geotechnical Engineering, Environmental & Groundwater Science, Inspection & Testing Services

May 7, 2019

Mr. Andrew G. Lazenby, PE
Sr. Project Manager
Brown and Caldwell
18500 Von Karman Avenue, Suite 1100
Irvine, CA 92612

Subject: **GEOTECHNICAL INVESTIGATION REPORT**
IRVINE RANCH WATER DISTRICT (IRWD)
ZONE A TO RATTLESNAKE RESERVOIR PUMP STATION
4769 Portola Parkway
City of Irvine, Orange County, California
Converse Project No. 18-32-144-01

Dear Mr. Lazenby:

Converse Consultants (Converse) is pleased to submit this geotechnical investigation report to assist with the design and construction of the Irvine Ranch Water District (IRWD) Zone A to Rattlesnake Reservoir Pump Station project, located at 4769 Portola Parkway, City of Irvine, Orange County, California. This report was prepared in accordance with our proposal dated August 7, 2018 and your Subcontract For Professional Services dated October 15, 2018.

Based upon our field investigation, laboratory data, and analyses, the proposed project is considered suitable from a geotechnical standpoint, provided the recommendations presented in this report are incorporated into the design and construction of the project.

We appreciate the opportunity to be of service to Brown and Caldwell, and IRWD. Should you have any questions, please do not hesitate to contact us at 909-796-0544.

CONVERSE CONSULTANTS

Hashmi S. E. Quazi, PhD, PE, GE
Principal Engineer

Dist.: 4/Addressee
HSQ/JB/ZA/kvg

PROFESSIONAL CERTIFICATION

This report has been prepared by the following professionals whose seals and signatures appear hereon.

The findings, recommendations, specifications and professional opinions contained in this report were prepared in accordance with the generally accepted professional engineering and engineering geologic principle and practice in this area of Southern California. We make no other warranty, either expressed or implied.

PROFESSIONAL GEOLOGIST
James Burnham
9621
STATE OF CALIFORNIA

Zahangir Alam, PhD, EIT
Senior Staff Engineer

Jay Burnham, PG
Project Geologist

REGISTERED PROFESSIONAL ENGINEER
HASHMI S. E. QUAZI
NO. GE 2517
Exp. 6/19
GEOTECHNICAL
STATE OF CALIFORNIA

Hashmi S. E. Quazi, PhD, PE, GE
Principal Engineer

EXECUTIVE SUMMARY

The following is a summary of our geotechnical investigation, conclusions and recommendations, as presented in the body of this report. Please refer to the appropriate sections of the report for complete conclusions and recommendations. In the event of a conflict between this summary and the report, or an omission in the summary, the report shall prevail.

- The Irvine Ranch Water District (IRWD) Zone A to Rattlesnake Reservoir Pump Station project is located at 4769 Portola Parkway, City of Irvine, Orange County, California. The project site is bounded by Portola Parkway to the west, the Orchard Hills residential community to the north, Loma Ridge Park to the east, and farmland to the south. The site currently contains several active and abandoned facilities, both above and below grade. Remaining portion of the site is covered with paved area, trees and landscaping.

- The project will be located within the Rattlesnake Reservoir Complex. The project will include a new Zone A to Rattlesnake Reservoir pump station, new sewer piping, demolition of existing facilities (dechlorination, Northwood Zone A to B Pump Station and Zone A to Rattlesnake Reservoir Pump Station) and other improvements. We understand the new pump station will be an approximately 40' x 60' masonry block wall building. The structure will be founded on shallow foundation with slab-on-grade. The pump can base will be below grade (approximately at 33 feet bgs).

- Two existing buildings (caretaker's house and bathroom facility) within the site are presently supported by on-site sewage system consisting of septic tank and leach fields. This sewage system will be demolished and approximately 800 linear feet of 4 to 8 inches in diameter polyvinyl chloride (PVC) sewer pipeline will be installed connecting to these two existing buildings and a new bathroom, to be located within the existing chlorination/dechlorination facility. The pipe will be connected to the main sewer line near the entrance to the complex. The invert depth of sewer pipe will be between 6 and 16 feet bgs.

- Our scope of work included project setup, subsurface exploration, laboratory testing, engineering analysis, and preparation of this report.

- Two exploratory borings (BH-02 and BH-03) were drilled on March 5, 2019 for the new pump station to investigate subsurface conditions. The borings were drilled to the planned maximum depths of 26.5 and 51.5 feet bgs.

- Three exploratory borings (BH-01, BH-04 and BH-05) were drilled on March 5, 2019 along the pipeline to investigate subsurface conditions. The borings were drilled to the planned maximum depth of 21.5 feet bgs.

- Based on the discussion with Brown and Caldwell and due to the close proximity of existing underground utilities, a 4-inch diameter hand auger was used to drill up to 10 feet bgs for each boring.

- The measured asphalt concrete thickness encountered at the boring locations varied from 4 to 5 inches and aggregate base thickness varied from 5 to 9 inches.

- Artificial fill was observed in borings BH-02 through BH-05 at a depth between 1.0 to 15.0 feet bgs. Based on the exploratory borings and laboratory test results, the fill materials at the project consist of a mixture of sand, silt, clay and gravel. Gravel up to 2.5 inches in largest dimension was observed in all borings. Based on hammer blow counts (16 to 39), coarse fill material (silty sand) ranged from medium dense to dense. Although we do not have blow counts for sandy silt to sandy clay, stiffness of these materials are expected to be medium stiff to stiff. Relative compaction of coarse fill material ranged from 83 to 85 percent and sandy silt to sandy clay are expected to be less than 90 percent. Numerous improvements have been constructed at the Rattlesnake Reservoir Complex over the last 50 years consisting both above and below grade structures. We anticipate this artificial fill was brought due to the construction of previous improvements. Any artificial fill, if encountered in the soil borings at different depths, was indistinguishable from native alluvial soils.

- The alluvium soils at the project site consists primarily of a mixture of sand, silt, clay and gravel. Gravel up to 1.0 inch in largest dimension was observed in the boring BH-02 at depth between 15 and 20 feet bgs.

- Groundwater was encountered during the investigation in boring BH-02 (pump station) at a depth of 34 feet bgs and historical high groundwater level is reported to be deeper than 34 feet bgs. Based on the pump station foundation and pipes invert depths, groundwater need not be considered during design and will not likely be encountered during construction of the pump station foundation and pipes.

- Based on the depth of pump can base (33 feet bgs), soft/wet soils will most likely be encountered at that depth. Dewatering will be required during the construction of pump can base. It should be noted that the groundwater level could vary depending upon the seasonal precipitation and possible groundwater pumping activity in the site vicinity. Shallow perched groundwater may be present locally, particularly following precipitation or irrigation events.

- The site is not located within a currently designated State of California Fault Zone. There are no known active faults projecting toward or extending across the site. Based on regional mapping, a northwest-southeast trending unnamed inactive concealed fault is located approximately 3,400 feet southwest of the project site.

Based on our site observations and the information reviewed during preparation of this report, there is no indication that the inferred fault poses any increased risk to the site. The potential for surface rupture resulting from the movement of nearby major faults is not known with certainty but is considered low.

- The potential for lateral spreading and landsliding at the site is considered low.

- Based on a site-specific liquefaction analysis presented in Appendix C, *Liquefaction and Seismic Settlement Analysis*, Liquefaction was observed at depth between 45 and 50 feet bgs. The project site has potential for up to 2.0 inches of liquefaction induced settlement.

- The expansion indices (EI) of the samples tested at site were 3, 33 and 54, corresponding to very low to medium expansion potential.

- The sulfate contents of the sampled soils correspond to American Concrete Institute (ACI) exposure category S0 for these sulfate concentrations. No concrete type restrictions are specified for exposure category S0. A minimum compressive strength of 2,500 psi is recommended. The chloride contents of the sampled soils correspond to American Concrete Institute (ACI) exposure category C1 (concrete is exposed to moisture but not to external sources of chlorides). For exposure category C1, ACI provides concrete compressive strength of at least 2,500 psi, and maximum chloride content of 0.3 percent.

- The measured values of the minimum electrical resistivity of the samples when saturated ranged from 824 to 5,267 ohm-cm. This indicates that the tested soils are moderately to severely corrosive to ferrous metals in contact with the soil.

- According to the Caltrans Corrosion Guidelines (Caltrans, 2018), soils are considered corrosive if the pH is 5.5 or less, or chloride content is 500 parts per million (ppm) or greater, or sulfate content is 1,500 ppm or greater, or resistivity less than 2000 ohm-cm. Based on the tested results, the project site soils are considered corrosive. For PVC pipe, no corrosion mitigation is required. <u>Converse does not practice in the area of corrosion consulting. A qualified corrosion consultant should provide appropriate corrosion mitigation measures for any ferrous metals in contact with the project areas soils.</u>

- Prior to the start of construction, all existing underground utilities and appurtenances should be located within the project site. Such utilities should either be protected in-place or removed and replaced during construction as required by the project specifications. All excavations should be conducted in such a manner as to not cause loss of bearing and/or lateral support of existing structures or utilities.

- The surface and subsurface soil materials within the project limits are expected to be excavatable by conventional heavy-duty earth moving and trenching equipment. Difficult excavation will occur, where high concentration of gravel is encountered.

- Excavated onsite earth materials cleared of deleterious matter can be moisture conditioned and re-used as compacted fill.

- Relative compaction of coarse fill material ranged from 83 to 85 percent and sandy silt to sandy clay are expected to be less than 90 percent. Therefore, the surficial fill material is generally considered unsuitable for support of shallow foundations.

- Based on new pump station location, structure type, foundation depth and liquefaction potential (up to 2.0 inches at depth between 45 to 50 feet bgs), we do not anticipate the necessity of ground improvement.

- The footings, slab-on-grade and pavement should be overexcavated based on Section 9.2, Table No. 4, *Overexcavation Depths*. The overexcavation below the footings and slab should be uniform. The overexcavation should extend to at least 2 feet beyond the footprint of the footings and slab (if possible) and at least 1 foot beyond the edge of the pavement.

- The pump can base area will be excavated to the planned depth of 33 feet bgs. After the installation of pump can, this area will be backfilled and recompacted. Backfill of pump can area should be based on Section 9.8 *Backfill Recommendations for Pump Can*.

- Due to the close proximity of groundwater to the pump can bottom, soft/wet subgrade soils will likely be encountered. Subgrade soils should be stabilized using the methods presented in Section 9.4 *Subgrade Stabilization*.

- All fill placed at the site should be compacted to at least 90 percent of the laboratory maximum dry densities as determined by ASTM Standard D1557 test method, unless a higher compaction is specified herein. At least the upper 12 inches of subgrade soils below finish grade underneath pavement should be compacted to at least 95 percent of the laboratory maximum dry density.

- Footings should be at least 18 inches in width and embedded to at least 18 inches below the lowest adjacent grade. The footing dimensions and reinforcement should be based on structural design. Continuous and isolated footings can be designed based on an allowable net bearing capacity of 2,500 psf.

- The total settlement of shallow footings from static structural loads and short-term settlement of properly compacted fill is anticipated to be 1 inch or less. The

differential settlement resulting from static loads is anticipated to be 0.5 inches or less over a horizontal distance of 40 feet.

- Based on our analysis, liquefaction was observed at depth between 45 and 50 feet bgs. The site has the potential for up to 2.0 inches of liquefaction induced settlement and up to 0.75 inches of dry seismic settlement. The soil profile for boring BH-02 and BH-03 is relatively uniform; therefore, we anticipate the total settlement will be uniform. We recommend that the planned structure be designed in anticipation of dynamic differential settlement of 0.5 inch over a horizontal distance of 40 feet.

- Earthwork for pipe is presented in the Section 9.9 *Utility Trench Backfill* of this report.

- Lateral earth pressures and pipe design parameters are presented in the text of this report.

- Recommendations for temporary sloped excavations and temporary shoring are provided in the text of this report.

Based on our investigation, it is our professional opinion that the site is suitable for construction of the proposed project, provided the findings and conclusions presented in this geotechnical investigation report are considered in the planning, design and construction of the project.

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APPENDICES

Appendix A ..... *Field Exploration*
Appendix B ..... *Laboratory Testing Program*
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1.0 INTRODUCTION

This report presents the results of our geotechnical investigation performed for the Irvine Ranch Water District (IRWD) Zone A to Rattlesnake Reservoir Pump Station project, located at 4769 Portola Parkway, City of Irvine, Orange County, California. The project location is shown in Figure No. 1, *Approximate Project Location Map*.

The purposes of this investigation were to determine the nature and engineering properties of the subsurface soils, and to provide design and construction recommendations for the proposed project.

This report is prepared for the project described herein and is intended for use solely by IRWD, Brown and Caldwell and their authorized agents for design purposes. It should not be used as a bidding document but may be made available to the potential contractors for information on factual data only. For bidding purposes, the contractors should be responsible for making their own interpretation of the data contained in this report.

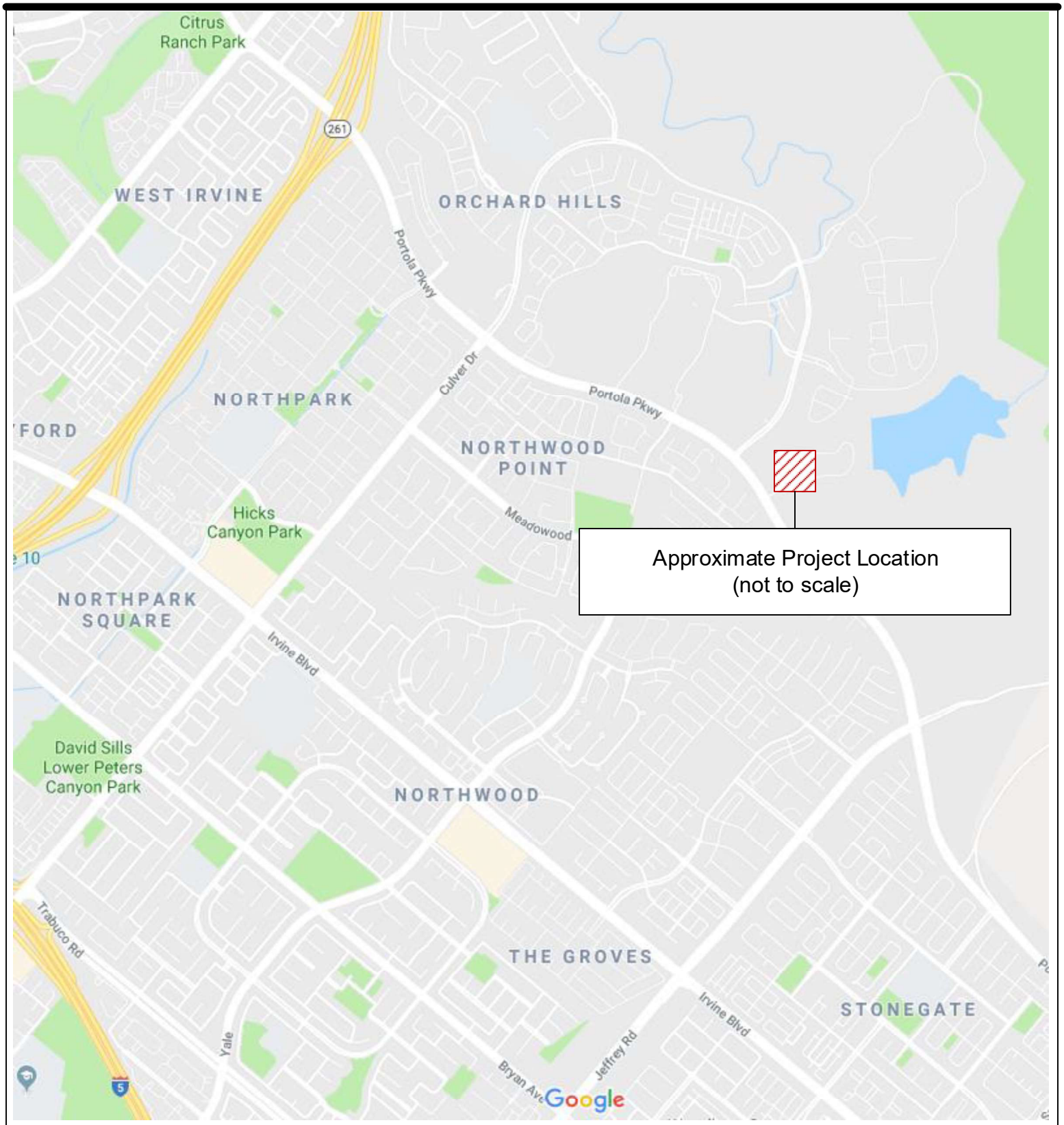
2.0 PROJECT DESCRIPTION

The Zone A to Rattlesnake Reservoir Pump Station project will be located within the Rattlesnake Reservoir Complex. The complex consists of several critical facilities including the Rattlesnake Reservoir, Zone A Reservoir, Northwood Zone A to B Pump Station, Zone A to Rattlesnake Reservoir Pump Station, dechlorination facility, chlorination facility, strainers for Rattlesnake Reservoir, Zone A to C+ Pump Station, Zone 3 to 5 Pump Station, IRWD caretaker residence for the Rattlesnake Reservoir, and several above and below ground piping and valving systems.

The project will include the following.

- Demolish the existing dechlorination facility.
- Demolish the existing Northwood Zone A to B Pump Station.
- Demolish the existing Zone A to Rattlesnake Reservoir Pump Station.
- New Zone A to Rattlesnake Reservoir Pump Station.
- New permanent backup power generator.
- New sewer piping.
- New site electrical service.
- New communication service.

We understand the new pump station will be an approximately 40’ x 60’ masonry block wall building. The structure will be founded on shallow foundation with slab-on-grade. The pump can base will be approximately at 33 feet below existing ground surface (bgs).



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Approximate Project Location Map

Project: Zone A to Rattlesnake Reservoir Pump Station
Location: 4769 Portola Parkway
City of Irvine, Orange County, California
For: Brown and Caldwell

Project No
18-32-144-01

Converse Consultants

FIGURE NO.
1

Two existing buildings (caretaker's house and bathroom facility) within the site are presently supported by on-site sewage system consisting of septic tank and leach fields. This sewage system will be demolished and approximately 800 linear feet of 4 to 8 inches in diameter polyvinyl chloride (PVC) sewer pipeline will be installed connecting to these two existing buildings and a new bathroom to be located within the existing chlorination/dechlorination facility. The pipe will be connected to the main sewer line near the entrance to the complex. The invert depth of sewer pipe will be between 6 and 16 feet bgs.

Based on our discussion with a representative from Orange County Department of Environmental Services, we understand there are no specific Orange County guidelines for removal of an on-site sewage system from a property except that the removals are shown on the project grading plans. Removal of the on-site sewage system will be under the jurisdiction of IRWD.

3.0 SITE DESCRIPTION

The project site is bounded by Portola Parkway to the west, the Orchard Hills residential community to the north, Loma Ridge Park to the east, and farmland to the south. The site currently contains several active and abandoned facilities, both above and below grade. Remaining portion of the site is covered with paved area, trees and landscaping. Photographs No. 1 and 2 depict the present site conditions.

Photograph No. 1, Present site conditions within the project limit

Photograph No. 2, Present site conditions within the project limit

4.0 SCOPE OF WORK

The scope of this investigation included project set-up, subsurface exploration, laboratory testing, engineering analysis, and preparation of this report, as described in the following sections.

4.1 Document Review

We reviewed the previous geotechnical report for the Proposed Chlorine Disinfection Facilities, Rattlesnake Reservoir and Irvine Lake Sites, City of Irvine, California (Leighton, 2000). We also reviewed geohazard and groundwater maps to evaluate any impact on the design and construction of the proposed project.

Besides, pertinent information (listed in Reference section) was used to understand the subsurface conditions and plan the investigation for this project.

4.2 Project Set-up

The project set-up consisted of the following tasks.

- Conducted a field reconnaissance to mark the boring locations such that the drill rig access to all locations was available.
- Notified Underground Service Alert (USA) at least 48 hours prior to drilling to clear the boring location of any conflict with existing underground utilities.

- Engaged a California-licensed driller to drill exploratory borings.

4.3 Subsurface Exploration

Two exploratory borings (BH-02 and BH-03) were drilled on March 5, 2019 for the new pump station to investigate subsurface conditions. The borings were drilled to the planned maximum depths of 26.5 and 51.5 feet bgs.

Three exploratory borings (BH-01, BH-04 and BH-05) were drilled on March 5, 2019 along the pipeline to investigate subsurface conditions. The borings were drilled to the planned maximum depth of 21.5 feet bgs.

Based on the discussion with Brown and Caldwell and due to the close proximity of existing underground utilities, a 4-inch diameter hand auger was used to drill up to 10 feet bgs for each boring.

Approximate boring locations are indicated in Figure No. 2, *Approximate Boring Locations Map*. For a description of the field exploration and sampling program, see Appendix A, *Field Exploration*.

4.4 Laboratory Testing

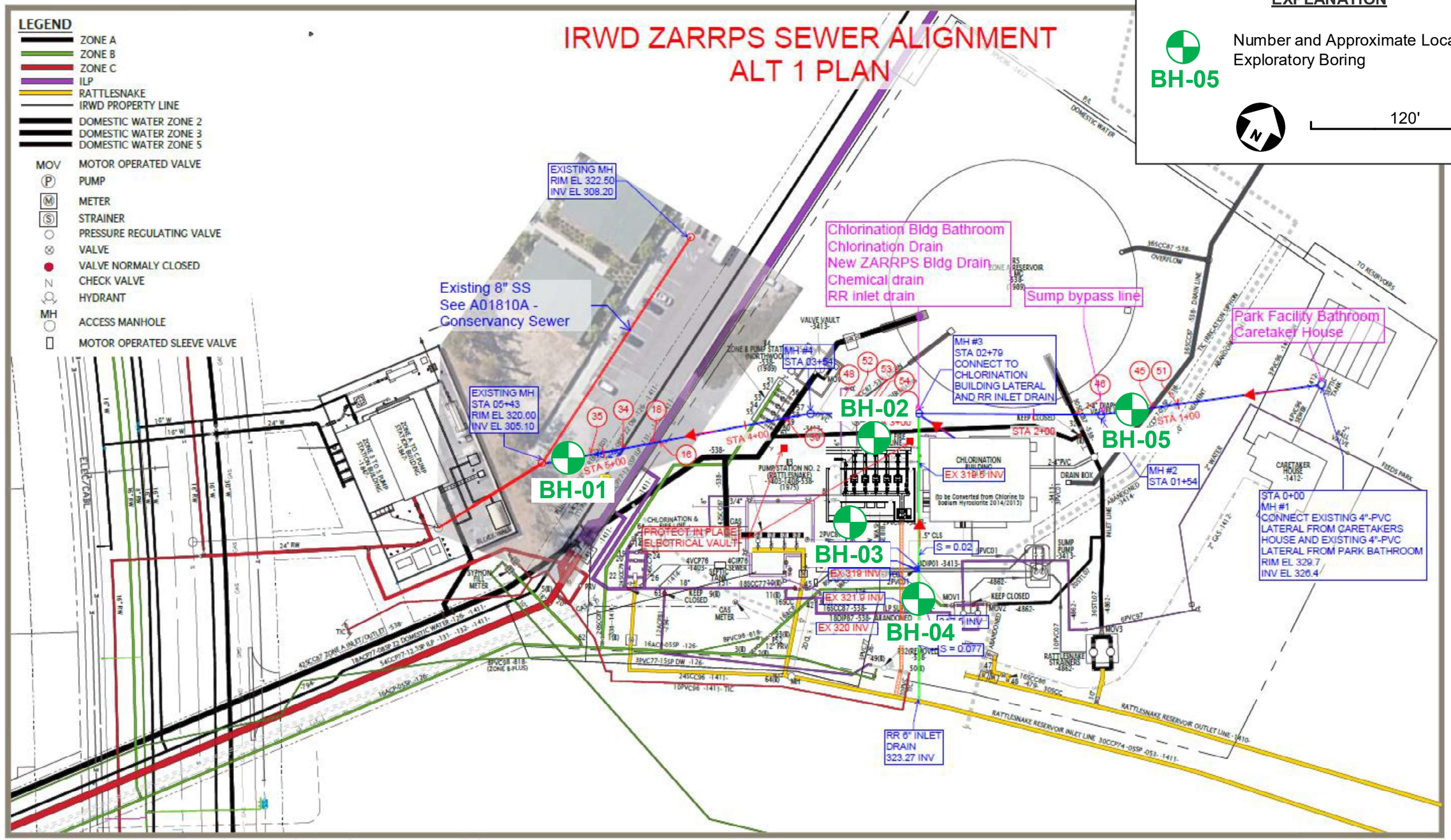
Representative samples of the site soils were tested in the laboratory to aid in the soils classification and to evaluate the relevant engineering properties of the site soils. These tests included the following.

- *In*-situ moisture contents and dry densities (ASTM D2216 and ASTM D7263)
- Expansion index (ASTM D4829)
- Soil corrosivity (California Tests 643, 422, and 417)
- Grain size distribution (ASTM D6913)
- Maximum dry density and optimum-moisture content (ASTM D1557)
- Direct shear (ASTM D3080)

For *in-situ* moisture and dry density data, see the Logs of Borings in Appendix A, *Field Exploration*. For a description of the laboratory test methods and test results, see Appendix B, *Laboratory Testing Program.*

4.5 Analysis and Report Preparation

Data obtained from the field exploration and laboratory testing program were compiled and evaluated. Geotechnical analyses of the compiled data was performed and this report



Project: Zone A to Rattlesnake Reservoir Pump Station
Location: 4769 Portala Parkway
City of Irvine, Orange County, California
For: Brown and Caldwell

Approximate Boring Locations Map

Project No.
18-32-144-01

Converse Consultants

Figure No.
2

was prepared to present our findings, conclusions, and recommendations for the proposed project.

5.0 SUBSURFACE CONDITIONS

A general description of the subsurface conditions, various materials and groundwater conditions encountered at each location during our field exploration is discussed below.

5.1 Existing Pavement Sections

The encountered pavement thicknesses at boring locations are presented in the following table.

Table No. 1, Existing Pavement Sections

Boring No.	Asphalt Concrete Thickness (in.)	Aggregate Base Thickness (in.)
BH-01	4.0	5.0
BH-02	4.0	7.0
BH-03	5.0	8.0
BH-04	4.0	9.0
BH-05	4.0	5.0

(For location of boring, see Figure No. 2, Approximate Boring Locations Map.)

5.2 Subsurface Profile

Artificial fill underlain by alluvium soils was encountered within the site. Discussion on the subsurface profile is presented below.

Artificial Fill

Artificial fill was observed in borings BH-02 through BH-05 at a depth between 1.0 to 15.0 feet bgs. Based on the exploratory borings and laboratory test results, the fill materials at the project consist of a mixture of sand, silt, clay and gravel. Gravel up to 2.5 inches in largest dimension was observed in all borings. Based on hammer blow counts (16 to 39), coarse fill material (silty sand) ranged from medium dense to dense. Although we do not have blow counts for sandy silt to sandy clay, stiffness of these materials are expected to medium stiff to stiff. Relative compaction of coarse fill material ranged from 83 to 85 percent and sandy silt to sandy clay are expected to be less than 90 percent. Numerous improvements have been constructed at the Rattlesnake Reservoir Complex over the last 50 years consisting both above and below grade structures. We anticipate this artificial fill was brought due to the construction of previous improvements. Any artificial fill, if

encountered in the soil borings at different depths, was indistinguishable from native alluvial soils.

Alluvium

Based on the exploratory borings and laboratory test results, the alluvium soils at the project site consists primarily of a mixture of sand, silt, clay and gravel. Gravel up to 1.0 inch in largest dimension was observed in the boring BH-02 at depth between 15 and 20 feet bgs.

For a detailed description of the subsurface materials encountered in the exploratory borings, see Drawings No. A-2 through A-6, Logs of Borings, in Appendix A, Field Exploration.

5.3 Groundwater

Groundwater was encountered during the investigation in boring BH-02 (pump station) at a depth of 34 feet bgs. Regional databases were reviewed to determine historic groundwater conditions in the vicinity of the project site. The following data was found on the GeoTracker website (SWRCB, 2018).

- Tosco - 76 Station #6537 (Site No. T0605900338), located approximately 1.25 miles southwest of the project site, reported groundwater at a depth ranging from 64.28 to 81.77 feet bgs in 1998.

The National Water Information System (USGS, 2019) website was also reviewed but did not contain any data in the vicinity of the project area.

The current groundwater level at the site is 34 feet bgs whereas historical high groundwater level is reported to be deeper than 34 feet bgs. Based on the pump station foundation and pipes invert depths, groundwater need not be considered during design and will not likely be encountered during construction of the pump station foundation and pipes.

Based on the depth of pump can base (33 feet bgs), soft/wet soils will most likely be encountered at that depth. Dewatering will be required during the construction of pump can base. It should be noted that the groundwater level could vary depending upon the seasonal precipitation and possible groundwater pumping activity in the site vicinity. Shallow perched groundwater may be present locally, particularly following precipitation or irrigation events.

5.4 Excavatability

The surface and subsurface soil materials within the project limits are expected to be excavatable by conventional heavy-duty earth moving and trenching equipment. Difficult excavation will occur where high concentration of gravel is encountered.

The phrase "conventional heavy-duty excavation equipment" is intended to include commonly used equipment such as excavators and trenching machines. It does not include hydraulic hammers ("breakers"), jackhammers, blasting, or other specialized equipment and techniques used to excavate hard earth materials. Selection of an appropriate excavation equipment model should be done by an experienced earthwork contractor, and may require test excavations in representative areas.

5.5 Subsurface Variations

Based on results of the subsurface exploration and our experience, some variations in the continuity and nature of subsurface conditions within the project site should be anticipated. Because of the uncertainties involved in the nature and depositional characteristics of the earth material, care should be exercised in interpolating or extrapolating subsurface conditions between or beyond the boring locations.

6.0 ENGINEERING GEOLOGY

The regional and local geology within the proposed project site are discussed below.

6.1 Regional Geology

The project site is located along boundary of the Coastal Plain of Orange County and the Santa Ana Mountains at the western margin of the Peninsular Ranges geomorphic province of California. The Peninsular Ranges Geomorphic Province consists of a series of northwest-trending mountain ranges and valleys bounded on the north by the San Bernardino and San Gabriel Mountains, on the west by the Los Angeles Basin, and on the south by the Pacific Ocean.

The province is a seismically active region characterized by a series of northwest-trending strike-slip faults. The most prominent of the nearby fault zones include the Whittier, Elysian Park, and Elsinore Fault Zones, which have been known to be active during Quaternary time.

Topography within the province is generally characterized by broad alluvial valleys separated by linear mountain ranges. This northwest-trending linear fabric is created by the regional faulting within the granitic basement rock of the Southern California Batholith.

Broad, linear, alluvial valleys have been formed by erosion of these principally granitic mountain ranges.

6.2 Local Geology

Based on review of the available geologic mapping (Morton and Miller, 2006), the project site is underlain by young (Holocene and late Pleistocene) aged alluvial fan sediments. The deposits primarily consist of unconsolidated to moderately consolidated mixtures of silt, sand, pebbly cobbly sand, cobbles, and bouldery alluvium.

7.0 FAULTING AND SEISMICITY

The approximate distance and seismic characteristics of nearby faults as well as seismic design coefficients are discussed in the following subsections.

7.1 Faulting

The site is not located within a currently designated State of California Fault Zone (CGS, 2007). There are no known active faults projecting toward or extending across the site. Based on regional mapping (Morton and Miller, 2006), a northwest-southeast trending unnamed inactive concealed fault is located approximately 3,400 feet southwest of the project site. Based on our site observations and the information reviewed during preparation of this report, there is no indication that the inferred fault poses any increased risk to the site. The potential for surface rupture resulting from the movement of nearby major faults is not known with certainty but is considered low.

The proposed site is situated in a seismically active region. As is the case for most areas of Southern California, ground shaking resulting from earthquakes associated with nearby and more distant faults may occur at the site. During the life of the project, seismic activity associated with active faults can be expected to generate moderate to strong ground shaking at the site.

The following table contains a list of active and potentially active faults within 100 kilometers of the subject site. The fault parameters and distances presented in the following table are based on the output from EQFAULT (Blake, 2000), revised in accordance with CGS fault parameters (Cao et. al., 2003).

Table No. 2, Seismic Characteristics of Nearby Active Faults

Fault Name	Approximate Distance (miles (km))	Moment Magnitude (Mw)
Whittier	10.7 (17.2)	6.8
Elsinore-Glen Ivy	10.9 (17.5)	6.8

Fault Name	Approximate Distance (miles (km))	Moment Magnitude (Mw)
Chino-Central Ave. (Elsinore)	11.2 (18.0)	6.7
Newport-Inglewood (L.A.Basin)	13.4 (21.5)	7.1
Newport-Inglewood (Offshore)	13.6 (21.9)	7.1
Elysian Park Thrust	14.3 (23.0)	6.7
Compton Thrust	15.3 (24.6)	6.8
San Jose	23.4 (37.7)	6.4
Elsinore-Temecula	23.7 (38.1)	6.8
Palos Verdes	25.0 (40.2)	7.3
Sierra Madre	29.2 (47.0)	7.2
Cucamonga	29.3 (47.1)	6.9
Coronado Bank	33.4 (53.8)	7.6
Raymond	34.4 (55.4)	6.5
San Jacinto-San Bernardino	34.5 (55.5)	6.7
San Jacinto-San Jacinto Valley	35.5 (57.1)	6.9
Clamshell-Sawpit	36.2 (58.3)	6.5
Verdugo	37.1 (59.7)	6.9
Hollywood	39.4 (63.4)	6.4
San Andreas-San Bernardino	41.2 (66.3)	7.5
San Andreas-Mojave	42.2 (67.9)	7.4
Cleghorn	43.5 (70.0)	6.5
Rose Canyon	45.2 (72.8)	7.2
Santa Monica	45.7 (73.6)	6.6
San Jacinto-Anza	47.7 (76.7)	7.2
North Frontal Fault Zone (West)	48.1 (77.4)	7.2
Elsinore-Julian	48.6 (78.2)	7.1
Malibu Coast	50.0 (80.5)	6.7
Sierra Madre (San Fernando)	50.9 (81.9)	6.7
San Gabriel	51.1 (82.3)	7.2
Northridge (E. Oak Ridge)	53.0 (85.3)	7.0
Anacapa-Dume	58.6 (94.3)	7.5

7.2 Seismic Design Parameters

Seismic parameters based on the California Building Code (CBSC, 2016) were determined using the Seismic Design Maps application (OSHPD, 2019) and are provided in the following table.

Table No. 3, CBC Seismic Parameters

Seismic Parameters	
Site Coordinates	33.7271 N, 117.7456 N
Site Class	D

Seismic Parameters	
Mapped Short period (0.2-sec) Spectral Response Acceleration, S_s	1.508g
Mapped 1-second Spectral Response Acceleration, S_1	0.554g
Site Coefficient (from Table 1613.5.3(1)), F_a	1.0
Site Coefficient (from Table 1613.5.3(2)), F_v	1.5
MCE 0.2-sec period Spectral Response Acceleration, S_{Ms}	1.508g
MCE 1-second period Spectral Response Acceleration, S_{M1}	0.831g
Design Spectral Response Acceleration for short period S_{ds}	1.005g
Design Spectral Response Acceleration for 1-second period, S_{d1}	0.554g
Maximum Peak Ground Acceleration, PGA_M	0.543g

7.3 Secondary Effects of Seismic Activity

In general, secondary effects of seismic activity include surface fault rupture, soil liquefaction, landslides, lateral spreading, and settlement due to seismic shaking, tsunamis, seiches, and earthquake-induced flooding. The site-specific potential for each of these seismic hazards is discussed in the following sections.

Surface Fault Rupture: The site is not located within a currently designated State of California Fault Zone (CGS, 2007). There are no known active faults projecting toward or extending across the site. The potential for surface rupture resulting from the movement of nearby major faults is not known with certainty but is considered low.

Liquefaction: Liquefaction is defined as the phenomenon in which a cohesionless soil mass within the upper 50 feet of the ground surface suffers a substantial reduction in its shear strength, due to the development of excess pore pressures. During earthquakes, excess pore pressures in saturated soil deposits may develop as a result of induced cyclic shear stresses, resulting in liquefaction.

Soil liquefaction generally occurs in submerged granular soils and non-plastic silts during or after strong ground shaking. There are several general requirements for liquefaction to occur. They are as follows.

- Soils must be submerged.
- Soils must be loose to medium-dense.
- Ground motion must be intense.
- Duration of shaking must be sufficient for the soils to lose shear resistance.

The current high groundwater level is at 34 feet bgs. Based on a site-specific liquefaction analysis presented in Appendix C, *Liquefaction and Seismic Settlement Analysis*,

liquefaction was observed at depth between 45 and 50 feet bgs. The project site has potential for up to 2.0 inches liquefaction induced settlement.

Seismic Settlement: Seismically-induced settlement occurs in unsaturated, unconsolidated, granular sediments during ground shaking associated with earthquakes. The analysis presented in Appendix C*, Liquefaction and Seismic Settlement Analysis* indicates that the site has the potential for up to 0.75 inches of dry seismic settlement.

Landslides: Seismically induced landslides and other slope failures are common occurrences during or soon after earthquakes. There is hill ascending to the southeast of the project site. The base of the hill is located approximately 225 feet southeast of the edge of the reservoir. The hill ascends approximately 180 feet over a distance of 940 feet for a slope ratio of approximately 5H:1V (horizontal:vertical). Based on the slope ratio of this hill and the relatively flat nature of the remainder of the site and surrounding area, the risk of landsliding to affect the site is considered low.

Lateral Spreading: Seismically induced lateral spreading involves primarily lateral movement of earth materials over underlying materials which are liquefied due to ground shaking. It differs from the slope failure in that complete ground failure involving large movement does not occur due to the relatively smaller gradient of the initial ground surface. Lateral spreading is demonstrated by near-vertical cracks with predominantly horizontal movement of the soil mass involved. Based on our analysis and flat nature of site, the risk of lateral spreading is considered low.

Tsunamis: Tsunamis are large waves generated in open bodies of water by fault displacement or major ground movement. Due to the inland location of the site, tsunamis are not considered to be a risk.

Seiches: Seiches are large waves generated in enclosed bodies of water in response to ground shaking. The Rattlesnake Reservoir is located approximately 1,100 feet east of the project site. Seiching is possible within the reservoir during a seismic event.

Earthquake-Induced Flooding: Dams or water-retaining structures may fail as a result of large earthquakes. The Rattlesnake Reservoir is located approximately 1,100 feet east of the project site. Indunation at the site is possible with the failure of the Rattlesnake reservoir or Dams.

8.0 LABORATORY TEST RESULTS

Results of physical and chemical tests performed for this project are presented below.

8.1 Physical Testing

Results of the various laboratory tests are presented in Appendix B, *Laboratory Testing Program*, except for the results of in-situ moisture and dry density tests which are presented on the Logs of Borings in Appendix A, *Field Exploration*. The results are also discussed below.

- In-situ Moisture and Dry Density – *In-situ* dry density and moisture content of the site soils were determined in accordance to ASTM Standard D2216 and ASTM D7263.
  - Artificial fill – Artificial fill was drilled using hand auger up to 10 feet bgs. Dry densities of fill below 10 feet soils ranged from 106 to 109 pcf with moisture contents ranging from 4 to 5 percent. Results are presented in the log of borings in Appendix A, *Field Exploration.* Based on hammer blow counts (16 to 39), coarse fill material (silty sand) ranged from medium dense to dense. Although we do not have blow counts for sandy silt to sandy clay, stiffness of these material are expected to medium stiff to stiff. Relative compaction of coarse fill material ranged from 83 to 85 percent and sandy silt to sandy clay are expected to be less than 90 percent.
  - Alluvium - Dry densities of the alluvium soils ranged from 96 to 125 pcf with moisture contents ranging from 3 to 2 percent. Results are presented in the log of borings in Appendix A, *Field Exploration.*
- Expansion Index – Three representative samples from the upper 20 feet soils were tested to evaluate the expansion potential in accordance with ASTM Standard D4829. The test results showed EI of 3, 33 and 54, indicating very low to medium expansion potential.
- Grain Size Analysis – Three representative samples were tested to determine the relative grain size distribution in accordance with the ASTM Standard D6913. The test results are graphically presented in Drawing No. B-1, *Grain Size Distribution Results.*
- Maximum Dry Density and Optimum Moisture Content – Typical moisture-density relationship tests were conducted on two representative samples in accordance with ASTM D1557. The test results are presented in Drawing No. B-2, *Moisture-Density Relationship Results*, in Appendix B, *Laboratory Testing Program*. The laboratory maximum dry densities were 123.0 and 1275.5 (with rock correction 133.0) pounds per cubic foot (pcf) and the optimum moisture contents of 11.0 and 8.5 (with rock correction 6.9) percent.
- Direct Shear – Three direct shear tests were performed on relatively undisturbed ring samples under soaked condition in accordance with ASTM Standard D3080. The test results are presented in Drawings No. B-3 through B-5, *Direct Shear Test Results* in Appendix B, *Laboratory Testing Program*.

8.2 Chemical Testing - Corrosivity Evaluation

Three representative soil samples were tested to determine minimum electrical resistivity, pH, and chemical content, including soluble sulfate and chloride concentrations. The purposes of the tests was to determine the corrosion potential of site soils when placed in contact with common pipe materials. The test was performed by HDR, Inc. (Claremont, CA) and AP Engineering and Testing, Inc. (Pomona, CA) in accordance with California Tests 643, 422, and 417. The test results are presented in Appendix B, *Laboratory Testing Program and summarized below.*

- The pH measurements of the tested samples were 8.1, 8.5 and 9.6.
- The sulfate contents of the tested samples were 0.0057, 0.0042 and 0.0408 percent by weight.
- The chloride concentrations of the tested samples were 35, 37 and 175 ppm.
- The minimum electrical resistivities when saturated were 824, 2030 and 5,267 ohm-cm.

9.0 EARTHWORK RECOMMENDATIONS

Earthwork recommendations for project site are presented in the following sections.

9.1 General

This section contains our general recommendations regarding earthwork and grading for the proposed project. These recommendations are based on the results of our field exploration, laboratory tests, our experience with similar projects, and data evaluation as presented in the preceding sections. These recommendations may require modification by the geotechnical consultant based on observation of the actual field conditions during grading.

Prior to the start of construction, all existing underground utilities and appurtenances to remain in place should be located within the project site. Such utilities should either be protected in-place or removed and replaced during construction as required by the project specifications. All excavations should be conducted in such a manner as to not cause loss of bearing and/or lateral support of existing structures or utilities.

All debris, surface vegetation, deleterious material, surficial soils containing roots, perishable materials and demolished materials should be stripped and removed from the site.

Relative compaction of coarse fill material ranged from 83 to 85 percent and sandy silt to sandy clay are expected to be less than 90 percent. Therefore, the surficial fill material is generally considered unsuitable for support of shallow foundations.

Based on new pump station location, structure type, foundation depth and liquefaction potential (up to 2.0 inches at depth between 45 to 50 feet bgs), we do not anticipate the necessity of ground improvement.

The final bottom surfaces of all excavations should be observed and approved by the project geotechnical consultant prior to placing any fill. Based on these observations, localized areas may require remedial grading deeper than indicated herein. Therefore, some variations in the depth and lateral extent of excavation recommended in this report should be anticipated.

9.2 Overexcavation

Footings of new pump station, slab-on-grade and pavement should be uniformly supported by compacted fill (relative compaction greater than 90 percent). In order to provide uniform support, structural areas should be overexcavated, scarified, and recompacted as follows.

Table No. 4, Overexcavation Depths

Structure/Pavement	Minimum Excavation Depth
Footings	24 inches below footings or 5 feet below existing ground surface, whichever is deeper
Slab-on-grade	18 inches below slab
Pavements	12 inches below finish grade

The overexcavation below the footings and slabs-on-grade should be uniform. The overexcavation should extend to at least 2 feet beyond the footprint of the footings and slabs (if possible). The overexcavation bottom should be scarified and compacted as described in Section 9.6, *Compacted Fill Placement*.

If isolated pockets of very soft, loose, eroded, or pumping soil are encountered, the unstable soil should be excavated as needed to expose undisturbed, firm, and unyielding soils.

The contractor should determine the best manner to conduct the excavations, such that there are no losses of bearing and/or lateral support to the existing structures or utilities (if any). Consideration should be given to using slot cuts or other excavation methods which preserve lateral support during excavation operations near the existing tank.

9.3 Excavation of Pump Can Base

The pump can base area will be excavated to the planned depth of 33 feet bgs. After the installation of pump can, this area will be backfilled and recompacted. If soft/wet soils are encountered, subgrade soils should be stabilized using section 9.4 *Subgrade Stabilization*. Backfill of pump can area should be based on Section 9.8 *Backfill Recommendations for Pump Can*.

9.4 Subgrade Stabilization

Groundwater was encountered at a depth of 34 feet bgs at its shallowest point. The top of pump can base will be located at a depth of 33 feet bgs. Due to the close proximity of groundwater to the pump can bottom, soft/wet subgrade soils will likely be encountered. Soft and unstable subgrade areas should be stabilized in order to provide the required support for the proposed pump can.

Subgrade soils may be stabilized by wheel-rolling crushed rock (3/4 to 1 inch) into the soft surface to increase the density and resistance to displacement under loads. The rock should be spread and wheel-rolled into the soft soil in thin lifts. The subgrade stability should be evaluated after each lift of rock. If multiple lifts are required for stability, additional overexcavation may be necessary to compensate for the added volume of the rock.

Subgrade soils may also be stabilized using appropriate geotextile (e.g., Mirafi HP570, 600X or equivalent) material at the bottom of the excavation. The geo-textile should be covered with at least 1 to 2 feet compacted aggregate base, then another layer of same geotextile material. Additional overexcavation may be necessary to maintain the foundation or utilities depths. The placement of geo-textile and base materials should be observed by project geotechnical consultants.

9.5 Engineered Fill

No fill or aggregate base should be placed until excavations and/or natural ground preparation have been observed by the geotechnical consultant. The native soils encountered within the project site are generally considered suitable for re-use as compacted fill. Excavated soils should be processed, including removal of roots and debris, removal of oversized particles, mixing, and moisture conditioning, before placing as compacted fill. On-site soils used as fill should meet the following criteria.

- No particles larger than 3 inches in largest dimension.
- Rocks larger than one inch should not be placed within the upper 12 inches of subgrade soils.

- Free of all organic matter, debris, or other deleterious material.
- Expansion index of 20 or less.
- Sand Equivalent greater than 15 (greater than 30 for pipe bedding).
- Contain less than 30 percent by weight retained in 3/4-inch sieve.
- Contain less than 40 percent fines (passing #200 sieve).

Any imported fills should be tested and approved by geotechnical representative prior to delivery to the site. Imported materials, if required, should meet the above criteria prior to being used as compacted fill.

9.6 Compacted Fill Placement

All surfaces to receive structural fills should be scarified to a depth of 6 inches. The soil should be moisture conditioned to within ±3 percent of optimum moisture content for coarse soils and 0 to 2 percent above optimum moisture content for fine soils. The scarified soils should be recompacted to at least 90 percent of the laboratory maximum dry density.

Fill soils should be thoroughly mixed and moisture conditioned to within ±3 percent of optimum moisture content for coarse soils and 0 to 2 percent above optimum moisture content for fine soils. Fill soils should be evenly spread in horizontal lifts not exceeding 8 inches in uncompacted thickness.

All fill placed at the site should be compacted to at least 90 percent of the laboratory maximum dry densities as determined by ASTM Standard D1557 test method, unless a higher compaction is specified herein. At least the upper 12 inches of subgrade soils below finish grade underneath pavement should be compacted to at least 95 percent of the laboratory maximum dry density.

Fill materials should not be placed, spread or compacted during unfavorable weather conditions. When site grading is interrupted by heavy rain, filling operations should not resume until the geotechnical consultant approves the moisture and density conditions of the previously placed fill.

9.7 Site Drainage

Adequate positive drainage should be provided away from structures and excavation areas to prevent ponding and to reduce percolation of water into the foundation soils. Surface drainage should be directed to suitable non-erosive devices.

9.8 Backfill Recommendations for Pump Can

Compaction of backfill adjacent to pump cans can produce excessive lateral pressures. Improper types and locations of compaction equipment and/or compaction techniques may damage the pump cans. The use of heavy compaction equipment should not be permitted within a horizontal distance of 5 feet from the cans. Backfill around cans within the recommended 5-foot zone should be compacted using lightweight construction equipment such as handheld compactors to avoid overstressing the cans. The compaction of wall backfill should be conducted procedure described in section 9.6 *Compaction Fill Placement.*

9.9 Utility Trench Backfill

The following sections present earthwork recommendations for utility trench backfill, including subgrade preparation and trench zone backfill.

Open cuts adjacent to existing roadways or structures are not recommended within a 1:1 (horizontal:vertical) plane extending down and away from the roadway or structure perimeter. If it is within a 1:1 (horizontal:vertical) plane, shoring system is recommended.

Spoils from the trench excavation should not be stockpiled more than 6 feet in height or within a horizontal distance from the trench edge equal to the depth of the trench. Spoils should not be stockpiled behind the shoring, if any, within a horizontal distance equal to the depth of the trench, unless the shoring has been designed for such loads.

9.9.1 Pipeline Subgrade Preparation

The final subgrade surface should be level, firm, uniform, and free of loose materials and properly graded to provide uniform bearing and support to the entire section of the pipe placed on bedding material. Protruding oversize particles larger than 2 inches in dimension, if any, should be removed from the trench bottom and replaced with compacted on-site materials.

Any loose, soft and/or unsuitable materials encountered at the pipe subgrade should be removed and replaced with an adequate bedding material. During the digging of depressions for proper sealing of the pipe joints, the pipe should rest on a prepared bottom for as near its full length as is practicable.

9.9.2 Pipe Bedding

Bedding is defined as the material supporting and surrounding the pipe to 1 foot above the pipe. Pipe bedding should follow IRWD Standard Drawing S-6, *Sewer Trench*

(attached in Appendix D). Besides, additional information for pipe bedding are provided below.

To provide uniform and firm support for the pipe, compacted granular materials such as clean sand, gravel or ¾-inch crushed aggregate, or crushed rock may be used as pipe bedding material. Typically, soils with sand equivalent value of 30 or more are used as pipe bedding material. The pipe designer should determine if the soils are suitable as pipe bedding material.

The type and thickness of the granular bedding placed underneath and around the pipe, if any, should be selected by the pipe designer. The load on the rigid pipes and deflection of flexible pipes and, hence, the pipe design, depends on the type and the amount of bedding placed underneath and around the pipe.

Bedding materials should be vibrated in-place to achieve compaction. Care should be taken to densify the bedding material below the springline of the pipe. Prior to placing the pipe bedding material, the pipe subgrade should be uniform and properly graded to provide uniform bearing and support to the entire section of the pipe placed on bedding material. During the digging of depressions for proper sealing of the pipe joints, the pipe should rest on a prepared bottom for as near its full length as is practicable.

Migration of fines from the surrounding native and/or fill soils must be considered in selecting the gradation of any imported bedding material. We recommend that the pipe bedding material should satisfy the following criteria to protect migration of fine materials.

i. $\frac{D15(F)}{D85(B)} \leq 5$

ii. $\frac{D50(F)}{D50(B)} < 25$

iii. Bedding Materials must have less than 5 percent minus 75 µm (No. 200) sieve to avoid internal movement of fines.

Where,
F = Bedding Material
B = Surrounding Native and/or Fill Soils
*D*15(F) = Particle size through which 15% of bedding material will pass
*D*85(B) = Particle size through which 85% of surrounding soil will pass
*D*50(F) = Particle size through which 50% of bedding material will pass
*D*50(B) = Particle size through which 50% of surrounding soil will pass

If the above criteria do not satisfy, commercially available geofabric used for filtration purposes (such as Mirafi 140N or equivalent) may be wrapped around the bedding

material encasing the pipe to separate the bedding material from the surrounding native or fill soils.

9.9.3 Trench Zone Backfill

The trench zone is defined as the portion of the trench above the pipe bedding extending up to the final grade level of the trench surface. Excavated on-site soils free of oversize particles and deleterious matter may be used to backfill the trench zone. Trench backfill should follow IRWD Standard Drawing S-6, *Sewer Trench* (attached in Appendix D). Besides, additional trench backfill recommendations are presented below.

- Trench backfill should be compacted by mechanical methods, such as sheepsfoot, vibrating or pneumatic rollers or mechanical tampers to achieve the density specified herein.
- The contractor should select the equipment and processes to be used to achieve the specified density without damage to adjacent ground, structures, utilities and completed work.
- The field density of the compacted soil should be measured by the ASTM Standard D1556 (Sand Cone) or ASTM D6938 (Nuclear Gauge) or equivalent.
- Observations and field tests should be performed by the project soils consultant to confirm that the required degree of compaction has been obtained. Where compaction is less than that specified, additional compactive effort should be made with adjustment of the moisture content as necessary, until the specified compaction is obtained.
- It should be the responsibility of the contractor to maintain safe working conditions during all phases of construction.

10.0 DESIGN RECOMMENDATIONS

Based on our field exploration, laboratory testing and analyses of subsurface conditions within the project area, the proposed pump station and pipeline may be founded on native materials or compacted fill prepared as described in this report.

Pipelines connected to the lower levels of rigid structures may be subjected to significant loads as backfill is placed to finish grade. We recommend that provisions be incorporated in the design to provide support of such pipelines where they exit the structure. Consideration can be given to flexible connections, concrete slurry support beneath the pipes where they exit the structures, overlaying the pipes with a few inches of compressible material, (e.g., Styrofoam), or other techniques.

The various design recommendations provided in this section are based on the assumption that the above earthwork and grading recommendations will be implemented in the project design and construction.

10.1 Shallow Foundation Design Parameters

The proposed new pump station may be supported on a continuous spread footing and/or isolated spread footings. The design of the shallow foundations should be based on the recommended parameters presented in the following table.

Table No. 5, Recommended Foundation Parameters

Parameter	Value
Minimum continuous spread footing width	18 inches
Minimum isolated footing width	18 inches
Minimum continuous or isolated footing depth of embedment below lowest adjacent grade	18 inches
Allowable net bearing capacity	2,500 psf

The footing dimensions and reinforcement should be based on structural design. The allowable bearing capacity can be increased by 500 psf with each foot of additional embedment and 100 psf with each foot of additional width up to a maximum of 3,500 psf.

The allowable net bearing capacity is defined as the maximum allowable net bearing pressure on the ground. It is obtained by dividing the net ultimate bearing capacity by a safety factor. The ultimate bearing capacity is the bearing stress at which ground fails by shear or experiences a limiting amount of settlement at the foundation. The net ultimate bearing capacity was obtained by subtracting the total overburden pressure on a horizontal plane at the foundation level from the ultimate bearing capacity.

The net allowable bearing values indicated above are for the dead loads and frequently applied live loads and are obtained by applying a factor of safety of 3.0 to the net ultimate bearing capacity. If normal code requirements are applied for design, the above vertical bearing value may be increased by 33 percent for short duration loadings, which will include loadings induced by wind or seismic forces.

10.2 Lateral Earth Pressures and Resistance to Lateral Loads

In the following subsections, the lateral earth pressures and resistance to lateral loads are estimated by using on-site native/fill soils strength parameters obtained from laboratory testing.

10.2.1 Active Earth Pressures

The active earth pressure behind any buried wall or foundation depends primarily on the allowable wall movement, type of backfill materials, backfill slopes, wall or foundation

inclination, surcharges, and any hydrostatic pressures. The lateral earth pressures for the project site are presented in the following tables.

Table No. 6, Active and At-Rest Earth Pressures

Loading Conditions	Lateral Earth Pressure above water (psf/ft. depth)	Lateral Earth Pressure below water (psf/ft. depth)
Active earth conditions (wall is free to deflect at least 0.001 radian)	42	86
At-rest (wall is restrained)	64	96

These pressures assume a level ground surface behind the walls for a distance greater than the wall height and no surcharge.

10.2.2 Passive Earth Pressure

Resistance to lateral loads can be assumed to be provided by a combination of friction acting at the base of foundations and by passive earth pressure. A coefficient of friction of 0.35 between formed concrete and soil may be used with the dead load forces. An allowable passive earth pressure of 250 psf per foot of depth may be used for the sides of footing poured against recompacted native soils. A factor of safety of 1.5 was applied in calculating passive earth pressure. The maximum value of the passive earth pressure should be limited to 2,500 psf.

Vertical and lateral bearing values indicated above are for the total dead loads and frequently applied live loads. If normal code requirements are applied for design, the above vertical bearing and lateral resistance values may be increased by 33 percent for short duration loading, which will include the effect of wind or seismic forces.

Due to the low overburden stress of the soil at shallow depth, the upper 1 foot of passive resistance should be neglected unless the soil is confined by pavement or slab.

10.2.3 Seismic Earth Pressure

The equivalent fluid seismic pressure was calculated using Seed and Whitman (1970) procedure. An equivalent fluid seismic pressure of 28H pcf may be assumed under active loading conditions at the top of an inverted triangle pressure distribution where H is the height of the backfill behind the wall. Under at-rest conditions, the active equivalent fluid seismic pressure should be increased by 30 percent.

10.3 Slabs-on-Grade

Slabs-on-grade should be supported on properly compacted fill (relative compaction greater than 90 percent). Compacted fill used to support slabs-on-grade should be placed and compacted in accordance with Section 9.6 *Compacted Fill Placement*.

Slabs-on-grade should have a minimum thickness of 6 inches for support of nominal live loads. Minimum top and bottom reinforcement for slabs-on-grade should be No. 5 reinforcing bars, spaced at 18-inches on-center each way. Structural design elements of slabs-on-grade, including but not limited to thickness, reinforcement, joint spacing of more heavily-loaded slabs will be dependent upon the anticipated loading conditions and the modulus of subgrade reaction (150 kcf) of the supporting materials and should be designed by a structural engineer.

Slabs should be designed and constructed as promulgated by the American Concrete Institute (ACI) and the Portland Cement Association (PCA). Care should be taken during concrete placement to avoid slab curling. Prior to the slab pour, all utility trenches should be properly backfilled and compacted.

If moisture-sensitive flooring or environments are planned, slabs-on-grade should be protected by 10-mil-thick polyethylene vapor barriers. The sub-grade surface should be free of all exposed rocks or other sharp objects prior to placement of the barrier. The barrier should be overlain by 2 inches of sand, to minimize punctures and to aid in the concrete curing. At discretion of the structure engineer, the sand layer may be eliminated. Converse does not practice in the field of moisture vapor transmission evaluation/mitigation, since this does not fall under the geotechnical disciplines. Therefore, we recommend that a qualified person, such as the flooring contractor, structural engineer, and/or architect be consulted to evaluate the general and specific moisture vapor transmission paths and any impact on the proposed construction.

Subgrade for slabs-on-grade should be firm and uniform. All loose or disturbed soils including under-slab utility trench backfill should be recompacted.

In hot weather, the contractor should take appropriate curing precautions after placement of concrete to minimize cracking or curling of the slabs. The potential for slab cracking may be lessened by the addition of fiber mesh to the concrete and/or control of the water/cement ratio.

Concrete should be cured by protecting it against loss of moisture and rapid temperature change for at least 7 days after placement. Moist curing, waterproof paper, white polyethylene sheeting, white liquid membrane compound, or a combination thereof may be used after finishing operations have been completed. The edges of concrete slabs

exposed after removal of forms should be immediately protected to provide continuous curing.

10.4 Settlement

The total settlement of shallow footings from static structural loads and short-term settlement of properly compacted fill is anticipated to be 1.0 inch or less. The differential settlement resulting from static loads is anticipated to be 0.5 inches or less over a horizontal distance of 40 feet.

Our analysis of the potential dynamic settlement is presented in Appendix C, *Liquefaction and Seismic Settlement Analysis,* liquefaction was observed at depth between 45 and 50 feet bgs. The site has the potential for up to 2.0 inches of liquefaction induced settlement and up to 0.75 inches of dry seismic settlement.

The soil profile for boring BH-02 and BH-03 is relatively uniform; therefore, we anticipate the total settlement will be uniform. We recommend that the planned structure be designed in anticipation of dynamic differential settlement of 0.5 inch over a horizontal distance of 40 feet.

The static and dynamic settlement estimates should <u>not</u> be combined for design purposes. The maximum combined static and dynamic settlement is not anticipated to exceed the maximum anticipated dynamic settlement.

10.5 Pipe Design Parameters

Structural design of pipelines requires proper evaluation of all possible loads acting on pipes. The stresses and strains induced on buried pipes depend on many factors, including the type of soil, density, bearing pressure, angle of internal friction, coefficient of passive earth pressure, and coefficient of friction at the interface between the backfill and native soils. The recommended values of the various soil parameters for the pipe design are provided in Table No. 7, *Soil Parameters for Pipe Design*. Similar type of soils were encountered in artificial fill and alluvium soils. Therefore, these pipe design parameters will be applicable for both soils.

Table No. 7, Soil Parameters for Pipe Design

Soil Parameters	Parameters
Unit weight of compacted backfill (assuming 92% average relative compaction), γ	126 pcf
Angle of internal friction of soils, ϕ	27º
Soil cohesion, c	50 pcf

Soil Parameters	Parameters
Coefficient of friction between concrete and native soils, fs	0.35
Coefficient of friction between pipe and native soils, fs	0.25 for PVC pipe
Bearing pressure against Alluvial Soils	2,000 psf
Coefficient of passive earth pressure, Kp	2.66
Coefficient of active earth pressure, Ka	0.38
Modulus of Soil Reaction, E'	1000 psi

10.6 Bearing Pressure for Anchor and Thrust Blocks

An allowable net bearing pressure presented in Table No. 7, *Soil Parameters for Pipe Design* may be used for anchor and thrust block design against alluvial/fill soils. Such thrust blocks should be at least 18 inches wide.

If normal code requirements are applied for design, the above recommended bearing capacity and passive resistances may be increased by 33 percent for short duration loading such as seismic or wind loading.

10.7 Soil Expansion

New pump station footings and slabs can be designed for very low expansive soil conditions (EI ≤ 20).

10.8 Soil Corrosivity

Three representative soil samples were evaluated for corrosivity with respect to common construction materials such as concrete and steel. The test results are presented in Appendix B, *Laboratory Testing Program* and design recommendations pertaining to soil corrosivity are presented below.

The sulfate contents of the sampled soils correspond to American Concrete Institute (ACI) exposure category S0 for these sulfate concentrations (ACI 318-14, Table 19.3.1.1). No concrete type restrictions are specified for exposure category S0 (ACI 318-14, Table 19.3.2.1). A minimum compressive strength of 2,500 psi is recommended.

We anticipate that concrete structures such as footings, slabs, and flatwork will be exposed to moisture from precipitation and irrigation. Based on the site locations and the results of chloride testing of the site soils, we do not anticipate that concrete structures will be exposed to external sources of chlorides, such as deicing chemicals, salt, brackish water, or seawater. ACI specifies exposure category C1 where concrete is exposed to

moisture, but not to external sources of chlorides (ACI 318-14, Table 19.3.1.1). ACI provides concrete design recommendations in ACI 318-14, Table 19.3.2.1, including a compressive strength of at least 2,500 psi and a maximum chloride content of 0.3 percent. The measured values of the minimum electrical resistivity of the samples when saturated ranged from 824 to 5,267 ohm-cm. This indicates that the tested soils are moderately to severely corrosive to ferrous metals in contact with the soil (Romanoff, 1957).

According to the Caltrans Corrosion Guidelines (Caltrans, 2018), soils are considered corrosive if the pH is 5.5 or less, or chloride content is 500 parts per million (ppm) or greater, or sulfate content is 1,500 ppm or greater, or resistivity less than 2000 ohm-cm. Based on the tested results, the project site soils are considered corrosive. For PVC pipe, no corrosion mitigation is required.

Converse does not practice in the area of corrosion consulting. A qualified corrosion consultant should provide appropriate corrosion mitigation measures for any ferrous metals in contact with the project site soils.

10.9 Infiltration Rate

According to our scope of work, we did not perform any percolation test for this project. However, based on soil type, experience and document review, an infiltration rate of 0.1 to 0.2 inches per hour may be utilized for the design purpose.

10.10 Asphalt Concrete Pavement

Based on the soil type and experience on similar type of projects, an R-value of 20 was assumed to determine preliminary pavement thickness. For pavement design, we have utilized an R-value of 20 and design Traffic Indices (TIs) ranging from 6 to 8.

Based on the above information, asphalt concrete and aggregate base thickness results are presented using the Caltrans Highway Design Manual (Caltrans, 2017), Chapter 630 with a safety factor of 0.2 for asphalt concrete/aggregate base section and 0.1 for full depth asphalt concrete section. Preliminary asphalt concrete pavement sections are presented in the following table.

Table No. 8, Recommended Preliminary Pavement Sections

R-value	Traffic Index (TI)	Pavement Section		
		Option 1		Option 2
		Asphalt Concrete (inches)	Aggregate Base (inches)	Full AC Section (inches)
20	6.0	4.0	9.0	9.0
	7.0	5.0	10.0	11.0
	8.0	6.0	12.0	13.0

At or near the completion of grading, subsurface samples should be tested to evaluate the actual subgrade R-value for final pavement design.

Prior to placement of aggregate base, at least the upper 12 inches of subgrade soils should be scarified, moisture-conditioned if necessary, and recompacted to at least 95 percent of the laboratory maximum dry density as defined by ASTM Standard D1557 test method.

Base materials should conform with Section 200-2.2,"*Crushed Aggregate Base*," of the current Standard Specifications for Public Works Construction (SSPWC; Public Works Standards, 2015) or the standard of IRWD and should be placed in accordance with Section 301.2 of the SSPWC.

Asphaltic concrete materials should conform to Section 203 of the SSPWC or the standard of IRWD and should be placed in accordance with Section 302.5 of the SSPWC.

11.0 CONSTRUCTION RECOMMENDATIONS

Temporary sloped excavation and shoring design recommendations are presented in the following sections.

11.1 General

Prior to the start of construction, all existing underground utilities should be located within the vicinity of the project. Such utilities should either be protected in-place or removed and replaced during construction as required by the project specifications.

Vertical braced excavations can be considered for the project. Sloped excavations may not be feasible in locations adjacent to existing utilities, structures or other improvements. Recommendations pertaining to temporary excavations are presented in this section.

Where the side of the excavation is a vertical cut, it should be adequately supported by temporary shoring to protect workers and any adjacent structures.

Excavations near existing structures may require vertical side wall excavation. Where the side of the excavation is a vertical cut, it should be adequately supported by temporary shoring to protect workers and any adjacent structures.

All applicable requirements of the California Construction and General Industry Safety Orders, the Occupational Safety and Health Act, and the Construction Safety Act should be met. The soils exposed in cuts should be observed during excavation by the geotechnical consultant and the competent person designated by the contractor. If potentially unstable soil conditions are encountered, modifications of slope ratios for temporary cuts may be required.

11.2 Temporary Sloped Excavations

Temporary open-cut trenches may be constructed with side slopes as recommended in the following table. Temporary cuts encountering soft and wet fine-grained soils; dry loose, cohesionless soils or loose fill from trench backfill may have to be constructed at a flatter gradient than presented below. The final determination of temporary slope gradients should be based on review of the encountered soils by a competent person employed by the contractor, in accordance with Section 1541 of the OSHA Construction Safety Orders.

Table No. 9, Slope Ratios for Temporary Excavations

Soil Type	OSHA Soil Type	Depth of Cut (feet)	Recommended Maximum Slope (Horizontal:Vertical)[1]
Silty Sand (SM) and Clayey Sand (SC)	C	0-10	1.5:1
		10-20	2:1
Sandy Silt (ML) and Sandy Clay (CL)	B	0-10	1:1
		10-20	1.5:1

[1] Slope ratio assumed to be uniform from top to toe of slope. Based on OSHA guideline.

For steeper temporary construction slopes or deeper excavations, or unstable soil encountered during the excavation, shoring or trench shields should be provided by the contractor as necessary to protect the workers in the excavation.

Surfaces exposed in slope excavations should be kept moist but not saturated to retard raveling and sloughing during construction. Adequate provisions should be made to protect the slopes from erosion during periods of rainfall. Surcharge loads, including construction materials, should not be placed within 5 feet of the unsupported slope edge. Stockpiled soils with a height higher than 6 feet will require greater distance from trench edges.

11.3 Shoring Design

Temporary shoring will be required where open sloped excavations will not be feasible due to unstable soils or due to nearby existing structures or facilities. Temporary shoring may consist of conventional soldier piles and lagging or sheet piles. The shoring for the pipe excavations may be laterally supported by walers and cross bracing or may be cantilevered. Drilled excavations for soldier piles will require the use of drilling fluids to prevent caving and to maintain an opened hole for pile installation.

The active earth pressure behind any shoring depends primarily on the allowable movement, type of backfill materials, backfill slopes, wall inclination, surcharges, and any hydrostatic pressures.

The lateral earth pressures to be used in the design of shoring is presented in the following table.

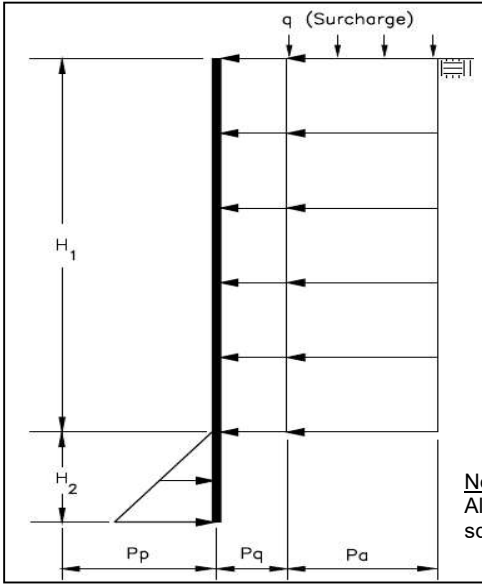
Table No. 10, Lateral Earth Pressures for Temporary Shoring

Lateral Resistance Soil Parameters*	Values
Active Earth Pressure (Braced Shoring) (psf) (A)	29
Active Earth Pressure (Cantilever Shoring) (psf) (B)	48
At-Rest Earth Pressure (Cantilever Shoring) (psf) (C)	70
Passive earth pressure (psf per foot of depth) (D)	220
Maximum allowable bearing pressure against native soils (psf) (E)	2,000
Coefficient of friction between sheet pile and native soils, fs (degree) (F)	0.30

* Parameters A through F are used in Figures No. 3 and 4 below.

Restrained (braced) shoring systems should be designed based on Figure No. 3, *Lateral Earth Pressure for Temporary Braced Excavation* to support a uniform rectangular lateral earth pressure.

Figure No. 3, Lateral Earth Pressures for Temporary Braced Excavation



Total Earth Pressure, P

P = Pq + Pa

Pq = 0.5q - incremental surcharge pressure

Pa = (A)H_1 - active earth pressure (Braced walls)

Lateral Pressure Resistance

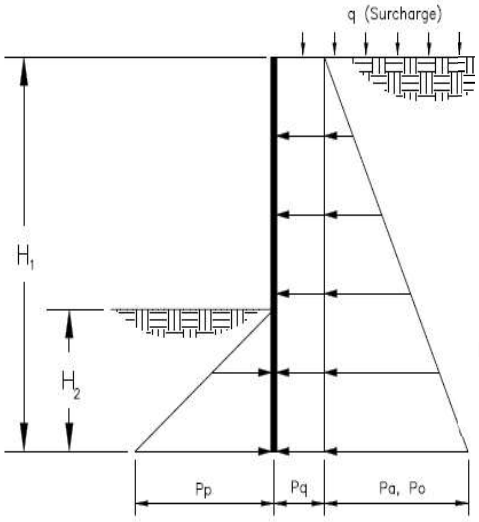
Pp = (D) H_2 ≤ (E) psf - passive earth pressure (on native soils)

μ = (F) - ultimate friction coefficient between steel sheet piles and soil

Note:
All values of height (H) in feet, pressure (P) and surcharge (q) in pounds per square foot (psf).

Unrestrained (cantilever) design of cantilever shoring consisting of soldier piles spaced at least two diameters on-center or sheet piles, can be based on Figure No. 4, *Lateral Earth Pressures on Temporary Cantilever Wall*.

Figure No. 4, Lateral Earth Pressures on Temporary Cantilever Wall



Total Earth Pressure, P

P = Pq + Pa, Po

Pq = 0.5q - incremental surcharge pressure

Pa = (B)H_1 - active earth pressure (Un-restrained)

Po = (C)H_1 - at rest earth pressure (Restrained)

Lateral Pressure Resistance

Pp = (D) H_2 ≤ (E) psf - passive earth pressure (on native soils)

μ = (F) - ultimate friction coefficient between steel sheet piles and soil

Note:
All values of height (H) in feet, pressure (P) and surcharge (q) in pounds per square foot (psf).

The provided pressures assume no hydrostatic pressures. If hydrostatic pressures are allowed to build up, the incremental earth pressures below the ground-water level should be reduced by 50 percent and added to hydrostatic pressure for total lateral pressure.

Passive resistance includes a safety factor of 1.5. The upper 1 foot for passive resistance should be ignored unless the surface is confined by a pavement or slab.

In addition to the lateral earth pressure, surcharge pressures due to miscellaneous loads, such as soil stockpiles, vehicular traffic or construction equipment located adjacent to the shoring, should be included in the design of the shoring. A uniform lateral pressure of 100 psf should be included in the upper 10 feet of the shoring to account for normal vehicular and construction traffic within 10 feet of the trench excavation. As previously mentioned, all shoring should be designed and installed in accordance with state and federal safety regulations.

The contractor should have provisions for soldier pile and sheet pile removal. All voids resulting from removal of shoring should be filled. The method for filling voids should be selected by the contractor, depending on construction conditions, void dimensions and available materials. The acceptable materials, in general, should be non-deleterious, and able to flow into the voids created by shoring removal (e.g. concrete slurry, “pea” gravel, etc).

Excavations should not extend below a 1:1 (horizontal:vertical) plane extending from the bottom of any existing structures, utility lines or streets. Any proposed excavation should not cause loss of bearing and/or lateral supports of the existing utilities or streets.

If the excavation extends below a 1:1 (horizontal:vertical) plane extending from the bottom of the existing structures, utility lines or streets, a maximum of 10 feet of slope face parallel to the existing improvement should be exposed at a time to reduce the potential for instability. Backfill should be accomplished in the shortest period of time and in alternating sections.

12.0 GEOTECHNICAL SERVICES DURING CONSTRUCTION

The project geotechnical consultant should review plans and specifications as the project design progresses. Such review is necessary to identify design elements, assumptions, or new conditions which require revisions or additions to our geotechnical recommendations.

Converse should be present to observe conditions during construction. Testing should be performed to determine density and moisture of the project construction. Geotechnical observation and testing should be performed as needed to verify compliance with project specifications. Additional geotechnical recommendations may be required based on subsurface conditions encountered during construction.

13.0 CLOSURE

This report is prepared for the project described herein and is intended for use solely by Brown and Caldwell and their authorized agents, to assist in the design and construction of the proposed project. Our findings and recommendations were obtained in accordance with generally accepted professional principles practiced in geotechnical engineering. We make no other warranty, either expressed or implied.

Converse Consultants is not responsible or liable for any claims or damages associated with interpretation of available information provided to others. Site exploration identifies actual soil conditions only at those points where samples are taken, when they are taken. Data derived through sampling and laboratory testing is extrapolated by Converse employees who render an opinion about the overall soil conditions. Actual conditions in areas not sampled may differ. In the event that changes to the project occur, or additional, relevant information about the project is brought to our attention, the recommendations contained in this report may not be valid unless these changes and additional relevant information are reviewed and the recommendations of this report are modified or verified in writing. In addition, the recommendations can only be finalized by observing actual subsurface conditions revealed during construction. Converse cannot be held responsible for misinterpretation or changes to our recommendations made by others during construction.

As the project evolves, continued consultation and construction monitoring by a qualified geotechnical consultant should be considered an extension of geotechnical investigation services performed to date. The geotechnical consultant should review plans and specifications to verify that the recommendations presented herein have been appropriately interpreted, and that the design assumptions used in this report are valid. Where significant design changes occur, Converse may be required to augment or modify the recommendations presented herein. Subsurface conditions may differ in some locations from those encountered in the explorations, and may require additional analyses and, possibly, modified recommendations.

Design recommendations given in this report are based on the assumption that the recommendations contained in this report are implemented. Additional consultation may be prudent to interpret Converse's findings for contractors, or to possibly refine these recommendations based upon the review of the actual site conditions encountered during construction. If the scope of the project changes, if project completion is to be delayed, or if the report is to be used for another purpose, this office should be consulted.

14.0 REFERENCES

AMERICAN CONCRETE INSTITUTE (ACI), 2014, Building Code Requirements for Structural Concrete (ACI 318-14) and Commentary, October 2014.

AMERICAN SOCIETY OF CIVIL ENGINEERS (ASCE), 2010, Minimum Design Loads for Buildings and Other Structures, SEI/ASCE Standard No. 7-10, dated January 1, 2010.

BLAKE, T. F., 2000, EQFAULT, and EQSEARCH Computer Programs for Performing Probabilistic, and Seismic Coefficient Analysis and Historical Earthquake Search.

CALIFORNIA BUILDING STANDARDS COMMISSION (CBSC), 2016, California Building Code (CBC).

CALIFORNIA DEPARTMENT OF TRANSPORTATION (Caltrans), 2017, Highway Design Manual, dated November 20, 2017.

CALIFORNIA GEOLOGICAL SURVEY (formerly California Division of Mines and Geology), 2001, Seismic Hazard Zone, Lake Forest 7.5-Minute Quadrangle, Orange County, California, scale 1:24,000, dated January 17, 2001.

CALIFORNIA GEOLOGICAL SURVEY (CGS), 2007, Fault-Rupture Hazard Zones in California, Alquist-Priolo Earthquake Faulting Zoning Act with Index to Earthquake Fault Zone Maps, Special Publication 42, revised 2007.

CALIFORNIA STATE WATER RESOURCES CONTROL BOARD (SWRCB), 2019, GeoTracker database (http://geotracker.waterboards.ca.gov/), accessed on March 2019.

CAO, T., BRYANT, W.A., ROWSHANDEL, B., BRANUM, D., and WILLS, C.J., 2003, The Revised 2002 California Probabilistic Seismic Hazard Maps, dated June, 2003.

DAS, B.M., 2011, Principles of Foundation Engineering, Seventh Edition, published by Global Engineering, 2011.

INFRAGEO SOFTWARE, 2018, SPTLIQ: Simplified Liquefaction Hazards Assessment Using Standard Penetration Test (SPT) Data.

Leighton and Associates, 2000, Proposed Chlorine Disinfection Facilities, Rattlesnake Reservoir and Irvine Lake Sites, City of Irvine, California, dated April 7, 2000.

MORTON, D.M. and MILLER, F.K., 2006, Geologic Map of the San Bernardino and Santa Ana 30' x 60' Quadrangles, California, U.S. Geological Survey Open-File Report 2006-1217, scale 1:100,000.

ORANGE COUNTY, 2015a, Orange County General Plan, Chapter III. Land Use Element, dated October, 2015.

ORANGE COUNTY, 2015b, Orange County General Plan, Chapter IX. Safety Element, dated October, 2015.

PUBLIC WORKS STANDARDS, INC., 2015, Standard Specifications for Public Works Construction ("Greenbook"), 2015.

ROMANOFF, MELVIN, 1957, Underground Corrosion, National Bureau of Standards Circular 579, dated April, 1957.

SEED, H.B. and WHITMAN, R.V., 1970, Design of Earth Retaining Earth Structures for Dynamic Loads, ASCE Specialty Conference – Lateral Stresses in the Ground and Design of Earth Retaining Structures, 103-147.

U.S. GEOLOGICAL SURVEY (USGS), 2019, National Water Information System: Web Interface (http://nwis.waterdata.usga.gov/nwis/gwlevels), accessed on March 2019.

Appendix A

Field Exploration

APPENDIX A

FIELD EXPLORATION

Our field investigation included a site reconnaissance and a subsurface exploration program consisting of drilling soil borings. During the site reconnaissance, the surface conditions were noted, and the approximate borings were marked at locations approved by Madhavan Jayakumar (Brown and Caldwell) using the existing structures and boundary features as reference. The locations should be considered accurate only to the degree implied by the method used.

Two exploratory borings (BH-02 and BH-03) were drilled on March 5, 2019 for the new pump station to investigate subsurface conditions. The borings were drilled to the planned maximum depths of 26.5 and 51.5 feet bgs.

Three exploratory borings (BH-01, BH-04 and BH-05) were drilled on March 5, 2019 along the pipeline to investigate subsurface conditions. The borings were drilled to the planned maximum depth of 21.5 feet bgs.

Based on the discussion with Brown and Caldwell and due to the close proximity of existing underground utilities, a 4-inch diameter hand auger was used to drill up to 10 feet bgs for each boring.

The borings were advanced using a truck-mounted drill rig equipped with 8-inch diameter hollow-stem augers for soils sampling. Encountered materials were continuously logged by a Converse geologist and classified in the field by visual classification in accordance with the Unified Soil Classification System. Where appropriate, the field descriptions and classifications have been modified to reflect laboratory test results.

Relatively undisturbed samples were obtained using California Modified Samplers (2.4 inches inside diameter and 3.0 inches outside diameter) lined with thin sample rings. The steel ring sampler was driven into the bottom of the borehole with successive drops of a 140 pound driving weight falling 30 inches. Blow counts at each sample interval are presented on the boring logs. Samples were retained in brass rings (2.4 inches inside diameter and 1.0 inch in height) and carefully sealed in waterproof plastic containers for shipment to the Converse laboratory. Bulk samples of typical soil types were also obtained.

Standard Penetration Testing (SPT) was performed in accordance with the ASTM Standard D1586 test method at 10-foot intervals beginning at 20 feet bgs in borings extending beyond 20 feet in depth using a standard (1.4 inches inside diameter and 2.0 inches outside diameter) split-barrel sampler. The mechanically driven hammer for the SPT sampler was 140 pounds, falling 30 inches for each blow. The recorded blow counts

for every 6 inches for a total of 1.5 feet of sampler penetration are shown on the Logs of Borings.

The exact depths at which material changes occur cannot always be established accurately. Unless a more precise depth can be established by other means, changes in material conditions that occur between drive samples are indicated on the logs at the top of the next drive sample.

Following the completion of logging and sampling, the borings were backfilled with soil cuttings, tamped and surface patched with cold asphalt concrete. If construction is delayed, the surface may settle over time. We recommend the owner monitor the boring locations and backfill any depressions that might occur, or provide protection around the boring locations to prevent trip and fall injuries from occurring near the area of any potential settlement.

For a key to soil symbols and terminology used in the boring logs, refer to Drawing No. A-1, *Unified Soil Classification and Key to Boring Log Symbols*. For logs of borings, see Drawings No. A-2 through A-6, *Logs of Borings*.

SOIL CLASSIFICATION CHART

MAJOR DIVISIONS			SYMBOLS GRAPH	SYMBOLS LETTER	TYPICAL DESCRIPTIONS
COARSE GRAINED SOILS MORE THAN 50% OF MATERIAL IS LARGER THAN NO. 200 SIEVE SIZE	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	CLEAN GRAVELS (LITTLE OR NO FINES)		GW	WELL-GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES
				GP	POORLY-GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES
		GRAVELS WITH FINES (APPRECIABLE AMOUNT OF FINES)		GM	SILTY GRAVELS, GRAVEL - SAND - SILT MIXTURES
				GC	CLAYEY GRAVELS, GRAVEL - SAND - CLAY MIXTURES
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	CLEAN SANDS (LITTLE OR NO FINES)		SW	WELL-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
				SP	POORLY-GRADED SANDS, GRAVELLY SAND, LITTLE OR NO FINES
		SANDS WITH FINES (APPRECIABLE AMOUNT OF FINES)		SM	SILTY SANDS, SAND - SILT MIXTURES
				SC	CLAYEY SANDS, SAND - CLAY MIXTURES
FINE GRAINED SOILS MORE THAN 50% OF MATERIAL IS SMALLER THAN NO. 200 SIEVE SIZE	SILTS AND CLAYS	LIQUID LIMIT LESS THAN 50		ML	INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS OR CLAYEY SILTS WITH SLIGHT PLASTICITY
				CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
				OL	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY
	SILTS AND CLAYS	LIQUID LIMIT GREATER THAN 50		MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SAND OR SILTY SOILS
				CH	INORGANIC CLAYS OF HIGH PLASTICITY
				OH	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS
HIGHLY ORGANIC SOILS				PT	PEAT, HUMUS, SWAMP SOILS WITH HIGH ORGANIC CONTENTS

NOTE: DUAL SYMBOLS ARE USED TO INDICATE BORDERLINE SOIL CLASSIFICATIONS

BORING LOG SYMBOLS

SAMPLE TYPE

STANDARD PENETRATION TEST
Split barrel sampler in accordance with ASTM D-1586-84 Standard Test Method

DRIVE SAMPLE 2.42" I.D. sampler (CMS).

DRIVE SAMPLE No recovery

BULK SAMPLE

GROUNDWATER WHILE DRILLING

GROUNDWATER AFTER DRILLING

LABORATORY TESTING ABBREVIATIONS			
TEST TYPE		STRENGTH	
(Results shown in Appendix B)		Pocket Penetrometer	p
		Direct Shear	ds
		Direct Shear (single point)	ds*
CLASSIFICATION		Unconfined Compression	uc
Plasticity	pi	Triaxial Compression	tx
Grain Size Analysis	ma	Vane Shear	vs
Passing No. 200 Sieve	wa	Consolidation	c
Sand Equivalent	se	Collapse Test	col
Expansion Index	ei	Resistance (R) Value	r
Compaction Curve	max	Chemical Analysis	ca
Hydrometer	h	Electrical Resistivity	er
Disturb	Dist.	Permeability	perm
		Soil Cement	sc

Apparant Density	Very Loose	Loose	Medium	Dense	Very Dense
SPT (N)	< 4	4 - 11	11 - 30	31 - 50	> 50
CA Sampler	< 5	5 - 12	13 - 35	36 - 60	> 60
Relative Density (%)	< 20	20 - 40	40 - 60	60 - 80	> 80

Consistency	Very Soft	Soft	Medium	Stiff	Very Stiff	Hard
SPT (N)	< 2	2-4	5-8	9-15	16-30	> 30
CA Sampler	< 3	3-6	7-12	13-25	26-50	> 50

UNIFIED SOIL CLASSIFICATION AND KEY TO BORING LOG SYMBOLS

Converse Consultants

Zone A to Rattlesnake Reservoir Pump Station
4769 Portola Parkway
City of Irvine, Orange County, California
For: Brown and Caldwell

Project No.
18-32-144-01

Drawing No.
A-1

Project ID: 18-32-144-01.GPJ; Template: KEY

Log of Boring No. BH-01

Dates Drilled: 3/5/2019 Logged by: Michael Maldonado Checked By: James Burnham

Equipment: 8" HOLLOW STEM AUGER Driving Weight and Drop: 140 lbs / 30 in

Ground Surface Elevation (ft): 315 Depth to Water (ft): NOT ENCOUNTERED

Depth (ft)	Graphic Log	SUMMARY OF SUBSURFACE CONDITIONS This log is part of the report prepared by Converse for this project and should be read together with the report. This summary applies only at the location of the boring and at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented is a simplification of actual conditions encountered.	SAMPLES DRIVE	SAMPLES BULK	BLOWS	MOISTURE	DRY UNIT WT. (pcf)	OTHER
		4" ASPHALT CONCRETE / 5" AGGREGATE BASE						
		ALLUVIUM **SANDY SILT TO SANDY CLAY (ML-CL):** fine to coarse-grained sand, dark brown.						Hand auger to 10 feet bgs.
5								
10					5/10/15	17	109	
15					14/16/26	22	96	
20					6/8/12	15	115	
		End of boring at 21.5 feet bgs. No groundwater encountered. Borehole backfilled with soil cuttings, tamped and surface patched with cold asphalt concrete on 3/5/19.						

Converse Consultants

Zone A to Rattlesnake Reservoir Pump Station
4769 Portola Parkway
City of Irvine, Orange County, California
For: Brown and Caldwell

Project No. 18-32-144-01

Drawing No. A-2

Log of Boring No. BH-02

Dates Drilled: 3/5/2019 Logged by: Michael Maldonado Checked By: James Burnham

Equipment: 8" HOLLOW STEM AUGER Driving Weight and Drop: 140 lbs / 30 in

Ground Surface Elevation (ft): 320 Depth to Water (ft): 34

Depth (ft)	Graphic Log	SUMMARY OF SUBSURFACE CONDITIONS This log is part of the report prepared by Converse for this project and should be read together with the report. This summary applies only at the location of the boring and at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented is a simplification of actual conditions encountered.	SAMPLES DRIVE	SAMPLES BULK	BLOWS	MOISTURE	DRY UNIT WT. (pcf)	OTHER
		4" ASPHALT CONCRETE / 7" AGGREGATE BASE						
		ARTIFICIAL FILL **SANDY SILT TO SANDY CLAY (ML-CL):** fine to medium-grained sand, dark brown.						Hand auger to 10 feet bgs.
5		**SILTY SAND (SM):** fine to coarse-grained, scattered gravel up to 1" in largest dimension, brown.						
10			■		7/7/9	5	106	
15		? ? ? **ALLUVIUM** **CLAYEY SAND (SC):** fine to medium-grained, few gravle up to 1" in largest dimension, yellowish brown.	■		4/5/6	14	96	ds ei, ca, er, ma
20		**SILTY SAND (SM):** fine to coarse-grained, trace clay, brown.	☒		5/6/8			
25			■		8/12/8	7	129	
30			☒		8/7/5			

Converse Consultants

Zone A to Rattlesnake Reservoir Pump Station
4769 Portola Parkway
City of Irvine, Orange County, California
For: Brown and Caldwell

Project No. 18-32-144-01

Drawing No. A-3a

Log of Boring No. BH-02

Dates Drilled: 3/5/2019 Logged by: Michael Maldonado Checked By: James Burnham

Equipment: 8" HOLLOW STEM AUGER Driving Weight and Drop: 140 lbs / 30 in

Ground Surface Elevation (ft): 320 Depth to Water (ft): 34

Depth (ft)	Graphic Log	SUMMARY OF SUBSURFACE CONDITIONS This log is part of the report prepared by Converse for this project and should be read together with the report. This summary applies only at the location of the boring and at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented is a simplification of actual conditions encountered.	SAMPLES DRIVE	SAMPLES BULK	BLOWS	MOISTURE	DRY UNIT WT. (pcf)	OTHER
		ALLUVIUM **SILTY SAND (SM):** fine to coarse-grained, trace clay, brown.	■		14/15/18	17	112	
40			☒		12/24/24			
45			■		7/6/5	17	111	
50			☒		3/5/8			
		End of boring at 51.5 feet bgs. No groundwater encountered. Borehole backfilled with soil cuttings, tamped and surface patched with cold asphalt concrete on 3/5/19.						

Converse Consultants

Zone A to Rattlesnake Reservoir Pump Station
4769 Portola Parkway
City of Irvine, Orange County, California
For: Brown and Caldwell

Project No. 18-32-144-01

Drawing No. A-3b

Log of Boring No. BH-03

Dates Drilled: 3/5/2019 Logged by: Michael Maldonado Checked By: James Burnham

Equipment: 8" HOLLOW STEM AUGER Driving Weight and Drop: 140 lbs / 30 in

Ground Surface Elevation (ft): 319 Depth to Water (ft): NOT ENCOUNTERED

Depth (ft)	Graphic Log	SUMMARY OF SUBSURFACE CONDITIONS This log is part of the report prepared by Converse for this project and should be read together with the report. This summary applies only at the location of the boring and at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented is a simplification of actual conditions encountered.	SAMPLES DRIVE	SAMPLES BULK	BLOWS	MOISTURE	DRY UNIT WT. (pcf)	OTHER
		5" ASPHALT CONCRETE / 8" AGGREGATE BASE						
		ARTIFICIAL FILL **SILTY SAND (SM):** fine to coarse-grained, scattered gravel up to 1" in largest dimension, dark brown.						Hand auger to 10 feet bgs. ei, ca, er,ma
5		- brown						
10		- some gravel up to 2.5" in largest dimension	■		13/17/22	4	109	ds max
15		**ALLUVIUM** **SILTY SAND (SM):** fine to coarse-grained, brown.	■		7/17/30	3	103	
20			☒		4/5/5			
25			■		22/28/26	3	101	
		End of boring at 26.5 feet bgs. No groundwater encountered. Borehole backfilled with soil cuttings, tamped and surface patched with cold asphalt concrete on 3/5/2019.						

Converse Consultants

Zone A to Rattlesnake Reservoir Pump Station
4769 Portola Parkway
City of Irvine, Orange County, California
For: Brown and Caldwell

Project No. 18-32-144-01

Drawing No. A-4

Log of Boring No. BH-04

Dates Drilled: 3/5/2019 Logged by: Michael Maldonado Checked By: James Burnham

Equipment: 8" HOLLOW STEM AUGER Driving Weight and Drop: 140 lbs / 30 in

Ground Surface Elevation (ft): 320 Depth to Water (ft): NOT ENCOUNTERED

Depth (ft)	Graphic Log	SUMMARY OF SUBSURFACE CONDITIONS This log is part of the report prepared by Converse for this project and should be read together with the report. This summary applies only at the location of the boring and at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented is a simplification of actual conditions encountered.	SAMPLES DRIVE	SAMPLES BULK	BLOWS	MOISTURE	DRY UNIT WT. (pcf)	OTHER
		4" ASPHALT CONCRETE/9" AGGREGATE BASE						
		ARTIFICIAL FILL **SILTY SAND (SM):** fine to coarse-grained, few gravel up to 2.5" in largest dimension, brown.						Hand auger to 10 feet bgs.
5		? ? ? **ALLUVIUM** **SANDY SILT (ML):** fine to medium-grained sand, reddish-brown.						ei, ma, max
10					10/13/14	9	110	ds
15					8/10/13	15	100	
20					10/10/14	13	104	
		End of boring at 21.5 feet bgs. No groundwater encountered. Borehole backfilled with soil cuttings, tamped and surface patched with cold asphalt concrete on 3/5/2019.						

Converse Consultants

Zone A to Rattlesnake Reservoir Pump Station
4769 Portola Parkway
City of Irvine, Orange County, California
For: Brown and Caldwell

Project No. 18-32-144-01

Drawing No. A-5

Log of Boring No. BH-05

Dates Drilled: 3/5/2019 Logged by: Michael Maldonado Checked By: James Burnham

Equipment: 8" HOLLOW STEM AUGER Driving Weight and Drop: 140 lbs / 30 in

Ground Surface Elevation (ft): 324 Depth to Water (ft): NOT ENCOUNTERED

Depth (ft)	Graphic Log	SUMMARY OF SUBSURFACE CONDITIONS This log is part of the report prepared by Converse for this project and should be read together with the report. This summary applies only at the location of the boring and at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented is a simplification of actual conditions encountered.	SAMPLES DRIVE	SAMPLES BULK	BLOWS	MOISTURE	DRY UNIT WT. (pcf)	OTHER
		4" ASPHALT CONCRETE/5" AGGREGATE BASE						
		ARTIFICIAL FILL **CLAYEY SAND (SC):** fine to coarse-grained, scattered gravel up to 1" in largest dimension, brown.						Hand auger to 10 feet bgs.
5		? ? ? **ALLUVIUM** **SANDY SILT to SANDY CLAY (ML-CL):** fine to medium-grained sand, brown.						ca, er
10		**SILTY SAND (SM):** fine to coarse-grained, brown.			6/12/16	7	98	
15					10/11/18	3	99	
20					7/12/18	6	105	
		End of boring at 21.5 feet bgs. No groundwater encountered. Borehole backfilled with soil cuttings, tamped and surface patched with cold asphalt concrete on 3/21/2019.						

Converse Consultants

Zone A to Rattlesnake Reservoir Pump Station
4769 Portola Parkway
City of Irvine, Orange County, California
For: Brown and Caldwell

Project No. 18-32-144-01

Drawing No. A-6

Appendix B

Laboratory Testing Program

APPENDIX B

LABORATORY TESTING PROGRAM

Tests were conducted in our laboratory on representative soil samples for the purpose of classification and evaluation of their physical properties and engineering characteristics. The amount and selection of tests were based on the geotechnical parameters required for this project. Test results are presented herein and on the Logs of Borings, in Appendix A, *Field Exploration*. The following is a summary of the various laboratory tests conducted for this project.

***In-Situ* Moisture Content and Dry Density**

In-situ dry density and moisture content tests were performed on relatively undisturbed ring samples, in accordance to ASTM Standard D2216 and ASTM Standard D7263 to aid soils classification and to provide qualitative information on strength and compressibility characteristics of the site soils. For test results, see the Logs of Borings in Appendix A, Field Exploration.

Expansion Index

Three representative bulk samples were tested to evaluate the expansion potential. The tests were conducted in accordance with ASTM Standard D4829. The test results are presented in the following table.

Table No. B-1, Expansion Index Test Results

Boring No.	Depth (feet)	Soil Description	Expansion Index	Expansion Potential
BH-02	15-20	Clayey Sand (SC)	33	Low
BH-03	1-5	Silty Sand (SM)	3	Very Low
BH-04	5-10	Sandy Silt (ML)	54	Medium

Soil Corrosivity Tests

Three representative soil samples were tested to determine minimum electrical resistivity, pH, and chemical content, including soluble sulfate and chloride concentrations. The purpose of the tests were to determine the corrosion potential of site soils when placed in contact with common construction materials. The tests were performed by AP Engineering and Testing, Inc. (Pomona, CA) in accordance to California Tests 643, 422 and 417. Test results are presented in the following table.

Table No. B-2, Summary of Soil Corrosivity Test Results

Boring No.	Depth (feet)	pH	Soluble Sulfates (CA 417) (% by weight)	Soluble Chlorides (CA 422) (ppm)	Min. Resistivity (CA 643) (Ohm-cm)
BH-02	15-20	8.5	0.0057	37	2,030
BH-03	1-5	9.6	0.0042	35	5,267
BH-05	5-10	8.1	0.0408	175	824

Grain-Size Analyses

To assist in classification of soils, mechanical grain-size analyses were performed on three select samples in accordance with the ASTM Standard D6913 test method. Grain-size curves are shown in Drawing No. B-1, *Grain Size Distribution Results*.

Maximum Density and Optimum Moisture Content Tests

Laboratory maximum dry density-optimum moisture content relationship tests were performed on two representative bulk samples. The tests were conducted in accordance with the ASTM Standard D1557 test method. The test result is presented in Drawing No. B-2, *Moisture-Density Relationship Result,* and are summarized in the following table.

Table No B-3, Summary of Moisture-Density Relationship Result

Boring No.	Depth (feet)	Soil Description	Optimum Moisture (%)	Maximum Density (lb/cft)
BH-03	10-15	Silty Sand (SP), Brown	8.5 (6.9*)	127.5 (133.0*)
BH-04	5-10	Sandy Silt (ML), Reddish Brown	11.0	123.0

(*Rock correction = 17.41%))

Direct Shear Tests

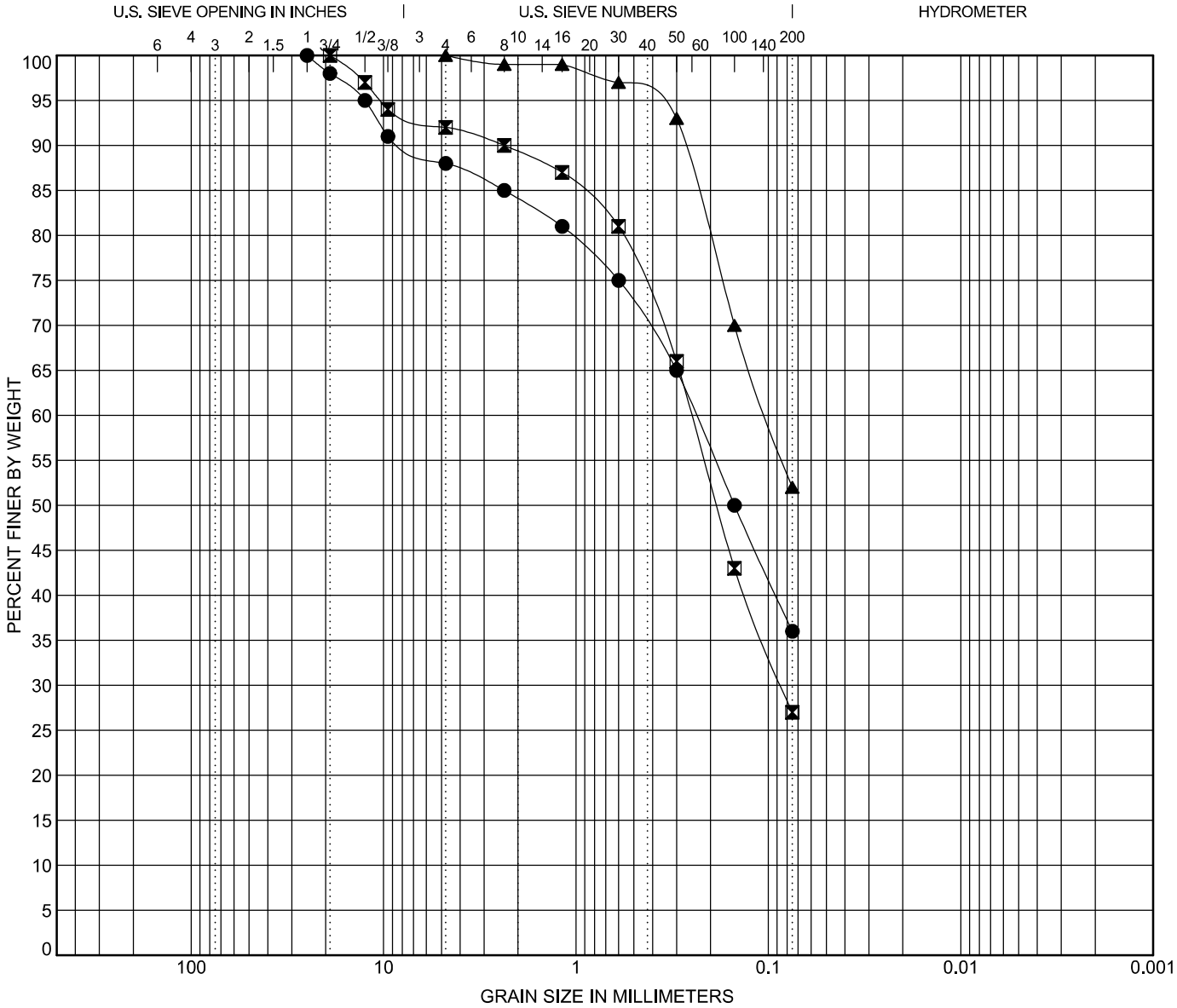
Three direct shear tests were performed on representative samples under soaked moisture condition in accordance with ASTM D3080. For each test, three samples contained in brass sampler rings were placed, one at a time, directly into the test apparatus and subjected to a range of normal loads appropriate for the anticipated conditions. The samples were then sheared at a constant strain rate of 0.004 to 0.02 inch/minute (depending on soil type) . Shear deformation was recorded until a maximum of about 0.25-inch shear displacement was achieved. Ultimate strength was selected from the shear-stress deformation data and plotted to determine the shear strength parameters. For test data, including sample density and moisture content, see Drawings No. B-3 through B-5*, Direct Shear Test Results,* and the following table.

Table No. B-4, Summary of Direct Shear Test Results

Boring No.	Depth (feet)	Soil Description	Peak Strength Parameters	
			Friction Angle (degrees)	Cohesion (psf)
BH-02	15.0-16.5	Clayey Sand (SC)	29	70
BH-03	10.0-11.5	Silty Sand (SM)	33	50
BH-04	10.0-11.5	Sandy Silt (ML)	27	90

Sample Storage

Soil samples presently stored in our laboratory will be discarded 30 days after the date of this report, unless this office receives a specific request to retain the samples for a longer period.



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	Boring No.	Depth (ft)	Description	LL	PL	PI	Cc	Cu
●	**BH-02**	**15-20**	**CLAYEY SAND (SC)**					
⊠	**BH-03**	**1-5**	**SILTY SAND (SM)**					
▲	**BH-04**	**5-10**	**SANDY SILT (ML)**					

	Boring No.	Depth (ft)	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	**BH-02**	**15-20**	**25**	**0.238**			**12.0**	**52.0**	**36.0**	
⊠	**BH-03**	**1-5**	**19**	**0.25**	**0.085**		**8.0**	**65.0**	**27.0**	
▲	**BH-04**	**5-10**	**4.75**	**0.102**			**0.0**	**48.0**	**52.0**	

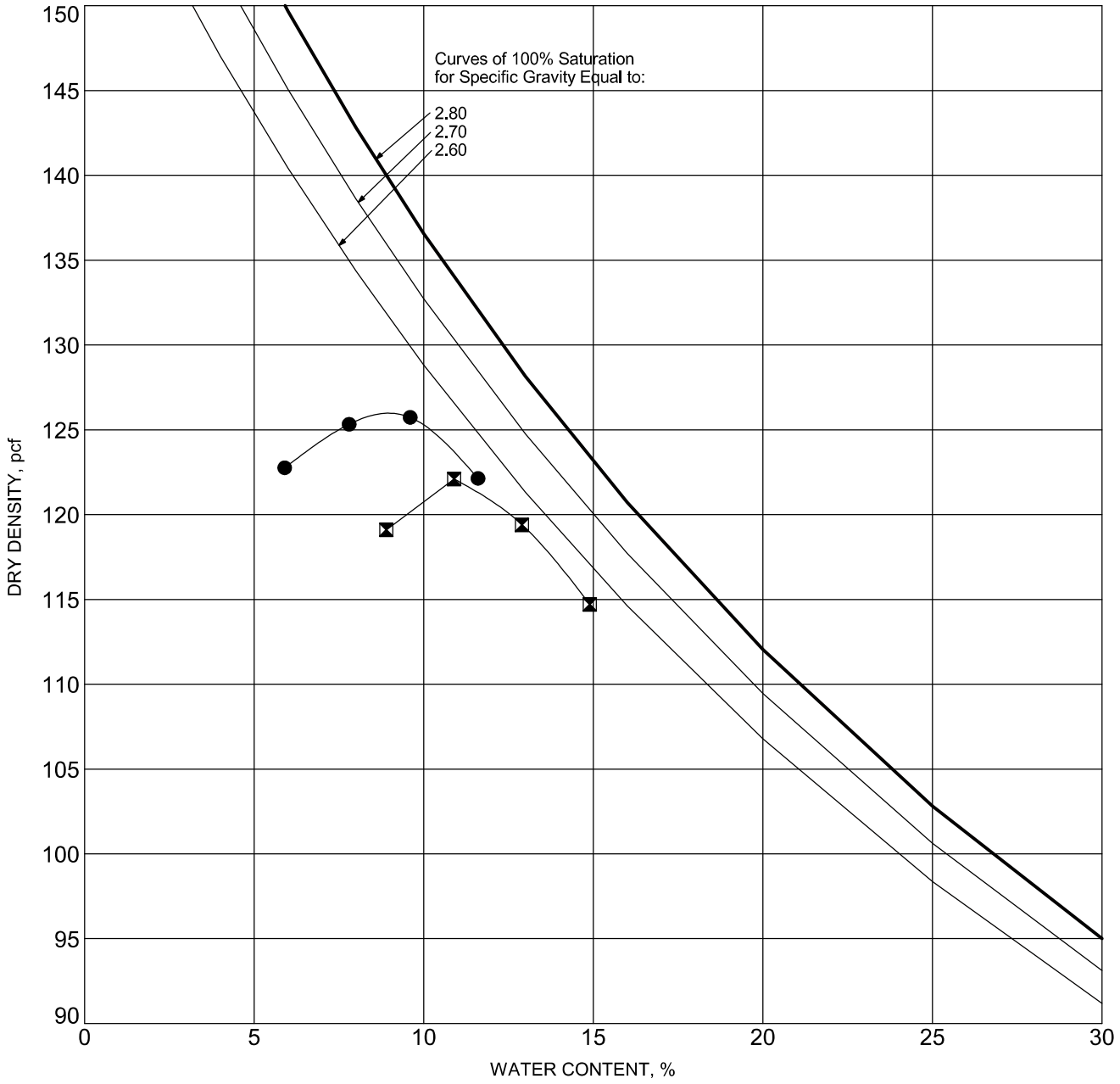
GRAIN SIZE DISTRIBUTION RESULTS

Converse Consultants

Zone A to Rattlesnake Reservoir Pump Station
4769 Portola Parkway
City of Irvine, Orange County, California
For: Brown and Caldwell

Project No. **18-32-144-01**

Drawing No. **B-1**



SYMBOL	BORING NO.	DEPTH (ft)	DESCRIPTION	ASTM TEST METHOD	OPTIMUM WATER, %	MAXIMUM DRY DENSITY, pcf
●	**BH-03**	**10-15**	**SILTY SAND (SM), BROWN**	**D1557-A**	**8.5 (6.9*)**	**127.5 (133.0*)**
⊠	**BH-04**	**5-10**	**SANDY SILT (ML), REDDISH BROWN**	**D1557-A**	**11.0**	**123.0**

(*Rock correction = 17.41%)

MOISTURE-DENSITY RELATIONSHIP RESULTS

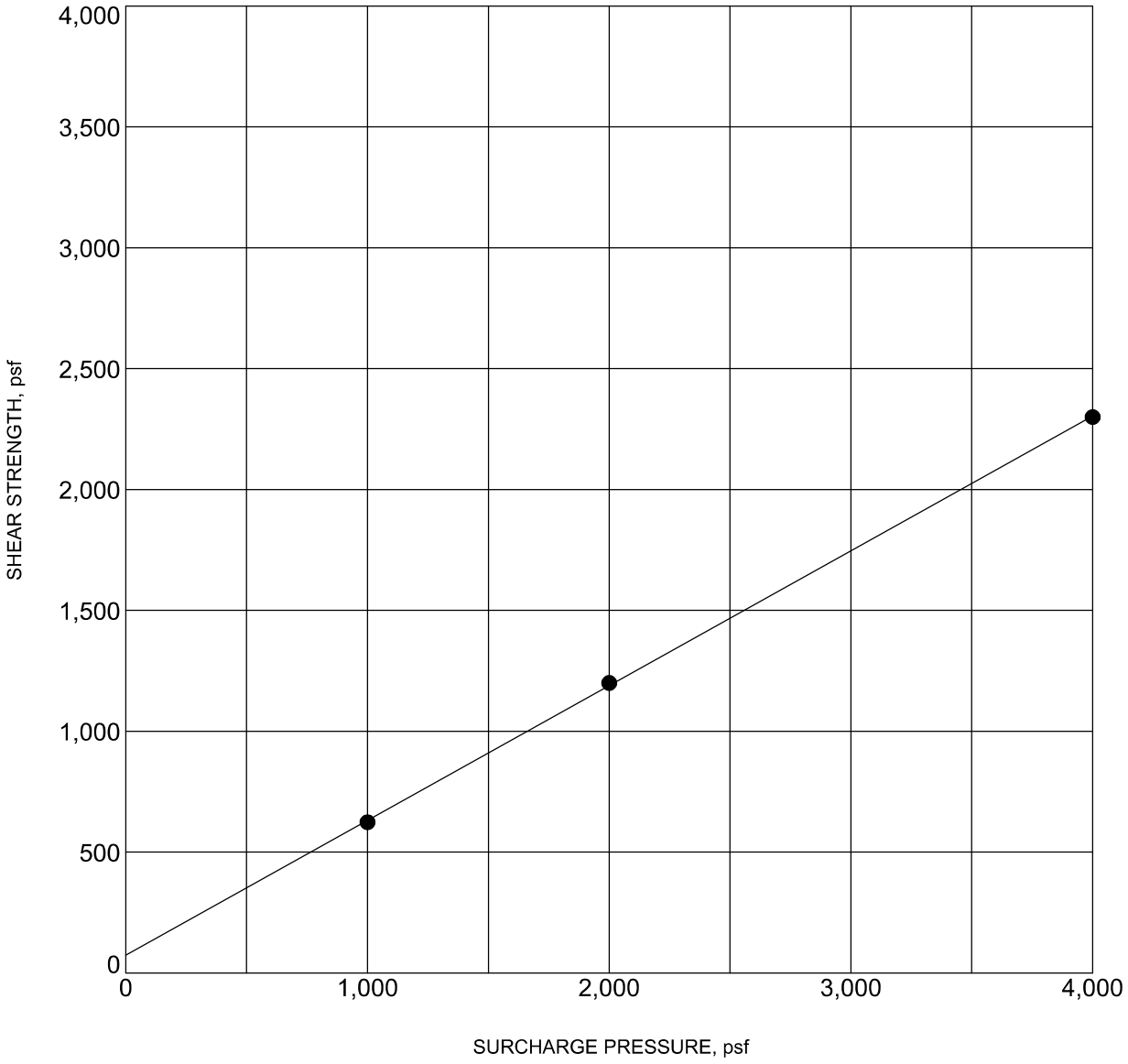
Converse Consultants

Zone A to Rattlesnake Reservoir Pump Station
4769 Portola Parkway
City of Irvine, Orange County, California
For: Brown and Caldwell

Project No.
18-32-144-01

Drawing No.
B-2

Project ID: 18-32-144-01.GPJ; Template: COMPACTION



BORING NO. :	**BH-02**	DEPTH (ft) :	**15.0-16.5**
DESCRIPTION :	**CLAYEY SAND (SM)**		
COHESION (psf) :	**70**	FRICTION ANGLE (degrees):	**29**
MOISTURE CONTENT (%) :	**14.0**	DRY DENSITY (pcf) :	**109.1**

NOTE: Ultimate Strength.

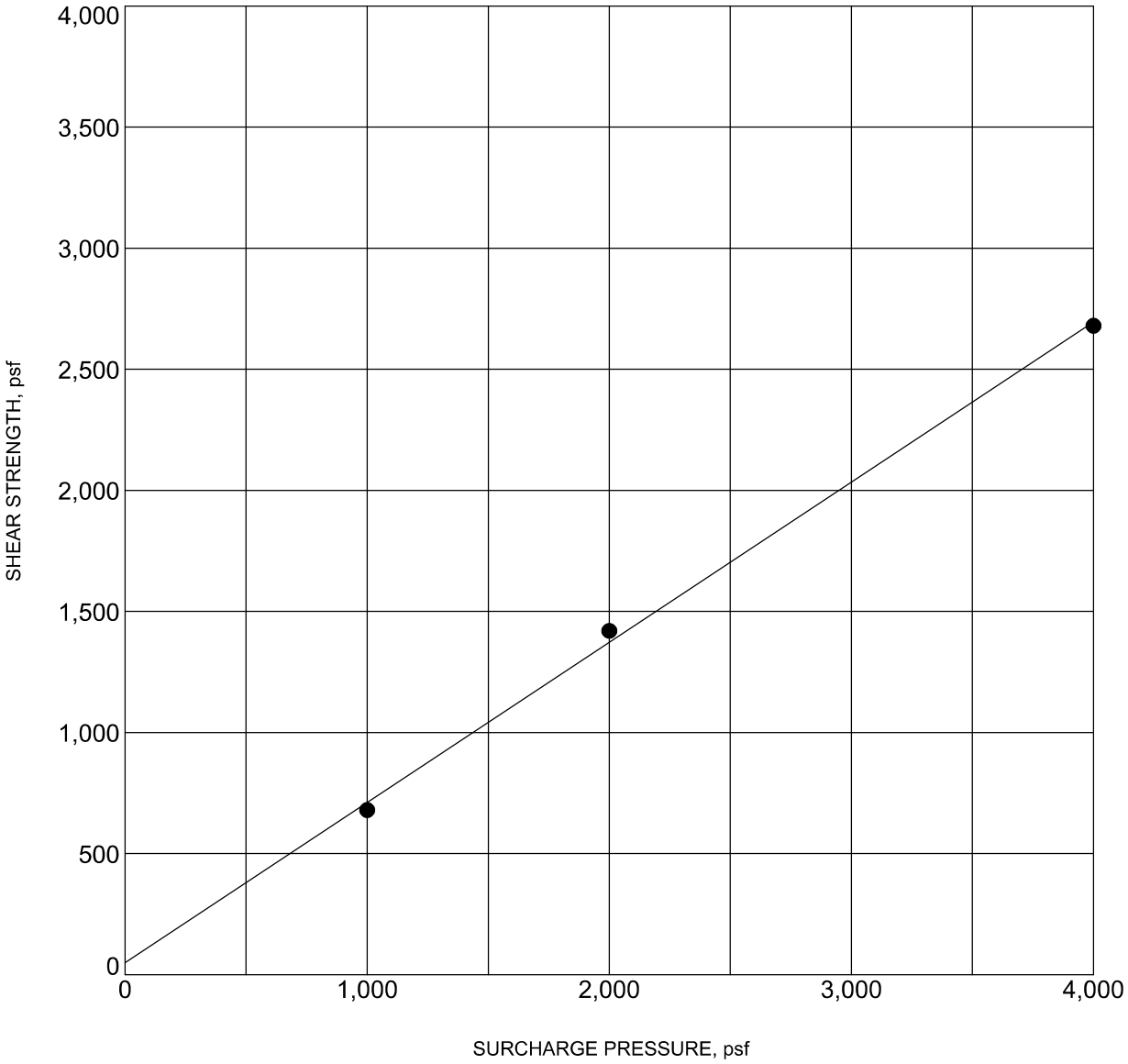
DIRECT SHEAR TEST RESULTS

Converse Consultants

Zone A to Rattlesnake Reservoir Pump Station
4769 Portola Parkway
City of Irvine, Orange County, California
For: Brown and Caldwell

Project No. **18-32-144-01**

Drawing No. **B-3**



BORING NO. :	**BH-03**	DEPTH (ft) :	**10.0-11.5**
DESCRIPTION :	**SILTY SAND (SM)**		
COHESION (psf) :	**50**	FRICTION ANGLE (degrees):	**33**
MOISTURE CONTENT (%) :	**4.0**	DRY DENSITY (pcf) :	**113.5**

NOTE: Ultimate Strength.

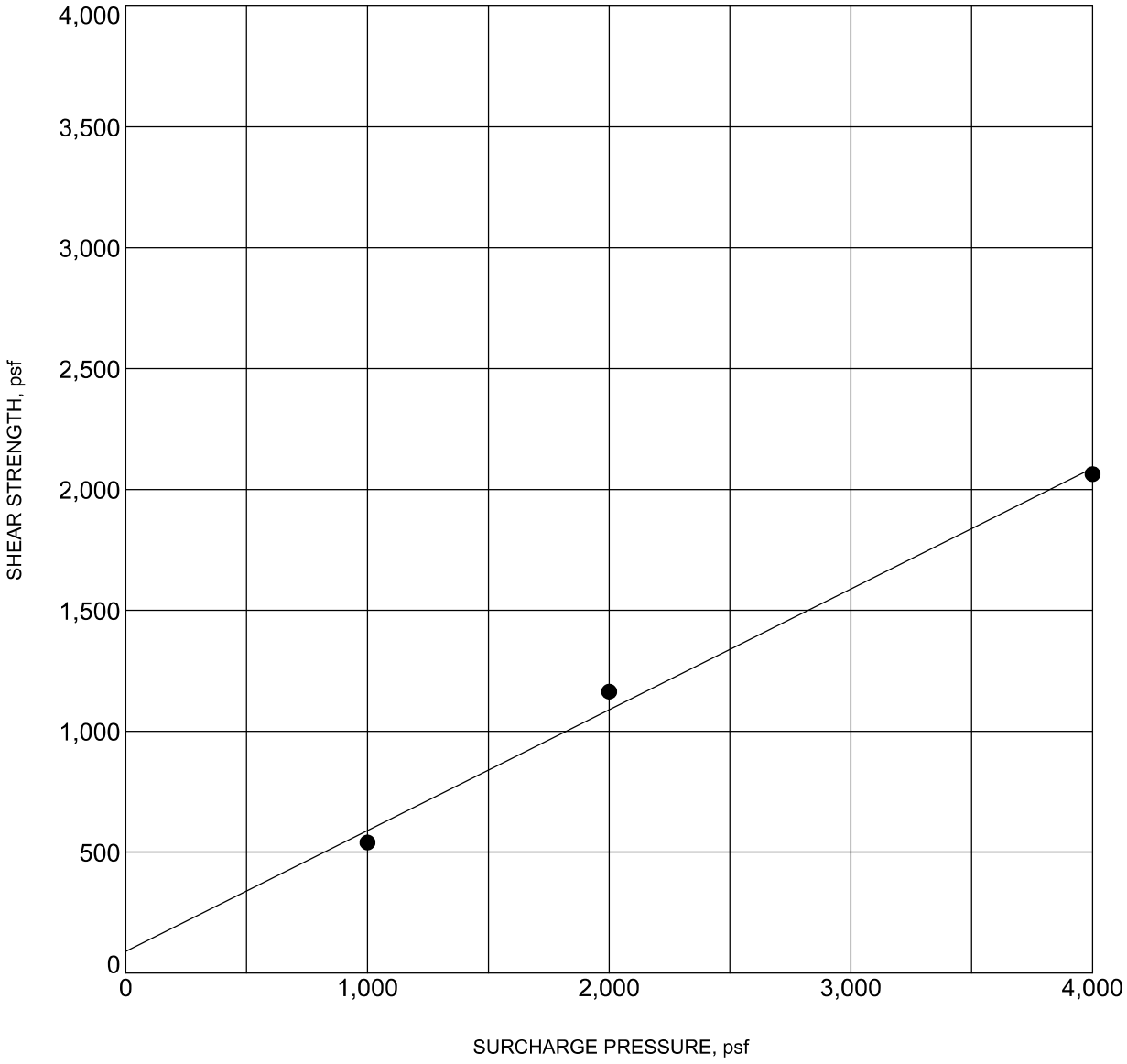
DIRECT SHEAR TEST RESULTS

Converse Consultants

Zone A to Rattlesnake Reservoir Pump Station
4769 Portola Parkway
City of Irvine, Orange County, California
For: Brown and Caldwell

Project No. **18-32-144-01**

Drawing No. **B-4**



BORING NO. :	**BH-04**	DEPTH (ft) :	**10.0-11.5**
DESCRIPTION :	**SANDY SILT (ML)**		
COHESION (psf) :	**90**	FRICTION ANGLE (degrees):	**27**
MOISTURE CONTENT (%) :	**8.6**	DRY DENSITY (pcf) :	**109.6**

NOTE: Ultimate Strength.

DIRECT SHEAR TEST RESULTS

Converse Consultants

Zone A to Rattlesnake Reservoir Pump Station
4769 Portola Parkway
City of Irvine, Orange County, California
For: Brown and Caldwell

Project No. **18-32-144-01**

Drawing No. **B-5**

Appendix C

Liquefaction and Seisimc Settlement Analysis

APPENDIX C

LIQUEFACTION AND SEISMIC SETTLEMENT ANALYSIS

The subsurface data obtained from the boring BH-02 during the current field investigation was used to evaluate the liquefaction and dry seismic settlement due to potential densification of relatively loose sediments subjected to ground shaking during earthquakes.

The analysis was performed using the program SPTLIQ (InfraGEO Software, 2018). A modal earthquake magnitude of M6.7 was selected based on the results of seismic deaggregation analysis using the USGS interactive online tool. (https://earthquake.usgs.gov/hazards/interactive/).

A peak ground acceleration (PGA_M) of 0.543g for the MCE design event, where g is the acceleration due to gravity, was selected for this analysis. The PGA was based on the CBC seismic design parameters presented in Section 7.2, *CBC Seismic Design Parameters*.

The result of our analysis is presented on Plate C-1 and summarized in the following table.

Table C-1, Estimated Dynamic Settlement

Location	Groundwater Conditions (feet bgs)	Liquefaction (inches)	Dry Seismic Settlement (inches)
BH-02	34 (current)	1.96	0.71

Based on our analysis, the site has the potential for up to 2.0 inches of liquefaction induced settlement and up to 0.75 inches of dry seismic settlement.

The soil profile for boring BH-02 and BH-03 is relatively uniform; therefore, we anticipate the total settlement will be uniform. We recommend that the planned structure be designed in anticipation of dynamic differential settlement of 0.5 inch over a horizontal distance of 40 feet.

SIMPLIFIED LIQUEFACTION HAZARDS ASSESSMENT USING STANDARD PENETRATION TEST (SPT) DATA

(Copyright © 2015, 2018, SPTLIQ, All Rights Reserved; By: InfraGEO Software)

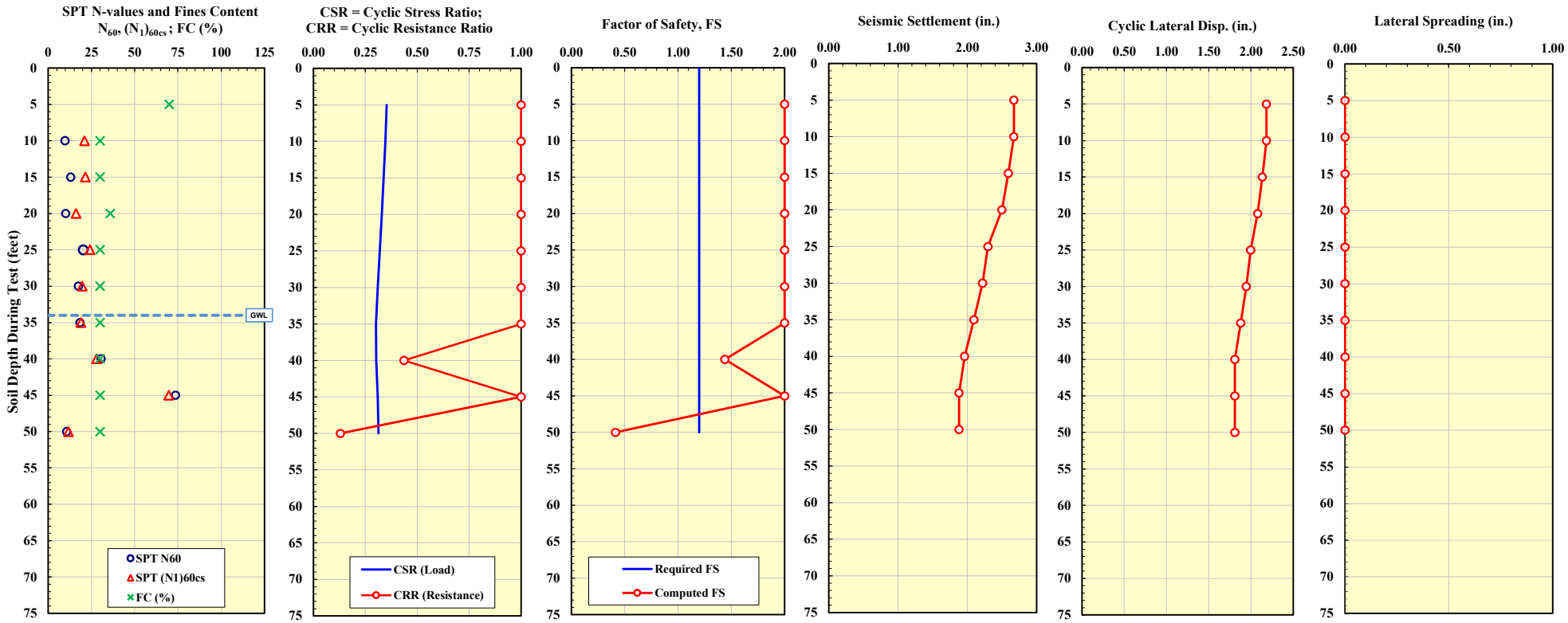
PROJECT INFORMATION	
Project Name	Zone A to Rattlesnake Reservoir Pump Station
Project No.	18-32-144-01
Project Location	City of Irvine
Analyzed By	Zahangir Alam
Reviewed By	

TOPOGRAPHIC CONDITIONS	
Ground Slope, S	0.00 %
Free Face (L/H) Ratio	N/A H = 15 feet

GROUNDWATER LEVEL DATA	
GWL Depth Measured During Test	34.00 feet
GWL Depth Used in Design	34.00 feet

BORING DATA	
Boring No.	BH-02
Ground Surface Elevation	320.00 feet
Proposed Grade Elevation	320.00 feet
Borehole Diameter	8.00 inches
Hammer Weight	140.00 pounds
Hammer Drop	30.00 inches
Hammer Energy Efficiency Ratio, ER	80.00 %
Hammer Distance to Ground Surface	5.00 feet

SEISMIC DESIGN PARAMETERS	
Earthquake Moment Magnitude, M_w	6.70
Peak Ground Acceleration, A_{max}	0.54 g
Required Factor of Safety, FS	1.20



Analysis Methods Used ==>>

Liquefaction Triggering:
Boulanger-Idriss (2014)

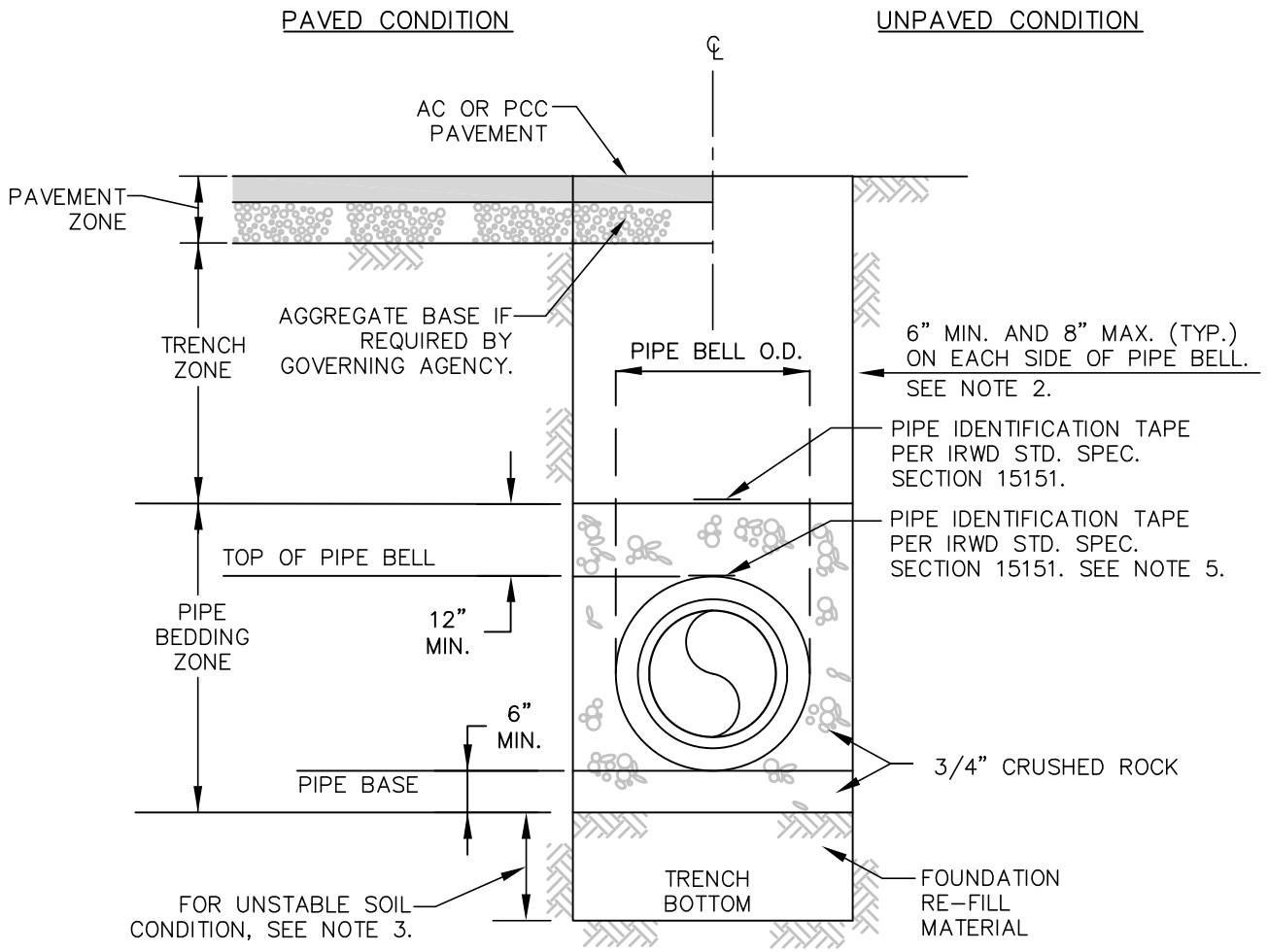
Seismic Settlements:
Above GWL: Pradel (1998)
Below GWL: Ishihara and Yoshimine (1992)

Cyclic Lateral Displacements:
Above GWL: Pradel (1998)
Below GWL: Tokimatsu and Asaka (1998)

Lateral Spreading:
Zhang et al. (2004)

Appendix D

Pipine Bedding and Trench Backfill



NOTES:

1. ALL WORK SHALL BE IN ACCORDANCE WITH IRWD STD. SPEC. SECTION 02223.
2. WHERE CONTRACTOR FAILS TO MAINTAIN PROPER TRENCH WIDTH LIMITS, SPECIAL BACKFILL (SUCH AS ONE-SACK SLURRY) AND BEDDING SHALL BE REQUIRED AS DETERMINED IN THE FIELD BY THE DISTRICT REPRESENTATIVE.
3. IF UNSTABLE SOIL IS ENCOUNTERED, THE DISTRICT REPRESENTATIVE SHALL DETERMINE OVEREXCAVATION DEPTH AND FOUNDATION RE-FILL MATERIAL PER IRWD STD. SPEC. SECTION 02223.
4. CONTRACTOR SHALL PROVIDE HAND EXCAVATED "BELL HOLE" FOR EACH PIPE JOINT SO THAT THE WEIGHT OF PIPE DOES NOT BEAR ON THE BELL. CONTRACTOR SHALL RE-FILL AND HAND-TAMP EACH "BELL HOLE" PRIOR TO COMPLETING THE PLACEMENT OF PIPE BEDDING.
5. PIPE IDENTIFICATION TAPE (LABELED SEWER) SHALL BE INSTALLED PER IRWD STD. SPEC. SECTION 15151. TAPE SHALL BE FASTENED TO THE PIPE WITH 2" WIDE 10 MIL PIPE WRAP TAPE AT 5' INTERVALS. PIPE WRAP TAPE SHALL BE WRAPPED AROUND THE ENTIRE CIRCUMFERENCE OF THE PIPE.
6. THE MIN. DEPTH OF COVER FROM FINISH GRADE TO THE TOP OF THE SEWER MAIN SHALL BE 7' UNLESS OTHERWISE APPROVED BY THE DISTRICT.

SEWER TRENCH

IRVINE RANCH WATER DISTRICT, ENGINEERING DEPARTMENT

APPROVED BY:

KEVIN L. BURTON R.M.E. M28832
EXECUTIVE DIRECTOR, ENGINEERING AND WATER QUALITY

JANUARY 2019
REVISION

Irvine Ranch WATER DISTRICT

IRWD STD. DWG. S-6

SHEET 1 OF 1

Appendix D

EDR Hazardous Materials Database Reports

Rattlesnake Reservoir
4769 Portola Parkway
Irvine, CA 92620

Inquiry Number: 5688367.2s
June 19, 2019

The EDR Radius Map™ Report with GeoCheck®

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

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GEOCHECK ADDENDUM

Physical Setting Source Addendum	A-1
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Physical Setting SSURGO Soil Map	A-5
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Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-13), the ASTM Standard Practice for Environmental Site Assessments for Forestland or Rural Property (E 2247-16), the ASTM Standard Practice for Limited Environmental Due Diligence: Transaction Screen Process (E 1528-14) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

4769 PORTOLA PARKWAY
IRVINE, CA 92620

COORDINATES

Latitude (North):	33.7273690 - 33˚ 43' 38.52''
Longitude (West):	117.7457050 - 117˚ 44' 44.53''
Universal Tranverse Mercator:	Zone 11
UTM X (Meters):	430914.2
UTM Y (Meters):	3731984.0
Elevation:	327 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map:	5636489 EL TORO, CA
Version Date:	2012
Southwest Map:	5640942 TUSTIN, CA
Version Date:	2012

AERIAL PHOTOGRAPHY IN THIS REPORT

Portions of Photo from:	20140515
Source:	USDA

MAPPED SITES SUMMARY

Target Property Address:
4769 PORTOLA PARKWAY
IRVINE, CA 92620

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.) DIRECTION
A1	RATTLE SNAKE RESERVO	4769 PORTOLA PARKWAY	FINDS, ECHO		TP
A2	IRVINE RANCH WATER D	4769 PORTOLA PKWY	HAZNET		TP
A3	RATTLESNAKE RESERVOI	4769 PORTOLA PARKWAY	RMP		TP
A4	RATTLESNAKE RESERVOI	4769 PORTOLA PARKWAY	RMP		TP
A5	RATTLESNAKE RESERVOI	4769 PORTOLA PKWY	HAZNET		TP
A6		4769 PORTOLA PKWY	CHMIRS		TP
A7	RATTLE SNAKE RESERVO	4769 PORTOLA PARKWAY	RCRA-LQG		TP
A8	IRVINE RANCH WATER D	4769 PORTOLA PKY	CHMIRS, EMI, HAZNET, CERS		TP
B9	ORCHARD HILLS	4955.3 PORTOLA PKWY	RCRA-SQG	Lower	568, 0.108, WSW
B10	ORANGE COUNTY FIRE A	4955 PORTOLA PKWY	CERS TANKS, CIWQS, CERS	Lower	568, 0.108, WSW
B11		4955 PORTOLA PKWY	AST	Lower	568, 0.108, WSW
12	PROPOSED ORCHARD HIL	CULVER AVENUE/PORTOL	ENVIROSTOR, SCH	Lower	4731, 0.896, WNW

EXECUTIVE SUMMARY

TARGET PROPERTY SEARCH RESULTS

The target property was identified in the following records. For more information on this property see page 8 of the attached EDR Radius Map report:

Site	Database(s)	EPA ID
RATTLE SNAKE RESERVO 4769 PORTOLA PARKWAY IRVINE, CA 92620	FINDS Registry ID:: 110000512856 ECHO Registry ID: 110000512856	N/A
IRVINE RANCH WATER D 4769 PORTOLA PKWY IRVINE, CA 92620	HAZNET GEPAID: CAC002599897	N/A
RATTLESNAKE RESERVOI 4769 PORTOLA PARKWAY IRVINE, CA 92620	RMP	N/A
RATTLESNAKE RESERVOI 4769 PORTOLA PARKWAY IRVINE, CA 92620	RMP	N/A
RATTLESNAKE RESERVOI 4769 PORTOLA PKWY IRVINE, CA 92620	HAZNET GEPAID: CAP000221523	N/A
4769 PORTOLA PKWY 4769 PORTOLA PKWY IRVINE, CA	CHMIRS OES Incident Number: 08-4849	N/A
RATTLE SNAKE RESERVO 4769 PORTOLA PARKWAY IRVINE, CA 92620	RCRA-LQG EPA ID:: CAR000253542	CAR000253542
IRVINE RANCH WATER D 4769 PORTOLA PKY IRVINE, CA 92620	CHMIRS OES Incident Number: 10-2117 OES Incident Number: 6-1851 EMI Facility Id: 72489 HAZNET GEPAID: CAR000253542 CERS	N/A

EXECUTIVE SUMMARY

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL ..... National Priority List
Proposed NPL ..... Proposed National Priority List Sites
NPL LIENS ..... Federal Superfund Liens

Federal Delisted NPL site list

Delisted NPL ..... National Priority List Deletions

Federal CERCLIS list

FEDERAL FACILITY ..... Federal Facility Site Information listing
SEMS ..... Superfund Enterprise Management System

Federal CERCLIS NFRAP site list

SEMS-ARCHIVE ..... Superfund Enterprise Management System Archive

Federal RCRA CORRACTS facilities list

CORRACTS ..... Corrective Action Report

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF ..... RCRA - Treatment, Storage and Disposal

Federal RCRA generators list

RCRA-CESQG ..... RCRA - Conditionally Exempt Small Quantity Generator

Federal institutional controls / engineering controls registries

LUCIS ..... Land Use Control Information System
US ENG CONTROLS ..... Engineering Controls Sites List
US INST CONTROL ..... Sites with Institutional Controls

Federal ERNS list

ERNS ..... Emergency Response Notification System

State- and tribal - equivalent NPL

RESPONSE ..... State Response Sites

State and tribal landfill and/or solid waste disposal site lists

SWF/LF ..... Solid Waste Information System

State and tribal leaking storage tank lists

LUST ..... Geotracker's Leaking Underground Fuel Tank Report
INDIAN LUST ..... Leaking Underground Storage Tanks on Indian Land
CPS-SLIC ..... Statewide SLIC Cases

State and tribal registered storage tank lists

FEMA UST ..... Underground Storage Tank Listing
UST ..... Active UST Facilities
INDIAN UST ..... Underground Storage Tanks on Indian Land

State and tribal voluntary cleanup sites

VCP ..... Voluntary Cleanup Program Properties
INDIAN VCP ..... Voluntary Cleanup Priority Listing

State and tribal Brownfields sites

BROWNFIELDS ..... Considered Brownfieds Sites Listing

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS ..... A Listing of Brownfields Sites

Local Lists of Landfill / Solid Waste Disposal Sites

WMUDS/SWAT ..... Waste Management Unit Database
SWRCY ..... Recycler Database
HAULERS ..... Registered Waste Tire Haulers Listing
INDIAN ODI ..... Report on the Status of Open Dumps on Indian Lands
ODI ..... Open Dump Inventory
DEBRIS REGION 9 ..... Torres Martinez Reservation Illegal Dump Site Locations
IHS OPEN DUMPS ..... Open Dumps on Indian Land

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL ..... Delisted National Clandestine Laboratory Register
HIST Cal-Sites ..... Historical Calsites Database
SCH ..... School Property Evaluation Program
CDL ..... Clandestine Drug Labs
CERS HAZ WASTE ..... CERS HAZ WASTE
Toxic Pits ..... Toxic Pits Cleanup Act Sites
US CDL ..... National Clandestine Laboratory Register
PFAS ..... PFAS Contamination Site Location Listing

Local Lists of Registered Storage Tanks

SWEEPS UST ..... SWEEPS UST Listing

HIST UST	Hazardous Substance Storage Container Database
CA FID UST	Facility Inventory Database

Local Land Records

LIENS	Environmental Liens Listing
LIENS 2	CERCLA Lien Information
DEED	Deed Restriction Listing

Records of Emergency Release Reports

HMIRS	Hazardous Materials Information Reporting System
LDS	Land Disposal Sites Listing
MCS	Military Cleanup Sites Listing
Orange Co. Industrial Site	List of Industrial Site Cleanups
SPILLS 90	SPILLS 90 data from FirstSearch

Other Ascertainable Records

RCRA NonGen / NLR	RCRA - Non Generators / No Longer Regulated
FUDS	Formerly Used Defense Sites
DOD	Department of Defense Sites
SCRD DRYCLEANERS	State Coalition for Remediation of Drycleaners Listing
US FIN ASSUR	Financial Assurance Information
EPA WATCH LIST	EPA WATCH LIST
2020 COR ACTION	2020 Corrective Action Program List
TSCA	Toxic Substances Control Act
TRIS	Toxic Chemical Release Inventory System
SSTS	Section 7 Tracking Systems
ROD	Records Of Decision
RAATS	RCRA Administrative Action Tracking System
PRP	Potentially Responsible Parties
PADS	PCB Activity Database System
ICIS	Integrated Compliance Information System
FTTS	FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
MLTS	Material Licensing Tracking System
COAL ASH DOE	Steam-Electric Plant Operation Data
COAL ASH EPA	Coal Combustion Residues Surface Impoundments List
PCB TRANSFORMER	PCB Transformer Registration Database
RADINFO	Radiation Information Database
HIST FTTS	FIFRA/TSCA Tracking System Administrative Case Listing
DOT OPS	Incident and Accident Data
CONSENT	Superfund (CERCLA) Consent Decrees
INDIAN RESERV	Indian Reservations
FUSRAP	Formerly Utilized Sites Remedial Action Program
UMTRA	Uranium Mill Tailings Sites
LEAD SMELTERS	Lead Smelter Sites
US AIRS	Aerometric Information Retrieval System Facility Subsystem
US MINES	Mines Master Index File
ABANDONED MINES	Abandoned Mines
DOCKET HWC	Hazardous Waste Compliance Docket Listing
UXO	Unexploded Ordnance Sites
FUELS PROGRAM	EPA Fuels Program Registered Listing
CA BOND EXP. PLAN	Bond Expenditure Plan

EXECUTIVE SUMMARY

Cortese	"Cortese" Hazardous Waste & Substances Sites List
CUPA Listings	CUPA Resources List
DRYCLEANERS	Cleaner Facilities
ENF	Enforcement Action Listing
Financial Assurance	Financial Assurance Information Listing
ICE	ICE
HIST CORTESE	Hazardous Waste & Substance Site List
HWP	EnviroStor Permitted Facilities Listing
HWT	Registered Hazardous Waste Transporter Database
MINES	Mines Site Location Listing
MWMP	Medical Waste Management Program Listing
NPDES	NPDES Permits Listing
PEST LIC	Pesticide Regulation Licenses Listing
PROC	Certified Processors Database
Notify 65	Proposition 65 Records
UIC	UIC Listing
UIC GEO	UIC GEO (GEOTRACKER)
WASTEWATER PITS	Oil Wastewater Pits Listing
WDS	Waste Discharge System
MILITARY PRIV SITES	MILITARY PRIV SITES (GEOTRACKER)
PROJECT	PROJECT (GEOTRACKER)
WDR	Waste Discharge Requirements Listing
CIWQS	California Integrated Water Quality System
WIP	Well Investigation Program Case List
NON-CASE INFO	NON-CASE INFO (GEOTRACKER)
OTHER OIL GAS	OTHER OIL & GAS (GEOTRACKER)
PROD WATER PONDS	PROD WATER PONDS (GEOTRACKER)
SAMPLING POINT	SAMPLING POINT (GEOTRACKER)
WELL STIM PROJ	Well Stimulation Project (GEOTRACKER)

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP	EDR Proprietary Manufactured Gas Plants
EDR Hist Auto	EDR Exclusive Historical Auto Stations
EDR Hist Cleaner	EDR Exclusive Historical Cleaners

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LF	Recovered Government Archive Solid Waste Facilities List
RGA LUST	Recovered Government Archive Leaking Underground Storage Tank

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property.
Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

EXECUTIVE SUMMARY

STANDARD ENVIRONMENTAL RECORDS

Federal RCRA generators list

RCRA-SQG: RCRAInfo is EPA's 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. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

A review of the RCRA-SQG list, as provided by EDR, and dated 03/25/2019 has revealed that there is 1 RCRA-SQG site within approximately 0.25 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
ORCHARD HILLS EPA ID:: CAR000170142	4955.3 PORTOLA PKWY	WSW 0 - 1/8 (0.108 mi.)	B9	45

State- and tribal - equivalent CERCLIS

ENVIROSTOR: The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifes sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

A review of the ENVIROSTOR list, as provided by EDR, and dated 01/28/2019 has revealed that there is 1 ENVIROSTOR site within approximately 1 mile of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
PROPOSED ORCHARD HIL	***CULVER AVENUE/PORTOL***	***WNW 1/2 - 1 (0.896 mi.)***	***12***	***56***

State and tribal registered storage tank lists

AST: A listing of aboveground storage tank petroleum storage tank locations.

A review of the AST list, as provided by EDR, has revealed that there is 1 AST site within approximately 0.25 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
Not reported Database: AST, Date of Government Version: 07/06/2016	4955 PORTOLA PKWY	WSW 0 - 1/8 (0.108 mi.)	B11	56

EXECUTIVE SUMMARY

ADDITIONAL ENVIRONMENTAL RECORDS

Local Lists of Registered Storage Tanks

CERS TANKS: 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.

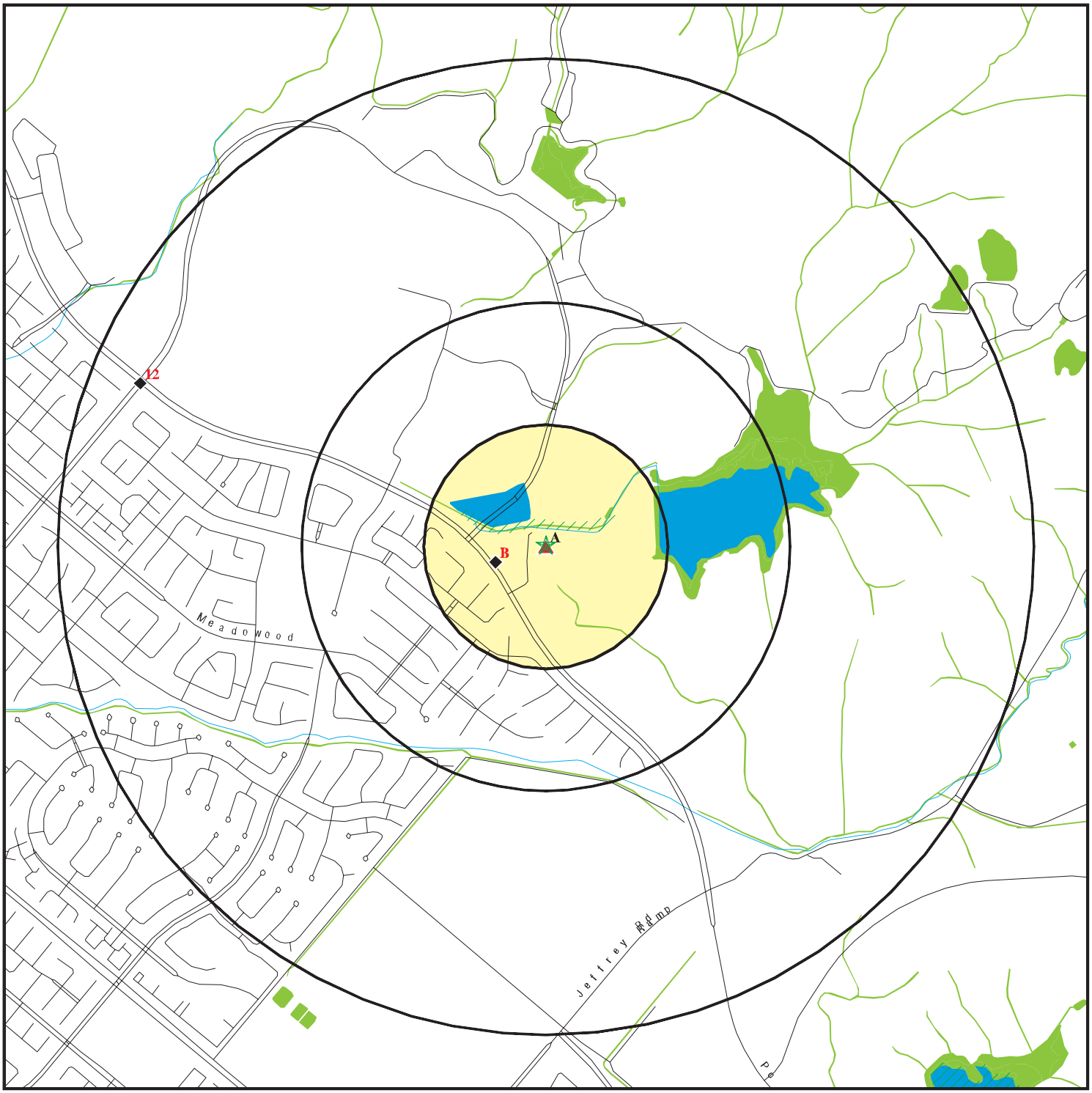
A review of the CERS TANKS list, as provided by EDR, and dated 04/09/2019 has revealed that there is 1 CERS TANKS site within approximately 0.25 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
ORANGE COUNTY FIRE A	*4955 PORTOLA PKWY*	*WSW 0 - 1/8 (0.108 mi.)*	*B10*	*47*

EXECUTIVE SUMMARY

There were no unmapped sites in this report.

OVERVIEW MAP - 5688367.2S



- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- National Priority List Sites
- Dept. Defense Sites

0 1/4 1/2 1 Miles

- Indian Reservations BIA
- 100-year flood zone
- 500-year flood zone
- National Wetland Inventory
- State Wetlands
- Areas of Concern

N

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Rattlesnake Reservoir ADDRESS: 4769 Portola Parkway Irvine CA 92620 LAT/LONG: 33.727369 / 117.745705	CLIENT: Psomas CONTACT: Megan Larum INQUIRY #: 5688367.2s DATE: June 19, 2019 12:25 pm

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DETAIL MAP - 5688367.2S

- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- Sensitive Receptors
- National Priority List Sites
- Dept. Defense Sites
- Indian Reservations BIA
- 100-year flood zone
- 500-year flood zone
- National Wetland Inventory
- State Wetlands
- Areas of Concern

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Rattlesnake Reservoir	CLIENT: Psomas
ADDRESS: 4769 Portola Parkway Irvine CA 92620	CONTACT: Megan Larum INQUIRY #: 5688367.2s
LAT/LONG: 33.727369 / 117.745705	DATE: June 19, 2019 12:27 pm

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MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
STANDARD ENVIRONMENTAL RECORDS								
Federal NPL site list								
NPL	1.000		0	0	0	0	NR	0
Proposed NPL	1.000		0	0	0	0	NR	0
NPL LIENS	1.000		0	0	0	0	NR	0
Federal Delisted NPL site list								
Delisted NPL	1.000		0	0	0	0	NR	0
Federal CERCLIS list								
FEDERAL FACILITY	0.500		0	0	0	NR	NR	0
SEMS	0.500		0	0	0	NR	NR	0
Federal CERCLIS NFRAP site list								
SEMS-ARCHIVE	0.500		0	0	0	NR	NR	0
Federal RCRA CORRACTS facilities list								
CORRACTS	1.000		0	0	0	0	NR	0
Federal RCRA non-CORRACTS TSD facilities list								
RCRA-TSDF	0.500		0	0	0	NR	NR	0
Federal RCRA generators list								
RCRA-LQG	0.250	1	0	0	NR	NR	NR	1
RCRA-SQG	0.250		1	0	NR	NR	NR	1
RCRA-CESQG	0.250		0	0	NR	NR	NR	0
Federal institutional controls / engineering controls registries								
LUCIS	0.500		0	0	0	NR	NR	0
US ENG CONTROLS	0.500		0	0	0	NR	NR	0
US INST CONTROL	0.500		0	0	0	NR	NR	0
Federal ERNS list								
ERNS	TP		NR	NR	NR	NR	NR	0
State- and tribal - equivalent NPL								
RESPONSE	1.000		0	0	0	0	NR	0
State- and tribal - equivalent CERCLIS								
ENVIROSTOR	1.000		0	0	0	1	NR	1
State and tribal landfill and/or solid waste disposal site lists								
SWF/LF	0.500		0	0	0	NR	NR	0
State and tribal leaking storage tank lists								
LUST	0.500		0	0	0	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
INDIAN LUST	0.500		0	0	0	NR	NR	0
CPS-SLIC	0.500		0	0	0	NR	NR	0
State and tribal registered storage tank lists								
FEMA UST	0.250		0	0	NR	NR	NR	0
UST	0.250		0	0	NR	NR	NR	0
AST	0.250		1	0	NR	NR	NR	1
INDIAN UST	0.250		0	0	NR	NR	NR	0
State and tribal voluntary cleanup sites								
VCP	0.500		0	0	0	NR	NR	0
INDIAN VCP	0.500		0	0	0	NR	NR	0
State and tribal Brownfields sites								
BROWNFIELDS	0.500		0	0	0	NR	NR	0
ADDITIONAL ENVIRONMENTAL RECORDS								
Local Brownfield lists								
US BROWNFIELDS	0.500		0	0	0	NR	NR	0
Local Lists of Landfill / Solid Waste Disposal Sites								
WMUDS/SWAT	0.500		0	0	0	NR	NR	0
SWRCY	0.500		0	0	0	NR	NR	0
HAULERS	TP		NR	NR	NR	NR	NR	0
INDIAN ODI	0.500		0	0	0	NR	NR	0
ODI	0.500		0	0	0	NR	NR	0
DEBRIS REGION 9	0.500		0	0	0	NR	NR	0
IHS OPEN DUMPS	0.500		0	0	0	NR	NR	0
Local Lists of Hazardous waste / Contaminated Sites								
US HIST CDL	TP		NR	NR	NR	NR	NR	0
HIST Cal-Sites	1.000		0	0	0	0	NR	0
SCH	0.250		0	0	NR	NR	NR	0
CDL	TP		NR	NR	NR	NR	NR	0
CERS HAZ WASTE	0.250		0	0	NR	NR	NR	0
Toxic Pits	1.000		0	0	0	0	NR	0
US CDL	TP		NR	NR	NR	NR	NR	0
PFAS	0.500		0	0	0	NR	NR	0
Local Lists of Registered Storage Tanks								
SWEEPS UST	0.250		0	0	NR	NR	NR	0
HIST UST	0.250		0	0	NR	NR	NR	0
CERS TANKS	0.250		1	0	NR	NR	NR	1
CA FID UST	0.250		0	0	NR	NR	NR	0
Local Land Records								
LIENS	TP		NR	NR	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
LIENS 2	TP		NR	NR	NR	NR	NR	0
DEED	0.500		0	0	0	NR	NR	0
Records of Emergency Release Reports								
HMIRS	TP		NR	NR	NR	NR	NR	0
CHMIRS	TP	2	NR	NR	NR	NR	NR	2
LDS	TP		NR	NR	NR	NR	NR	0
MCS	TP		NR	NR	NR	NR	NR	0
Orange Co. Industrial Site	TP		NR	NR	NR	NR	NR	0
SPILLS 90	TP		NR	NR	NR	NR	NR	0
Other Ascertainable Records								
RCRA NonGen / NLR	0.250		0	0	NR	NR	NR	0
FUDS	1.000		0	0	0	0	NR	0
DOD	1.000		0	0	0	0	NR	0
SCRD DRYCLEANERS	0.500		0	0	0	NR	NR	0
US FIN ASSUR	TP		NR	NR	NR	NR	NR	0
EPA WATCH LIST	TP		NR	NR	NR	NR	NR	0
2020 COR ACTION	0.250		0	0	NR	NR	NR	0
TSCA	TP		NR	NR	NR	NR	NR	0
TRIS	TP		NR	NR	NR	NR	NR	0
SSTS	TP		NR	NR	NR	NR	NR	0
ROD	1.000		0	0	0	0	NR	0
RMP	TP	2	NR	NR	NR	NR	NR	2
RAATS	TP		NR	NR	NR	NR	NR	0
PRP	TP		NR	NR	NR	NR	NR	0
PADS	TP		NR	NR	NR	NR	NR	0
ICIS	TP		NR	NR	NR	NR	NR	0
FTTS	TP		NR	NR	NR	NR	NR	0
MLTS	TP		NR	NR	NR	NR	NR	0
COAL ASH DOE	TP		NR	NR	NR	NR	NR	0
COAL ASH EPA	0.500		0	0	0	NR	NR	0
PCB TRANSFORMER	TP		NR	NR	NR	NR	NR	0
RADINFO	TP		NR	NR	NR	NR	NR	0
HIST FTTS	TP		NR	NR	NR	NR	NR	0
DOT OPS	TP		NR	NR	NR	NR	NR	0
CONSENT	1.000		0	0	0	0	NR	0
INDIAN RESERV	1.000		0	0	0	0	NR	0
FUSRAP	1.000		0	0	0	0	NR	0
UMTRA	0.500		0	0	0	NR	NR	0
LEAD SMELTERS	TP		NR	NR	NR	NR	NR	0
US AIRS	TP		NR	NR	NR	NR	NR	0
US MINES	0.250		0	0	NR	NR	NR	0
ABANDONED MINES	0.250		0	0	NR	NR	NR	0
FINDS	TP	1	NR	NR	NR	NR	NR	1
DOCKET HWC	TP		NR	NR	NR	NR	NR	0
UXO	1.000		0	0	0	0	NR	0
ECHO	TP	1	NR	NR	NR	NR	NR	1
FUELS PROGRAM	0.250		0	0	NR	NR	NR	0
CA BOND EXP. PLAN	1.000		0	0	0	0	NR	0
Cortese	0.500		0	0	0	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
CUPA Listings	0.250		0	0	NR	NR	NR	0
DRYCLEANERS	0.250		0	0	NR	NR	NR	0
EMI	TP	1	NR	NR	NR	NR	NR	1
ENF	TP		NR	NR	NR	NR	NR	0
Financial Assurance	TP		NR	NR	NR	NR	NR	0
HAZNET	TP	3	NR	NR	NR	NR	NR	3
ICE	TP		NR	NR	NR	NR	NR	0
HIST CORTESE	0.500		0	0	0	NR	NR	0
HWP	1.000		0	0	0	0	NR	0
HWT	0.250		0	0	NR	NR	NR	0
MINES	0.250		0	0	NR	NR	NR	0
MWMP	0.250		0	0	NR	NR	NR	0
NPDES	TP		NR	NR	NR	NR	NR	0
PEST LIC	TP		NR	NR	NR	NR	NR	0
PROC	0.500		0	0	0	NR	NR	0
Notify 65	1.000		0	0	0	0	NR	0
UIC	TP		NR	NR	NR	NR	NR	0
UIC GEO	TP		NR	NR	NR	NR	NR	0
WASTEWATER PITS	0.500		0	0	0	NR	NR	0
WDS	TP		NR	NR	NR	NR	NR	0
MILITARY PRIV SITES	TP		NR	NR	NR	NR	NR	0
PROJECT	TP		NR	NR	NR	NR	NR	0
WDR	TP		NR	NR	NR	NR	NR	0
CIWQS	TP		NR	NR	NR	NR	NR	0
CERS	TP	1	NR	NR	NR	NR	NR	1
WIP	0.250		0	0	NR	NR	NR	0
NON-CASE INFO	TP		NR	NR	NR	NR	NR	0
OTHER OIL GAS	TP		NR	NR	NR	NR	NR	0
PROD WATER PONDS	TP		NR	NR	NR	NR	NR	0
SAMPLING POINT	TP		NR	NR	NR	NR	NR	0
WELL STIM PROJ	TP		NR	NR	NR	NR	NR	0
EDR HIGH RISK HISTORICAL RECORDS								
EDR Exclusive Records								
EDR MGP	1.000		0	0	0	0	NR	0
EDR Hist Auto	0.125		0	NR	NR	NR	NR	0
EDR Hist Cleaner	0.125		0	NR	NR	NR	NR	0
EDR RECOVERED GOVERNMENT ARCHIVES								
Exclusive Recovered Govt. Archives								
RGA LF	TP		NR	NR	NR	NR	NR	0
RGA LUST	TP		NR	NR	NR	NR	NR	0
- Totals --		12	3	0	0	1	0	16

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

A1 Target Property | **RATTLE SNAKE RESERVOIR**
4769 PORTOLA PARKWAY
IRVINE, CA 92620 | **FINDS** | **1017428956**
ECHO | **N/A**

Site 1 of 8 in cluster A

Actual: 327 ft.

FINDS:

Registry ID: 110000512856

Environmental Interest/Information System
RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

HAZARDOUS WASTE BIENNIAL REPORTER

US EPA Risk Management Plan (RMP) database stores the risk management plans reported by companies that handle, manufacture, use, or store certain flammable or toxic substances, as required under section 112(r) of the Clean Air Act (CAA).

Click this hyperlink while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

ECHO:

Envid:	1017428956
Registry ID:	110000512856
DFR URL:	http://echo.epa.gov/detailed-facility-report?fid=110000512856

A2 Target Property | **IRVINE RANCH WATER DISTRICT-RATTLESNAKE W T P**
4769 PORTOLA PKWY
IRVINE, CA 92620 | **HAZNET** | **S112951149**
N/A

Site 2 of 8 in cluster A

Actual: 327 ft.

HAZNET:

Name:	IRVINE RANCH WATER DISTRICT-RATTLESNAKE W T P
Address:	4769 PORTOLA PKWY
City,State,Zip:	IRVINE, CA 926201914
Year:	2006
GEPAID:	CAC002599897
Contact:	CHUCK BURNE-MGR
Telephone:	9494663689
Mailing Name:	Not reported
Mailing Address:	4769 PORTOLA PKWY
Mailing City,St,Zip:	IRVINE, CA 926201914
Gen County:	Orange
TSD EPA ID:	CAD097030993
TSD County:	Los Angeles
Tons:	8.757
CA Waste Code:	792-Liquids with pH <= 2 with metals
Method:	R01-Recycler
Facility County:	Orange

IRVINE RANCH WATER DISTRICT-RATTLESNAKE W T P (Continued) **S112951149**

Name:	IRVINE RANCH WATER DISTRICT-RATTLESNAKE W T P
Address:	4769 PORTOLA PKWY
City,State,Zip:	IRVINE, CA 926201914
Year:	2006
GEPAID:	CAC002599897
Contact:	CHUCK BURNE-MGR
Telephone:	9494663689
Mailing Name:	Not reported
Mailing Address:	4769 PORTOLA PKWY
Mailing City,St,Zip:	IRVINE, CA 926201914
Gen County:	Orange
TSD EPA ID:	CAD097030993
TSD County:	Los Angeles
Tons:	60.55674
CA Waste Code:	121-Alkaline solution (pH >= 12.5) with metals
Method:	R01-Recycler
Facility County:	Orange

A3 Target Property **RATTLESNAKE RESERVOIR DISINFECTION FACILITY** **RMP** **1011835534**
4769 PORTOLA PARKWAY **N/A**
IRVINE, CA 92620

Site 3 of 8 in cluster A

Actual: 327 ft.

RMP:

Facility ID:	29077
LEPC city:	California Region 1 LEPC
Facility decimal latitude:	33.728333
Facility decimal longitude:	-117.7425
Is facility in county box:	T
LatLong method:	A1
LatLong description:	PG
Home page web address:	www.irwd.com
Facility telephone:	9494535800
Facility email:	wright@irwd.com
Facility DUNS #:	0
Parent's name:	Irvine Ranch Water District
Partner's name:	Not reported
Parent's DUNS #:	59270884
Partner's DUNS #:	59270884
Operator's name:	Irvine Ranch Water District
Operator's telephone:	9494535800
Operator's address:	P.O. Box 57000
Operators City,St,Zip:	Irvine, CA 92619 7000
RMP implementation contact:	Kenneth Erwin
RMP contact title:	District Safety Manager
Emergency contact:	Wayne Wright
Emergency contact title:	System Operations Manager
Emergency contact telephone:	9494535746
24 hour emergency telephone:	9497297311
Emergency contact ext/pin #:	Not reported
Number of full time employees:	0
EPA ID:	Not reported
Facility ID provided by CEPPO:	100000053568
Is facility covered by OSHA PSM:	T
Is facility covered by EPCRA 302:	T
Is fac. covered by CAA Title V 112(2):	F
Clean air op. permit/State ID:	Not reported

RATTLESNAKE RESERVOIR DISINFECTION FACILITY (Continued) **1011835534**

Last safety insp. dat: 2002-10-30 00:00:00
Inspected by: Orange County Fire Authority
Is it OSHA approved with star/merit ranking: False
Will RMP involve predictive filing: False
Submission type: Resubmission
RMP description: Not reported
Facility has no accident hist. recs: True
Foreign owner's address: Not reported
Foreign owner's zip: Not reported
Foreign owner's country: Not reported
Claim # of employees as CBI: False
Date RMP accepted by EPA: 2003-10-27 00:00:00
Date of error Report: Not reported
Date RMP received: 2003-10-24 00:00:00
Does RMP contain graphics files: False
Does RMP contain attachments: False
Was certification letter received: True
RMP submission method: RMP*Submit
Does RMP contain CBI substantiation: False
Does RMP contain electronic waiver: False
Date RMP postmarked: 2003-10-22 00:00:00
Is RMP complete: True
Date of de-registration: 2015-09-30 00:00:00
Date de-registration is effective: 2015-05-14 00:00:00
Aniversary date: 2008-10-22 00:00:00
Does RMP contain CBI data: False
Does RMP contain unsanitized CBI version: False
RMP version #: 2.0
FRS latitude: 33.72278
FRS longitude: -117.74229
FRS Description: PLANT ENTRANCE (GENERAL)
FRS Method: ADDRESS MATCHING-HOUSE NUMBER

RMP:
Process ID: 41932
NA & Industry Classification Sys.code(s): 22131
NAICS code description: Water Supply and Irrigation Systems
Optional facility description: Recycled Water Treatment
Program level: 3
Record contains CBI data: False

RMP:
Chemical name: Public OCA Chemical
Process chemical qty in 100s lbs: 0
Process flammable chemical name: Not reported

RMP:
Percent weight of chemical: Not reported
Physical state: c
Analytical basic: EPA's RMP Guidance for Waste Water Treatment Plants Reference Tables or Equations
Scenario: Not reported
Quantity released in pounds: Not reported
Release duration in minutes: Not reported
Release rate in pounds per second: Not reported
Wind speed in meters/second: 3
Stability class: D
Topography: a
Distance to endpoint in miles: Not reported

RATTLESNAKE RESERVOIR DISINFECTION FACILITY (Continued) **1011835534**

Residential population: Not reported
Public receptors: Not reported
Environmental receptors: Not reported
Passive mitigation: Enclosures
Active mitigation: Scrubbers, Emergency shutdown

RMP:
Percent weight of chemical: Not reported
Physical state: c
Analytical basic: EPA's RMP*Comp(TM)
Scenario: Not reported
Quantity released in pounds: Not reported
Release duration in minutes: 10
Release rate in pounds per second: Not reported
Wind speed in meters/second: 1.5
Stability class: F
Topography: a
Distance to endpoint in miles: Not reported
Residential population: Not reported
Public receptors: Not reported
Environmental receptors: Not reported
Passive mitigation: Enclosures

RMP:
Endpoint used: Not reported
LFL value: Not reported
Analytical basic: Not reported
Scenario: Not reported
Quantity released in pounds: Not reported
Distance to endpoint in miles: Not reported
Residential population: Not reported
Public receptors: Not reported
Environmental receptors: Not reported
Passive mitigation: Not reported
Active mitigation: Not reported

RMP:
Analytical basic: Not reported
Quantity released in pounds: Not reported
Distance to endpoint in miles: Not reported
Residential population: Not reported
Public receptors: Not reported
Environmental receptors: Not reported
Passive mitigation: Not reported
Safety review date: Not reported
Most recent PHA date: Not reported
Process Hazard Analysis: Not reported
Expected PHA changes completion date: Not reported
Major Hazard: Not reported
Process Control: Not reported
Mitigation Systems: Not reported
Monitoring/Detection: Not reported
Changes since the last process hazard analysis: Not reported
Most recent review of op. procedures: Not reported
Most recent training progs review/update: Not reported
Training: Not reported
Competency testing: Not reported
Most recent maintenance review date: Not reported
Most recent equipment inspection date: Not reported

RATTLESNAKE RESERVOIR DISINFECTION FACILITY (Continued) **1011835534**

Equipment tested:	Not reported
Most recent changes by mgmt:	Not reported
Date of most recent review/update:	Not reported
Date of pre-start review:	Not reported
Most recent compliance audit date:	Not reported
Expected date of audit completion:	Not reported
Most recent incident investigation:	Not reported
Expected date of investigation changes:	Not reported
Date of participation plan review:	Not reported
Date of hot work permit review:	Not reported
Date of contractor safety review:	Not reported
Date of contractor safety eval. review:	Not reported
Record has CBI data:	Not reported
Safety review date:	Not reported
Federal Regulation:	Not reported
Federal regulation comment:	Not reported
Major Hazard:	Not reported
Process Control:	Not reported
Mitigation Systems:	Not reported
Monitoring/Detection:	Not reported
Changes since the last process hazard analysis:	Not reported
Most recent hazard review/update:	Not reported
Most recent review of op. procedures:	Not reported
Most recent training progs review/update:	Not reported
Expected completion of review changes:	Not reported
Training:	Not reported
Competency testing:	Not reported
Most recent maintenance review date:	Not reported
Most recent equipment inspection date:	Not reported
Equipment tested:	Not reported
Most recent compliance audit date:	Not reported
Expected date of audit completion:	Not reported
Most recent incident investigation:	Not reported
Expected date of investigation changes:	Not reported
Record has CBI data:	Not reported
Date of most recent changes:	Not reported
Chemical name:	Chlorine
Process chemical qty in 100s lbs:	30000
Process flammable chemical name:	Not reported

RMP:

Percent weight of chemical:	Not reported
Physical state:	Not reported
Analytical basic:	Not reported
Scenario:	Not reported
Quantity released in pounds:	Not reported
Release duration in minutes:	Not reported
Release rate in pounds per second:	Not reported
Wind speed in meters/second:	Not reported
Stability class:	Not reported
Topography:	Not reported
Distance to endpoint in miles:	Not reported
Residential population:	Not reported
Public receptors:	Not reported
Environmental receptors:	Not reported
Passive mitigation:	Not reported
Active mitigation:	Not reported

RATTLESNAKE RESERVOIR DISINFECTION FACILITY (Continued) **1011835534**

RMP:

Percent weight of chemical:	Not reported
Physical state:	Not reported
Analytical basic:	Not reported
Scenario:	Not reported
Quantity released in pounds:	Not reported
Release duration in minutes:	Not reported
Release rate in pounds per second:	Not reported
Wind speed in meters/second:	Not reported
Stability class:	Not reported
Topography:	Not reported
Distance to endpoint in miles:	Not reported
Residential population:	Not reported
Public receptors:	Not reported
Environmental receptors:	Not reported
Passive mitigation:	Not reported

RMP:

Endpoint used:	Not reported
LFL value:	Not reported
Analytical basic:	Not reported
Scenario:	Not reported
Quantity released in pounds:	Not reported
Distance to endpoint in miles:	Not reported
Residential population:	Not reported
Public receptors:	Not reported
Environmental receptors:	Not reported
Passive mitigation:	Not reported
Active mitigation:	Not reported

RMP:

Analytical basic:	Not reported
Quantity released in pounds:	Not reported
Distance to endpoint in miles:	Not reported
Residential population:	Not reported
Public receptors:	Not reported
Environmental receptors:	Not reported
Passive mitigation:	Not reported
Safety review date:	Not reported
Most recent PHA date:	Not reported
Process Hazard Analysis:	Not reported
Expected PHA changes completion date:	Not reported
Major Hazard:	Not reported
Process Control:	Not reported
Mitigation Systems:	Not reported
Monitoring/Detection:	Not reported
Changes since the last process hazard analysis:	Not reported
Most recent review of op. procedures:	Not reported
Most recent training progs review/update:	Not reported
Training:	Not reported
Competency testing:	Not reported
Most recent maintenance review date:	Not reported
Most recent equipment inspection date:	Not reported
Equipment tested:	Not reported
Most recent changes by mgmt:	Not reported
Date of most recent review/update:	Not reported
Date of pre-start review:	Not reported
Most recent compliance audit date:	Not reported

RATTLESNAKE RESERVOIR DISINFECTION FACILITY (Continued) **1011835534**

Expected date of audit completion:	Not reported
Most recent incident investigation:	Not reported
Expected date of investigation changes:	Not reported
Date of participation plan review:	Not reported
Date of hot work permit review:	Not reported
Date of contractor safety review:	Not reported
Date of contractor safety eval. review:	Not reported
Record has CBI data:	Not reported
Safety review date:	Not reported
Federal Regulation:	Not reported
Federal regulation comment:	Not reported
Major Hazard:	Not reported
Process Control:	Not reported
Mitigation Systems:	Not reported
Monitoring/Detection:	Not reported
Changes since the last process hazard analysis:	Not reported
Most recent hazard review/update:	Not reported
Most recent review of op. procedures:	Not reported
Most recent training progs review/update:	Not reported
Expected completion of review changes:	Not reported
Training:	Not reported
Competency testing:	Not reported
Most recent maintenance review date:	Not reported
Most recent equipment inspection date:	Not reported
Equipment tested:	Not reported
Most recent compliance audit date:	Not reported
Expected date of audit completion:	Not reported
Most recent incident investigation:	Not reported
Expected date of investigation changes:	Not reported
Record has CBI data:	Not reported
Date of most recent changes:	Not reported

RMP:

ER plan:	Not reported
ER plan most recent review date:	2002-12-17 00:00:00
ER plan most recent employee training date:	2003-01-08 00:00:00
Local agency coordinating ER plan:	Orange County Fire Authority
Telephone of the coordinating local agency:	7147440454
Federal regulation:	True
OSHA 1910 120:	True
SPCC:	False
RCRA:	False
OPA 90:	False
EPCRA:	True
Other Regulations:	Not reported

RMP:

Facility ID:	53466
LEPC city:	California Region 1 LEPC
Facility decimal latitude:	33.728333
Facility decimal longitude:	-117.742500
Is facility in county box:	T
LatLong method:	A1
LatLong description:	PG
Home page web address:	Not reported
Facility telephone:	Not reported
Facility email:	Not reported

RATTLESNAKE RESERVOIR DISINFECTION FACILITY (Continued) **1011835534**

Facility DUNS #:	0
Parent's name:	Irvine Ranch Water District
Partner's name:	Not reported
Parent's DUNS #:	59270884
Partner's DUNS #:	0
Operator's name:	Irvine Ranch Water District
Operator's telephone:	9494535800
Operator's address:	P.O. Box 57000
Operators City,St,Zip:	Irvine, CA 92619 7000
RMP implementation contact:	Kenneth Erwin
RMP contact title:	District Safety & Security Manager
Emergency contact:	Steve Habiger
Emergency contact title:	Systems Operations Manager
Emergency contact telephone:	9494535745
24 hour emergency telephone:	9492125326
Emergency contact ext/pin #:	Not reported
Number of full time employees:	0
EPA ID:	Not reported
Facility ID provided by CEPPO:	100000053568
Is facility covered by OSHA PSM:	T
Is facility covered by EPCRA 302:	T
Is fac. covered by CAA Title V 112(2):	F
Clean air op. permit/State ID:	Not reported
Last safety insp. dat:	Not reported
Inspected by:	Orange County Fire Authority
Is it OSHA approved with star/merit ranking:	False
Will RMP involve predictive filing:	False
Submission type:	Resubmission
RMP description:	Not reported
Facility has no accident hist. recs:	True
Foreign owner's address:	Not reported
Foreign owner's zip:	Not reported
Foreign owner's country:	Not reported
Claim # of employees as CBI:	False
Date RMP accepted by EPA:	2009-01-22 00:00:00
Date of error Report:	Not reported
Date RMP received:	2009-01-20 00:00:00
Does RMP contain graphics files:	False
Does RMP contain attachments:	False
Was certification letter received:	True
RMP submission method:	RMP*Submit
Does RMP contain CBI substantiation:	False
Does RMP contain electronic waiver:	False
Date RMP postmarked:	2009-01-19 00:00:00
Is RMP complete:	True
Date of de-registration:	2015-09-30 00:00:00
Date de-registration is effective:	2015-05-14 00:00:00
Aniversary date:	2014-01-19 00:00:00
Does RMP contain CBI data:	False
Does RMP contain unsanitized CBI version:	False
RMP version #:	3.8
FRS latitude:	33.72278
FRS longitude:	-117.74229
FRS Description:	PLANT ENTRANCE (GENERAL)
FRS Method:	ADDRESS MATCHING-HOUSE NUMBER

RATTLESNAKE RESERVOIR DISINFECTION FACILITY (Continued) **1011835534**

RMP:
Process ID: 77920
NA & Industry Classification Sys.code(s): 22131
NAICS code description: Water Supply and Irrigation Systems
Optional facility description: Recycled Water Treatment
Program level: 3
Record contains CBI data: False

RMP:
Chemical name: Chlorine
Process chemical qty in 100s lbs: 30000
Process flammable chemical name: Not reported

RMP:
Percent weight of chemical: Not reported
Physical state: Not reported
Analytical basic: Not reported
Scenario: Not reported
Quantity released in pounds: Not reported
Release duration in minutes: Not reported
Release rate in pounds per second: Not reported
Wind speed in meters/second: Not reported
Stability class: Not reported
Topography: Not reported
Distance to endpoint in miles: Not reported
Residential population: Not reported
Public receptors: Not reported
Environmental receptors: Not reported
Passive mitigation: Not reported
Active mitigation: Not reported

RMP:
Percent weight of chemical: Not reported
Physical state: Not reported
Analytical basic: Not reported
Scenario: Not reported
Quantity released in pounds: Not reported
Release duration in minutes: Not reported
Release rate in pounds per second: Not reported
Wind speed in meters/second: Not reported
Stability class: Not reported
Topography: Not reported
Distance to endpoint in miles: Not reported
Residential population: Not reported
Public receptors: Not reported
Environmental receptors: Not reported
Passive mitigation: Not reported

RMP:
Endpoint used: Not reported
LFL value: Not reported
Analytical basic: Not reported
Scenario: Not reported
Quantity released in pounds: Not reported
Distance to endpoint in miles: Not reported
Residential population: Not reported
Public receptors: Not reported
Environmental receptors: Not reported
Passive mitigation: Not reported

RATTLESNAKE RESERVOIR DISINFECTION FACILITY (Continued) **1011835534**

Active mitigation: Not reported

RMP:

Analytical basic:	Not reported
Quantity released in pounds:	Not reported
Distance to endpoint in miles:	Not reported
Residential population:	Not reported
Public receptors:	Not reported
Environmental receptors:	Not reported
Passive mitigation:	Not reported
Safety review date:	Not reported
Most recent PHA date:	Not reported
Process Hazard Analysis:	Not reported
Expected PHA changes completion date:	Not reported
Major Hazard:	Not reported
Process Control:	Not reported
Mitigation Systems:	Not reported
Monitoring/Detection:	Not reported
Changes since the last process hazard analysis:	Not reported
Most recent review of op. procedures:	Not reported
Most recent training progs review/update:	Not reported
Training:	Not reported
Competency testing:	Not reported
Most recent maintenance review date:	Not reported
Most recent equipment inspection date:	Not reported
Equipment tested:	Not reported
Most recent changes by mgmt:	Not reported
Date of most recent review/update:	Not reported
Date of pre-start review:	Not reported
Most recent compliance audit date:	Not reported
Expected date of audit completion:	Not reported
Most recent incident investigation:	Not reported
Expected date of investigation changes:	Not reported
Date of participation plan review:	Not reported
Date of hot work permit review:	Not reported
Date of contractor safety review:	Not reported
Date of contractor safety eval. review:	Not reported
Record has CBI data:	Not reported
Safety review date:	Not reported
Federal Regulation:	Not reported
Federal regulation comment:	Not reported
Major Hazard:	Not reported
Process Control:	Not reported
Mitigation Systems:	Not reported
Monitoring/Detection:	Not reported
Changes since the last process hazard analysis:	Not reported
Most recent hazard review/update:	Not reported
Most recent review of op. procedures:	Not reported
Most recent training progs review/update:	Not reported
Expected completion of review changes:	Not reported
Training:	Not reported
Competency testing:	Not reported
Most recent maintenance review date:	Not reported
Most recent equipment inspection date:	Not reported
Equipment tested:	Not reported
Most recent compliance audit date:	Not reported
Expected date of audit completion:	Not reported
Most recent incident investigation:	Not reported

RATTLESNAKE RESERVOIR DISINFECTION FACILITY (Continued) **1011835534**

Expected date of investigation changes: Not reported
Record has CBI data: Not reported
Date of most recent changes: Not reported
Chemical name: Public OCA Chemical
Process chemical qty in 100s lbs: 0
Process flammable chemical name: Not reported

RMP:
Percent weight of chemical: Not reported
Physical state: c
Analytical basic: EPA's RMP Guidance for Waste Water Treatment Plants Reference Tables or Equations
Scenario: Not reported
Quantity released in pounds: Not reported
Release duration in minutes: Not reported
Release rate in pounds per second: Not reported
Wind speed in meters/second: 3
Stability class: D
Topography: a
Distance to endpoint in miles: Not reported
Residential population: Not reported
Public receptors: Not reported
Environmental receptors: Not reported
Passive mitigation: Enclosures
Active mitigation: Not reported

RMP:
Percent weight of chemical: Not reported
Physical state: c
Analytical basic: EPA's RMP Guidance for Waste Water Treatment Plants Reference Tables or Equations
Scenario: Not reported
Quantity released in pounds: Not reported
Release duration in minutes: 10
Release rate in pounds per second: Not reported
Wind speed in meters/second: 1.5
Stability class: F
Topography: a
Distance to endpoint in miles: Not reported
Residential population: Not reported
Public receptors: Not reported
Environmental receptors: Not reported
Passive mitigation: Enclosures

RMP:
Endpoint used: Not reported
LFL value: Not reported
Analytical basic: Not reported
Scenario: Not reported
Quantity released in pounds: Not reported
Distance to endpoint in miles: Not reported
Residential population: Not reported
Public receptors: Not reported
Environmental receptors: Not reported
Passive mitigation: Not reported
Active mitigation: Not reported

RMP:
Analytical basic: Not reported
Quantity released in pounds: Not reported
Distance to endpoint in miles: Not reported

RATTLESNAKE RESERVOIR DISINFECTION FACILITY (Continued) **1011835534**

Residential population:	Not reported
Public receptors:	Not reported
Environmental receptors:	Not reported
Passive mitigation:	Not reported
Safety review date:	Not reported
Most recent PHA date:	Not reported
Process Hazard Analysis:	Not reported
Expected PHA changes completion date:	Not reported
Major Hazard:	Not reported
Process Control:	Not reported
Mitigation Systems:	Not reported
Monitoring/Detection:	Not reported
Changes since the last process hazard analysis:	Not reported
Most recent review of op. procedures:	Not reported
Most recent training progs review/update:	Not reported
Training:	Not reported
Competency testing:	Not reported
Most recent maintenance review date:	Not reported
Most recent equipment inspection date:	Not reported
Equipment tested:	Not reported
Most recent changes by mgmt:	Not reported
Date of most recent review/update:	Not reported
Date of pre-start review:	Not reported
Most recent compliance audit date:	Not reported
Expected date of audit completion:	Not reported
Most recent incident investigation:	Not reported
Expected date of investigation changes:	Not reported
Date of participation plan review:	Not reported
Date of hot work permit review:	Not reported
Date of contractor safety review:	Not reported
Date of contractor safety eval. review:	Not reported
Record has CBI data:	Not reported
Safety review date:	Not reported
Federal Regulation:	Not reported
Federal regulation comment:	Not reported
Major Hazard:	Not reported
Process Control:	Not reported
Mitigation Systems:	Not reported
Monitoring/Detection:	Not reported
Changes since the last process hazard analysis:	Not reported
Most recent hazard review/update:	Not reported
Most recent review of op. procedures:	Not reported
Most recent training progs review/update:	Not reported
Expected completion of review changes:	Not reported
Training:	Not reported
Competency testing:	Not reported
Most recent maintenance review date:	Not reported
Most recent equipment inspection date:	Not reported
Equipment tested:	Not reported
Most recent compliance audit date:	Not reported
Expected date of audit completion:	Not reported
Most recent incident investigation:	Not reported
Expected date of investigation changes:	Not reported
Record has CBI data:	Not reported
Date of most recent changes:	Not reported

RMP:

ER plan:	Not reported

RATTLESNAKE RESERVOIR DISINFECTION FACILITY (Continued) **1011835534**

ER plan most recent review date:	2006-11-01 00:00:00
ER plan most recent employee training date:	2008-11-11 00:00:00
Local agency coordinating ER plan:	Orange County Fire Authority
Telephone of the coordinating local agency:	7145736000
Federal regulation:	True
OSHA 1910 120:	True
SPCC:	False
RCRA:	False
OPA 90:	False
EPCRA:	True
Other Regulations:	Not reported

A4 Target Property **RATTLESNAKE RESERVOIR CHLORINATION FACILITY** **RMP** **1011835533**
4769 PORTOLA PARKWAY **N/A**
IRVINE, CA 92620

Site 4 of 8 in cluster A

Actual: 327 ft.

RMP:

Facility ID:	1000024337
LEPC city:	California Region 1 LEPC
Facility decimal latitude:	33.728333
Facility decimal longitude:	-117.742500
Is facility in county box:	T
LatLong method:	A1
LatLong description:	PG
Home page web address:	Not reported
Facility telephone:	Not reported
Facility email:	Not reported
Facility DUNS #:	0
Parent's name:	Irvine Ranch Water District
Partner's name:	Not reported
Parent's DUNS #:	59270884
Partner's DUNS #:	0
Operator's name:	Irvine Ranch Water District
Operator's telephone:	9494535800
Operator's address:	P.O. Box 57000
Operators City,St,Zip:	Irvine, CA 92619 7000
RMP implementation contact:	Kenneth Erwin
RMP contact title:	District Safety & Security Manager
Emergency contact:	Tom Roberts
Emergency contact title:	Systems Operations Manager
Emergency contact telephone:	9494535674
24 hour emergency telephone:	9494668870
Emergency contact ext/pin #:	Not reported
Number of full time employees:	0
EPA ID:	Not reported
Facility ID provided by CEPPO:	100000053568
Is facility covered by OSHA PSM:	F
Is facility covered by EPCRA 302:	T
Is fac. covered by CAA Title V 112(2):	F
Clean air op. permit/State ID:	Not reported
Last safety insp. dat:	2010-11-30 00:00:00
Inspected by:	Orange County Fire Authority
Is it OSHA approved with star/merit ranking:	False
Will RMP involve predictive filing:	False
Submission type:	Resubmission
RMP description:	Not reported

RATTLESNAKE RESERVOIR CHLORINATION FACILITY (Continued) **1011835533**

Facility has no accident hist. recs:	True
Foreign owner's address:	Not reported
Foreign owner's zip:	Not reported
Foreign owner's country:	Not reported
Claim # of employees as CBI:	False
Date RMP accepted by EPA:	2012-01-24 00:00:00
Date of error Report:	Not reported
Date RMP received:	2012-01-24 00:00:00
Does RMP contain graphics files:	False
Does RMP contain attachments:	False
Was certification letter received:	True
RMP submission method:	RMP*eSubmit
Does RMP contain CBI substantiation:	False
Does RMP contain electronic waiver:	False
Date RMP postmarked:	2012-01-24 00:00:00
Is RMP complete:	True
Date of de-registration:	2015-09-30 00:00:00
Date de-registration is effective:	2015-05-14 00:00:00
Aniversary date:	2017-01-24 00:00:00
Does RMP contain CBI data:	False
Does RMP contain unsanitized CBI version:	False
RMP version #:	3.8
FRS latitude:	33.72278
FRS longitude:	-117.74229
FRS Description:	PLANT ENTRANCE (GENERAL)
FRS Method:	ADDRESS MATCHING-HOUSE NUMBER

RMP:

Process ID:	1000029745
NA & Industry Classification Sys.code(s):	22131
NAICS code description:	Water Supply and Irrigation Systems
Optional facility description:	Recycled Water Treatment
Program level:	2
Record contains CBI data:	False

RMP:

Chemical name:	Chlorine
Process chemical qty in 100s lbs:	30000
Process flammable chemical name:	Not reported

RMP:

Percent weight of chemical:	Not reported
Physical state:	Not reported
Analytical basic:	Not reported
Scenario:	Not reported
Quantity released in pounds:	Not reported
Release duration in minutes:	Not reported
Release rate in pounds per second:	Not reported
Wind speed in meters/second:	Not reported
Stability class:	Not reported
Topography:	Not reported
Distance to endpoint in miles:	Not reported
Residential population:	Not reported
Public receptors:	Not reported
Environmental receptors:	Not reported
Passive mitigation:	Not reported
Active mitigation:	Not reported

RATTLESNAKE RESERVOIR CHLORINATION FACILITY (Continued) **1011835533**

RMP:

Percent weight of chemical:	Not reported
Physical state:	Not reported
Analytical basic:	Not reported
Scenario:	Not reported
Quantity released in pounds:	Not reported
Release duration in minutes:	Not reported
Release rate in pounds per second:	Not reported
Wind speed in meters/second:	Not reported
Stability class:	Not reported
Topography:	Not reported
Distance to endpoint in miles:	Not reported
Residential population:	Not reported
Public receptors:	Not reported
Environmental receptors:	Not reported
Passive mitigation:	Not reported

RMP:

Endpoint used:	Not reported
LFL value:	Not reported
Analytical basic:	Not reported
Scenario:	Not reported
Quantity released in pounds:	Not reported
Distance to endpoint in miles:	Not reported
Residential population:	Not reported
Public receptors:	Not reported
Environmental receptors:	Not reported
Passive mitigation:	Not reported
Active mitigation:	Not reported

RMP:

Analytical basic:	Not reported
Quantity released in pounds:	Not reported
Distance to endpoint in miles:	Not reported
Residential population:	Not reported
Public receptors:	Not reported
Environmental receptors:	Not reported
Passive mitigation:	Not reported
Safety review date:	Not reported
Most recent PHA date:	Not reported
Process Hazard Analysis:	Not reported
Expected PHA changes completion date:	Not reported
Major Hazard:	Not reported
Process Control:	Not reported
Mitigation Systems:	Not reported
Monitoring/Detection:	Not reported
Changes since the last process hazard analysis:	Not reported
Most recent review of op. procedures:	Not reported
Most recent training progs review/update:	Not reported
Training:	Not reported
Competency testing:	Not reported
Most recent maintenance review date:	Not reported
Most recent equipment inspection date:	Not reported
Equipment tested:	Not reported
Most recent changes by mgmt:	Not reported
Date of most recent review/update:	Not reported
Date of pre-start review:	Not reported
Most recent compliance audit date:	Not reported

RATTLESNAKE RESERVOIR CHLORINATION FACILITY (Continued) **1011835533**

Expected date of audit completion:	Not reported
Most recent incident investigation:	Not reported
Expected date of investigation changes:	Not reported
Date of participation plan review:	Not reported
Date of hot work permit review:	Not reported
Date of contractor safety review:	Not reported
Date of contractor safety eval. review:	Not reported
Record has CBI data:	Not reported
Safety review date:	Not reported
Federal Regulation:	Not reported
Federal regulation comment:	Not reported
Major Hazard:	Not reported
Process Control:	Not reported
Mitigation Systems:	Not reported
Monitoring/Detection:	Not reported
Changes since the last process hazard analysis:	Not reported
Most recent hazard review/update:	Not reported
Most recent review of op. procedures:	Not reported
Most recent training progs review/update:	Not reported
Expected completion of review changes:	Not reported
Training:	Not reported
Competency testing:	Not reported
Most recent maintenance review date:	Not reported
Most recent equipment inspection date:	Not reported
Equipment tested:	Not reported
Most recent compliance audit date:	Not reported
Expected date of audit completion:	Not reported
Most recent incident investigation:	Not reported
Expected date of investigation changes:	Not reported
Record has CBI data:	Not reported
Date of most recent changes:	Not reported
Chemical name:	Public OCA Chemical
Process chemical qty in 100s lbs:	0
Process flammable chemical name:	Not reported

RMP:

Percent weight of chemical:	Not reported
Physical state:	c
Analytical basic:	EPA's RMP Guidance for Waste Water Treatment Plants Reference Tables or Equations
Scenario:	Not reported
Quantity released in pounds:	Not reported
Release duration in minutes:	Not reported
Release rate in pounds per second:	Not reported
Wind speed in meters/second:	3
Stability class:	D
Topography:	a
Distance to endpoint in miles:	Not reported
Residential population:	Not reported
Public receptors:	Not reported
Environmental receptors:	Not reported
Passive mitigation:	Enclosures
Active mitigation:	Not reported

RMP:

Percent weight of chemical:	Not reported
Physical state:	c
Analytical basic:	EPA's RMP Guidance for Waste Water Treatment Plants Reference Tables or Equations
Scenario:	Not reported

RATTLESNAKE RESERVOIR CHLORINATION FACILITY (Continued) **1011835533**

Quantity released in pounds:	Not reported
Release duration in minutes:	10
Release rate in pounds per second:	Not reported
Wind speed in meters/second:	1.5
Stability class:	F
Topography:	a
Distance to endpoint in miles:	Not reported
Residential population:	Not reported
Public receptors:	Not reported
Environmental receptors:	Not reported
Passive mitigation:	Enclosures

RMP:

Endpoint used:	Not reported
LFL value:	Not reported
Analytical basic:	Not reported
Scenario:	Not reported
Quantity released in pounds:	Not reported
Distance to endpoint in miles:	Not reported
Residential population:	Not reported
Public receptors:	Not reported
Environmental receptors:	Not reported
Passive mitigation:	Not reported
Active mitigation:	Not reported

RMP:

Analytical basic:	Not reported
Quantity released in pounds:	Not reported
Distance to endpoint in miles:	Not reported
Residential population:	Not reported
Public receptors:	Not reported
Environmental receptors:	Not reported
Passive mitigation:	Not reported
Safety review date:	Not reported
Most recent PHA date:	Not reported
Process Hazard Analysis:	Not reported
Expected PHA changes completion date:	Not reported
Major Hazard:	Not reported
Process Control:	Not reported
Mitigation Systems:	Not reported
Monitoring/Detection:	Not reported
Changes since the last process hazard analysis:	Not reported
Most recent review of op. procedures:	Not reported
Most recent training progs review/update:	Not reported
Training:	Not reported
Competency testing:	Not reported
Most recent maintenance review date:	Not reported
Most recent equipment inspection date:	Not reported
Equipment tested:	Not reported
Most recent changes by mgmt:	Not reported
Date of most recent review/update:	Not reported
Date of pre-start review:	Not reported
Most recent compliance audit date:	Not reported
Expected date of audit completion:	Not reported
Most recent incident investigation:	Not reported
Expected date of investigation changes:	Not reported
Date of participation plan review:	Not reported
Date of hot work permit review:	Not reported

RATTLESNAKE RESERVOIR CHLORINATION FACILITY (Continued) **1011835533**

Date of contractor safety review:	Not reported
Date of contractor safety eval. review:	Not reported
Record has CBI data:	Not reported
Safety review date:	Not reported
Federal Regulation:	Not reported
Federal regulation comment:	Not reported
Major Hazard:	Not reported
Process Control:	Not reported
Mitigation Systems:	Not reported
Monitoring/Detection:	Not reported
Changes since the last process hazard analysis:	Not reported
Most recent hazard review/update:	Not reported
Most recent review of op. procedures:	Not reported
Most recent training progs review/update:	Not reported
Expected completion of review changes:	Not reported
Training:	Not reported
Competency testing:	Not reported
Most recent maintenance review date:	Not reported
Most recent equipment inspection date:	Not reported
Equipment tested:	Not reported
Most recent compliance audit date:	Not reported
Expected date of audit completion:	Not reported
Most recent incident investigation:	Not reported
Expected date of investigation changes:	Not reported
Record has CBI data:	Not reported
Date of most recent changes:	Not reported

RMP:

ER plan:	Not reported
ER plan most recent review date:	2011-09-01 00:00:00
ER plan most recent employee training date:	2011-09-08 00:00:00
Local agency coordinating ER plan:	Orange County Fire Authority
Telephone of the coordinating local agency:	7145736000
Federal regulation:	True
OSHA 1910 120:	True
SPCC:	False
RCRA:	False
OPA 90:	False
EPCRA:	True
Other Regulations:	Not reported

RMP:

Facility ID:	4448
LEPC city:	California Region 1 LEPC
Facility decimal latitude:	33.728333
Facility decimal longitude:	-117.7425
Is facility in county box:	T
LatLong method:	A1
LatLong description:	PG
Home page web address:	www.irwd.com
Facility telephone:	9494535800
Facility email:	habiger@irwd.com
Facility DUNS #:	0
Parent’s name:	Irvine Ranch Water District
Partner’s name:	Not reported
Parent’s DUNS #:	59270884
Partner’s DUNS #:	0

RATTLESNAKE RESERVOIR CHLORINATION FACILITY (Continued) **1011835533**

Operator's name:	Irvine Ranch Water District
Operator's telephone:	9494535800
Operator's address:	P.O. Box 57000
Operators City,St,Zip:	Irvine, CA 92619 7000
RMP implementation contact:	Bob Roth
RMP contact title:	District Safety Manager
Emergency contact:	Steve Habiger
Emergency contact title:	System Operations Manager
Emergency contact telephone:	9494535745
24 hour emergency telephone:	9497297311
Emergency contact ext/pin #:	Not reported
Number of full time employees:	0
EPA ID:	Not reported
Facility ID provided by CEPPO:	100000053568
Is facility covered by OSHA PSM:	T
Is facility covered by EPCRA 302:	T
Is fac. covered by CAA Title V 112(2):	F
Clean air op. permit/State ID:	Not reported
Last safety insp. dat:	Not reported
Inspected by:	Fire Department
Is it OSHA approved with star/merit ranking:	False
Will RMP involve predictive filing:	False
Submission type:	First Time
RMP description:	Not reported
Facility has no accident hist. recs:	True
Foreign owner's address:	Not reported
Foreign owner's zip:	Not reported
Foreign owner's country:	Not reported
Claim # of employees as CBI:	False
Date RMP accepted by EPA:	1999-06-24 00:00:00
Date of error Report:	Not reported
Date RMP received:	1999-06-18 00:00:00
Does RMP contain graphics files:	False
Does RMP contain attachments:	False
Was certification letter received:	True
RMP submission method:	RMP*Submit
Does RMP contain CBI substantiation:	False
Does RMP contain electronic waiver:	False
Date RMP postmarked:	1999-06-17 00:00:00
Is RMP complete:	True
Date of de-registration:	2015-09-30 00:00:00
Date de-registration is effective:	2015-05-14 00:00:00
Aniversary date:	2004-06-17 00:00:00
Does RMP contain CBI data:	False
Does RMP contain unsanitized CBI version:	False
RMP version #:	1.1.5
FRS latitude:	33.72278
FRS longitude:	-117.74229
FRS Description:	PLANT ENTRANCE (GENERAL)
FRS Method:	ADDRESS MATCHING-HOUSE NUMBER

RMP:

Process ID:	5182
NA & Industry Classification Sys.code(s):	22131
NAICS code description:	Water Supply and Irrigation Systems
Optional facility description:	Recycled Water Treatment
Program level:	3

RATTLESNAKE RESERVOIR CHLORINATION FACILITY (Continued) **1011835533**

Record contains CBI data: False

RMP:
Chemical name: Public OCA Chemical
Process chemical qty in 100s lbs: 0
Process flammable chemical name: Not reported

RMP:
Percent weight of chemical: Not reported
Physical state: c
Analytical basic: EPA's RMP Guidance for Waste Water Treatment Plants Reference Tables or Equations
Scenario: Not reported
Quantity released in pounds: Not reported
Release duration in minutes: Not reported
Release rate in pounds per second: Not reported
Wind speed in meters/second: 3
Stability class: D
Topography: a
Distance to endpoint in miles: Not reported
Residential population: Not reported
Public receptors: Not reported
Environmental receptors: Not reported
Passive mitigation: Enclosures
Active mitigation: Emergency shutdown

RMP:
Percent weight of chemical: Not reported
Physical state: c
Analytical basic: EPA's RMP Guidance for Waste Water Treatment Plants Reference Tables or Equations
Scenario: Not reported
Quantity released in pounds: Not reported
Release duration in minutes: 10
Release rate in pounds per second: Not reported
Wind speed in meters/second: 1.5
Stability class: F
Topography: a
Distance to endpoint in miles: Not reported
Residential population: Not reported
Public receptors: Not reported
Environmental receptors: Not reported
Passive mitigation: Not reported

RMP:
Endpoint used: Not reported
LFL value: Not reported
Analytical basic: Not reported
Scenario: Not reported
Quantity released in pounds: Not reported
Distance to endpoint in miles: Not reported
Residential population: Not reported
Public receptors: Not reported
Environmental receptors: Not reported
Passive mitigation: Not reported
Active mitigation: Not reported

RMP:
Analytical basic: Not reported
Quantity released in pounds: Not reported
Distance to endpoint in miles: Not reported
Residential population: Not reported

RATTLESNAKE RESERVOIR CHLORINATION FACILITY (Continued) **1011835533**

Public receptors:	Not reported
Environmental receptors:	Not reported
Passive mitigation:	Not reported
Safety review date:	Not reported
Most recent PHA date:	Not reported
Process Hazard Analysis:	Not reported
Expected PHA changes completion date:	Not reported
Major Hazard:	Not reported
Process Control:	Not reported
Mitigation Systems:	Not reported
Monitoring/Detection:	Not reported
Changes since the last process hazard analysis:	Not reported
Most recent review of op. procedures:	Not reported
Most recent training progs review/update:	Not reported
Training:	Not reported
Competency testing:	Not reported
Most recent maintenance review date:	Not reported
Most recent equipment inspection date:	Not reported
Equipment tested:	Not reported
Most recent changes by mgmt:	Not reported
Date of most recent review/update:	Not reported
Date of pre-start review:	Not reported
Most recent compliance audit date:	Not reported
Expected date of audit completion:	Not reported
Most recent incident investigation:	Not reported
Expected date of investigation changes:	Not reported
Date of participation plan review:	Not reported
Date of hot work permit review:	Not reported
Date of contractor safety review:	Not reported
Date of contractor safety eval. review:	Not reported
Record has CBI data:	Not reported
Safety review date:	Not reported
Federal Regulation:	Not reported
Federal regulation comment:	Not reported
Major Hazard:	Not reported
Process Control:	Not reported
Mitigation Systems:	Not reported
Monitoring/Detection:	Not reported
Changes since the last process hazard analysis:	Not reported
Most recent hazard review/update:	Not reported
Most recent review of op. procedures:	Not reported
Most recent training progs review/update:	Not reported
Expected completion of review changes:	Not reported
Training:	Not reported
Competency testing:	Not reported
Most recent maintenance review date:	Not reported
Most recent equipment inspection date:	Not reported
Equipment tested:	Not reported
Most recent compliance audit date:	Not reported
Expected date of audit completion:	Not reported
Most recent incident investigation:	Not reported
Expected date of investigation changes:	Not reported
Record has CBI data:	Not reported
Date of most recent changes:	Not reported
Chemical name:	Chlorine
Process chemical qty in 100s lbs:	18000
Process flammable chemical name:	Not reported

RATTLESNAKE RESERVOIR CHLORINATION FACILITY (Continued) **1011835533**

RMP:

Percent weight of chemical:	Not reported
Physical state:	Not reported
Analytical basic:	Not reported
Scenario:	Not reported
Quantity released in pounds:	Not reported
Release duration in minutes:	Not reported
Release rate in pounds per second:	Not reported
Wind speed in meters/second:	Not reported
Stability class:	Not reported
Topography:	Not reported
Distance to endpoint in miles:	Not reported
Residential population:	Not reported
Public receptors:	Not reported
Environmental receptors:	Not reported
Passive mitigation:	Not reported
Active mitigation:	Not reported

RMP:

Percent weight of chemical:	Not reported
Physical state:	Not reported
Analytical basic:	Not reported
Scenario:	Not reported
Quantity released in pounds:	Not reported
Release duration in minutes:	Not reported
Release rate in pounds per second:	Not reported
Wind speed in meters/second:	Not reported
Stability class:	Not reported
Topography:	Not reported
Distance to endpoint in miles:	Not reported
Residential population:	Not reported
Public receptors:	Not reported
Environmental receptors:	Not reported
Passive mitigation:	Not reported

RMP:

Endpoint used:	Not reported
LFL value:	Not reported
Analytical basic:	Not reported
Scenario:	Not reported
Quantity released in pounds:	Not reported
Distance to endpoint in miles:	Not reported
Residential population:	Not reported
Public receptors:	Not reported
Environmental receptors:	Not reported
Passive mitigation:	Not reported
Active mitigation:	Not reported

RMP:

Analytical basic:	Not reported
Quantity released in pounds:	Not reported
Distance to endpoint in miles:	Not reported
Residential population:	Not reported
Public receptors:	Not reported
Environmental receptors:	Not reported
Passive mitigation:	Not reported
Safety review date:	Not reported
Most recent PHA date:	Not reported

RATTLESNAKE RESERVOIR CHLORINATION FACILITY (Continued) **1011835533**

Process Hazard Analysis:	Not reported
Expected PHA changes completion date:	Not reported
Major Hazard:	Not reported
Process Control:	Not reported
Mitigation Systems:	Not reported
Monitoring/Detection:	Not reported
Changes since the last process hazard analysis:	Not reported
Most recent review of op. procedures:	Not reported
Most recent training progs review/update:	Not reported
Training:	Not reported
Competency testing:	Not reported
Most recent maintenance review date:	Not reported
Most recent equipment inspection date:	Not reported
Equipment tested:	Not reported
Most recent changes by mgmt:	Not reported
Date of most recent review/update:	Not reported
Date of pre-start review:	Not reported
Most recent compliance audit date:	Not reported
Expected date of audit completion:	Not reported
Most recent incident investigation:	Not reported
Expected date of investigation changes:	Not reported
Date of participation plan review:	Not reported
Date of hot work permit review:	Not reported
Date of contractor safety review:	Not reported
Date of contractor safety eval. review:	Not reported
Record has CBI data:	Not reported
Safety review date:	Not reported
Federal Regulation:	Not reported
Federal regulation comment:	Not reported
Major Hazard:	Not reported
Process Control:	Not reported
Mitigation Systems:	Not reported
Monitoring/Detection:	Not reported
Changes since the last process hazard analysis:	Not reported
Most recent hazard review/update:	Not reported
Most recent review of op. procedures:	Not reported
Most recent training progs review/update:	Not reported
Expected completion of review changes:	Not reported
Training:	Not reported
Competency testing:	Not reported
Most recent maintenance review date:	Not reported
Most recent equipment inspection date:	Not reported
Equipment tested:	Not reported
Most recent compliance audit date:	Not reported
Expected date of audit completion:	Not reported
Most recent incident investigation:	Not reported
Expected date of investigation changes:	Not reported
Record has CBI data:	Not reported
Date of most recent changes:	Not reported

RMP:

ER plan:	Not reported
ER plan most recent review date:	1999-04-13 00:00:00
ER plan most recent employee training date:	1999-04-13 00:00:00
Local agency coordinating ER plan:	Orange County Fire Authority
Telephone of the coordinating local agency:	7147440454
Federal regulation:	True
OSHA 1910 120:	True

RATTLESNAKE RESERVOIR CHLORINATION FACILITY (Continued) **1011835533**

SPCC:	False
RCRA:	False
OPA 90:	False
EPCRA:	True
Other Regulations:	Not reported

A5 Target Property **RATTLESNAKE RESERVOIR IRWD** **HAZNET** **S113171809**
4769 PORTOLA PKWY **N/A**
IRVINE, CA 92620

Site 5 of 8 in cluster A

Actual: 327 ft.

HAZNET:

Name:	RATTLESNAKE RESERVOIR IRWD
Address:	4769 PORTOLA PKWY
City,State,Zip:	IRVINE, CA 926200000
Year:	2011
GEPAID:	CAP000221523
Contact:	CINDY R BECK
Telephone:	9494535832
Mailing Name:	Not reported
Mailing Address:	3512 MICHELSON DR
Mailing City,St,Zip:	IRVINE, CA 926120000
Gen County:	Orange
TSD EPA ID:	CAD008488025
TSD County:	Los Angeles
Tons:	6.255
CA Waste Code:	791-Liquids with pH <= 2
Method:	H039-Other Recovery Of Reclamation For Reuse Including Acid Regeneration, Organics Recovery Ect
Facility County:	Orange

Name:	RATTLESNAKE RESERVOIR IRWD
Address:	4769 PORTOLA PKWY
City,State,Zip:	IRVINE, CA 926200000
Year:	2011
GEPAID:	CAP000221523
Contact:	CINDY R BECK
Telephone:	9494535832
Mailing Name:	Not reported
Mailing Address:	3512 MICHELSON DR
Mailing City,St,Zip:	IRVINE, CA 926120000
Gen County:	Orange
TSD EPA ID:	CAD008488025
TSD County:	Los Angeles
Tons:	5.421
CA Waste Code:	122-Alkaline solution without metals pH >= 12.5
Method:	H039-Other Recovery Of Reclamation For Reuse Including Acid Regeneration, Organics Recovery Ect
Facility County:	Orange

A6 **CHMIRS** **S108748845**
Target Property **4769 PORTOLA PKWY** **N/A**
IRVINE, CA

Site 6 of 8 in cluster A

Actual: 327 ft.

CHMIRS:

OES Incident Number:	08-4849
OES notification:	07/01/2008
OES Date:	Not reported
OES Time:	Not reported
Date Completed:	**Not reported**
Property Use:	Not reported
Agency Id Number:	Not reported
Agency Incident Number:	Not reported
Time Notified:	Not reported
Time Completed:	Not reported
Surrounding Area:	Not reported
Estimated Temperature:	Not reported
Property Management:	Not reported
More Than Two Substances Involved?:	Not reported
Resp Agncy Personel # Of Decontaminated:	Not reported
Responding Agency Personel # Of Injuries:	Not reported
Responding Agency Personel # Of Fatalities:	Not reported
Others Number Of Decontaminated:	Not reported
Others Number Of Injuries:	Not reported
Others Number Of Fatalities:	Not reported
Vehicle Make/year:	Not reported
Vehicle License Number:	Not reported
Vehicle State:	Not reported
Vehicle Id Number:	Not reported
CA DOT PUC/ICC Number:	Not reported
Company Name:	Not reported
Reporting Officer Name/ID:	Not reported
Report Date:	Not reported
Facility Telephone:	Not reported
Waterway Involved:	No
Waterway:	Not reported
Spill Site:	Treatment/Sewage Facility
Cleanup By:	Reporting Party
Containment:	Not reported
What Happened:	Not reported
Type:	Not reported
Measure:	Gal(s)
Other:	Not reported
Date/Time:	1030
Year:	2008
Agency:	Irvine Ranch Water Dist.
Incident Date:	7/1/2008
Admin Agency:	Orange County Emergency Managment Div
Amount:	Not reported
Contained:	Yes
Site Type:	Not reported
E Date:	Not reported
Substance:	Sodium Metabisulfite 25%
Quantity Released:	700
Unknown:	Not reported
Substance #2:	Not reported
Substance #3:	Not reported

(Continued) **S108748845**

Evacuations:	0
Number of Injuries:	0
Number of Fatalities:	0
#1 Pipeline:	Not reported
#2 Pipeline:	Not reported
#3 Pipeline:	Not reported
#1 Vessel >= 300 Tons:	Not reported
#2 Vessel >= 300 Tons:	Not reported
#3 Vessel >= 300 Tons:	Not reported
Evacs:	Not reported
Injuries:	Not reported
Fatals:	Not reported
Comments:	Not reported
Description:	The system discharge valve on storage tank was accidentally opened and the substance spilled into a containment area.

A7 Target Property | **RATTLE SNAKE RESERVOIR** | **RCRA-LQG** | **1017785858**
4769 PORTOLA PARKWAY | **CAR000253542**
IRVINE, CA 92620

Site 7 of 8 in cluster A

Actual: 327 ft.

RCRA-LQG:

Date form received by agency:	02/26/2016
Facility name:	RATTLE SNAKE RESERVOIR
Facility address:	4769 PORTOLA PARKWAY IRVINE, CA 92620
EPA ID:	CAR000253542
Mailing address:	MICHELSON DRIVE IRVINE, CA 92619
Contact:	LYNDY LEWIS
Contact address:	MICHELSON DRIVE IRVINE, CA 92619
Contact country:	US
Contact telephone:	949-453-5832
Contact email:	LEWIS@IRWD.COM
EPA Region:	09
Classification:	Large Quantity Generator
Description:	Handler: generates 1,000 kg or more of hazardous waste during any calendar month; or generates more than 1 kg of acutely hazardous waste during any calendar month; or generates more than 100 kg of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste during any calendar month; or generates 1 kg or less of acutely hazardous waste during any calendar month, and accumulates more than 1 kg of acutely hazardous waste at any time; or generates 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste during any calendar month, and accumulates more than 100 kg of that material at any time

Owner/Operator Summary:

Owner/operator name:	IRVINE RANCH WATER DISTRICT
Owner/operator address:	Not reported Not reported
Owner/operator country:	Not reported

RATTLE SNAKE RESERVOIR (Continued) **1017785858**

Owner/operator telephone: Not reported
Owner/operator email: Not reported
Owner/operator fax: Not reported
Owner/operator extension: Not reported
Legal status: District
Owner/Operator Type: Operator
Owner/Op start date: 02/27/1976
Owner/Op end date: Not reported

Owner/operator name: IRVINE RANCH WATER DISTRICT
Owner/operator address: MICHELSON DRIVE
IRVINE, CA 92619
Owner/operator country: US
Owner/operator telephone: 949-453-5832
Owner/operator email: Not reported
Owner/operator fax: Not reported
Owner/operator extension: Not reported
Legal status: District
Owner/Operator Type: Owner
Owner/Op start date: 02/27/1976
Owner/Op end date: Not reported

Owner/operator name: IRVINE RANCH WATER DISTRICT
Owner/operator address: P O BOX 57000
IRVINE, CA 92619
Owner/operator country: US
Owner/operator telephone: 949-453-5300
Owner/operator email: Not reported
Owner/operator fax: Not reported
Owner/operator extension: Not reported
Legal status: District
Owner/Operator Type: Owner
Owner/Op start date: 01/01/1970
Owner/Op end date: Not reported

Owner/operator name: IRVINE RANCH WATER DISTRICT
Owner/operator address: Not reported
Not reported
Owner/operator country: US
Owner/operator telephone: Not reported
Owner/operator email: Not reported
Owner/operator fax: Not reported
Owner/operator extension: Not reported
Legal status: District
Owner/Operator Type: Operator
Owner/Op start date: 01/01/1970
Owner/Op end date: Not reported

Handler Activities Summary:
U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No

RATTLE SNAKE RESERVOIR (Continued) **1017785858**

Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

Historical Generators:
Date form received by agency: 05/05/2015
Site name: RATTLESNAKE RESERVOIR
Classification: Large Quantity Generator

Hazardous Waste Summary:

. Waste code: 122
. Waste name: Alkaline solution without metals (pH > 12.5)

. Waste code: 181
. Waste name: Other inorganic solid waste

. Waste code: D002
. Waste name: CORROSIVE WASTE

Biennial Reports:

Last Biennial Reporting Year: 2017

Annual Waste Handled:
Waste code: D002
Waste name: A WASTE WHICH HAS A PH OF LESS THAN 2 OR GREATER THAN 12.5 IS CONSIDERED TO BE A CORROSIVE HAZARDOUS WASTE. SODIUM HYDROXIDE, A CAUSTIC SOLUTION WITH A HIGH PH, IS OFTEN USED BY INDUSTRIES TO CLEAN OR DEGREASE PARTS. HYDROCHLORIC ACID, A SOLUTION WITH A LOW PH, IS USED BY MANY INDUSTRIES TO CLEAN METAL PARTS PRIOR TO PAINTING. WHEN THESE CAUSTIC OR ACID SOLUTIONS BECOME CONTAMINATED AND MUST BE DISPOSED, THE WASTE WOULD BE A CORROSIVE HAZARDOUS WASTE.
Amount (Lbs): 14403.7

Violation Status: No violations found

A8 Target Property | **IRVINE RANCH WATER DISTRICT**
4769 PORTOLA PKY
IRVINE, CA 92620 | **CHMIRS EMI HAZNET CERS** | **S109039494 N/A**

Site 8 of 8 in cluster A

Actual: 327 ft.

CHMIRS:
OES Incident Number: 10-2117
OES notification: 03/31/2010
OES Date: Not reported
OES Time: Not reported
Date Completed: Not reported
Property Use: Not reported
Agency Id Number: Not reported
Agency Incident Number: Not reported
Time Notified: Not reported

IRVINE RANCH WATER DISTRICT (Continued) **S109039494**

Time Completed:	Not reported
Surrounding Area:	Not reported
Estimated Temperature:	Not reported
Property Management:	Not reported
More Than Two Substances Involved?:	Not reported
Resp Agncy Personel # Of Decontaminated:	Not reported
Responding Agency Personel # Of Injuries:	Not reported
Responding Agency Personel # Of Fatalities:	Not reported
Others Number Of Decontaminated:	Not reported
Others Number Of Injuries:	Not reported
Others Number Of Fatalities:	Not reported
Vehicle Make/year:	Not reported
Vehicle License Number:	Not reported
Vehicle State:	Not reported
Vehicle Id Number:	Not reported
CA DOT PUC/ICC Number:	Not reported
Company Name:	Not reported
Reporting Officer Name/ID:	Not reported
Report Date:	Not reported
Facility Telephone:	Not reported
Waterway Involved:	No
Waterway:	Not reported
Spill Site:	Treatment/Sewage Facility
Cleanup By:	Reporting Party
Containment:	Not reported
What Happened:	Not reported
Type:	Not reported
Measure:	Lbs.
Other:	Not reported
Date/Time:	1510
Year:	2010
Agency:	Irvine Ranch Water Dist.
Incident Date:	3/31/2010
Admin Agency:	Orange County Emergency Management Division
Amount:	Not reported
Contained:	Yes
Site Type:	Not reported
E Date:	Not reported
Substance:	Chlorine Gas
Quantity Released:	40547
Unknown:	Not reported
Substance #2:	Not reported
Substance #3:	Not reported
Evacuations:	Not reported
Number of Injuries:	Not reported
Number of Fatalities:	Not reported
#1 Pipeline:	Not reported
#2 Pipeline:	Not reported
#3 Pipeline:	Not reported
#1 Vessel >= 300 Tons:	Not reported
#2 Vessel >= 300 Tons:	Not reported
#3 Vessel >= 300 Tons:	Not reported
Evacs:	Not reported
Injuries:	Not reported
Fatals:	Not reported
Comments:	Not reported
Description:	There was a malfunction during a switch over to

IRVINE RANCH WATER DISTRICT (Continued) **S109039494**

	another canister which caused a release chlorine gas.
OES Incident Number:	6-1851
OES notification:	03/29/2006
OES Date:	Not reported
OES Time:	Not reported
Date Completed:	**Not reported**
Property Use:	Not reported
Agency Id Number:	Not reported
Agency Incident Number:	Not reported
Time Notified:	Not reported
Time Completed:	Not reported
Surrounding Area:	Not reported
Estimated Temperature:	Not reported
Property Management:	Not reported
More Than Two Substances Involved?:	Not reported
Resp Agncy Personel # Of Decontaminated:	Not reported
Responding Agency Personel # Of Injuries:	Not reported
Responding Agency Personel # Of Fatalities:	Not reported
Others Number Of Decontaminated:	Not reported
Others Number Of Injuries:	Not reported
Others Number Of Fatalities:	Not reported
Vehicle Make/year:	Not reported
Vehicle License Number:	Not reported
Vehicle State:	Not reported
Vehicle Id Number:	Not reported
CA DOT PUC/ICC Number:	Not reported
Company Name:	Not reported
Reporting Officer Name/ID:	Not reported
Report Date:	Not reported
Facility Telephone:	Not reported
Waterway Involved:	Not reported
Waterway:	Not reported
Spill Site:	Not reported
Cleanup By:	Unknown
Containment:	Not reported
What Happened:	Not reported
Type:	Not reported
Measure:	Not reported
Other:	Not reported
Date/Time:	Not reported
Year:	2006
Agency:	Irvine Ranch Water Dist
Incident Date:	3/29/2006 12:00:00 AM
Admin Agency:	Orange County Emergency Managment Div
Amount:	Not reported
Contained:	Yes
Site Type:	Treatment/Sewage Facility
E Date:	Not reported
Substance:	Chlorine Gas
Gallons:	0.000000
Pounds:	1
Unknown:	0
Substance #2:	Not reported
Substance #3:	Not reported
Evacuations:	0

IRVINE RANCH WATER DISTRICT (Continued) **S109039494**

Number of Injuries:	0
Number of Fatalities:	0
#1 Pipeline:	Not reported
#2 Pipeline:	Not reported
#3 Pipeline:	Not reported
#1 Vessel >= 300 Tons:	Not reported
#2 Vessel >= 300 Tons:	Not reported
#3 Vessel >= 300 Tons:	Not reported
Evacs:	Not reported
Injuries:	Not reported
Fatals:	Not reported
Comments:	Not reported
Description:	Substance was released due to a faulty rotameter. Faulty rotameter has been taken off line

EMI:

Year:	2012
County Code:	30
Air Basin:	SC
Facility ID:	72489
Air District Name:	SC
SIC Code:	4940
Air District Name:	SOUTH COAST AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	0.24420131291
Reactive Organic Gases Tons/Yr:	0.02232
Carbon Monoxide Emissions Tons/Yr:	0.3254
NOX - Oxides of Nitrogen Tons/Yr:	0.02352
SOX - Oxides of Sulphur Tons/Yr:	0.00116
Particulate Matter Tons/Yr:	0.01942
Part. Matter 10 Micrometers and Smllr Tons/Yr:	0.01930348

Year:	2013
County Code:	30
Air Basin:	SC
Facility ID:	72489
Air District Name:	SC
SIC Code:	4941
Air District Name:	SOUTH COAST AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	0.2209798628
Reactive Organic Gases Tons/Yr:	0.02083
Carbon Monoxide Emissions Tons/Yr:	0.29534
NOX - Oxides of Nitrogen Tons/Yr:	0.03012
SOX - Oxides of Sulphur Tons/Yr:	0.00105399
Particulate Matter Tons/Yr:	0.01814
Part. Matter 10 Micrometers and Smllr Tons/Yr:	0.01801982

Year:	2015
County Code:	30
Air Basin:	SC
Facility ID:	72489
Air District Name:	SC
SIC Code:	4940
Air District Name:	SOUTH COAST AQMD

IRVINE RANCH WATER DISTRICT (Continued) **S109039494**

Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	0.19607349039
Reactive Organic Gases Tons/Yr:	0.14611197
Carbon Monoxide Emissions Tons/Yr:	0.0756231
NOX - Oxides of Nitrogen Tons/Yr:	0.190133685
SOX - Oxides of Sulphur Tons/Yr:	0.001383328
Particulate Matter Tons/Yr:	0.02305545
Part. Matter 10 Micrometers and Smllr Tons/Yr:	0.0229171173

Year:	2016
County Code:	30
Air Basin:	SC
Facility ID:	72489
Air District Name:	SC
SIC Code:	4941
Air District Name:	SOUTH COAST AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	0.050483351235
Reactive Organic Gases Tons/Yr:	0.0047
Carbon Monoxide Emissions Tons/Yr:	0.02741
NOX - Oxides of Nitrogen Tons/Yr:	0.007474
SOX - Oxides of Sulphur Tons/Yr:	0.001793
Particulate Matter Tons/Yr:	0.02917
Part. Matter 10 Micrometers and Smllr Tons/Yr:	0.02899498

HAZNET:

Name:	RATTLESNAKE RESERVOIR
Address:	4769 PORTOLA PKWY
City,State,Zip:	IRVINE, CA 926200000
Year:	2015
GEPAID:	CAR000253542
Contact:	RUDY PEREZ - REGULATORY COMPLIANCE
Telephone:	9494535831
Mailing Name:	Not reported
Mailing Address:	PO BOX 57000
Mailing City,St,Zip:	IRVINE, CA 926197000
Gen County:	Orange
TSD EPA ID:	CAD097030993
TSD County:	Los Angeles
Tons:	7.20159
CA Waste Code:	122-Alkaline solution without metals pH >= 12.5
Method:	H135-Discharge To Sewer/Potw Or Npdes(With Prior Storage--With Or Without Treatment)
Facility County:	Orange

Name:	RATTLESNAKE RESERVOIR
Address:	4769 PORTOLA PKWY
City,State,Zip:	IRVINE, CA 926200000
Year:	2015
GEPAID:	CAR000253542
Contact:	RUDY PEREZ - REGULATORY COMPLIANCE
Telephone:	9494535831
Mailing Name:	Not reported
Mailing Address:	PO BOX 57000
Mailing City,St,Zip:	IRVINE, CA 926197000

IRVINE RANCH WATER DISTRICT (Continued) **S109039494**

Gen County:	Orange
TSD EPA ID:	CAD008364432
TSD County:	Los Angeles
Tons:	0.6
CA Waste Code:	181-Other inorganic solid waste
Method:	H141-Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Facility County:	Orange

CERS TANKS:

Site ID:	411511
CERS ID:	10583536
Site Name:	IRWD - RATTLESNAKE RESERVOIR
CERS Description:	Chemical Storage Facilities

Violations:

Site ID:	411511
Site Name:	IRWD - RATTLESNAKE RESERVOIR
Violation Date:	07-25-2017
Citation:	HSC 6.95 25508(a)(1) - California Health and Safety Code, Chapter 6.95, Section(s) 25508(a)(1)
Violation Description:	Failure to complete and electronically submit hazardous material inventory information for all reportable hazardous materials on site at or above reportable quantities.
Violation Notes:	Returned to compliance on 10/04/2018. The following chemical inventory items were observed to be submitted and inaccurate. Correct the following are re-submit to CERS: - Calcium Hypochlorite Solid. Disclose in pounds. - Sodium Bisulfite: Not observed. Remove from Haz Mat Disclosure Inventory. - Sodium Hypochlorite 12.5%: Amount observed on site is 32,000 gallons. Update amount on CERS.
Violation Division:	Orange County Environmental Health
Violation Program:	HMRRP
Violation Source:	CERS

Site ID:	411511
Site Name:	IRWD - RATTLESNAKE RESERVOIR
Violation Date:	07-25-2017
Citation:	HSC 6.95 25508.2 - California Health and Safety Code, Chapter 6.95, Section(s) 25508.2
Violation Description:	Failure to annually review and electronically certify that the business plan is complete and accurate on or before the annual due date.
Violation Notes:	Returned to compliance on 10/04/2018. No submission has been made for 2017 to CERS. Submit the HMBEP to CERS with the following corrections/updates: - Business Activities: Uncheck Above Ground Petroleum Storage. - Chemical Inventory: Update chemical inventory and amounts as noted in this report. - Facility Map: Update map with all required elements clearly labeling and showing chemicals on site. - Emergency Response/Training: Upload Emergency Response PLan and Training CERS Template Form.
Violation Division:	Orange County Environmental Health
Violation Program:	HMRRP
Violation Source:	CERS

Site ID:	411511
Site Name:	IRWD - RATTLESNAKE RESERVOIR
Violation Date:	07-25-2017

IRVINE RANCH WATER DISTRICT (Continued) **S109039494**

Citation: HSC 6.95 25508(a)(1) - California Health and Safety Code, Chapter 6.95, Section(s) 25508(a)(1)
Violation Description: Failure to complete and electronically submit a site map with all required content.
Violation Notes: Returned to compliance on 10/04/2018. Site map was observed missing required elements. Update and re-submit the map to CERS.
Violation Division: Orange County Environmental Health
Violation Program: HMRRP
Violation Source: CERS

Evaluation:
Eval General Type: Other/Unknown
Eval Date: 05-01-2015
Violations Found: No
Eval Type: Other, not routine, done by local agency
Eval Notes: HCA/Long asked that I oversee the past due inspection for this site due to HCA/Reesman leaving. Review facility history. It appears that this is a CAL ARP site for (15) 1 ton cylinders of anhydrous chlorine but plan on removing and replacing with hypo chlorite. Change to occur between 9-2014 and 6-2015. Need to verify if the change has been made or is this still a CAL ARP site? HCA/Reesman will send me the IRWD CAL ARP contact to follow up.
Eval Division: Orange County Environmental Health
Eval Program: CalARP
Eval Source: CERS

Eval General Type: Other/Unknown
Eval Date: 05-20-2015
Violations Found: No
Eval Type: Other, not routine, done by local agency
Eval Notes: On site for a follow up CAL ARP inspection. Permission to inspect granted by IRWD/Wesson. The facility has removed all the 1 ton chlorine cylinders (see photo). They have transitioned to liquid hypo chlorite. No RSs on site. This CAL ARP site will be removed from the OCHCA inspection database. RUR submitted.
Eval Division: Orange County Environmental Health
Eval Program: CalARP
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 07-25-2017
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Notes: INSPECTOR COMMENTS RATTLESNAKE RESERVOIR On site to conduct a Hazardous Materials Disclosure and Business Emergency Plan (HMBEP) inspection. Met this date with Emilyn Zuniga, Site Safety and Security Officer for IRWD, who granted consent to enter the site and conduct the inspection. Also met this date with Water Operations Joe Garcia. CERS ID 10583536 The ESubmit Portal data was transferred on 11-18-16. This site has not submitted for 2017 (See Violation). The status in the California Environmental Reporting System will be changed to NOT ACCEPTED. Make the corrections noted in this report and re-submit within thirty (30) days. The following were verified this date: - Business Activities (Update Needed, See Violation) - Facility Site Map (Updates Needed, See Violation) - Chemical Inventory | Calcium Hypochlorite Solid, Sodium Hypochlorite 12.5%, Diesel (Updated Needed, See Violation)

IRVINE RANCH WATER DISTRICT (Continued) **S109039494**

Eval Division: Orange County Environmental Health
Eval Program: HMRRP
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 05-05-2015
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: On site for the triennial California Accidental Release Prevention Program (CAL ARP) inspection. Permission to inspect granted by IRWD/Zuniga and Wesson. This site is a water treatment plant. It has (15) 1 ton cylinders of anhydrous chlorine on site. The site is currently undergoing conversion away from chlorine and to sodium hypochlorite. The scheduled date when the chlorine will be off site is next week, 5-13-15. Once the chlorine is gone, please advise this Agency for a final inspection in order to remove it from the CAL ARP inspection program.
Eval Division: Orange County Environmental Health
Eval Program: CalARP
Eval Source: CERS

Eval General Type: Other/Unknown
Eval Date: 06-29-2018
Violations Found: No
Eval Type: Other, not routine, done by local agency
Eval Notes: Violation I169 and I463 for accurately completing and submitting the hazardous material business plan (HMBP) is still open and outstanding. The facility has not submitted a HMBP for 2017 and 2018. Violation I632 for submitting an accurate site map is still open and outstanding. Please complete and submit an accurate HMBP and a site map on CERS at electronically on http://cersbusiness2.calepa.ca.gov/ and maintain a copy at the facility. Please contact Shruthi Sill at ssill@ochca.com with regards to any questions.
Eval Division: Orange County Environmental Health
Eval Program: HMRRP
Eval Source: CERS

Eval General Type: Other/Unknown
Eval Date: 05-04-2015
Violations Found: No
Eval Type: Other, not routine, done by local agency
Eval Notes: Called IRWD/Emilyn Zuniga 949-453-5785 to schedule CAL ARP inspection. Left VM. Called back. Set inspection for 5-5-15/1330.
Eval Division: Orange County Environmental Health
Eval Program: CalARP
Eval Source: CERS

Eval General Type: Other/Unknown
Eval Date: 04-24-2014
Violations Found: No
Eval Type: Other, not routine, done by local agency
Eval Notes: On-site for a meeting to discussed the replacement of the chlorine gas water treatment system with a sodium hypochlorite system at this facility. The meeting took place at the IRWD Headquarters in Irvine. Present were: Jeff Weishaar of Carollo (consultant develping the new system) Jacob Moeder and Ken Erwin of the IRWD Robert Distaso and Darren Johnson of the OCFA 1) Replacing the 15-one ton cylinders of

IRVINE RANCH WATER DISTRICT (Continued) **S109039494**

chlorine with 36,000 pounds of sodium hypochlorite (2 x 18,000 tanks) 2) Sodium hypochlorite will be 12.5% 3) A temporary tank of 12.5% sodium hypochlorite will be on-site during the change over 4) Discussed the changes to E Submit that will be required 5) Construction to begin fall/winter 2014 and be complete June 2015 6) Feed piping for the new sodium hypochlorite system will be partially under ground. Discussed that if the total of underground piping exceeds 10% of the total volume these new tanks could be regulated as UST. The volume [Truncated]

Eval Division: Orange County Environmental Health
Eval Program: CalARP
Eval Source: CERS

Eval General Type: Other/Unknown
Eval Date: 06-12-2015
Violations Found: No
Eval Type: Other, not routine, done by local agency
Eval Notes: Read/review HMBEP in E-submit. Rejected: 1) Un check the "aboveground storage tank" box on the business activities page (this is only for petroleum > 1,320 gallons). 2) The map is readable and the key is fine, however there are no markings on the map to relate to the key. Please update the map and re submit for re evaluation.
Eval Division: Orange County Environmental Health
Eval Program: HMRRP
Eval Source: CERS

Eval General Type: Other/Unknown
Eval Date: 07-25-2016
Violations Found: No
Eval Type: Other, not routine, done by local agency
Eval Notes: 7/25/2016: This submittal is being conditionally approved to allow for the data transfer to the California Environmental Reporting System (CERS). Items that still need to be addressed include: 1) Business Activities: Uncheck the box for Aboveground Petroleum Storage above 1320 gallons. 2) Calcium hypochlorite: Report in units pounds if this chemical is a solid. Select ?Pure? as the hazardous material type if it is not a mixture. 3) Enter the Days on Site for all chemicals. Please submit a HMBEP site map that contains all of the following, if applicable: -- site orientation (North) -- loading areas -- internal roads -- adjacent streets -- storm drains and sewers -- access and exit points -- emergency shut-offs, if applicable (natural gas, water and electrical) -- evacuation staging areas -- hazardous material storage areas -- emergency response equipment (e.x. spill kit, fire extinguishers) -- Labels and/or writing should be legible from left to [Truncated]
Eval Division: Orange County Environmental Health
Eval Program: HMRRP
Eval Source: CERS

Coordinates:
Site ID: 411511
Facility Name: IRWD - RATTLESNAKE RESERVOIR
Env Int Type Code: HMBP
Program ID: 10583536
Coord Name: Not reported
Ref Point Type Desc: Center of a facility or station.
Latitude: 33.730960

IRVINE RANCH WATER DISTRICT (Continued) **S109039494**

Longitude: -117.757350

Affiliation:

Affiliation Type Desc: CUPA District
Entity Name: Orange County Env Health
Entity Title: Not reported
Affiliation Address: 1241 East Dyer RoadSuite 120
Affiliation City: Santa Ana
Affiliation State: CA
Affiliation Country: Not reported
Affiliation Zip: 92705-5611
Affiliation Phone: (714) 433-6000

Affiliation Type Desc: Document Preparer
Entity Name: Emilyn B. Zuniga
Entity Title: Not reported
Affiliation Address: Not reported
Affiliation City: Not reported
Affiliation State: Not reported
Affiliation Country: Not reported
Affiliation Zip: Not reported
Affiliation Phone: Not reported

Affiliation Type Desc: Environmental Contact
Entity Name: Emilyn B. Zuniga
Entity Title: Not reported
Affiliation Address: 3512 Michelson Dr
Affiliation City: Irvine
Affiliation State: CA
Affiliation Country: Not reported
Affiliation Zip: 92612
Affiliation Phone: Not reported

Affiliation Type Desc: Identification Signer
Entity Name: Emilyn B. Zuniga
Entity Title: District Safety & Security Manager
Affiliation Address: Not reported
Affiliation City: Not reported
Affiliation State: Not reported
Affiliation Country: Not reported
Affiliation Zip: Not reported
Affiliation Phone: Not reported

Affiliation Type Desc: Legal Owner
Entity Name: Irvine Ranch Water District
Entity Title: Not reported
Affiliation Address: 3512 MICHELSON DR
Affiliation City: IRVINE
Affiliation State: CA
Affiliation Country: United States
Affiliation Zip: 92612
Affiliation Phone: (949) 453-5300

Affiliation Type Desc: Operator
Entity Name: Irvine Ranch Water District
Entity Title: Not reported
Affiliation Address: Not reported

IRVINE RANCH WATER DISTRICT (Continued) **S109039494**

Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	(949) 453-5300
Affiliation Type Desc:	Facility Mailing Address
Entity Name:	Mailing Address
Entity Title:	Not reported
Affiliation Address:	3512 MICHELSON DR
Affiliation City:	IRVINE
Affiliation State:	CA
Affiliation Country:	Not reported
Affiliation Zip:	92612
Affiliation Phone:	Not reported
Affiliation Type Desc:	Parent Corporation
Entity Name:	Irvine Ranch Water District
Entity Title:	Not reported
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	Not reported

B9 **ORCHARD HILLS** **RCRA-SQG** **1009216613**
WSW **4955.3 PORTOLA PKWY** **CAR000170142**
< 1/8 **IRVINE, CA 92620**
0.108 mi.
568 ft. **Site 1 of 3 in cluster B**

Relative:
Lower

Actual:
312 ft.

RCRA-SQG:

Date form received by agency:	01/04/2006
Facility name:	ORCHARD HILLS
Facility address:	4955.3 PORTOLA PKWY IRVINE, CA 92620
EPA ID:	CAR000170142
Mailing address:	PO BOX 945 EL CAJON, CA 92022
Contact:	JIM BAXTER
Contact address:	PO BOX 945 EL CAJON, CA 92022
Contact country:	US
Contact telephone:	619-921-8007
Contact email:	Not reported
EPA Region:	09
Classification:	Small Small Quantity Generator
Description:	Handler: generates more than 100 and less than 1000 kg of hazardous waste during any calendar month and accumulates less than 6000 kg of hazardous waste at any time; or generates 100 kg or less of hazardous waste during any calendar month, and accumulates more than 1000 kg of hazardous waste at any time

Owner/Operator Summary:

Owner/operator name:	IRVINE COMMUNITY DEVELOPMENT CO

ORCHARD HILLS (Continued) **1009216613**

Owner/operator address:	Not reported
	Not reported
Owner/operator country:	US
Owner/operator telephone:	Not reported
Owner/operator email:	Not reported
Owner/operator fax:	Not reported
Owner/operator extension:	Not reported
Legal status:	Private
Owner/Operator Type:	Operator
Owner/Op start date:	01/02/1985
Owner/Op end date:	Not reported

Owner/operator name:	IRVINE COMMUNITY DEVELOPMENT CO
Owner/operator address:	550 NEWPORT CENTER DR
	NEWPORT BEACH, CA 92660
Owner/operator country:	US
Owner/operator telephone:	Not reported
Owner/operator email:	Not reported
Owner/operator fax:	Not reported
Owner/operator extension:	Not reported
Legal status:	Private
Owner/Operator Type:	Owner
Owner/Op start date:	01/02/1985
Owner/Op end date:	Not reported

Handler Activities Summary:

U.S. importer of hazardous waste:	No
Mixed waste (haz. and radioactive):	No
Recycler of hazardous waste:	No
Transporter of hazardous waste:	No
Treater, storer or disposer of HW:	No
Underground injection activity:	No
On-site burner exemption:	No
Furnace exemption:	No
Used oil fuel burner:	No
Used oil processor:	No
User oil refiner:	No
Used oil fuel marketer to burner:	No
Used oil Specification marketer:	No
Used oil transfer facility:	No
Used oil transporter:	No

Hazardous Waste Summary:

. Waste code:	D001
. Waste name:	IGNITABLE WASTE

Violation Status: No violations found

B10 WSW < 1/8 0.108 mi. 568 ft. | **ORANGE COUNTY FIRE AUTHORITY STATION #55 ORCHARD H**
4955 PORTOLA PKWY
IRVINE, CA 92620

CERS TANKS **S121660367**
CIWQS **N/A**
CERS

Site 2 of 3 in cluster B

Relative: Lower
Actual: 312 ft.

CERS TANKS:

Facility Name:	ORANGE COUNTY FIRE AUTHORITY STATION #55 ORCHARD HILLS
Site ID:	413555
CERS ID:	10564690
CERS Description:	Aboveground Petroleum Storage

Violations:

Site ID:	413555
Site Name:	ORANGE COUNTY FIRE AUTHORITY Station #55 Orchard Hills
Violation Date:	01-26-2016
Citation:	HSC 6.67 25270.4.5(a) - California Health and Safety Code, Chapter 6.67, Section(s) 25270.4.5(a)
Violation Description:	Failure to comply with all of the following requirements: 1. Failure to conduct inspections and tests in accordance with written procedures that you or a certifying engineer have developed for the facility. 2. Failure to sign written procedures and/or a record of inspections and/or customary business records by the appropriate supervisor or inspector. 3. Failure to keep written procedures and/or a record of inspections and/or customary business records with the plan. AND 4. Failure to maintain written procedures and/or a record of inspections and/or customary business records for three years.
Violation Notes:	Returned to compliance on 05/24/2017. A log of inspections was not maintained. Immediately begin monthly inspections and send a copy of inspection reports for two months to this agency within 60 days.
Violation Division:	Orange County Environmental Health
Violation Program:	APSA
Violation Source:	CERS

Evaluation:

Eval General Type:	Compliance Evaluation Inspection
Eval Date:	01-26-2016
Violations Found:	No
Eval Type:	Routine done by local agency
Eval Notes:	On site for a routine hazardous materials inspection. Inspection was conducted with Steve Klein. Facility has submitted HMBEP documents electronically through the E-submit site. Documents were previously reviewed and accepted. Please ensure that you complete the 2016 annual submittal to remain in compliance. Facility has disclosed one material which is consistent with materials observed on site. Site map appears to be accurate.
Eval Division:	Orange County Environmental Health
Eval Program:	HMRRP
Eval Source:	CERS

Eval General Type:	Other/Unknown
Eval Date:	04-18-2017
Violations Found:	No
Eval Type:	Other, not routine, done by local agency
Eval Notes:	INSPECTOR COMMENTS This Agency has reviewed the Spill Prevention Countermeasures and Control (SPCC) Plan by ESCI August 2016. The plan is complete. Tank Facility Page accepted on CERS. This site has the following Oil Storage Containers: - Diesel Fuel Tank 55A | 2,000 gallon DW - Emergency Generator Fuel Tank 55B | 650 gallon DW Maintain

ORANGE COUNTY FIRE AUTHORITY STATION #55 ORCHARD HILLS (Continued) **S121660367**

the SPCC Plan on-site. Provide the following to this Agency: - Annual Training records for Oil-Handling employees - Periodic Inspection records as indicated in the SPCC Plan I258 remain OUTSTANDING. Report emailed to Jonathan Bredehoft, OCFA Risk Management.

Eval Division: Orange County Environmental Health
Eval Program: APSA
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 08-16-2018
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: OPENING COMMENTS On site to conduct an Above Ground Petroleum Storage Tank (APST) inspection. Met this date with Jeff Higbee, OCFA Risk Management, who granted consent to enter and inspect the facility. This site has the following storage containers: - Diesel Fuel Tank 55A | 2,000 DW Gallons - Emergency Generator Fuel Tank 55B | 650 Gallons The Diesel Tank was observed with adequate secondary containment. The Generator is equipped with secondary containment. Spill Preventions Countermeasures and Control (SPCC) Plan - The SPCC Plan was maintained on-site. Monthly inspections as indicated in the plan are conducted by Risk Management Jeff Higbee. and available electronically. The SPCC Plan is adequate and up to date. Training is conducted on SPCC. Training records available from OCFA electronically. Business Emergency Plan reviewed and available on-site.

Eval Division: Orange County Environmental Health
Eval Program: APSA
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 01-26-2016
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Notes: On site for a routine aboveground storage tank inspection. Inspection was conducted with Mike Kiddie. Facility is regulated under the Aboveground Storage Tank Act (APSA). Facility has between 1,320 and 9,999 gallons of regulated petroleum products. Facility has the Following: 1) On site SPCC Prepared and implemented. This plan is dated 12/2010 and is currently under review. Plans are required to be reviewed and updated every five years. Please send a copy of the dated signature page within 30 days indicating that you have completed the plan review process. 2) Facility personnel conduct monthly monitoring for leaking containment. however, documentation of monitoring was not available (see violation). Complete monthly monitoring log and send a copy of two months of monitoring logs to this Agency within 60 days to abate this violation. 3) Appropriate secondary containment or diversionary structures

Eval Division: Orange County Environmental Health
Eval Program: APSA
Eval Source: CERS

Eval General Type: Other/Unknown
Eval Date: 04-18-2017
Violations Found: No
Eval Type: Other, not routine, done by local agency
Eval Notes: INSPECTOR COMMENTS The following documents were received and ACCEPTED on CERS: Business Activities Business Owner/Operator Chemical

ORANGE COUNTY FIRE AUTHORITY STATION #55 ORCHARD HILLS (Continued) **S121660367**

	Inventory Facility Site Map Emergency Response & Training Plans Above Ground Storage Tank Facility Page
Eval Division:	Orange County Environmental Health
Eval Program:	HMRRP
Eval Source:	CERS
Eval General Type:	Other/Unknown
Eval Date:	05-24-2017
Violations Found:	No
Eval Type:	Other, not routine, done by local agency
Eval Notes:	INSPECTOR COMMENTS This Agency has received and reviewed the following from OCFA Risk Management: - SPCC and Hazmat Training Records - SPCC Monthly Inspection Reports from Tanknology The following violations have been CORRECTED: - I258: Failure to conduct Monthly Inspections All Violations have been CORRECTED. Maintain the SPCC, Monthly Inspection reports and training records available for review.
Eval Division:	Orange County Environmental Health
Eval Program:	APSA
Eval Source:	CERS
Eval General Type:	Compliance Evaluation Inspection
Eval Date:	08-16-2018
Violations Found:	No
Eval Type:	Routine done by local agency
Eval Notes:	INSPECTOR COMMENTS CERS ID 10564690 On site to conduct a Above Ground Petroleum Tank inspection. Met this date with Jonathan Bredehoft and Jeff Higbee, OCFA Risk Management. Verified the following this date: - Chemical Inventory - Facility Site Map - Emergency Response Plan - Training Records CERS Submission has been ACCEPTED. Report emailed to Jeff Higbee, OCFA Risk Management.
Eval Division:	Orange County Environmental Health
Eval Program:	HMRRP
Eval Source:	CERS
Eval General Type:	Other/Unknown
Eval Date:	10-07-2014
Violations Found:	No
Eval Type:	Other, not routine, done by local agency
Eval Notes:	INSPECTOR COMMENTS The following documents were received and ACCEPTED on CERS: Business Activities Form Business Owner/Operator Form Chemical Inventory for 1 chemical Facility Site Map
Eval Division:	Orange County Environmental Health
Eval Program:	HMRRP
Eval Source:	CERS

Coordinates:

Site ID:	413555
Facility Name:	ORANGE COUNTY FIRE AUTHORITY Station #55 Orchard Hills
Env Int Type Code:	APSA
Program ID:	10564690
Coord Name:	Not reported
Ref Point Type Desc:	Center of a facility or station.
Latitude:	33.732070
Longitude:	-117.759500

Affiliation:

ORANGE COUNTY FIRE AUTHORITY STATION #55 ORCHARD HILLS (Continued) **S121660367**

Affiliation Type Desc:	Facility Mailing Address
Entity Name:	Mailing Address
Entity Title:	Not reported
Affiliation Address:	1 Fire Authority Road
Affiliation City:	Irvine
Affiliation State:	CA
Affiliation Country:	Not reported
Affiliation Zip:	92602
Affiliation Phone:	Not reported

Affiliation Type Desc:	Legal Owner
Entity Name:	Orange County Fire Authority
Entity Title:	Not reported
Affiliation Address:	1 FIRE AUTHORTY RD
Affiliation City:	IRVINE
Affiliation State:	CA
Affiliation Country:	United States
Affiliation Zip:	92602
Affiliation Phone:	(714) 573-6000

Affiliation Type Desc:	Operator
Entity Name:	OCFA FS 55
Entity Title:	Not reported
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	(714) 573-6000

Affiliation Type Desc:	CUPA District
Entity Name:	Orange County Env Health
Entity Title:	Not reported
Affiliation Address:	1241 East Dyer RoadSuite 120
Affiliation City:	Santa Ana
Affiliation State:	CA
Affiliation Country:	Not reported
Affiliation Zip:	92705-5611
Affiliation Phone:	(714) 433-6000

Affiliation Type Desc:	Identification Signer
Entity Name:	Jonathan Bredehoft
Entity Title:	Risk
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	Not reported

Affiliation Type Desc:	Document Preparer
Entity Name:	Jonathan Bredehoft
Entity Title:	Not reported
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported

ORANGE COUNTY FIRE AUTHORITY STATION #55 ORCHARD HILLS (Continued) **S121660367**

Affiliation Zip:	Not reported
Affiliation Phone:	Not reported
Affiliation Type Desc:	Parent Corporation
Entity Name:	Orange County Fire Authority
Entity Title:	Not reported
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	Not reported
Affiliation Type Desc:	Environmental Contact
Entity Name:	JEFFREY HIGBEE
Entity Title:	Not reported
Affiliation Address:	1 Fire Authority Rd.
Affiliation City:	Irvine
Affiliation State:	CA
Affiliation Country:	Not reported
Affiliation Zip:	92602
Affiliation Phone:	Not reported

CIWQS:

Agency:	Irvine Community Development Company LLC
Agency Address:	550 Newport Center Dr, Newport Beach, CA 92660
Place/Project Type:	Construction - Other
SIC/NAICS:	Not reported
Region:	8
Program:	CONSTW
Regulatory Measure Status:	Terminated
Regulatory Measure Type:	Storm water construction
Order Number:	99-08DW
WDID:	8 30C323147
NPDES Number:	CAS000002
Adoption Date:	Not reported
Effective Date:	08/20/2003
Termination Date:	09/22/2008
Expiration/Review Date:	Not reported
Design Flow:	Not reported
Major/Minor:	Not reported
Complexity:	Not reported
TTWQ:	Not reported
Enforcement Actions within 5 years:	0
Violations within 5 years:	0
Latitude:	Not reported
Longitude:	Not reported

CERS TANKS:

Site ID:	413555
CERS ID:	10564690
Site Name:	ORANGE COUNTY FIRE AUTHORITY STATION #55 ORCHARD HILLS
CERS Description:	Chemical Storage Facilities

Violations:

Site ID:	413555

ORANGE COUNTY FIRE AUTHORITY STATION #55 ORCHARD HILLS (Continued) **S121660367**

Site Name:	ORANGE COUNTY FIRE AUTHORITY Station #55 Orchard Hills
Violation Date:	01-26-2016
Citation:	HSC 6.67 25270.4.5(a) - California Health and Safety Code, Chapter 6.67, Section(s) 25270.4.5(a)
Violation Description:	Failure to comply with all of the following requirements: 1. Failure to conduct inspections and tests in accordance with written procedures that you or a certifying engineer have developed for the facility. 2. Failure to sign written procedures and/or a record of inspections and/or customary business records by the appropriate supervisor or inspector. 3. Failure to keep written procedures and/or a record of inspections and/or customary business records with the plan. AND 4. Failure to maintain written procedures and/or a record of inspections and/or customary business records for three years.
Violation Notes:	Returned to compliance on 05/24/2017. A log of inspections was not maintained. Immediately begin monthly inspections and send a copy of inspection reports for two months to this agency within 60 days.
Violation Division:	Orange County Environmental Health
Violation Program:	APSA
Violation Source:	CERS

Evaluation:

Eval General Type:	Compliance Evaluation Inspection
Eval Date:	01-26-2016
Violations Found:	No
Eval Type:	Routine done by local agency
Eval Notes:	On site for a routine hazardous materials inspection. Inspection was conducted with Steve Klein. Facility has submitted HMBEP documents electronically through the E-submit site. Documents were previously reviewed and accepted. Please ensure that you complete the 2016 annual submittal to remain in compliance. Facility has disclosed one material which is consistent with materials observed on site. Site map appears to be accurate.
Eval Division:	Orange County Environmental Health
Eval Program:	HMRRP
Eval Source:	CERS

Eval General Type:	Other/Unknown
Eval Date:	04-18-2017
Violations Found:	No
Eval Type:	Other, not routine, done by local agency
Eval Notes:	INSPECTOR COMMENTS This Agency has reviewed the Spill Prevention Countermeasures and Control (SPCC) Plan by ESCI August 2016. The plan is complete. Tank Facility Page accepted on CERS. This site has the following Oil Storage Containers: - Diesel Fuel Tank 55A | 2,000 gallon DW - Emergency Generator Fuel Tank 55B | 650 gallon DW Maintain the SPCC Plan on-site. Provide the following to this Agency: - Annual Training records for Oil-Handling employees - Periodic Inspection records as indicated in the SPCC Plan I258 remain OUTSTANDING. Report emailed to Jonathan Bredehoft, OCFA Risk Management.
Eval Division:	Orange County Environmental Health
Eval Program:	APSA
Eval Source:	CERS

Eval General Type:	Compliance Evaluation Inspection
Eval Date:	08-16-2018
Violations Found:	No
Eval Type:	Routine done by local agency

ORANGE COUNTY FIRE AUTHORITY STATION #55 ORCHARD HILLS (Continued) **S121660367**

Eval Notes:	OPENING COMMENTS On site to conduct an Above Ground Petroleum Storage Tank (APST) inspection. Met this date with Jeff Higbee, OCFA Risk Management, who granted consent to enter and inspect the facility. This site has the following storage containers: - Diesel Fuel Tank 55A | 2,000 DW Gallons - Emergency Generator Fuel Tank 55B | 650 Gallons The Diesel Tank was observed with adequate secondary containment. The Generator is equipped with secondary containment. Spill Preventions Countermeasures and Control (SPCC) Plan - The SPCC Plan was maintained on-site. Monthly inspections as indicated in the plan are conducted by Risk Management Jeff Higbee. and available electronically. The SPCC Plan is adequate and up to date. Training is conducted on SPCC. Training records available from OCFA electronically. Business Emergency Plan reviewed and available on-site.
Eval Division:	Orange County Environmental Health
Eval Program:	APSA
Eval Source:	CERS
Eval General Type:	Compliance Evaluation Inspection
Eval Date:	01-26-2016
Violations Found:	Yes
Eval Type:	Routine done by local agency
Eval Notes:	On site for a routine aboveground storage tank inspection. Inspection was conducted with Mike Kiddie. Facility is regulated under the Aboveground Storage Tank Act (APSA). Facility has between 1,320 and 9,999 gallons of regulated petroleum products. Facility has the Following: 1) On site SPCC Prepared and implemented. This plan is dated 12/2010 and is currently under review. Plans are required to be reviewed and updated every five years. Please send a copy of the dated signature page within 30 days indicating that you have completed the plan review process. 2) Facility personnel conduct monthly monitoring for leaking containment. however, documentation of monitoring was not available (see violation). Complete monthly monitoring log and send a copy of two months of monitoring logs to this Agency within 60 days to abate this violation. 3) Appropriate secondary containment or diversionary structures
Eval Division:	Orange County Environmental Health
Eval Program:	APSA
Eval Source:	CERS
Eval General Type:	Other/Unknown
Eval Date:	04-18-2017
Violations Found:	No
Eval Type:	Other, not routine, done by local agency
Eval Notes:	INSPECTOR COMMENTS The following documents were received and ACCEPTED on CERS: Business Activities Business Owner/Operator Chemical Inventory Facility Site Map Emergency Response & Training Plans Above Ground Storage Tank Facility Page
Eval Division:	Orange County Environmental Health
Eval Program:	HMRRP
Eval Source:	CERS
Eval General Type:	Other/Unknown
Eval Date:	05-24-2017
Violations Found:	No
Eval Type:	Other, not routine, done by local agency
Eval Notes:	INSPECTOR COMMENTS This Agency has received and reviewed the following from OCFA Risk Management: - SPCC and Hazmat Training Records - SPCC

ORANGE COUNTY FIRE AUTHORITY STATION #55 ORCHARD HILLS (Continued) **S121660367**

	Monthly Inspection Reports from Tanknology The following violations have been CORRECTED: - I258: Failure to conduct Monthly Inspections All Violations have been CORRECTED. Maintain the SPCC, Monthly Inspection reports and training records available for review.
Eval Division:	Orange County Environmental Health
Eval Program:	APSA
Eval Source:	CERS
Eval General Type:	Compliance Evaluation Inspection
Eval Date:	08-16-2018
Violations Found:	No
Eval Type:	Routine done by local agency
Eval Notes:	INSPECTOR COMMENTS CERS ID 10564690 On site to conduct a Above Ground Petroleum Tank inspection. Met this date with Jonathan Bredehoft and Jeff Higbee, OCFA Risk Management. Verified the following this date: - Chemical Inventory - Facility Site Map - Emergency Response Plan - Training Records CERS Submission has been ACCEPTED. Report emailed to Jeff Higbee, OCFA Risk Management.
Eval Division:	Orange County Environmental Health
Eval Program:	HMRRP
Eval Source:	CERS
Eval General Type:	Other/Unknown
Eval Date:	10-07-2014
Violations Found:	No
Eval Type:	Other, not routine, done by local agency
Eval Notes:	INSPECTOR COMMENTS The following documents were received and ACCEPTED on CERS: Business Activities Form Business Owner/Operator Form Chemical Inventory for 1 chemical Facility Site Map
Eval Division:	Orange County Environmental Health
Eval Program:	HMRRP
Eval Source:	CERS

Coordinates:

Site ID:	413555
Facility Name:	ORANGE COUNTY FIRE AUTHORITY Station #55 Orchard Hills
Env Int Type Code:	APSA
Program ID:	10564690
Coord Name:	Not reported
Ref Point Type Desc:	Center of a facility or station.
Latitude:	33.732070
Longitude:	-117.759500

Affiliation:

Affiliation Type Desc:	Facility Mailing Address
Entity Name:	Mailing Address
Entity Title:	Not reported
Affiliation Address:	1 Fire Authority Road
Affiliation City:	Irvine
Affiliation State:	CA
Affiliation Country:	Not reported
Affiliation Zip:	92602
Affiliation Phone:	Not reported
Affiliation Type Desc:	Legal Owner
Entity Name:	Orange County Fire Authority

ORANGE COUNTY FIRE AUTHORITY STATION #55 ORCHARD HILLS (Continued) **S121660367**

Entity Title:	Not reported
Affiliation Address:	1 FIRE AUTHORTY RD
Affiliation City:	IRVINE
Affiliation State:	CA
Affiliation Country:	United States
Affiliation Zip:	92602
Affiliation Phone:	(714) 573-6000

Affiliation Type Desc:	Operator
Entity Name:	OCFA FS 55
Entity Title:	Not reported
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	(714) 573-6000

Affiliation Type Desc:	CUPA District
Entity Name:	Orange County Env Health
Entity Title:	Not reported
Affiliation Address:	1241 East Dyer RoadSuite 120
Affiliation City:	Santa Ana
Affiliation State:	CA
Affiliation Country:	Not reported
Affiliation Zip:	92705-5611
Affiliation Phone:	(714) 433-6000

Affiliation Type Desc:	Identification Signer
Entity Name:	Jonathan Bredehoft
Entity Title:	Risk
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	Not reported

Affiliation Type Desc:	Document Preparer
Entity Name:	Jonathan Bredehoft
Entity Title:	Not reported
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	Not reported

Affiliation Type Desc:	Parent Corporation
Entity Name:	Orange County Fire Authority
Entity Title:	Not reported
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	Not reported

ORANGE COUNTY FIRE AUTHORITY STATION #55 ORCHARD HILLS (Continued) **S121660367**

Affiliation Type Desc:	Environmental Contact
Entity Name:	JEFFREY HIGBEE
Entity Title:	Not reported
Affiliation Address:	1 Fire Authority Rd.
Affiliation City:	Irvine
Affiliation State:	CA
Affiliation Country:	Not reported
Affiliation Zip:	92602
Affiliation Phone:	Not reported

B11 **AST** **A100340701**
WSW **4955 PORTOLA PKWY** **N/A**
< 1/8 **IRVINE, CA**
0.108 mi.
568 ft. **Site 3 of 3 in cluster B**

Relative: **Lower**
Actual: **312 ft.**

AST:

Certified Unified Program Agencies:	Orange
Owner:	ORANGE COUNTY FIRE AUTHORTY STA #55
Total Gallons:	1,320
CERSID:	Not reported
Facility ID:	Not reported
Business Name:	Not reported
Phone:	Not reported
Fax:	Not reported
Mailing Address:	Not reported
Mailing Address City:	Not reported
Mailing Address State:	Not reported
Mailing Address Zip Code:	Not reported
Operator Name:	Not reported
Operator Phone:	Not reported
Owner Phone:	Not reported
Owner Mail Address:	Not reported
Owner State:	Not reported
Owner Zip Code:	Not reported
Owner Country:	Not reported
Property Owner Name:	Not reported
Property Owner Phone:	Not reported
Property Owner Mailing Address:	Not reported
Property Owner City:	Not reported
Property Owner Stat :	Not reported
Property Owner Zip Code:	Not reported
Property Owner Country:	Not reported
EPAID:	Not reported

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12 **PROPOSED ORCHARD HILLS K-8 SCHOOL SITE** **ENVIROSTOR** **S108195939**
WNW **CULVER AVENUE/PORTOLA PARKWAY** **SCH** **N/A**
1/2-1 **IRVINE, CA 92602**
0.896 mi.
4731 ft.

Relative: **Lower**
Actual: **230 ft.**

ENVIROSTOR:

Name:	PROPOSED ORCHARD HILLS K-8 SCHOOL SITE
Address:	CULVER AVENUE/PORTOLA PARKWAY
City,State,Zip:	IRVINE, CA 92602

PROPOSED ORCHARD HILLS K-8 SCHOOL SITE (Continued) **S108195939**

Facility ID:	60000462
Status:	No Further Action
Status Date:	06/19/2007
Site Code:	404723
Site Type:	School Investigation
Site Type Detailed:	School
Acres:	15.19
NPL:	NO
Regulatory Agencies:	SMBRP
Lead Agency:	SMBRP
Program Manager:	Aslam Shareef
Supervisor:	Shahir Haddad
Division Branch:	Southern California Schools & Brownfields Outreach
Assembly:	68
Senate:	37
Special Program:	Not reported
Restricted Use:	NO
Site Mgmt Req:	NONE SPECIFIED
Funding:	School District
Latitude:	33.7387
Longitude:	-117.7558
APN:	NONE SPECIFIED
Past Use:	AGRICULTURAL - ORCHARD, AGRICULTURAL - ROW CROPS, AGRICULTURAL - ROW CROPS
Potential COC:	Arsenic Chlordane DDD DDE DDT
Confirmed COC:	30001-NO 30004-NO 30006-NO 30007-NO 30008-NO
Potential Description:	SOIL, SOIL
Alias Name:	Proposed Orchard HIlls Elementary School
Alias Type:	Alternate Name
Alias Name:	404723
Alias Type:	Project Code (Site Code)
Alias Name:	60000462
Alias Type:	Envirostor ID Number

Completed Info:

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Environmental Oversight Agreement
Completed Date:	02/16/2007
Comments:	Signed Agreement sent (FedEx) to District.

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Phase 1
Completed Date:	12/15/2006
Comments:	Phase I Determination was sent to the School District as the Site had Ag history until 2005.

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Preliminary Endangerment Assessment Tech Memo
Completed Date:	03/16/2007
Comments:	approved

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Preliminary Endangerment Assessment Report
Completed Date:	06/19/2007

PROPOSED ORCHARD HILLS K-8 SCHOOL SITE (Continued) **S108195939**

Comments:	PEA approval letter sent to the District on June 19, 2007 and the CRU memo was processed on June 20, 2007
Future Area Name:	Not reported
Future Sub Area Name:	Not reported
Future Document Type:	Not reported
Future Due Date:	Not reported
Schedule Area Name:	Not reported
Schedule Sub Area Name:	Not reported
Schedule Document Type:	Not reported
Schedule Due Date:	Not reported
Schedule Revised Date:	Not reported

SCH:

Facility ID:	60000462
Site Type:	School Investigation
Site Type Detail:	School
Site Mgmt. Req.:	NONE SPECIFIED
Acres:	15.19
National Priorities List:	NO
Cleanup Oversight Agencies:	SMBRP
Lead Agency:	SMBRP
Lead Agency Description:	DTSC - Site Cleanup Program
Project Manager:	Aslam Shareef
Supervisor:	Shahir Haddad
Division Branch:	Southern California Schools & Brownfields Outreach
Site Code:	404723
Assembly:	68
Senate:	37
Special Program Status:	Not reported
Status:	No Further Action
Status Date:	06/19/2007
Restricted Use:	NO
Funding:	School District
Latitude:	33.7387
Longitude:	-117.7558
APN:	NONE SPECIFIED
Past Use:	AGRICULTURAL - ORCHARD, AGRICULTURAL - ROW CROPS, AGRICULTURAL - ROW CROPS
Potential COC:	Arsenic, Chlordane, DDD, DDE, DDT
Confirmed COC:	30001-NO, 30004-NO, 30006-NO, 30007-NO, 30008-NO
Potential Description:	SOIL, SOIL
Alias Name:	Proposed Orchard HIlls Elementary School
Alias Type:	Alternate Name
Alias Name:	404723
Alias Type:	Project Code (Site Code)
Alias Name:	60000462
Alias Type:	Envirostor ID Number

Completed Info:

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Environmental Oversight Agreement
Completed Date:	02/16/2007
Comments:	Signed Agreement sent (FedEx) to District.

PROPOSED ORCHARD HILLS K-8 SCHOOL SITE (Continued) **S108195939**

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Phase 1
Completed Date: 12/15/2006
Comments: Phase I Determination was sent to the School District as the Site had Ag history until 2005.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Tech Memo
Completed Date: 03/16/2007
Comments: approved

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Report
Completed Date: 06/19/2007
Comments: PEA approval letter sent to the District on June 19, 2007 and the CRU memo was processed on June 20, 2007

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

Count: 0 records.

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
		NO SITES FOUND			

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 04/11/2019
Date Data Arrived at EDR: 04/18/2019
Date Made Active in Reports: 05/14/2019
Number of Days to Update: 26

Source: EPA
Telephone: N/A
Last EDR Contact: 06/06/2019
Next Scheduled EDR Contact: 07/15/2019
Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 6
Telephone: 214-655-6659

EPA Region 3
Telephone 215-814-5418

EPA Region 7
Telephone: 913-551-7247

EPA Region 4
Telephone 404-562-8033

EPA Region 8
Telephone: 303-312-6774

EPA Region 5
Telephone 312-886-6686

EPA Region 9
Telephone: 415-947-4246

EPA Region 10
Telephone 206-553-8665

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 04/11/2019
Date Data Arrived at EDR: 04/18/2019
Date Made Active in Reports: 05/14/2019
Number of Days to Update: 26

Source: EPA
Telephone: N/A
Last EDR Contact: 06/06/2019
Next Scheduled EDR Contact: 07/15/2019
Data Release Frequency: Quarterly

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/1991
Date Data Arrived at EDR: 02/02/1994
Date Made Active in Reports: 03/30/1994
Number of Days to Update: 56

Source: EPA
Telephone: 202-564-4267
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

Federal Delisted NPL site list

Delisted NPL: National Priority List Deletions

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.

Date of Government Version: 04/11/2019
Date Data Arrived at EDR: 04/18/2019
Date Made Active in Reports: 05/14/2019
Number of Days to Update: 26

Source: EPA
Telephone: N/A
Last EDR Contact: 06/06/2019
Next Scheduled EDR Contact: 07/15/2019
Data Release Frequency: Quarterly

Federal CERCLIS list

FEDERAL FACILITY: Federal Facility Site Information listing

A listing of National Priority List (NPL) and Base Realignment and Closure (BRAC) sites found in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Database where EPA Federal Facilities Restoration and Reuse Office is involved in cleanup activities.

Date of Government Version: 04/03/2019
Date Data Arrived at EDR: 04/05/2019
Date Made Active in Reports: 05/14/2019
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 703-603-8704
Last EDR Contact: 04/05/2019
Next Scheduled EDR Contact: 07/15/2019
Data Release Frequency: Varies

SEMS: Superfund Enterprise Management System

SEMS (Superfund Enterprise Management System) tracks hazardous waste sites, potentially hazardous waste sites, and remedial activities performed in support of EPA's Superfund Program across the United States. The list was formerly know as CERCLIS, renamed to SEMS by the EPA in 2015. The list contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). This dataset also contains sites which are either proposed to or on the National Priorities List (NPL) and the sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 04/11/2019
Date Data Arrived at EDR: 04/18/2019
Date Made Active in Reports: 05/23/2019
Number of Days to Update: 35

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 06/06/2019
Next Scheduled EDR Contact: 07/29/2019
Data Release Frequency: Quarterly

Federal CERCLIS NFRAP site list

SEMS-ARCHIVE: Superfund Enterprise Management System Archive

SEMS-ARCHIVE (Superfund Enterprise Management System Archive) tracks sites that have no further interest under the Federal Superfund Program based on available information. The list was formerly known as the CERCLIS-NFRAP, renamed to SEMS ARCHIVE by the EPA in 2015. EPA may perform a minimal level of assessment work at a site while it is archived if site conditions change and/or new information becomes available. Archived sites have been removed and archived from the inventory of SEMS sites. Archived status indicates 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 the site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. The 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 potential NPL site.

Date of Government Version: 04/11/2019
Date Data Arrived at EDR: 04/18/2019
Date Made Active in Reports: 05/23/2019
Number of Days to Update: 35

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 06/06/2019
Next Scheduled EDR Contact: 07/29/2019
Data Release Frequency: Quarterly

Federal RCRA CORRACTS facilities list

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 03/25/2019
Date Data Arrived at EDR: 03/27/2019
Date Made Active in Reports: 04/17/2019
Number of Days to Update: 21

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 03/27/2019
Next Scheduled EDR Contact: 07/08/2019
Data Release Frequency: Quarterly

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF: RCRA - Treatment, Storage and Disposal

RCRAInfo is EPA's 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. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 03/25/2019
Date Data Arrived at EDR: 03/27/2019
Date Made Active in Reports: 04/17/2019
Number of Days to Update: 21

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 03/27/2019
Next Scheduled EDR Contact: 07/08/2019
Data Release Frequency: Quarterly

Federal RCRA generators list

RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo is EPA's 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. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 03/25/2019
Date Data Arrived at EDR: 03/27/2019
Date Made Active in Reports: 04/17/2019
Number of Days to Update: 21

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 03/27/2019
Next Scheduled EDR Contact: 07/08/2019
Data Release Frequency: Quarterly

RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's 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. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 03/25/2019
Date Data Arrived at EDR: 03/27/2019
Date Made Active in Reports: 04/17/2019
Number of Days to Update: 21

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 03/27/2019
Next Scheduled EDR Contact: 07/08/2019
Data Release Frequency: Quarterly

RCRA-CESQG: RCRA - Conditionally Exempt Small Quantity Generators

RCRAInfo is EPA's 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. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 03/25/2019
Date Data Arrived at EDR: 03/27/2019
Date Made Active in Reports: 04/17/2019
Number of Days to Update: 21

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 03/27/2019
Next Scheduled EDR Contact: 07/08/2019
Data Release Frequency: Quarterly

Federal institutional controls / engineering controls registries

LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 02/22/2019
Date Data Arrived at EDR: 03/07/2019
Date Made Active in Reports: 04/17/2019
Number of Days to Update: 41

Source: Department of the Navy
Telephone: 843-820-7326
Last EDR Contact: 05/10/2019
Next Scheduled EDR Contact: 08/26/2019
Data Release Frequency: Varies

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 01/31/2019
Date Data Arrived at EDR: 02/04/2019
Date Made Active in Reports: 03/08/2019
Number of Days to Update: 32

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 05/29/2019
Next Scheduled EDR Contact: 09/09/2019
Data Release Frequency: Varies

US INST CONTROL: Sites with Institutional Controls

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 01/31/2019
Date Data Arrived at EDR: 02/04/2019
Date Made Active in Reports: 03/08/2019
Number of Days to Update: 32

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 05/29/2019
Next Scheduled EDR Contact: 09/09/2019
Data Release Frequency: Varies

Federal ERNS list

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 03/25/2019
Date Data Arrived at EDR: 03/26/2019
Date Made Active in Reports: 05/01/2019
Number of Days to Update: 36

Source: National Response Center, United States Coast Guard
Telephone: 202-267-2180
Last EDR Contact: 03/26/2019
Next Scheduled EDR Contact: 07/08/2019
Data Release Frequency: Quarterly

State- and tribal - equivalent NPL

RESPONSE: State Response Sites

Identifies confirmed release sites where DTSC is involved in remediation, either in a lead or oversight capacity. These confirmed release sites are generally high-priority and high potential risk.

Date of Government Version: 01/28/2019
Date Data Arrived at EDR: 01/29/2019
Date Made Active in Reports: 03/05/2019
Number of Days to Update: 35

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 04/30/2019
Next Scheduled EDR Contact: 08/12/2019
Data Release Frequency: Quarterly

State- and tribal - equivalent CERCLIS

ENVIROSTOR: EnviroStor Database

The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifes sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

Date of Government Version: 01/28/2019
Date Data Arrived at EDR: 01/29/2019
Date Made Active in Reports: 03/05/2019
Number of Days to Update: 35

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 04/30/2019
Next Scheduled EDR Contact: 08/12/2019
Data Release Frequency: Quarterly

State and tribal landfill and/or solid waste disposal site lists

SWF/LF (SWIS): Solid Waste Information System

Active, Closed and Inactive Landfills. SWF/LF records typically contain an inve ntory of solid waste disposal facilities or landfills. These may be active or i nactive facilities or open dumps that failed to meet RCRA Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 02/11/2019
Date Data Arrived at EDR: 02/12/2019
Date Made Active in Reports: 03/05/2019
Number of Days to Update: 21

Source: Department of Resources Recycling and Recovery
Telephone: 916-341-6320
Last EDR Contact: 05/14/2019
Next Scheduled EDR Contact: 08/26/2019
Data Release Frequency: Quarterly

State and tribal leaking storage tank lists

LUST: Leaking Underground Fuel Tank Report (GEOTRACKER)
Leaking Underground Storage Tank (LUST) Sites included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 12/10/2018
Date Data Arrived at EDR: 12/11/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: see region list
Last EDR Contact: 06/11/2019
Next Scheduled EDR Contact: 09/23/2019
Data Release Frequency: Quarterly

LUST REG 9: Leaking Underground Storage Tank Report
Orange, Riverside, San Diego counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 03/01/2001
Date Data Arrived at EDR: 04/23/2001
Date Made Active in Reports: 05/21/2001
Number of Days to Update: 28

Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-637-5595
Last EDR Contact: 09/26/2011
Next Scheduled EDR Contact: 01/09/2012
Data Release Frequency: No Update Planned

LUST REG 8: Leaking Underground Storage Tanks
California Regional Water Quality Control Board Santa Ana Region (8). For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/14/2005
Date Data Arrived at EDR: 02/15/2005
Date Made Active in Reports: 03/28/2005
Number of Days to Update: 41

Source: California Regional Water Quality Control Board Santa Ana Region (8)
Telephone: 909-782-4496
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: Varies

LUST REG 6V: Leaking Underground Storage Tank Case Listing
Leaking Underground Storage Tank locations. Inyo, Kern, Los Angeles, Mono, San Bernardino counties.

Date of Government Version: 06/07/2005
Date Data Arrived at EDR: 06/07/2005
Date Made Active in Reports: 06/29/2005
Number of Days to Update: 22

Source: California Regional Water Quality Control Board Victorville Branch Office (6)
Telephone: 760-241-7365
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

LUST REG 6L: Leaking Underground Storage Tank Case Listing
For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/09/2003
Date Data Arrived at EDR: 09/10/2003
Date Made Active in Reports: 10/07/2003
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Lahontan Region (6)
Telephone: 530-542-5572
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

LUST REG 5: Leaking Underground Storage Tank Database
Leaking Underground Storage Tank locations. Alameda, Alpine, Amador, Butte, Colusa, Contra Costa, Calveras, El Dorado, Fresno, Glenn, Kern, Kings, Lake, Lassen, Madera, Mariposa, Merced, Modoc, Napa, Nevada, Placer, Plumas, Sacramento, San Joaquin, Shasta, Solano, Stanislaus, Sutter, Tehama, Tulare, Tuolumne, Yolo, Yuba counties.

Date of Government Version: 07/01/2008
Date Data Arrived at EDR: 07/22/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 9

Source: California Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-4834
Last EDR Contact: 07/01/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: No Update Planned

LUST REG 4: Underground Storage Tank Leak List
Los Angeles, Ventura counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35

Source: California Regional Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6710
Last EDR Contact: 09/06/2011
Next Scheduled EDR Contact: 12/19/2011
Data Release Frequency: No Update Planned

LUST REG 3: Leaking Underground Storage Tank Database
Leaking Underground Storage Tank locations. Monterey, San Benito, San Luis Obispo, Santa Barbara, Santa Cruz counties.

Date of Government Version: 05/19/2003
Date Data Arrived at EDR: 05/19/2003
Date Made Active in Reports: 06/02/2003
Number of Days to Update: 14

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-542-4786
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: No Update Planned

LUST REG 2: Fuel Leak List
Leaking Underground Storage Tank locations. Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, Sonoma counties.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30

Source: California Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-622-2433
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: Quarterly

LUST REG 1: Active Toxic Site Investigation
Del Norte, Humboldt, Lake, Mendocino, Modoc, Siskiyou, Sonoma, Trinity counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/01/2001
Date Data Arrived at EDR: 02/28/2001
Date Made Active in Reports: 03/29/2001
Number of Days to Update: 29

Source: California Regional Water Quality Control Board North Coast (1)
Telephone: 707-570-3769
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

LUST REG 7: Leaking Underground Storage Tank Case Listing
Leaking Underground Storage Tank locations. Imperial, Riverside, San Diego, Santa Barbara counties.

Date of Government Version: 02/26/2004
Date Data Arrived at EDR: 02/26/2004
Date Made Active in Reports: 03/24/2004
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Colorado River Basin Region (7)
Telephone: 760-776-8943
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 10/10/2018
Date Data Arrived at EDR: 03/08/2019
Date Made Active in Reports: 05/01/2019
Number of Days to Update: 54

Source: Environmental Protection Agency
Telephone: 415-972-3372
Last EDR Contact: 04/26/2019
Next Scheduled EDR Contact: 08/05/2019
Data Release Frequency: Varies

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 10/16/2018
Date Data Arrived at EDR: 03/07/2019
Date Made Active in Reports: 05/01/2019
Number of Days to Update: 55

Source: EPA Region 8
Telephone: 303-312-6271
Last EDR Contact: 04/26/2019
Next Scheduled EDR Contact: 08/05/2019
Data Release Frequency: Varies

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 02/19/2019
Date Data Arrived at EDR: 03/07/2019
Date Made Active in Reports: 05/01/2019
Number of Days to Update: 55

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 04/26/2019
Next Scheduled EDR Contact: 08/05/2019
Data Release Frequency: Varies

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 11/01/2018
Date Data Arrived at EDR: 03/07/2019
Date Made Active in Reports: 05/01/2019
Number of Days to Update: 55

Source: EPA Region 6
Telephone: 214-665-6597
Last EDR Contact: 04/26/2019
Next Scheduled EDR Contact: 08/05/2019
Data Release Frequency: Varies

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 09/24/2018
Date Data Arrived at EDR: 03/12/2019
Date Made Active in Reports: 05/01/2019
Number of Days to Update: 50

Source: EPA Region 4
Telephone: 404-562-8677
Last EDR Contact: 04/26/2019
Next Scheduled EDR Contact: 08/05/2019
Data Release Frequency: Varies

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land
A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 10/13/2018
Date Data Arrived at EDR: 03/07/2019
Date Made Active in Reports: 05/01/2019
Number of Days to Update: 55

Source: EPA Region 1
Telephone: 617-918-1313
Last EDR Contact: 04/26/2019
Next Scheduled EDR Contact: 08/05/2019
Data Release Frequency: Varies

INDIAN LUST R5: Leaking Underground Storage Tanks on Indian Land
Leaking underground storage tanks located on Indian Land in Michigan, Minnesota and Wisconsin.

Date of Government Version: 10/12/2018
Date Data Arrived at EDR: 03/07/2019
Date Made Active in Reports: 05/01/2019
Number of Days to Update: 55

Source: EPA, Region 5
Telephone: 312-886-7439
Last EDR Contact: 04/26/2019
Next Scheduled EDR Contact: 08/05/2019
Data Release Frequency: Varies

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 10/17/2018
Date Data Arrived at EDR: 03/07/2019
Date Made Active in Reports: 05/01/2019
Number of Days to Update: 55

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 04/26/2019
Next Scheduled EDR Contact: 08/05/2019
Data Release Frequency: Varies

CPS-SLIC: Statewide SLIC Cases (GEOTRACKER)
Cleanup Program Sites (CPS; also known as Site Cleanups [SC] and formerly known as Spills, Leaks, Investigations, and Cleanups [SLIC] sites) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 12/10/2018
Date Data Arrived at EDR: 12/11/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 06/11/2019
Next Scheduled EDR Contact: 09/23/2019
Data Release Frequency: Varies

SLIC REG 1: Active Toxic Site Investigations
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2003
Date Data Arrived at EDR: 04/07/2003
Date Made Active in Reports: 04/25/2003
Number of Days to Update: 18

Source: California Regional Water Quality Control Board, North Coast Region (1)
Telephone: 707-576-2220
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

SLIC REG 2: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30

Source: Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-286-0457
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: Quarterly

SLIC REG 3: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/18/2006
Date Data Arrived at EDR: 05/18/2006
Date Made Active in Reports: 06/15/2006
Number of Days to Update: 28

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-549-3147
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: Semi-Annually

SLIC REG 4: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/17/2004
Date Data Arrived at EDR: 11/18/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 47

Source: Region Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6600
Last EDR Contact: 07/01/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: Varies

SLIC REG 5: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/01/2005
Date Data Arrived at EDR: 04/05/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 16

Source: Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-3291
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: Semi-Annually

SLIC REG 6V: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/24/2005
Date Data Arrived at EDR: 05/25/2005
Date Made Active in Reports: 06/16/2005
Number of Days to Update: 22

Source: Regional Water Quality Control Board, Victorville Branch
Telephone: 619-241-6583
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: Semi-Annually

SLIC REG 6L: SLIC Sites
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35

Source: California Regional Water Quality Control Board, Lahontan Region
Telephone: 530-542-5574
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

SLIC REG 7: SLIC List
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/24/2004
Date Data Arrived at EDR: 11/29/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 36

Source: California Regional Quality Control Board, Colorado River Basin Region
Telephone: 760-346-7491
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

SLIC REG 8: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2008
Date Data Arrived at EDR: 04/03/2008
Date Made Active in Reports: 04/14/2008
Number of Days to Update: 11

Source: California Region Water Quality Control Board Santa Ana Region (8)
Telephone: 951-782-3298
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: Semi-Annually

SLIC REG 9: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/10/2007
Date Data Arrived at EDR: 09/11/2007
Date Made Active in Reports: 09/28/2007
Number of Days to Update: 17

Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-467-2980
Last EDR Contact: 08/08/2011
Next Scheduled EDR Contact: 11/21/2011
Data Release Frequency: Annually

State and tribal registered storage tank lists

FEMA UST: Underground Storage Tank Listing
A listing of all FEMA owned underground storage tanks.

Date of Government Version: 05/15/2017
Date Data Arrived at EDR: 05/30/2017
Date Made Active in Reports: 10/13/2017
Number of Days to Update: 136

Source: FEMA
Telephone: 202-646-5797
Last EDR Contact: 04/25/2019
Next Scheduled EDR Contact: 07/22/2019
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

UST CLOSURE: Proposed Closure of Underground Storage Tank (UST) Cases

UST cases that are being considered for closure by either the State Water Resources Control Board or the Executive Director have been posted for a 60-day public comment period. UST Case Closures being proposed for consideration by the State Water Resources Control Board. These are primarily UST cases that meet closure criteria under the decisional framework in State Water Board Resolution No. 92-49 and other Board orders. UST Case Closures proposed for consideration by the Executive Director pursuant to State Water Board Resolution No. 2012-0061. These are cases that meet the criteria of the Low-Threat UST Case Closure Policy. UST Case Closure Review Denials and Approved Orders.

Date of Government Version: 03/11/2019
Date Data Arrived at EDR: 03/13/2019
Date Made Active in Reports: 04/03/2019
Number of Days to Update: 21

Source: State Water Resources Control Board
Telephone: 916-327-7844
Last EDR Contact: 06/12/2019
Next Scheduled EDR Contact: 09/23/2019
Data Release Frequency: Varies

UST: Active UST Facilities

Active UST facilities gathered from the local regulatory agencies

Date of Government Version: 12/10/2018
Date Data Arrived at EDR: 12/11/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 35

Source: SWRCB
Telephone: 916-341-5851
Last EDR Contact: 06/11/2019
Next Scheduled EDR Contact: 09/23/2019
Data Release Frequency: Semi-Annually

MILITARY UST SITES: Military UST Sites (GEOTRACKER)

Military ust sites

Date of Government Version: 12/10/2018
Date Data Arrived at EDR: 12/11/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 06/11/2019
Next Scheduled EDR Contact: 09/23/2019
Data Release Frequency: Varies

AST: Aboveground Petroleum Storage Tank Facilities

A listing of aboveground storage tank petroleum storage tank locations.

Date of Government Version: 07/06/2016
Date Data Arrived at EDR: 07/12/2016
Date Made Active in Reports: 09/19/2016
Number of Days to Update: 69

Source: California Environmental Protection Agency
Telephone: 916-327-5092
Last EDR Contact: 06/17/2019
Next Scheduled EDR Contact: 09/30/2019
Data Release Frequency: Quarterly

INDIAN UST R8: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 10/16/2018
Date Data Arrived at EDR: 03/07/2019
Date Made Active in Reports: 05/01/2019
Number of Days to Update: 55

Source: EPA Region 8
Telephone: 303-312-6137
Last EDR Contact: 04/26/2019
Next Scheduled EDR Contact: 08/05/2019
Data Release Frequency: Varies

INDIAN UST R9: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

Date of Government Version: 10/10/2018
Date Data Arrived at EDR: 03/08/2019
Date Made Active in Reports: 05/01/2019
Number of Days to Update: 54

Source: EPA Region 9
Telephone: 415-972-3368
Last EDR Contact: 04/26/2019
Next Scheduled EDR Contact: 08/05/2019
Data Release Frequency: Varies

INDIAN UST R10: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).

Date of Government Version: 10/17/2018
Date Data Arrived at EDR: 03/07/2019
Date Made Active in Reports: 05/01/2019
Number of Days to Update: 55

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 04/26/2019
Next Scheduled EDR Contact: 08/05/2019
Data Release Frequency: Varies

INDIAN UST R7: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations).

Date of Government Version: 11/07/2018
Date Data Arrived at EDR: 03/07/2019
Date Made Active in Reports: 05/01/2019
Number of Days to Update: 55

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 04/26/2019
Next Scheduled EDR Contact: 08/05/2019
Data Release Frequency: Varies

INDIAN UST R6: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

Date of Government Version: 11/01/2018
Date Data Arrived at EDR: 03/07/2019
Date Made Active in Reports: 05/01/2019
Number of Days to Update: 55

Source: EPA Region 6
Telephone: 214-665-7591
Last EDR Contact: 04/26/2019
Next Scheduled EDR Contact: 08/05/2019
Data Release Frequency: Varies

INDIAN UST R5: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

Date of Government Version: 10/12/2018
Date Data Arrived at EDR: 03/07/2019
Date Made Active in Reports: 05/01/2019
Number of Days to Update: 55

Source: EPA Region 5
Telephone: 312-886-6136
Last EDR Contact: 04/26/2019
Next Scheduled EDR Contact: 08/05/2019
Data Release Frequency: Varies

INDIAN UST R4: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations)

Date of Government Version: 09/24/2018
Date Data Arrived at EDR: 03/12/2019
Date Made Active in Reports: 05/01/2019
Number of Days to Update: 50

Source: EPA Region 4
Telephone: 404-562-9424
Last EDR Contact: 04/26/2019
Next Scheduled EDR Contact: 08/05/2019
Data Release Frequency: Varies

INDIAN UST R1: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

Date of Government Version: 10/03/2018
Date Data Arrived at EDR: 03/07/2019
Date Made Active in Reports: 05/01/2019
Number of Days to Update: 55

Source: EPA, Region 1
Telephone: 617-918-1313
Last EDR Contact: 04/26/2019
Next Scheduled EDR Contact: 08/05/2019
Data Release Frequency: Varies

State and tribal voluntary cleanup sites

INDIAN VCP R1: Voluntary Cleanup Priority Listing
A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 07/27/2015
Date Data Arrived at EDR: 09/29/2015
Date Made Active in Reports: 02/18/2016
Number of Days to Update: 142

Source: EPA, Region 1
Telephone: 617-918-1102
Last EDR Contact: 03/25/2019
Next Scheduled EDR Contact: 07/08/2019
Data Release Frequency: Varies

INDIAN VCP R7: Voluntary Cleanup Priority Lisitng
A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008
Date Data Arrived at EDR: 04/22/2008
Date Made Active in Reports: 05/19/2008
Number of Days to Update: 27

Source: EPA, Region 7
Telephone: 913-551-7365
Last EDR Contact: 04/20/2009
Next Scheduled EDR Contact: 07/20/2009
Data Release Frequency: Varies

VCP: Voluntary Cleanup Program Properties
Contains low threat level properties with either confirmed or unconfirmed releases and the project proponents have request that DTSC oversee investigation and/or cleanup activities and have agreed to provide coverage for DTSC's costs.

Date of Government Version: 01/28/2019
Date Data Arrived at EDR: 01/29/2019
Date Made Active in Reports: 03/05/2019
Number of Days to Update: 35

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 04/30/2019
Next Scheduled EDR Contact: 08/12/2019
Data Release Frequency: Quarterly

State and tribal Brownfields sites

BROWNFIELDS: Considered Brownfieds Sites Listing
A listing of sites the SWRCB considers to be Brownfields since these are sites have come to them through the MOA Process.

Date of Government Version: 03/25/2019
Date Data Arrived at EDR: 03/26/2019
Date Made Active in Reports: 04/29/2019
Number of Days to Update: 34

Source: State Water Resources Control Board
Telephone: 916-323-7905
Last EDR Contact: 03/26/2019
Next Scheduled EDR Contact: 07/08/2019
Data Release Frequency: Quarterly

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS: A Listing of Brownfields Sites
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 takes development pressures off of undeveloped, open land, and both improves and protects the environment. Assessment, Cleanup and Redevelopment Exchange System (ACRES) stores information reported by EPA Brownfields grant recipients on brownfields properties assessed or cleaned up with grant funding as well as information on Targeted Brownfields Assessments performed by EPA Regions. A listing of ACRES Brownfield sites is obtained from Cleanups in My Community. Cleanups in My Community provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs.

Date of Government Version: 12/17/2018
Date Data Arrived at EDR: 12/18/2018
Date Made Active in Reports: 01/11/2019
Number of Days to Update: 24

Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 06/04/2019
Next Scheduled EDR Contact: 09/30/2019
Data Release Frequency: Semi-Annually

Local Lists of Landfill / Solid Waste Disposal Sites

WMUDS/SWAT: Waste Management Unit Database

Waste Management Unit Database System. WMUDS is used by the State Water Resources Control Board staff and the Regional Water Quality Control Boards for program tracking and inventory of waste management units. WMUDS is composed of the following databases: Facility Information, Scheduled Inspections Information, Waste Management Unit Information, SWAT Program Information, SWAT Report Summary Information, SWAT Report Summary Data, Chapter 15 (formerly Subchapter 15) Information, Chapter 15 Monitoring Parameters, TPCA Program Information, RCRA Program Information, Closure Information, and Interested Parties Information.

Date of Government Version: 04/01/2000
Date Data Arrived at EDR: 04/10/2000
Date Made Active in Reports: 05/10/2000
Number of Days to Update: 30

Source: State Water Resources Control Board
Telephone: 916-227-4448
Last EDR Contact: 04/25/2019
Next Scheduled EDR Contact: 08/12/2019
Data Release Frequency: No Update Planned

SWRCY: Recycler Database

A listing of recycling facilities in California.

Date of Government Version: 03/11/2019
Date Data Arrived at EDR: 03/13/2019
Date Made Active in Reports: 04/30/2019
Number of Days to Update: 48

Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 06/12/2019
Next Scheduled EDR Contact: 09/23/2019
Data Release Frequency: Quarterly

HAULERS: Registered Waste Tire Haulers Listing

A listing of registered waste tire haulers.

Date of Government Version: 03/26/2019
Date Data Arrived at EDR: 03/27/2019
Date Made Active in Reports: 04/30/2019
Number of Days to Update: 34

Source: Integrated Waste Management Board
Telephone: 916-341-6422
Last EDR Contact: 05/09/2019
Next Scheduled EDR Contact: 08/26/2019
Data Release Frequency: Varies

INDIAN ODI: Report on the Status of Open Dumps on Indian Lands

Location of open dumps on Indian land.

Date of Government Version: 12/31/1998
Date Data Arrived at EDR: 12/03/2007
Date Made Active in Reports: 01/24/2008
Number of Days to Update: 52

Source: Environmental Protection Agency
Telephone: 703-308-8245
Last EDR Contact: 04/26/2019
Next Scheduled EDR Contact: 08/12/2019
Data Release Frequency: Varies

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations

A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 01/12/2009
Date Data Arrived at EDR: 05/07/2009
Date Made Active in Reports: 09/21/2009
Number of Days to Update: 137

Source: EPA, Region 9
Telephone: 415-947-4219
Last EDR Contact: 04/22/2019
Next Scheduled EDR Contact: 08/05/2019
Data Release Frequency: No Update Planned

ODI: Open Dump Inventory

An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985
Date Data Arrived at EDR: 08/09/2004
Date Made Active in Reports: 09/17/2004
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 800-424-9346
Last EDR Contact: 06/09/2004
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

IHS OPEN DUMPS: Open Dumps on Indian Land
A listing of all open dumps located on Indian Land in the United States.

Date of Government Version: 04/01/2014
Date Data Arrived at EDR: 08/06/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 176

Source: Department of Health & Human Serivces, Indian Health Service
Telephone: 301-443-1452
Last EDR Contact: 04/23/2019
Next Scheduled EDR Contact: 08/12/2019
Data Release Frequency: Varies

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL: National Clandestine Laboratory Register
A listing of clandestine drug lab locations that have been removed from the DEAs National Clandestine Laboratory Register.

Date of Government Version: 02/24/2019
Date Data Arrived at EDR: 02/26/2019
Date Made Active in Reports: 04/17/2019
Number of Days to Update: 50

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 05/24/2019
Next Scheduled EDR Contact: 09/09/2019
Data Release Frequency: No Update Planned

HIST CAL-SITES: Calsites Database
The Calsites database contains potential or confirmed hazardous substance release properties. In 1996, California EPA reevaluated and significantly reduced the number of sites in the Calsites database. No longer updated by the state agency. It has been replaced by ENVIROSTOR.

Date of Government Version: 08/08/2005
Date Data Arrived at EDR: 08/03/2006
Date Made Active in Reports: 08/24/2006
Number of Days to Update: 21

Source: Department of Toxic Substance Control
Telephone: 916-323-3400
Last EDR Contact: 02/23/2009
Next Scheduled EDR Contact: 05/25/2009
Data Release Frequency: No Update Planned

SCH: School Property Evaluation Program
This category contains proposed and existing school sites that are being evaluated by DTSC for possible hazardous materials contamination. In some cases, these properties may be listed in the CalSites category depending on the level of threat to public health and safety or the environment they pose.

Date of Government Version: 01/28/2019
Date Data Arrived at EDR: 01/29/2019
Date Made Active in Reports: 03/05/2019
Number of Days to Update: 35

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 04/30/2019
Next Scheduled EDR Contact: 08/12/2019
Data Release Frequency: Quarterly

CDL: Clandestine Drug Labs
A listing of drug lab locations. Listing of a location in this database does not indicate that any illegal drug lab materials were or were not present there, and does not constitute a determination that the location either requires or does not require additional cleanup work.

Date of Government Version: 12/31/2017
Date Data Arrived at EDR: 06/12/2018
Date Made Active in Reports: 08/06/2018
Number of Days to Update: 55

Source: Department of Toxic Substances Control
Telephone: 916-255-6504
Last EDR Contact: 05/02/2019
Next Scheduled EDR Contact: 07/22/2019
Data Release Frequency: Varies

TOXIC PITS: Toxic Pits Cleanup Act Sites
Toxic PITS Cleanup Act Sites. TOXIC PITS identifies sites suspected of containing hazardous substances where cleanup has not yet been completed.

Date of Government Version: 07/01/1995
Date Data Arrived at EDR: 08/30/1995
Date Made Active in Reports: 09/26/1995
Number of Days to Update: 27

Source: State Water Resources Control Board
Telephone: 916-227-4364
Last EDR Contact: 01/26/2009
Next Scheduled EDR Contact: 04/27/2009
Data Release Frequency: No Update Planned

CERS HAZ WASTE: CERS HAZ WASTE

List of sites in the California Environmental Protection Agency (CalEPA) Regulated Site Portal which fall under the Hazardous Chemical Management, Hazardous Waste Onsite Treatment, Household Hazardous Waste Collection, Hazardous Waste Generator, and RCRA LQ HW Generator programs.

Date of Government Version: 04/09/2019
Date Data Arrived at EDR: 04/11/2019
Date Made Active in Reports: 05/08/2019
Number of Days to Update: 27

Source: CalEPA
Telephone: 916-323-2514
Last EDR Contact: 04/11/2019
Next Scheduled EDR Contact: 08/05/2019
Data Release Frequency: Quarterly

US CDL: Clandestine Drug Labs

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site 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. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 02/24/2019
Date Data Arrived at EDR: 02/26/2019
Date Made Active in Reports: 04/17/2019
Number of Days to Update: 50

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 05/24/2019
Next Scheduled EDR Contact: 09/09/2019
Data Release Frequency: Quarterly

PFAS: PFAS Contamination Site Location Listing

A listing of PFAS contaminated sites included in the GeoTracker database.

Date of Government Version: 02/21/2019
Date Data Arrived at EDR: 02/22/2019
Date Made Active in Reports: 04/15/2019
Number of Days to Update: 52

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 06/10/2019
Next Scheduled EDR Contact: 09/23/2019
Data Release Frequency: Varies

Local Lists of Registered Storage Tanks

SWEEPS UST: SWEEPS UST Listing

Statewide Environmental Evaluation and Planning System. This underground storage tank listing was updated and maintained by a company contacted by the SWRCB in the early 1990's. The listing is no longer updated or maintained. The local agency is the contact for more information on a site on the SWEEPS list.

Date of Government Version: 06/01/1994
Date Data Arrived at EDR: 07/07/2005
Date Made Active in Reports: 08/11/2005
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: N/A
Last EDR Contact: 06/03/2005
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

UST MENDOCINO: Mendocino County UST Database

A listing of underground storage tank locations in Mendocino County.

Date of Government Version: 12/04/2018
Date Data Arrived at EDR: 12/06/2018
Date Made Active in Reports: 12/14/2018
Number of Days to Update: 8

Source: Department of Public Health
Telephone: 707-463-4466
Last EDR Contact: 05/24/2019
Next Scheduled EDR Contact: 09/09/2019
Data Release Frequency: Annually

HIST UST: Hazardous Substance Storage Container Database

The Hazardous Substance Storage Container Database is a historical listing of UST sites. Refer to local/county source for current data.

Date of Government Version: 10/15/1990
Date Data Arrived at EDR: 01/25/1991
Date Made Active in Reports: 02/12/1991
Number of Days to Update: 18

Source: State Water Resources Control Board
Telephone: 916-341-5851
Last EDR Contact: 07/26/2001
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

SAN FRANCISCO AST: Aboveground Storage Tank Site Listing
Aboveground storage tank sites

Date of Government Version: 09/11/2018
Date Data Arrived at EDR: 09/12/2018
Date Made Active in Reports: 10/11/2018
Number of Days to Update: 29

Source: San Francisco County Department of Public Health
Telephone: 415-252-3896
Last EDR Contact: 05/02/2019
Next Scheduled EDR Contact: 08/19/2019
Data Release Frequency: Varies

CA FID UST: Facility Inventory Database
The Facility Inventory Database (FID) contains a historical listing of active and inactive underground storage tank locations from the State Water Resource Control Board. Refer to local/county source for current data.

Date of Government Version: 10/31/1994
Date Data Arrived at EDR: 09/05/1995
Date Made Active in Reports: 09/29/1995
Number of Days to Update: 24

Source: California Environmental Protection Agency
Telephone: 916-341-5851
Last EDR Contact: 12/28/1998
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

CERS TANKS: California Environmental Reporting System (CERS) Tanks
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.

Date of Government Version: 04/09/2019
Date Data Arrived at EDR: 04/11/2019
Date Made Active in Reports: 05/08/2019
Number of Days to Update: 27

Source: California Environmental Protection Agency
Telephone: 916-323-2514
Last EDR Contact: 04/11/2019
Next Scheduled EDR Contact: 08/05/2019
Data Release Frequency: Quarterly

Local Land Records

LIENS: Environmental Liens Listing
A listing of property locations with environmental liens for California where DTSC is a lien holder.

Date of Government Version: 02/28/2019
Date Data Arrived at EDR: 03/01/2019
Date Made Active in Reports: 04/02/2019
Number of Days to Update: 32

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 06/03/2019
Next Scheduled EDR Contact: 09/16/2019
Data Release Frequency: Varies

LIENS 2: CERCLA Lien Information
A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 04/11/2019
Date Data Arrived at EDR: 04/18/2019
Date Made Active in Reports: 05/23/2019
Number of Days to Update: 35

Source: Environmental Protection Agency
Telephone: 202-564-6023
Last EDR Contact: 06/06/2019
Next Scheduled EDR Contact: 08/05/2019
Data Release Frequency: Semi-Annually

DEED: Deed Restriction Listing

Site Mitigation and Brownfields Reuse Program Facility Sites with Deed Restrictions & Hazardous Waste Management Program Facility Sites with Deed / Land Use Restriction. The 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 deed restrictions that are active. Some sites have multiple deed restrictions. The 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.

Date of Government Version: 03/04/2019
Date Data Arrived at EDR: 03/05/2019
Date Made Active in Reports: 04/01/2019
Number of Days to Update: 27

Source: DTSC and SWRCB
Telephone: 916-323-3400
Last EDR Contact: 06/04/2019
Next Scheduled EDR Contact: 09/16/2019
Data Release Frequency: Semi-Annually

Records of Emergency Release Reports

HMIRS: Hazardous Materials Information Reporting System
Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 03/25/2019
Date Data Arrived at EDR: 03/26/2019
Date Made Active in Reports: 05/14/2019
Number of Days to Update: 49

Source: U.S. Department of Transportation
Telephone: 202-366-4555
Last EDR Contact: 03/26/2019
Next Scheduled EDR Contact: 07/08/2019
Data Release Frequency: Quarterly

CHMIRS: California Hazardous Material Incident Report System
California Hazardous Material Incident Reporting System. CHMIRS contains information on reported hazardous material incidents (accidental releases or spills).

Date of Government Version: 10/24/2018
Date Data Arrived at EDR: 01/24/2019
Date Made Active in Reports: 03/05/2019
Number of Days to Update: 40

Source: Office of Emergency Services
Telephone: 916-845-8400
Last EDR Contact: 04/26/2019
Next Scheduled EDR Contact: 08/05/2019
Data Release Frequency: Semi-Annually

LDS: Land Disposal Sites Listing (GEOTRACKER)
Land Disposal sites (Landfills) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 12/10/2018
Date Data Arrived at EDR: 12/11/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 35

Source: State Water Qualilty Control Board
Telephone: 866-480-1028
Last EDR Contact: 06/11/2019
Next Scheduled EDR Contact: 09/23/2019
Data Release Frequency: Quarterly

MCS: Military Cleanup Sites Listing (GEOTRACKER)
Military sites (consisting of: Military UST sites; Military Privatized sites; and Military Cleanup sites [formerly known as DoD non UST]) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 12/10/2018
Date Data Arrived at EDR: 12/11/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 06/11/2019
Next Scheduled EDR Contact: 09/23/2019
Data Release Frequency: Quarterly

SPILLS 90: SPILLS90 data from FirstSearch

Spills 90 includes those spill and release records available exclusively from FirstSearch databases. Typically, they may include chemical, oil and/or hazardous substance spills recorded after 1990. Duplicate records that are already included in EDR incident and release records are not included in Spills 90.

Date of Government Version: 06/06/2012
Date Data Arrived at EDR: 01/03/2013
Date Made Active in Reports: 02/22/2013
Number of Days to Update: 50

Source: FirstSearch
Telephone: N/A
Last EDR Contact: 01/03/2013
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

Other Ascertainable Records

RCRA NonGen / NLR: RCRA - Non Generators / No Longer Regulated

RCRAInfo is EPA's 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. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 03/25/2019
Date Data Arrived at EDR: 03/27/2019
Date Made Active in Reports: 04/17/2019
Number of Days to Update: 21

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 03/27/2019
Next Scheduled EDR Contact: 07/08/2019
Data Release Frequency: Quarterly

FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 03/07/2019
Date Data Arrived at EDR: 04/03/2019
Date Made Active in Reports: 05/23/2019
Number of Days to Update: 50

Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
Last EDR Contact: 05/21/2019
Next Scheduled EDR Contact: 09/02/2019
Data Release Frequency: Varies

DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 11/10/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 62

Source: USGS
Telephone: 888-275-8747
Last EDR Contact: 04/12/2019
Next Scheduled EDR Contact: 07/22/2019
Data Release Frequency: Semi-Annually

FEDLAND: Federal and Indian Lands

Federally and Indian administrated lands of the United States. Lands included are administrated by: Army Corps of Engineers, Bureau of Reclamation, National Wild and Scenic River, National Wildlife Refuge, Public Domain Land, Wilderness, Wilderness Study Area, Wildlife Management Area, Bureau of Indian Affairs, Bureau of Land Management, Department of Justice, Forest Service, Fish and Wildlife Service, National Park Service.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 02/06/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 339

Source: U.S. Geological Survey
Telephone: 888-275-8747
Last EDR Contact: 04/12/2019
Next Scheduled EDR Contact: 07/22/2019
Data Release Frequency: N/A

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing

The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Date of Government Version: 01/01/2017
Date Data Arrived at EDR: 02/03/2017
Date Made Active in Reports: 04/07/2017
Number of Days to Update: 63

Source: Environmental Protection Agency
Telephone: 615-532-8599
Last EDR Contact: 05/13/2019
Next Scheduled EDR Contact: 08/26/2019
Data Release Frequency: Varies

US FIN ASSUR: Financial Assurance Information

All owners and operators of facilities that treat, store, or dispose of hazardous waste are required to provide proof that they will have sufficient funds to pay for the clean up, closure, and post-closure care of their facilities.

Date of Government Version: 03/25/2019
Date Data Arrived at EDR: 03/26/2019
Date Made Active in Reports: 05/07/2019
Number of Days to Update: 42

Source: Environmental Protection Agency
Telephone: 202-566-1917
Last EDR Contact: 03/26/2019
Next Scheduled EDR Contact: 07/08/2019
Data Release Frequency: Quarterly

EPA WATCH LIST: EPA WATCH LIST

EPA maintains a "Watch List" to facilitate dialogue between EPA, state and local environmental agencies on enforcement matters relating to facilities with alleged violations identified as either significant or high priority. Being on the Watch List does not mean that the facility has actually violated the law only that an investigation by EPA or a state or local environmental agency has led those organizations to allege that an unproven violation has in fact occurred. Being on the Watch List does not represent a higher level of concern regarding the alleged violations that were detected, but instead indicates cases requiring additional dialogue between EPA, state and local agencies - primarily because of the length of time the alleged violation has gone unaddressed or unresolved.

Date of Government Version: 08/30/2013
Date Data Arrived at EDR: 03/21/2014
Date Made Active in Reports: 06/17/2014
Number of Days to Update: 88

Source: Environmental Protection Agency
Telephone: 617-520-3000
Last EDR Contact: 05/06/2019
Next Scheduled EDR Contact: 08/19/2019
Data Release Frequency: Quarterly

2020 COR ACTION: 2020 Corrective Action Program List

The EPA has set ambitious goals for the RCRA Corrective Action program by creating the 2020 Corrective Action Universe. This RCRA cleanup baseline includes facilities expected to need corrective action. The 2020 universe contains a wide variety of sites. Some properties are heavily contaminated while others were contaminated but have since been cleaned up. Still others have not been fully investigated yet, and may require little or no remediation. Inclusion in the 2020 Universe does not necessarily imply failure on the part of a facility to meet its RCRA obligations.

Date of Government Version: 09/30/2017
Date Data Arrived at EDR: 05/08/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 73

Source: Environmental Protection Agency
Telephone: 703-308-4044
Last EDR Contact: 05/10/2019
Next Scheduled EDR Contact: 08/19/2019
Data Release Frequency: Varies

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2016
Date Data Arrived at EDR: 06/21/2017
Date Made Active in Reports: 01/05/2018
Number of Days to Update: 198

Source: EPA
Telephone: 202-260-5521
Last EDR Contact: 06/18/2019
Next Scheduled EDR Contact: 09/30/2019
Data Release Frequency: Every 4 Years

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2016
Date Data Arrived at EDR: 01/10/2018
Date Made Active in Reports: 01/12/2018
Number of Days to Update: 2

Source: EPA
Telephone: 202-566-0250
Last EDR Contact: 05/24/2019
Next Scheduled EDR Contact: 09/02/2019
Data Release Frequency: Annually

SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 12/31/2009
Date Data Arrived at EDR: 12/10/2010
Date Made Active in Reports: 02/25/2011
Number of Days to Update: 77

Source: EPA
Telephone: 202-564-4203
Last EDR Contact: 04/24/2019
Next Scheduled EDR Contact: 08/05/2019
Data Release Frequency: Annually

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 04/11/2019
Date Data Arrived at EDR: 04/18/2019
Date Made Active in Reports: 05/23/2019
Number of Days to Update: 35

Source: EPA
Telephone: 703-416-0223
Last EDR Contact: 06/06/2019
Next Scheduled EDR Contact: 09/16/2019
Data Release Frequency: Annually

RMP: Risk Management Plans

When Congress passed the Clean Air Act Amendments of 1990, it required EPA to publish regulations and guidance for chemical accident prevention at facilities using extremely hazardous substances. The Risk Management Program Rule (RMP Rule) was written to implement Section 112(r) of these amendments. The rule, which built upon existing industry codes and standards, requires companies of all sizes that use certain flammable and toxic substances to develop a Risk Management Program, which includes a(n): Hazard assessment that details the potential effects of an accidental release, an accident history of the last five years, and an evaluation of worst-case and alternative accidental releases; Prevention program that includes safety precautions and maintenance, monitoring, and employee training measures; and Emergency response program that spells out emergency health care, employee training measures and procedures for informing the public and response agencies (e.g the fire department) should an accident occur.

Date of Government Version: 04/25/2019
Date Data Arrived at EDR: 05/02/2019
Date Made Active in Reports: 05/23/2019
Number of Days to Update: 21

Source: Environmental Protection Agency
Telephone: 202-564-8600
Last EDR Contact: 04/22/2019
Next Scheduled EDR Contact: 08/05/2019
Data Release Frequency: Varies

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995
Date Data Arrived at EDR: 07/03/1995
Date Made Active in Reports: 08/07/1995
Number of Days to Update: 35

Source: EPA
Telephone: 202-564-4104
Last EDR Contact: 06/02/2008
Next Scheduled EDR Contact: 09/01/2008
Data Release Frequency: No Update Planned

PRP: Potentially Responsible Parties
A listing of verified Potentially Responsible Parties

Date of Government Version: 04/11/2019
Date Data Arrived at EDR: 04/18/2019
Date Made Active in Reports: 05/23/2019
Number of Days to Update: 35

Source: EPA
Telephone: 202-564-6023
Last EDR Contact: 06/06/2019
Next Scheduled EDR Contact: 08/19/2019
Data Release Frequency: Quarterly

PADS: PCB Activity Database System
PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 03/20/2019
Date Data Arrived at EDR: 04/10/2019
Date Made Active in Reports: 05/14/2019
Number of Days to Update: 34

Source: EPA
Telephone: 202-566-0500
Last EDR Contact: 04/10/2019
Next Scheduled EDR Contact: 07/22/2019
Data Release Frequency: Annually

ICIS: Integrated Compliance Information System
The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 11/18/2016
Date Data Arrived at EDR: 11/23/2016
Date Made Active in Reports: 02/10/2017
Number of Days to Update: 79

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 04/08/2019
Next Scheduled EDR Contact: 07/22/2019
Data Release Frequency: Quarterly

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-566-1667
Last EDR Contact: 08/18/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: Quarterly

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA
Telephone: 202-566-1667
Last EDR Contact: 08/18/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: Quarterly

MLTS: Material Licensing Tracking System
MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 08/30/2016
Date Data Arrived at EDR: 09/08/2016
Date Made Active in Reports: 10/21/2016
Number of Days to Update: 43

Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
Last EDR Contact: 04/22/2019
Next Scheduled EDR Contact: 08/05/2019
Data Release Frequency: Quarterly

COAL ASH DOE: Steam-Electric Plant Operation Data
A listing of power plants that store ash in surface ponds.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 08/07/2009
Date Made Active in Reports: 10/22/2009
Number of Days to Update: 76

Source: Department of Energy
Telephone: 202-586-8719
Last EDR Contact: 06/07/2019
Next Scheduled EDR Contact: 09/16/2019
Data Release Frequency: Varies

COAL ASH EPA: Coal Combustion Residues Surface Impoundments List
A listing of coal combustion residues surface impoundments with high hazard potential ratings.

Date of Government Version: 07/01/2014
Date Data Arrived at EDR: 09/10/2014
Date Made Active in Reports: 10/20/2014
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: N/A
Last EDR Contact: 06/07/2019
Next Scheduled EDR Contact: 09/16/2019
Data Release Frequency: Varies

PCB TRANSFORMER: PCB Transformer Registration Database
The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 05/24/2017
Date Data Arrived at EDR: 11/30/2017
Date Made Active in Reports: 12/15/2017
Number of Days to Update: 15

Source: Environmental Protection Agency
Telephone: 202-566-0517
Last EDR Contact: 04/26/2019
Next Scheduled EDR Contact: 08/05/2019
Data Release Frequency: Varies

RADINFO: Radiation Information Database
The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 04/02/2019
Date Data Arrived at EDR: 04/02/2019
Date Made Active in Reports: 05/14/2019
Number of Days to Update: 42

Source: Environmental Protection Agency
Telephone: 202-343-9775
Last EDR Contact: 04/02/2019
Next Scheduled EDR Contact: 07/15/2019
Data Release Frequency: Quarterly

HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing
A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2007
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing
A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2008
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

DOT OPS: Incident and Accident Data

Department of Transporation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 12/03/2018
Date Data Arrived at EDR: 01/29/2019
Date Made Active in Reports: 03/21/2019
Number of Days to Update: 51

Source: Department of Transporation, Office of Pipeline Safety
Telephone: 202-366-4595
Last EDR Contact: 04/30/2019
Next Scheduled EDR Contact: 08/12/2019
Data Release Frequency: Quarterly

CONSENT: Superfund (CERCLA) Consent Decrees

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 03/31/2019
Date Data Arrived at EDR: 04/23/2019
Date Made Active in Reports: 05/23/2019
Number of Days to Update: 30

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 04/05/2019
Next Scheduled EDR Contact: 07/22/2019
Data Release Frequency: Varies

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2015
Date Data Arrived at EDR: 02/22/2017
Date Made Active in Reports: 09/28/2017
Number of Days to Update: 218

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 05/24/2019
Next Scheduled EDR Contact: 09/02/2019
Data Release Frequency: Biennially

INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 07/14/2015
Date Made Active in Reports: 01/10/2017
Number of Days to Update: 546

Source: USGS
Telephone: 202-208-3710
Last EDR Contact: 04/11/2019
Next Scheduled EDR Contact: 07/22/2019
Data Release Frequency: Semi-Annually

FUSRAP: Formerly Utilized Sites Remedial Action Program

DOE established the Formerly Utilized Sites Remedial Action Program (FUSRAP) in 1974 to remediate sites where radioactive contamination remained from Manhattan Project and early U.S. Atomic Energy Commission (AEC) operations.

Date of Government Version: 08/08/2017
Date Data Arrived at EDR: 09/11/2018
Date Made Active in Reports: 09/14/2018
Number of Days to Update: 3

Source: Department of Energy
Telephone: 202-586-3559
Last EDR Contact: 05/02/2019
Next Scheduled EDR Contact: 08/19/2019
Data Release Frequency: Varies

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 06/23/2017
Date Data Arrived at EDR: 10/11/2017
Date Made Active in Reports: 11/03/2017
Number of Days to Update: 23

Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 05/24/2019
Next Scheduled EDR Contact: 09/02/2019
Data Release Frequency: Varies

LEAD SMELTER 1: Lead Smelter Sites
A listing of former lead smelter site locations.

Date of Government Version: 04/11/2019
Date Data Arrived at EDR: 04/18/2019
Date Made Active in Reports: 05/14/2019
Number of Days to Update: 26

Source: Environmental Protection Agency
Telephone: 703-603-8787
Last EDR Contact: 06/06/2019
Next Scheduled EDR Contact: 07/15/2019
Data Release Frequency: Varies

LEAD SMELTER 2: Lead Smelter Sites
A list of several hundred sites in the U.S. where secondary lead smelting was done from 1931and 1964. These sites may pose a threat to public health through ingestion or inhalation of contaminated soil or dust

Date of Government Version: 04/05/2001
Date Data Arrived at EDR: 10/27/2010
Date Made Active in Reports: 12/02/2010
Number of Days to Update: 36

Source: American Journal of Public Health
Telephone: 703-305-6451
Last EDR Contact: 12/02/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

US AIRS (AFS): Aerometric Information Retrieval System Facility Subsystem (AFS)
The database is a sub-system of Aerometric Information Retrieval System (AIRS). AFS contains compliance data on air pollution point sources regulated by the U.S. EPA and/or state and local air regulatory agencies. This information comes from source reports by various stationary sources of air pollution, such as electric power plants, steel mills, factories, and universities, and provides information about the air pollutants they produce. Action, air program, air program pollutant, and general level plant data. It is used to track emissions and compliance data from industrial plants.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Annually

US AIRS MINOR: Air Facility System Data
A listing of minor source facilities.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Annually

US MINES: Mines Master Index File
Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 11/27/2018
Date Data Arrived at EDR: 02/27/2019
Date Made Active in Reports: 04/01/2019
Number of Days to Update: 33

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 05/29/2019
Next Scheduled EDR Contact: 09/09/2019
Data Release Frequency: Semi-Annually

US MINES 2: Ferrous and Nonferrous Metal Mines Database Listing
This map layer includes ferrous (ferrous metal mines are facilities that extract ferrous metals, such as iron ore or molybdenum) and nonferrous (Nonferrous metal mines are facilities that extract nonferrous metals, such as gold, silver, copper, zinc, and lead) metal mines in the United States.

Date of Government Version: 12/05/2005
Date Data Arrived at EDR: 02/29/2008
Date Made Active in Reports: 04/18/2008
Number of Days to Update: 49

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 05/31/2019
Next Scheduled EDR Contact: 09/09/2019
Data Release Frequency: Varies

US MINES 3: Active Mines & Mineral Plants Database Listing

Active Mines and Mineral Processing Plant operations for commodities monitored by the Minerals Information Team of the USGS.

Date of Government Version: 04/14/2011
Date Data Arrived at EDR: 06/08/2011
Date Made Active in Reports: 09/13/2011
Number of Days to Update: 97

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 05/31/2019
Next Scheduled EDR Contact: 09/09/2019
Data Release Frequency: Varies

ABANDONED MINES: Abandoned Mines

An inventory of land and water impacted by past mining (primarily coal mining) is maintained by OSMRE to provide information needed to implement the Surface Mining Control and Reclamation Act of 1977 (SMCRA). The inventory contains information on the location, type, and extent of AML impacts, as well as, information on the cost associated with the reclamation of those problems. The inventory 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.

Date of Government Version: 03/27/2019
Date Data Arrived at EDR: 03/28/2019
Date Made Active in Reports: 05/01/2019
Number of Days to Update: 34

Source: Department of Interior
Telephone: 202-208-2609
Last EDR Contact: 06/10/2019
Next Scheduled EDR Contact: 09/23/2019
Data Release Frequency: Quarterly

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 02/15/2019
Date Data Arrived at EDR: 03/05/2019
Date Made Active in Reports: 03/15/2019
Number of Days to Update: 10

Source: EPA
Telephone: (415) 947-8000
Last EDR Contact: 06/05/2019
Next Scheduled EDR Contact: 09/16/2019
Data Release Frequency: Quarterly

ECHO: Enforcement & Compliance History Information

ECHO provides integrated compliance and enforcement information for about 800,000 regulated facilities nationwide.

Date of Government Version: 04/07/2019
Date Data Arrived at EDR: 04/09/2019
Date Made Active in Reports: 05/23/2019
Number of Days to Update: 44

Source: Environmental Protection Agency
Telephone: 202-564-2280
Last EDR Contact: 04/09/2019
Next Scheduled EDR Contact: 07/22/2019
Data Release Frequency: Quarterly

UXO: Unexploded Ordnance Sites

A listing of unexploded ordnance site locations

Date of Government Version: 12/31/2017
Date Data Arrived at EDR: 01/17/2019
Date Made Active in Reports: 04/01/2019
Number of Days to Update: 74

Source: Department of Defense
Telephone: 703-704-1564
Last EDR Contact: 04/15/2019
Next Scheduled EDR Contact: 07/29/2019
Data Release Frequency: Varies

DOCKET HWC: Hazardous Waste Compliance Docket Listing
A complete list of the Federal Agency Hazardous Waste Compliance Docket Facilities.

Date of Government Version: 05/31/2018
Date Data Arrived at EDR: 07/26/2018
Date Made Active in Reports: 10/05/2018
Number of Days to Update: 71

Source: Environmental Protection Agency
Telephone: 202-564-0527
Last EDR Contact: 05/24/2019
Next Scheduled EDR Contact: 09/09/2019
Data Release Frequency: Varies

FUELS PROGRAM: EPA Fuels Program Registered Listing
This listing includes facilities that are registered under the Part 80 (Code of Federal Regulations) EPA Fuels Programs. All companies now are required to submit new and updated registrations.

Date of Government Version: 02/19/2019
Date Data Arrived at EDR: 02/21/2019
Date Made Active in Reports: 04/01/2019
Number of Days to Update: 39

Source: EPA
Telephone: 800-385-6164
Last EDR Contact: 05/21/2019
Next Scheduled EDR Contact: 09/02/2019
Data Release Frequency: Quarterly

CA BOND EXP. PLAN: Bond Expenditure Plan
Department of Health Services developed a site-specific expenditure plan as the basis for an appropriation of Hazardous Substance Cleanup Bond Act funds. It is not updated.

Date of Government Version: 01/01/1989
Date Data Arrived at EDR: 07/27/1994
Date Made Active in Reports: 08/02/1994
Number of Days to Update: 6

Source: Department of Health Services
Telephone: 916-255-2118
Last EDR Contact: 05/31/1994
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

CORTESE: "Cortese" Hazardous Waste & Substances Sites List
The sites for the list are designated by the State Water Resource Control Board (LUST), the Integrated Waste Board (SWF/LS), and the Department of Toxic Substances Control (Cal-Sites).

Date of Government Version: 03/25/2019
Date Data Arrived at EDR: 03/26/2019
Date Made Active in Reports: 05/01/2019
Number of Days to Update: 36

Source: CAL EPA/Office of Emergency Information
Telephone: 916-323-3400
Last EDR Contact: 03/26/2019
Next Scheduled EDR Contact: 07/08/2019
Data Release Frequency: Quarterly

CUPA SAN FRANCISCO CO: CUPA Facility Listing
Cupa facilities

Date of Government Version: 04/18/2019
Date Data Arrived at EDR: 04/19/2019
Date Made Active in Reports: 04/30/2019
Number of Days to Update: 11

Source: San Francisco County Department of Environmental Health
Telephone: 415-252-3896
Last EDR Contact: 04/18/2019
Next Scheduled EDR Contact: 08/19/2019
Data Release Frequency: Varies

CUPA LIVERMORE-PLEASANTON: CUPA Facility Listing
list of facilities associated with the various CUPA programs in Livermore-Pleasanton

Date of Government Version: 01/23/2019
Date Data Arrived at EDR: 02/26/2019
Date Made Active in Reports: 04/01/2019
Number of Days to Update: 34

Source: Livermore-Pleasanton Fire Department
Telephone: 925-454-2361
Last EDR Contact: 05/14/2019
Next Scheduled EDR Contact: 08/26/2019
Data Release Frequency: Varies

DRYCLEAN SOUTH COAST: South Coast Air Quality Management District Drycleaner Listing
A listing of dry cleaners in the South Coast Air Quality Management District

Date of Government Version: 03/19/2019
Date Data Arrived at EDR: 03/22/2019
Date Made Active in Reports: 04/09/2019
Number of Days to Update: 18

Source: South Coast Air Quality Management District
Telephone: 909-396-3211
Last EDR Contact: 05/23/2019
Next Scheduled EDR Contact: 09/09/2019
Data Release Frequency: Varies

DRYCLEANERS: Cleaner Facilities

A list of drycleaner related facilities that have EPA ID numbers. These are facilities with certain SIC codes: power laundries, family and commercial; garment pressing and cleaner's agents; linen supply; coin-operated laundries and cleaning; drycleaning plants, except rugs; carpet and upholster cleaning; industrial launderers; laundry and garment services.

Date of Government Version: 03/01/2019
Date Data Arrived at EDR: 04/25/2019
Date Made Active in Reports: 05/30/2019
Number of Days to Update: 35

Source: Department of Toxic Substance Control
Telephone: 916-327-4498
Last EDR Contact: 06/03/2019
Next Scheduled EDR Contact: 09/16/2019
Data Release Frequency: Annually

DRYCLEAN AVAQMD: Antelope Valley Air Quality Management District Drycleaner Listing

A listing of dry cleaners in the Antelope Valley Air Quality Management District.

Date of Government Version: 02/27/2019
Date Data Arrived at EDR: 02/28/2019
Date Made Active in Reports: 04/01/2019
Number of Days to Update: 32

Source: Antelope Valley Air Quality Management District
Telephone: 661-723-8070
Last EDR Contact: 06/03/2019
Next Scheduled EDR Contact: 09/16/2019
Data Release Frequency: Varies

EMI: Emissions Inventory Data

Toxics and criteria pollutant emissions data collected by the ARB and local air pollution agencies.

Date of Government Version: 12/31/2017
Date Data Arrived at EDR: 06/20/2018
Date Made Active in Reports: 08/06/2018
Number of Days to Update: 47

Source: California Air Resources Board
Telephone: 916-322-2990
Last EDR Contact: 03/22/2019
Next Scheduled EDR Contact: 07/01/2019
Data Release Frequency: Varies

ENF: Enforcement Action Listing

A listing of Water Board Enforcement Actions. Formal is everything except Oral/Verbal Communication, Notice of Violation, Expedited Payment Letter, and Staff Enforcement Letter.

Date of Government Version: 11/01/2018
Date Data Arrived at EDR: 11/02/2018
Date Made Active in Reports: 12/13/2018
Number of Days to Update: 41

Source: State Water Resoruces Control Board
Telephone: 916-445-9379
Last EDR Contact: 05/14/2019
Next Scheduled EDR Contact: 08/26/2019
Data Release Frequency: Varies

Financial Assurance 1: Financial Assurance Information Listing

Financial Assurance information

Date of Government Version: 01/10/2019
Date Data Arrived at EDR: 01/23/2019
Date Made Active in Reports: 03/05/2019
Number of Days to Update: 41

Source: Department of Toxic Substances Control
Telephone: 916-255-3628
Last EDR Contact: 04/22/2019
Next Scheduled EDR Contact: 08/05/2019
Data Release Frequency: Varies

Financial Assurance 2: Financial Assurance Information Listing

A listing of financial assurance information for solid waste facilities. Financial assurance is intended to ensure that resources are available to pay for the cost of closure, post-closure care, and corrective measures if the owner or operator of a regulated facility is unable or unwilling to pay.

Date of Government Version: 02/15/2019
Date Data Arrived at EDR: 02/19/2019
Date Made Active in Reports: 03/05/2019
Number of Days to Update: 14

Source: California Integrated Waste Management Board
Telephone: 916-341-6066
Last EDR Contact: 05/09/2019
Next Scheduled EDR Contact: 08/26/2019
Data Release Frequency: Varies

HAZNET: Facility and Manifest Data

Facility and Manifest Data. The data is extracted from the copies of hazardous waste manifests received each year by the DTSC. The annual volume of manifests is typically 700,000 - 1,000,000 annually, representing approximately 350,000 - 500,000 shipments. Data are from the manifests submitted without correction, and therefore many contain some invalid values for data elements such as generator ID, TSD ID, waste category, and disposal method. This database begins with calendar year 1993.

Date of Government Version: 12/31/2017
Date Data Arrived at EDR: 04/09/2019
Date Made Active in Reports: 05/29/2019
Number of Days to Update: 50

Source: California Environmental Protection Agency
Telephone: 916-255-1136
Last EDR Contact: 04/22/2019
Next Scheduled EDR Contact: 07/22/2019
Data Release Frequency: Annually

ICE: ICE

Contains data pertaining to the Permitted Facilities with Inspections / Enforcements sites tracked in Envirostor.

Date of Government Version: 02/19/2019
Date Data Arrived at EDR: 02/20/2019
Date Made Active in Reports: 03/05/2019
Number of Days to Update: 13

Source: Department of Toxic Subsances Control
Telephone: 877-786-9427
Last EDR Contact: 05/21/2019
Next Scheduled EDR Contact: 09/02/2019
Data Release Frequency: Quarterly

HIST CORTESE: Hazardous Waste & Substance Site List

The sites for the list are designated by the State Water Resource Control Board [LUST], the Integrated Waste Board [SWF/LS], and the Department of Toxic Substances Control [CALSITES]. This listing is no longer updated by the state agency.

Date of Government Version: 04/01/2001
Date Data Arrived at EDR: 01/22/2009
Date Made Active in Reports: 04/08/2009
Number of Days to Update: 76

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 01/22/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

HWP: EnviroStor Permitted Facilities Listing

Detailed information on permitted hazardous waste facilities and corrective action ("cleanups") tracked in EnviroStor.

Date of Government Version: 02/19/2019
Date Data Arrived at EDR: 02/20/2019
Date Made Active in Reports: 03/05/2019
Number of Days to Update: 13

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 05/21/2019
Next Scheduled EDR Contact: 09/02/2019
Data Release Frequency: Quarterly

HWT: Registered Hazardous Waste Transporter Database

A listing of hazardous waste transporters. In California, unless specifically exempted, it is unlawful for any person to transport hazardous wastes unless the person holds a valid registration issued by DTSC. A hazardous waste transporter registration is valid for one year and is assigned a unique registration number.

Date of Government Version: 04/08/2019
Date Data Arrived at EDR: 04/09/2019
Date Made Active in Reports: 05/30/2019
Number of Days to Update: 51

Source: Department of Toxic Substances Control
Telephone: 916-440-7145
Last EDR Contact: 04/09/2019
Next Scheduled EDR Contact: 07/22/2019
Data Release Frequency: Quarterly

MINES: Mines Site Location Listing
A listing of mine site locations from the Office of Mine Reclamation.

Date of Government Version: 12/10/2018
Date Data Arrived at EDR: 12/12/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 34

Source: Department of Conservation
Telephone: 916-322-1080
Last EDR Contact: 06/11/2019
Next Scheduled EDR Contact: 09/23/2019
Data Release Frequency: Quarterly

MWMP: Medical Waste Management Program Listing
The Medical Waste Management Program (MWMP) ensures the proper handling and disposal of medical waste by permitting and inspecting medical waste Offsite Treatment Facilities (PDF) and Transfer Stations (PDF) throughout the state. MWMP also oversees all Medical Waste Transporters.

Date of Government Version: 02/20/2019
Date Data Arrived at EDR: 03/05/2019
Date Made Active in Reports: 04/02/2019
Number of Days to Update: 28

Source: Department of Public Health
Telephone: 916-558-1784
Last EDR Contact: 06/04/2019
Next Scheduled EDR Contact: 09/16/2019
Data Release Frequency: Varies

NPDES: NPDES Permits Listing
A listing of NPDES permits, including stormwater.

Date of Government Version: 02/11/2019
Date Data Arrived at EDR: 02/12/2019
Date Made Active in Reports: 03/07/2019
Number of Days to Update: 23

Source: State Water Resources Control Board
Telephone: 916-445-9379
Last EDR Contact: 05/14/2019
Next Scheduled EDR Contact: 08/26/2019
Data Release Frequency: Quarterly

PEST LIC: Pesticide Regulation Licenses Listing
A listing of licenses and certificates issued by the Department of Pesticide Regulation. The DPR issues licenses and/or certificates to: Persons and businesses that apply or sell pesticides; Pest control dealers and brokers; Persons who advise on agricultural pesticide applications.

Date of Government Version: 03/04/2019
Date Data Arrived at EDR: 03/05/2019
Date Made Active in Reports: 04/05/2019
Number of Days to Update: 31

Source: Department of Pesticide Regulation
Telephone: 916-445-4038
Last EDR Contact: 06/04/2019
Next Scheduled EDR Contact: 09/16/2019
Data Release Frequency: Quarterly

PROC: Certified Processors Database
A listing of certified processors.

Date of Government Version: 03/11/2019
Date Data Arrived at EDR: 03/13/2019
Date Made Active in Reports: 04/29/2019
Number of Days to Update: 47

Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 06/12/2019
Next Scheduled EDR Contact: 09/23/2019
Data Release Frequency: Quarterly

NOTIFY 65: Proposition 65 Records
Listings of all Proposition 65 incidents reported to counties by the State Water Resources Control Board and the Regional Water Quality Control Board. This database is no longer updated by the reporting agency.

Date of Government Version: 03/18/2019
Date Data Arrived at EDR: 03/19/2019
Date Made Active in Reports: 04/29/2019
Number of Days to Update: 41

Source: State Water Resources Control Board
Telephone: 916-445-3846
Last EDR Contact: 06/17/2019
Next Scheduled EDR Contact: 09/30/2019
Data Release Frequency: No Update Planned

UIC: UIC Listing
A listing of wells identified as underground injection wells, in the California Oil and Gas Wells database.

Date of Government Version: 04/27/2018
Date Data Arrived at EDR: 06/13/2018
Date Made Active in Reports: 07/17/2018
Number of Days to Update: 34

Source: Deaprtment of Conservation
Telephone: 916-445-2408
Last EDR Contact: 06/11/2019
Next Scheduled EDR Contact: 09/23/2019
Data Release Frequency: Varies

UIC GEO: Underground Injection Control Sites (GEOTRACKER)
Underground control injection sites

Date of Government Version: 12/10/2018
Date Data Arrived at EDR: 12/11/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 35

Source: State Water Resource Control Board
Telephone: 866-480-1028
Last EDR Contact: 06/11/2019
Next Scheduled EDR Contact: 09/23/2019
Data Release Frequency: Varies

WASTEWATER PITS: Oil Wastewater Pits Listing
Water officials discovered that oil producers have been dumping chemical-laden wastewater into hundreds of unlined pits that are operating without proper permits. Inspections completed by the Central Valley Regional Water Quality Control Board revealed the existence of previously unidentified waste sites. The water boards review found that more than one-third of the region's active disposal pits are operating without permission.

Date of Government Version: 05/08/2018
Date Data Arrived at EDR: 07/11/2018
Date Made Active in Reports: 09/13/2018
Number of Days to Update: 64

Source: RWQCB, Central Valley Region
Telephone: 559-445-5577
Last EDR Contact: 04/12/2019
Next Scheduled EDR Contact: 07/22/2019
Data Release Frequency: Varies

WDS: Waste Discharge System
Sites which have been issued waste discharge requirements.

Date of Government Version: 06/19/2007
Date Data Arrived at EDR: 06/20/2007
Date Made Active in Reports: 06/29/2007
Number of Days to Update: 9

Source: State Water Resources Control Board
Telephone: 916-341-5227
Last EDR Contact: 05/16/2019
Next Scheduled EDR Contact: 09/02/2019
Data Release Frequency: Quarterly

MILITARY PRIV SITES: Military Privatized Sites (GEOTRACKER)
Military privatized sites

Date of Government Version: 12/10/2018
Date Data Arrived at EDR: 12/11/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 06/11/2019
Next Scheduled EDR Contact: 09/23/2019
Data Release Frequency: Varies

PROJECT: Project Sites (GEOTRACKER)
Projects sites

Date of Government Version: 12/10/2018
Date Data Arrived at EDR: 12/11/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 06/11/2019
Next Scheduled EDR Contact: 09/23/2019
Data Release Frequency: Varies

WDR: Waste Discharge Requirements Listing
In general, the Waste Discharge Requirements (WDRs) Program (sometimes also referred to as the "Non Chapter 15 (Non 15) Program") regulates point discharges that are exempt pursuant to Subsection 20090 of Title 27 and not subject to the Federal Water Pollution Control Act. Exemptions from Title 27 may be granted for nine categories of discharges (e.g., sewage, wastewater, etc.) that meet, and continue to meet, the preconditions listed for each specific exemption. The scope of the WDRs Program also includes the discharge of wastes classified as inert, pursuant to section 20230 of Title 27.

Date of Government Version: 03/11/2019
Date Data Arrived at EDR: 03/13/2019
Date Made Active in Reports: 04/29/2019
Number of Days to Update: 47

Source: State Water Resources Control Board
Telephone: 916-341-5810
Last EDR Contact: 06/12/2019
Next Scheduled EDR Contact: 09/23/2019
Data Release Frequency: Quarterly

CIWQS: California Integrated Water Quality System

The California Integrated Water Quality System (CIWQS) is a computer system used by the State and Regional Water Quality Control Boards to track information about places of environmental interest, manage permits and other orders, track inspections, and manage violations and enforcement activities.

Date of Government Version: 03/05/2019
Date Data Arrived at EDR: 03/05/2019
Date Made Active in Reports: 04/02/2019
Number of Days to Update: 28

Source: State Water Resources Control Board
Telephone: 866-794-4977
Last EDR Contact: 06/04/2019
Next Scheduled EDR Contact: 09/16/2019
Data Release Frequency: Varies

CERS: CalEPA Regulated Site Portal Data

The CalEPA Regulated Site Portal database combines data about environmentally regulated sites and facilities in California into a single database. It combines data from a variety of state and federal databases, and provides an overview of regulated activities across the spectrum of environmental programs for any given location in California. These activities include hazardous materials and waste, state and federal cleanups, impacted ground and surface waters, and toxic materials

Date of Government Version: 04/09/2019
Date Data Arrived at EDR: 04/11/2019
Date Made Active in Reports: 05/08/2019
Number of Days to Update: 27

Source: California Environmental Protection Agency
Telephone: 916-323-2514
Last EDR Contact: 04/11/2019
Next Scheduled EDR Contact: 08/05/2019
Data Release Frequency: Varies

NON-CASE INFO: Non-Case Information Sites (GEOTRACKER)

Non-Case Information sites

Date of Government Version: 12/10/2018
Date Data Arrived at EDR: 12/11/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 06/11/2019
Next Scheduled EDR Contact: 09/23/2019
Data Release Frequency: Varies

WIP: Well Investigation Program Case List

Well Investigation Program case in the San Gabriel and San Fernando Valley area.

Date of Government Version: 07/03/2009
Date Data Arrived at EDR: 07/21/2009
Date Made Active in Reports: 08/03/2009
Number of Days to Update: 13

Source: Los Angeles Water Quality Control Board
Telephone: 213-576-6726
Last EDR Contact: 03/25/2019
Next Scheduled EDR Contact: 07/08/2019
Data Release Frequency: Varies

OTHER OIL GAS: Other Oil & Gas Projects Sites (GEOTRACKER)

Other Oil & Gas Projects sites

Date of Government Version: 12/10/2018
Date Data Arrived at EDR: 12/11/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 06/11/2019
Next Scheduled EDR Contact: 09/23/2019
Data Release Frequency: Varies

PROD WATER PONDS: Produced Water Ponds Sites (GEOTRACKER)

Produced water ponds sites

Date of Government Version: 12/10/2018
Date Data Arrived at EDR: 12/11/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 06/11/2019
Next Scheduled EDR Contact: 09/23/2019
Data Release Frequency: Varies

SAMPLING POINT: Sampling Point ? Public Sites (GEOTRACKER)
Sampling point - public sites

Date of Government Version: 12/10/2018
Date Data Arrived at EDR: 12/11/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 06/11/2019
Next Scheduled EDR Contact: 09/23/2019
Data Release Frequency: Varies

WELL STIM PROJ: Well Stimulation Project (GEOTRACKER)
Includes areas of groundwater monitoring plans, a depiction of the monitoring network, and the facilities, boundaries, and subsurface characteristics of the oilfield and the features (oil and gas wells, produced water ponds, UIC wells, water supply wells, etc?) being monitored

Date of Government Version: 12/10/2018
Date Data Arrived at EDR: 12/11/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 06/11/2019
Next Scheduled EDR Contact: 09/23/2019
Data Release Frequency: Varies

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP: EDR Proprietary Manufactured Gas Plants
The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

EDR Hist Auto: EDR Exclusive Historical Auto Stations
EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR Hist Cleaner: EDR Exclusive Historical Cleaners

EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LF: Recovered Government Archive Solid Waste Facilities List

The EDR Recovered Government Archive Landfill database provides a list of landfills derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Resources Recycling and Recovery in California.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 01/13/2014
Number of Days to Update: 196

Source: Department of Resources Recycling and Recovery
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

RGA LUST: Recovered Government Archive Leaking Underground Storage Tank

The EDR Recovered Government Archive Leaking Underground Storage Tank database provides a list of LUST incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the State Water Resources Control Board in California.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 12/30/2013
Number of Days to Update: 182

Source: State Water Resources Control Board
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

COUNTY RECORDS

ALAMEDA COUNTY:

CS ALAMEDA: Contaminated Sites

A listing of contaminated sites overseen by the Toxic Release Program (oil and groundwater contamination from chemical releases and spills) and the Leaking Underground Storage Tank Program (soil and ground water contamination from leaking petroleum USTs).

Date of Government Version: 01/09/2019
Date Data Arrived at EDR: 01/11/2019
Date Made Active in Reports: 03/05/2019
Number of Days to Update: 53

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 04/22/2019
Next Scheduled EDR Contact: 07/22/2019
Data Release Frequency: Semi-Annually

UST ALAMEDA: Underground Tanks

Underground storage tank sites located in Alameda county.

Date of Government Version: 01/07/2019
Date Data Arrived at EDR: 01/08/2019
Date Made Active in Reports: 03/08/2019
Number of Days to Update: 59

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 04/08/2019
Next Scheduled EDR Contact: 04/24/2047
Data Release Frequency: Semi-Annually

AMADOR COUNTY:

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

CUPA AMADOR: CUPA Facility List
Cupa Facility List

Date of Government Version: 01/07/2019
Date Data Arrived at EDR: 01/08/2019
Date Made Active in Reports: 03/07/2019
Number of Days to Update: 58

Source: Amador County Environmental Health
Telephone: 209-223-6439
Last EDR Contact: 06/17/2019
Next Scheduled EDR Contact: 09/16/2019
Data Release Frequency: Varies

BUTTE COUNTY:

CUPA BUTTE: CUPA Facility Listing
Cupa facility list.

Date of Government Version: 04/21/2017
Date Data Arrived at EDR: 04/25/2017
Date Made Active in Reports: 08/09/2017
Number of Days to Update: 106

Source: Public Health Department
Telephone: 530-538-7149
Last EDR Contact: 04/08/2019
Next Scheduled EDR Contact: 07/22/2019
Data Release Frequency: No Update Planned

CALVERAS COUNTY:

CUPA CALVERAS: CUPA Facility Listing
Cupa Facility Listing

Date of Government Version: 05/01/2019
Date Data Arrived at EDR: 05/02/2019
Date Made Active in Reports: 05/29/2019
Number of Days to Update: 27

Source: Calveras County Environmental Health
Telephone: 209-754-6399
Last EDR Contact: 03/25/2019
Next Scheduled EDR Contact: 07/08/2019
Data Release Frequency: Quarterly

COLUSA COUNTY:

CUPA COLUSA: CUPA Facility List
Cupa facility list.

Date of Government Version: 02/27/2019
Date Data Arrived at EDR: 02/28/2019
Date Made Active in Reports: 04/01/2019
Number of Days to Update: 32

Source: Health & Human Services
Telephone: 530-458-0396
Last EDR Contact: 05/16/2019
Next Scheduled EDR Contact: 08/19/2019
Data Release Frequency: Semi-Annually

CONTRA COSTA COUNTY:

SL CONTRA COSTA: Site List
List includes sites from the underground tank, hazardous waste generator and business plan/2185 programs.

Date of Government Version: 02/14/2019
Date Data Arrived at EDR: 02/19/2019
Date Made Active in Reports: 03/08/2019
Number of Days to Update: 17

Source: Contra Costa Health Services Department
Telephone: 925-646-2286
Last EDR Contact: 04/29/2019
Next Scheduled EDR Contact: 08/12/2019
Data Release Frequency: Semi-Annually

DEL NORTE COUNTY:

CUPA DEL NORTE: CUPA Facility List
Cupa Facility list

Date of Government Version: 02/20/2019
Date Data Arrived at EDR: 05/01/2019
Date Made Active in Reports: 05/30/2019
Number of Days to Update: 29

Source: Del Norte County Environmental Health Division
Telephone: 707-465-0426
Last EDR Contact: 04/25/2019
Next Scheduled EDR Contact: 08/12/2019
Data Release Frequency: Varies

EL DORADO COUNTY:

CUPA EL DORADO: CUPA Facility List
CUPA facility list.

Date of Government Version: 02/27/2019
Date Data Arrived at EDR: 02/28/2019
Date Made Active in Reports: 04/01/2019
Number of Days to Update: 32

Source: El Dorado County Environmental Management Department
Telephone: 530-621-6623
Last EDR Contact: 04/29/2019
Next Scheduled EDR Contact: 08/12/2019
Data Release Frequency: Varies

FRESNO COUNTY:

CUPA FRESNO: CUPA Resources List
Certified Unified Program Agency. CUPA's are responsible for implementing a unified hazardous materials and hazardous waste management regulatory program. The agency provides oversight of businesses that deal with hazardous materials, operate underground storage tanks or aboveground storage tanks.

Date of Government Version: 04/10/2019
Date Data Arrived at EDR: 04/11/2019
Date Made Active in Reports: 04/30/2019
Number of Days to Update: 19

Source: Dept. of Community Health
Telephone: 559-445-3271
Last EDR Contact: 03/29/2019
Next Scheduled EDR Contact: 07/15/2019
Data Release Frequency: Semi-Annually

GLENN COUNTY:

CUPA GLENN: CUPA Facility List
Cupa facility list

Date of Government Version: 01/22/2018
Date Data Arrived at EDR: 01/24/2018
Date Made Active in Reports: 03/14/2018
Number of Days to Update: 49

Source: Glenn County Air Pollution Control District
Telephone: 830-934-6500
Last EDR Contact: 04/22/2019
Next Scheduled EDR Contact: 08/05/2019
Data Release Frequency: Varies

HUMBOLDT COUNTY:

CUPA HUMBOLDT: CUPA Facility List
CUPA facility list.

Date of Government Version: 12/11/2018
Date Data Arrived at EDR: 12/13/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 33

Source: Humboldt County Environmental Health
Telephone: N/A
Last EDR Contact: 05/20/2019
Next Scheduled EDR Contact: 09/02/2019
Data Release Frequency: Semi-Annually

IMPERIAL COUNTY:

CUPA IMPERIAL: CUPA Facility List
Cupa facility list.

Date of Government Version: 01/18/2019
Date Data Arrived at EDR: 01/23/2019
Date Made Active in Reports: 03/05/2019
Number of Days to Update: 41

Source: San Diego Border Field Office
Telephone: 760-339-2777
Last EDR Contact: 04/22/2019
Next Scheduled EDR Contact: 08/05/2019
Data Release Frequency: Varies

INYO COUNTY:

CUPA INYO: CUPA Facility List
Cupa facility list.

Date of Government Version: 04/02/2018
Date Data Arrived at EDR: 04/03/2018
Date Made Active in Reports: 06/14/2018
Number of Days to Update: 72

Source: Inyo County Environmental Health Services
Telephone: 760-878-0238
Last EDR Contact: 05/16/2019
Next Scheduled EDR Contact: 09/02/2019
Data Release Frequency: Varies

KERN COUNTY:

UST KERN: Underground Storage Tank Sites & Tank Listing
Kern County Sites and Tanks Listing.

Date of Government Version: 01/28/2019
Date Data Arrived at EDR: 02/07/2019
Date Made Active in Reports: 03/08/2019
Number of Days to Update: 29

Source: Kern County Environment Health Services Department
Telephone: 661-862-8700
Last EDR Contact: 05/02/2019
Next Scheduled EDR Contact: 08/19/2019
Data Release Frequency: Quarterly

KINGS COUNTY:

CUPA KINGS: CUPA Facility List
A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 05/16/2019
Date Data Arrived at EDR: 05/17/2019
Date Made Active in Reports: 05/30/2019
Number of Days to Update: 13

Source: Kings County Department of Public Health
Telephone: 559-584-1411
Last EDR Contact: 05/16/2019
Next Scheduled EDR Contact: 09/02/2019
Data Release Frequency: Varies

LAKE COUNTY:

CUPA LAKE: CUPA Facility List
Cupa facility list

Date of Government Version: 02/08/2019
Date Data Arrived at EDR: 02/12/2019
Date Made Active in Reports: 03/12/2019
Number of Days to Update: 28

Source: Lake County Environmental Health
Telephone: 707-263-1164
Last EDR Contact: 04/15/2019
Next Scheduled EDR Contact: 07/29/2019
Data Release Frequency: Varies

LASSEN COUNTY:

CUPA LASSEN: CUPA Facility List
Cupa facility list

Date of Government Version: 01/17/2019
Date Data Arrived at EDR: 01/18/2019
Date Made Active in Reports: 03/05/2019
Number of Days to Update: 46

Source: Lassen County Environmental Health
Telephone: 530-251-8528
Last EDR Contact: 04/22/2019
Next Scheduled EDR Contact: 08/05/2019
Data Release Frequency: Varies

LOS ANGELES COUNTY:

AOCONCERN: Key Areas of Concerns in Los Angeles County
San Gabriel Valley areas where VOC contamination is at or above the MCL as designated by region 9 EPA office. Date of Government Version: 3/30/2009 Exide Site area is a cleanup plan of lead-impacted soil surrounding the former Exide Facility as designated by the DTSC. Date of Government Version: 7/17/2017

Date of Government Version: 03/30/2009
Date Data Arrived at EDR: 03/31/2009
Date Made Active in Reports: 10/23/2009
Number of Days to Update: 206

Source: N/A
Telephone: N/A
Last EDR Contact: 06/17/2019
Next Scheduled EDR Contact: 09/30/2019
Data Release Frequency: No Update Planned

HMS LOS ANGELES: HMS: Street Number List
Industrial Waste and Underground Storage Tank Sites.

Date of Government Version: 12/19/2018
Date Data Arrived at EDR: 01/10/2019
Date Made Active in Reports: 03/07/2019
Number of Days to Update: 56

Source: Department of Public Works
Telephone: 626-458-3517
Last EDR Contact: 05/02/2019
Next Scheduled EDR Contact: 07/22/2019
Data Release Frequency: Semi-Annually

LF LOS ANGELES: List of Solid Waste Facilities
Solid Waste Facilities in Los Angeles County.

Date of Government Version: 01/14/2019
Date Data Arrived at EDR: 01/15/2019
Date Made Active in Reports: 03/07/2019
Number of Days to Update: 51

Source: La County Department of Public Works
Telephone: 818-458-5185
Last EDR Contact: 04/16/2019
Next Scheduled EDR Contact: 07/29/2019
Data Release Frequency: Varies

LF LOS ANGELES CITY: City of Los Angeles Landfills
Landfills owned and maintained by the City of Los Angeles.

Date of Government Version: 01/01/2019
Date Data Arrived at EDR: 01/15/2019
Date Made Active in Reports: 03/07/2019
Number of Days to Update: 51

Source: Engineering & Construction Division
Telephone: 213-473-7869
Last EDR Contact: 04/15/2019
Next Scheduled EDR Contact: 07/29/2019
Data Release Frequency: Varies

LOS ANGELES AST: Active & Inactive AST Inventory
A listing of active & inactive above ground petroleum storage tank site locations, located in the City of Los Angeles.

Date of Government Version: 01/01/2019
Date Data Arrived at EDR: 04/05/2019
Date Made Active in Reports: 05/29/2019
Number of Days to Update: 54

Source: Los Angeles Fire Department
Telephone: 213-978-3800
Last EDR Contact: 04/05/2019
Next Scheduled EDR Contact: 07/08/2019
Data Release Frequency: Varies

LOS ANGELES CO LF METHANE: Methane Producing Landfills

This data was created on April 30, 2012 to represent known disposal sites in Los Angeles County that may produce and emanate methane gas. The shapefile contains disposal sites within Los Angeles County that once accepted degradable refuse material. Information used to create this data was extracted from a landfill survey performed by County Engineers (Major Waste System Map, 1973) as well as historical records from CalRecycle, Regional Water Quality Control Board, and Los Angeles County Department of Public Health

Date of Government Version: 04/30/2012
Date Data Arrived at EDR: 04/17/2019
Date Made Active in Reports: 05/29/2019
Number of Days to Update: 42

Source: Los Angeles County Department of Public Works
Telephone: 626-458-6973
Last EDR Contact: 04/17/2019
Next Scheduled EDR Contact: 07/29/2019
Data Release Frequency: No Update Planned

LOS ANGELES HM: Active & Inactive Hazardous Materials Inventory

A listing of active & inactive hazardous materials facility locations, located in the City of Los Angeles.

Date of Government Version: 01/01/2019
Date Data Arrived at EDR: 04/05/2019
Date Made Active in Reports: 05/29/2019
Number of Days to Update: 54

Source: Los Angeles Fire Department
Telephone: 213-978-3800
Last EDR Contact: 04/05/2019
Next Scheduled EDR Contact: 07/15/2019
Data Release Frequency: Varies

LOS ANGELES UST: Active & Inactive UST Inventory

A listing of active & inactive underground storage tank site locations and underground storage tank historical sites, located in the City of Los Angeles.

Date of Government Version: 01/01/2019
Date Data Arrived at EDR: 04/05/2019
Date Made Active in Reports: 05/29/2019
Number of Days to Update: 54

Source: Los Angeles Fire Department
Telephone: 213-978-3800
Last EDR Contact: 04/05/2019
Next Scheduled EDR Contact: 07/15/2019
Data Release Frequency: Varies

SITE MIT LOS ANGELES: Site Mitigation List

Industrial sites that have had some sort of spill or complaint.

Date of Government Version: 01/30/2019
Date Data Arrived at EDR: 02/01/2019
Date Made Active in Reports: 03/07/2019
Number of Days to Update: 34

Source: Community Health Services
Telephone: 323-890-7806
Last EDR Contact: 04/16/2019
Next Scheduled EDR Contact: 07/29/2019
Data Release Frequency: Annually

UST EL SEGUNDO: City of El Segundo Underground Storage Tank

Underground storage tank sites located in El Segundo city.

Date of Government Version: 01/21/2017
Date Data Arrived at EDR: 04/19/2017
Date Made Active in Reports: 05/10/2017
Number of Days to Update: 21

Source: City of El Segundo Fire Department
Telephone: 310-524-2236
Last EDR Contact: 04/15/2019
Next Scheduled EDR Contact: 07/29/2019
Data Release Frequency: Semi-Annually

UST LONG BEACH: City of Long Beach Underground Storage Tank

Underground storage tank sites located in the city of Long Beach.

Date of Government Version: 03/09/2017
Date Data Arrived at EDR: 03/10/2017
Date Made Active in Reports: 05/03/2017
Number of Days to Update: 54

Source: City of Long Beach Fire Department
Telephone: 562-570-2563
Last EDR Contact: 04/22/2019
Next Scheduled EDR Contact: 08/05/2019
Data Release Frequency: Annually

UST TORRANCE: City of Torrance Underground Storage Tank
Underground storage tank sites located in the city of Torrance.

Date of Government Version: 10/02/2018
Date Data Arrived at EDR: 10/05/2018
Date Made Active in Reports: 11/02/2018
Number of Days to Update: 28

Source: City of Torrance Fire Department
Telephone: 310-618-2973
Last EDR Contact: 04/22/2019
Next Scheduled EDR Contact: 08/05/2019
Data Release Frequency: Semi-Annually

MADERA COUNTY:

CUPA MADERA: CUPA Facility List
A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 02/20/2019
Date Data Arrived at EDR: 02/22/2019
Date Made Active in Reports: 03/07/2019
Number of Days to Update: 13

Source: Madera County Environmental Health
Telephone: 559-675-7823
Last EDR Contact: 05/16/2019
Next Scheduled EDR Contact: 09/02/2019
Data Release Frequency: Varies

MARIN COUNTY:

UST MARIN: Underground Storage Tank Sites
Currently permitted USTs in Marin County.

Date of Government Version: 09/26/2018
Date Data Arrived at EDR: 10/04/2018
Date Made Active in Reports: 11/02/2018
Number of Days to Update: 29

Source: Public Works Department Waste Management
Telephone: 415-473-6647
Last EDR Contact: 03/29/2019
Next Scheduled EDR Contact: 07/15/2019
Data Release Frequency: Semi-Annually

MERCED COUNTY:

CUPA MERCED: CUPA Facility List
CUPA facility list.

Date of Government Version: 03/11/2019
Date Data Arrived at EDR: 03/19/2019
Date Made Active in Reports: 05/08/2019
Number of Days to Update: 50

Source: Merced County Environmental Health
Telephone: 209-381-1094
Last EDR Contact: 05/16/2019
Next Scheduled EDR Contact: 09/02/2019
Data Release Frequency: Varies

MONO COUNTY:

CUPA MONO: CUPA Facility List
CUPA Facility List

Date of Government Version: 02/21/2019
Date Data Arrived at EDR: 02/26/2019
Date Made Active in Reports: 04/01/2019
Number of Days to Update: 34

Source: Mono County Health Department
Telephone: 760-932-5580
Last EDR Contact: 05/23/2019
Next Scheduled EDR Contact: 09/09/2019
Data Release Frequency: Varies

MONTEREY COUNTY:

CUPA MONTEREY: CUPA Facility Listing
CUPA Program listing from the Environmental Health Division.

Date of Government Version: 02/05/2019
Date Data Arrived at EDR: 02/07/2019
Date Made Active in Reports: 03/05/2019
Number of Days to Update: 26

Source: Monterey County Health Department
Telephone: 831-796-1297
Last EDR Contact: 04/01/2019
Next Scheduled EDR Contact: 07/15/2019
Data Release Frequency: Varies

NAPA COUNTY:

LUST NAPA: Sites With Reported Contamination
A listing of leaking underground storage tank sites located in Napa county.

Date of Government Version: 01/09/2017
Date Data Arrived at EDR: 01/11/2017
Date Made Active in Reports: 03/02/2017
Number of Days to Update: 50

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 05/24/2019
Next Scheduled EDR Contact: 09/09/2019
Data Release Frequency: No Update Planned

UST NAPA: Closed and Operating Underground Storage Tank Sites
Underground storage tank sites located in Napa county.

Date of Government Version: 02/21/2019
Date Data Arrived at EDR: 02/22/2019
Date Made Active in Reports: 03/08/2019
Number of Days to Update: 14

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 05/24/2019
Next Scheduled EDR Contact: 09/09/2019
Data Release Frequency: No Update Planned

NEVADA COUNTY:

CUPA NEVADA: CUPA Facility List
CUPA facility list.

Date of Government Version: 05/20/2019
Date Data Arrived at EDR: 05/21/2019
Date Made Active in Reports: 05/30/2019
Number of Days to Update: 9

Source: Community Development Agency
Telephone: 530-265-1467
Last EDR Contact: 05/13/2019
Next Scheduled EDR Contact: 08/12/2019
Data Release Frequency: Varies

ORANGE COUNTY:

IND_SITE ORANGE: List of Industrial Site Cleanups
Petroleum and non-petroleum spills.

Date of Government Version: 05/01/2019
Date Data Arrived at EDR: 05/09/2019
Date Made Active in Reports: 05/30/2019
Number of Days to Update: 21

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 05/06/2019
Next Scheduled EDR Contact: 08/19/2019
Data Release Frequency: Annually

LUST ORANGE: List of Underground Storage Tank Cleanups
Orange County Underground Storage Tank Cleanups (LUST).

Date of Government Version: 05/01/2019
Date Data Arrived at EDR: 05/09/2019
Date Made Active in Reports: 05/30/2019
Number of Days to Update: 21

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 05/06/2019
Next Scheduled EDR Contact: 08/19/2019
Data Release Frequency: Quarterly

UST ORANGE: List of Underground Storage Tank Facilities
Orange County Underground Storage Tank Facilities (UST).

Date of Government Version: 01/02/2019
Date Data Arrived at EDR: 02/05/2019
Date Made Active in Reports: 03/08/2019
Number of Days to Update: 31

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 05/07/2019
Next Scheduled EDR Contact: 08/19/2019
Data Release Frequency: Quarterly

PLACER COUNTY:

MS PLACER: Master List of Facilities
List includes aboveground tanks, underground tanks and cleanup sites.

Date of Government Version: 02/28/2019
Date Data Arrived at EDR: 03/01/2019
Date Made Active in Reports: 04/12/2019
Number of Days to Update: 42

Source: Placer County Health and Human Services
Telephone: 530-745-2363
Last EDR Contact: 06/03/2019
Next Scheduled EDR Contact: 06/17/2019
Data Release Frequency: Semi-Annually

PLUMAS COUNTY:

CUPA PLUMAS: CUPA Facility List
Plumas County CUPA Program facilities.

Date of Government Version: 01/14/2019
Date Data Arrived at EDR: 01/18/2019
Date Made Active in Reports: 03/05/2019
Number of Days to Update: 46

Source: Plumas County Environmental Health
Telephone: 530-283-6355
Last EDR Contact: 04/22/2019
Next Scheduled EDR Contact: 08/05/2019
Data Release Frequency: Varies

RIVERSIDE COUNTY:

LUST RIVERSIDE: Listing of Underground Tank Cleanup Sites
Riverside County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 04/11/2019
Date Data Arrived at EDR: 04/12/2019
Date Made Active in Reports: 04/30/2019
Number of Days to Update: 18

Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 06/17/2019
Next Scheduled EDR Contact: 09/30/2019
Data Release Frequency: Quarterly

UST RIVERSIDE: Underground Storage Tank Tank List
Underground storage tank sites located in Riverside county.

Date of Government Version: 01/29/2019
Date Data Arrived at EDR: 01/31/2019
Date Made Active in Reports: 03/08/2019
Number of Days to Update: 36

Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 06/17/2019
Next Scheduled EDR Contact: 09/30/2019
Data Release Frequency: Quarterly

SACRAMENTO COUNTY:

CS SACRAMENTO: Toxic Site Clean-Up List
List of sites where unauthorized releases of potentially hazardous materials have occurred.

Date of Government Version: 02/05/2019
Date Data Arrived at EDR: 04/02/2019
Date Made Active in Reports: 06/18/2019
Number of Days to Update: 77

Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 04/02/2019
Next Scheduled EDR Contact: 07/15/2019
Data Release Frequency: Quarterly

ML SACRAMENTO: Master Hazardous Materials Facility List

Any business that has hazardous materials on site - hazardous material storage sites, underground storage tanks, waste generators.

Date of Government Version: 11/07/2018
Date Data Arrived at EDR: 12/28/2018
Date Made Active in Reports: 03/05/2019
Number of Days to Update: 67

Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 04/02/2019
Next Scheduled EDR Contact: 07/15/2019
Data Release Frequency: Quarterly

SAN BENITO COUNTY:

CUPA SAN BENITO: CUPA Facility List

Cupa facility list

Date of Government Version: 03/11/2019
Date Data Arrived at EDR: 03/13/2019
Date Made Active in Reports: 04/30/2019
Number of Days to Update: 48

Source: San Benito County Environmental Health
Telephone: N/A
Last EDR Contact: 05/02/2019
Next Scheduled EDR Contact: 08/19/2019
Data Release Frequency: Varies

SAN BERNARDINO COUNTY:

PERMITS SAN BERNARDINO: Hazardous Material Permits

This listing includes underground storage tanks, medical waste handlers/generators, hazardous materials handlers, hazardous waste generators, and waste oil generators/handlers.

Date of Government Version: 02/27/2019
Date Data Arrived at EDR: 02/28/2019
Date Made Active in Reports: 04/02/2019
Number of Days to Update: 33

Source: San Bernardino County Fire Department Hazardous Materials Division
Telephone: 909-387-3041
Last EDR Contact: 05/06/2019
Next Scheduled EDR Contact: 08/19/2019
Data Release Frequency: Quarterly

SAN DIEGO COUNTY:

HMMD SAN DIEGO: Hazardous Materials Management Division Database

The database includes: HE58 - This report contains the business name, site address, business phone number, establishment 'H' permit number, type of permit, and the business status. HE17 - In addition to providing the same information provided in the HE58 listing, HE17 provides inspection dates, violations received by the establishment, hazardous waste generated, the quantity, method of storage, treatment/disposal of waste and the hauler, and information on underground storage tanks. Unauthorized Release List - Includes a summary of environmental contamination cases in San Diego County (underground tank cases, non-tank cases, groundwater contamination, and soil contamination are included.)

Date of Government Version: 03/04/2019
Date Data Arrived at EDR: 03/05/2019
Date Made Active in Reports: 04/02/2019
Number of Days to Update: 28

Source: Hazardous Materials Management Division
Telephone: 619-338-2268
Last EDR Contact: 06/04/2019
Next Scheduled EDR Contact: 09/16/2019
Data Release Frequency: Quarterly

LF SAN DIEGO: Solid Waste Facilities
San Diego County Solid Waste Facilities.

Date of Government Version: 04/18/2018
Date Data Arrived at EDR: 04/24/2018
Date Made Active in Reports: 06/19/2018
Number of Days to Update: 56

Source: Department of Health Services
Telephone: 619-338-2209
Last EDR Contact: 04/22/2019
Next Scheduled EDR Contact: 08/05/2019
Data Release Frequency: Varies

SAN DIEGO CO LOP: Local Oversight Program Listing
A listing of all LOP release sites that are or were under the County of San Diego's jurisdiction. Included are closed or transferred cases, open cases, and cases that did not have a case type indicated. The cases without a case type are mostly complaints; however, some of them could be LOP cases.

Date of Government Version: 03/06/2019
Date Data Arrived at EDR: 03/06/2019
Date Made Active in Reports: 04/29/2019
Number of Days to Update: 54

Source: Department of Environmental Health
Telephone: 858-505-6874
Last EDR Contact: 04/22/2019
Next Scheduled EDR Contact: 08/05/2019
Data Release Frequency: Varies

SAN DIEGO CO. SAM: Environmental Case Listing
The listing contains all underground tank release cases and projects pertaining to properties contaminated with hazardous substances that are actively under review by the Site Assessment and Mitigation Program.

Date of Government Version: 03/23/2010
Date Data Arrived at EDR: 06/15/2010
Date Made Active in Reports: 07/09/2010
Number of Days to Update: 24

Source: San Diego County Department of Environmental Health
Telephone: 619-338-2371
Last EDR Contact: 06/03/2019
Next Scheduled EDR Contact: 09/16/2019
Data Release Frequency: No Update Planned

SAN FRANCISCO COUNTY:

LUST SAN FRANCISCO: Local Oversite Facilities
A listing of leaking underground storage tank sites located in San Francisco county.

Date of Government Version: 09/19/2008
Date Data Arrived at EDR: 09/19/2008
Date Made Active in Reports: 09/29/2008
Number of Days to Update: 10

Source: Department Of Public Health San Francisco County
Telephone: 415-252-3920
Last EDR Contact: 05/02/2019
Next Scheduled EDR Contact: 08/19/2019
Data Release Frequency: Quarterly

UST SAN FRANCISCO: Underground Storage Tank Information
Underground storage tank sites located in San Francisco county.

Date of Government Version: 11/05/2018
Date Data Arrived at EDR: 11/06/2018
Date Made Active in Reports: 12/14/2018
Number of Days to Update: 38

Source: Department of Public Health
Telephone: 415-252-3920
Last EDR Contact: 05/02/2019
Next Scheduled EDR Contact: 08/19/2019
Data Release Frequency: Quarterly

SAN JOAQUIN COUNTY:

UST SAN JOAQUIN: San Joaquin Co. UST
A listing of underground storage tank locations in San Joaquin county.

Date of Government Version: 06/22/2018
Date Data Arrived at EDR: 06/26/2018
Date Made Active in Reports: 07/11/2018
Number of Days to Update: 15

Source: Environmental Health Department
Telephone: N/A
Last EDR Contact: 06/17/2019
Next Scheduled EDR Contact: 09/30/2019
Data Release Frequency: Semi-Annually

SAN LUIS OBISPO COUNTY:

CUPA SAN LUIS OBISPO: CUPA Facility List
Cupa Facility List.

Date of Government Version: 02/13/2019
Date Data Arrived at EDR: 02/15/2019
Date Made Active in Reports: 03/14/2019
Number of Days to Update: 27

Source: San Luis Obispo County Public Health Department
Telephone: 805-781-5596
Last EDR Contact: 05/16/2019
Next Scheduled EDR Contact: 09/02/2019
Data Release Frequency: Varies

SAN MATEO COUNTY:

BI SAN MATEO: Business Inventory
List includes Hazardous Materials Business Plan, hazardous waste generators, and underground storage tanks.

Date of Government Version: 03/04/2019
Date Data Arrived at EDR: 03/13/2019
Date Made Active in Reports: 04/29/2019
Number of Days to Update: 47

Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 06/12/2019
Next Scheduled EDR Contact: 09/23/2019
Data Release Frequency: Annually

LUST SAN MATEO: Fuel Leak List
A listing of leaking underground storage tank sites located in San Mateo county.

Date of Government Version: 03/29/2019
Date Data Arrived at EDR: 03/29/2019
Date Made Active in Reports: 05/29/2019
Number of Days to Update: 61

Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 06/10/2019
Next Scheduled EDR Contact: 09/23/2019
Data Release Frequency: Semi-Annually

SANTA BARBARA COUNTY:

CUPA SANTA BARBARA: CUPA Facility Listing
CUPA Program Listing from the Environmental Health Services division.

Date of Government Version: 09/08/2011
Date Data Arrived at EDR: 09/09/2011
Date Made Active in Reports: 10/07/2011
Number of Days to Update: 28

Source: Santa Barbara County Public Health Department
Telephone: 805-686-8167
Last EDR Contact: 05/16/2019
Next Scheduled EDR Contact: 09/02/2019
Data Release Frequency: Varies

SANTA CLARA COUNTY:

CUPA SANTA CLARA: Cupa Facility List
Cupa facility list

Date of Government Version: 02/13/2019
Date Data Arrived at EDR: 02/19/2019
Date Made Active in Reports: 03/06/2019
Number of Days to Update: 15

Source: Department of Environmental Health
Telephone: 408-918-1973
Last EDR Contact: 05/16/2019
Next Scheduled EDR Contact: 09/02/2019
Data Release Frequency: Varies

HIST LUST SANTA CLARA: HIST LUST - Fuel Leak Site Activity Report
A listing of open and closed leaking underground storage tanks. This listing is no longer updated by the county. Leaking underground storage tanks are now handled by the Department of Environmental Health.

Date of Government Version: 03/29/2005
Date Data Arrived at EDR: 03/30/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 22

Source: Santa Clara Valley Water District
Telephone: 408-265-2600
Last EDR Contact: 03/23/2009
Next Scheduled EDR Contact: 06/22/2009
Data Release Frequency: No Update Planned

LUST SANTA CLARA: LOP Listing
A listing of leaking underground storage tanks located in Santa Clara county.

Date of Government Version: 03/03/2014
Date Data Arrived at EDR: 03/05/2014
Date Made Active in Reports: 03/18/2014
Number of Days to Update: 13

Source: Department of Environmental Health
Telephone: 408-918-3417
Last EDR Contact: 05/24/2019
Next Scheduled EDR Contact: 09/09/2019
Data Release Frequency: Annually

SAN JOSE HAZMAT: Hazardous Material Facilities
Hazardous material facilities, including underground storage tank sites.

Date of Government Version: 01/30/2019
Date Data Arrived at EDR: 02/01/2019
Date Made Active in Reports: 03/07/2019
Number of Days to Update: 34

Source: City of San Jose Fire Department
Telephone: 408-535-7694
Last EDR Contact: 05/16/2019
Next Scheduled EDR Contact: 08/19/2019
Data Release Frequency: Annually

SANTA CRUZ COUNTY:

CUPA SANTA CRUZ: CUPA Facility List
CUPA facility listing.

Date of Government Version: 01/21/2017
Date Data Arrived at EDR: 02/22/2017
Date Made Active in Reports: 05/23/2017
Number of Days to Update: 90

Source: Santa Cruz County Environmental Health
Telephone: 831-464-2761
Last EDR Contact: 05/16/2019
Next Scheduled EDR Contact: 09/02/2019
Data Release Frequency: Varies

SHASTA COUNTY:

CUPA SHASTA: CUPA Facility List
Cupa Facility List.

Date of Government Version: 06/15/2017
Date Data Arrived at EDR: 06/19/2017
Date Made Active in Reports: 08/09/2017
Number of Days to Update: 51

Source: Shasta County Department of Resource Management
Telephone: 530-225-5789
Last EDR Contact: 05/16/2019
Next Scheduled EDR Contact: 09/02/2019
Data Release Frequency: Varies

SOLANO COUNTY:

LUST SOLANO: Leaking Underground Storage Tanks
A listing of leaking underground storage tank sites located in Solano county.

Date of Government Version: 03/05/2019
Date Data Arrived at EDR: 03/07/2019
Date Made Active in Reports: 04/29/2019
Number of Days to Update: 53

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 06/03/2019
Next Scheduled EDR Contact: 09/16/2019
Data Release Frequency: Quarterly

UST SOLANO: Underground Storage Tanks
Underground storage tank sites located in Solano county.

Date of Government Version: 03/05/2019
Date Data Arrived at EDR: 03/07/2019
Date Made Active in Reports: 04/03/2019
Number of Days to Update: 27

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 06/03/2019
Next Scheduled EDR Contact: 09/16/2019
Data Release Frequency: Quarterly

SONOMA COUNTY:

CUPA SONOMA: Cupa Facility List
Cupa Facility list

Date of Government Version: 03/18/2019
Date Data Arrived at EDR: 03/26/2019
Date Made Active in Reports: 05/01/2019
Number of Days to Update: 36

Source: County of Sonoma Fire & Emergency Services Department
Telephone: 707-565-1174
Last EDR Contact: 03/25/2019
Next Scheduled EDR Contact: 07/08/2019
Data Release Frequency: Varies

LUST SONOMA: Leaking Underground Storage Tank Sites
A listing of leaking underground storage tank sites located in Sonoma county.

Date of Government Version: 04/03/2019
Date Data Arrived at EDR: 04/11/2019
Date Made Active in Reports: 04/30/2019
Number of Days to Update: 19

Source: Department of Health Services
Telephone: 707-565-6565
Last EDR Contact: 04/08/2019
Next Scheduled EDR Contact: 07/08/2019
Data Release Frequency: Quarterly

STANISLAUS COUNTY:

CUPA STANISLAUS: CUPA Facility List
Cupa facility list

Date of Government Version: 12/11/2018
Date Data Arrived at EDR: 12/13/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 33

Source: Stanislaus County Department of Ennvironmental Protection
Telephone: 209-525-6751
Last EDR Contact: 04/15/2019
Next Scheduled EDR Contact: 07/29/2019
Data Release Frequency: Varies

SUTTER COUNTY:

UST SUTTER: Underground Storage Tanks
Underground storage tank sites located in Sutter county.

Date of Government Version: 02/28/2019
Date Data Arrived at EDR: 03/01/2019
Date Made Active in Reports: 04/03/2019
Number of Days to Update: 33

Source: Sutter County Environmental Health Services
Telephone: 530-822-7500
Last EDR Contact: 06/03/2019
Next Scheduled EDR Contact: 09/16/2019
Data Release Frequency: Semi-Annually

TEHAMA COUNTY:

CUPA TEHAMA: CUPA Facility List
Cupa facilities

Date of Government Version: 12/13/2018
Date Data Arrived at EDR: 12/18/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 28

Source: Tehama County Department of Environmental Health
Telephone: 530-527-8020
Last EDR Contact: 05/16/2019
Next Scheduled EDR Contact: 08/19/2019
Data Release Frequency: Varies

TRINITY COUNTY:

CUPA TRINITY: CUPA Facility List
Cupa facility list

Date of Government Version: 01/18/2019
Date Data Arrived at EDR: 01/23/2019
Date Made Active in Reports: 03/06/2019
Number of Days to Update: 42

Source: Department of Toxic Substances Control
Telephone: 760-352-0381
Last EDR Contact: 04/22/2019
Next Scheduled EDR Contact: 08/05/2019
Data Release Frequency: Varies

TULARE COUNTY:

CUPA TULARE: CUPA Facility List
Cupa program facilities

Date of Government Version: 12/26/2018
Date Data Arrived at EDR: 12/27/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 19

Source: Tulare County Environmental Health Services Division
Telephone: 559-624-7400
Last EDR Contact: 05/06/2019
Next Scheduled EDR Contact: 08/19/2019
Data Release Frequency: Varies

TUOLUMNE COUNTY:

CUPA TUOLUMNE: CUPA Facility List
Cupa facility list

Date of Government Version: 04/23/2018
Date Data Arrived at EDR: 04/25/2018
Date Made Active in Reports: 06/25/2018
Number of Days to Update: 61

Source: Divison of Environmental Health
Telephone: 209-533-5633
Last EDR Contact: 05/02/2019
Next Scheduled EDR Contact: 08/05/2019
Data Release Frequency: Varies

VENTURA COUNTY:

BWT VENTURA: Business Plan, Hazardous Waste Producers, and Operating Underground Tanks
The BWT list indicates by site address whether the Environmental Health Division has Business Plan (B), Waste Producer (W), and/or Underground Tank (T) information.

Date of Government Version: 12/26/2018
Date Data Arrived at EDR: 01/24/2019
Date Made Active in Reports: 02/28/2019
Number of Days to Update: 35

Source: Ventura County Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 04/23/2019
Next Scheduled EDR Contact: 08/05/2019
Data Release Frequency: Quarterly

LF VENTURA: Inventory of Illegal Abandoned and Inactive Sites
Ventura County Inventory of Closed, Illegal Abandoned, and Inactive Sites.

Date of Government Version: 12/01/2011
Date Data Arrived at EDR: 12/01/2011
Date Made Active in Reports: 01/19/2012
Number of Days to Update: 49

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 03/29/2019
Next Scheduled EDR Contact: 07/15/2019
Data Release Frequency: Annually

LUST VENTURA: Listing of Underground Tank Cleanup Sites
Ventura County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 05/29/2008
Date Data Arrived at EDR: 06/24/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 37

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 05/09/2019
Next Scheduled EDR Contact: 08/26/2019
Data Release Frequency: Quarterly

MED WASTE VENTURA: Medical Waste Program List
To protect public health and safety and the environment from potential exposure to disease causing agents, the Environmental Health Division Medical Waste Program regulates the generation, handling, storage, treatment and disposal of medical waste throughout the County.

Date of Government Version: 03/26/2019
Date Data Arrived at EDR: 04/25/2019
Date Made Active in Reports: 05/30/2019
Number of Days to Update: 35

Source: Ventura County Resource Management Agency
Telephone: 805-654-2813
Last EDR Contact: 04/23/2019
Next Scheduled EDR Contact: 08/05/2019
Data Release Frequency: Quarterly

UST VENTURA: Underground Tank Closed Sites List
Ventura County Operating Underground Storage Tank Sites (UST)/Underground Tank Closed Sites List.

Date of Government Version: 02/26/2019
Date Data Arrived at EDR: 03/13/2019
Date Made Active in Reports: 04/03/2019
Number of Days to Update: 21

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 06/12/2019
Next Scheduled EDR Contact: 09/23/2019
Data Release Frequency: Quarterly

YOLO COUNTY:

UST YOLO: Underground Storage Tank Comprehensive Facility Report
Underground storage tank sites located in Yolo county.

Date of Government Version: 12/26/2018
Date Data Arrived at EDR: 01/03/2019
Date Made Active in Reports: 01/16/2019
Number of Days to Update: 13

Source: Yolo County Department of Health
Telephone: 530-666-8646
Last EDR Contact: 03/29/2019
Next Scheduled EDR Contact: 07/15/2019
Data Release Frequency: Annually

YUBA COUNTY:

CUPA YUBA: CUPA Facility List
CUPA facility listing for Yuba County.

Date of Government Version: 02/08/2019
Date Data Arrived at EDR: 02/12/2019
Date Made Active in Reports: 03/06/2019
Number of Days to Update: 22

Source: Yuba County Environmental Health Department
Telephone: 530-749-7523
Last EDR Contact: 04/25/2019
Next Scheduled EDR Contact: 08/12/2019
Data Release Frequency: Varies

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

CT MANIFEST: Hazardous Waste Manifest Data
Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a tsd facility.

Date of Government Version: 02/11/2019
Date Data Arrived at EDR: 02/12/2019
Date Made Active in Reports: 03/04/2019
Number of Days to Update: 20

Source: Department of Energy & Environmental Protection
Telephone: 860-424-3375
Last EDR Contact: 05/14/2019
Next Scheduled EDR Contact: 08/26/2019
Data Release Frequency: No Update Planned

NJ MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2018
Date Data Arrived at EDR: 04/10/2019
Date Made Active in Reports: 05/16/2019
Number of Days to Update: 36

Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 04/10/2019
Next Scheduled EDR Contact: 07/22/2019
Data Release Frequency: Annually

NY MANIFEST: Facility and Manifest Data
Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 01/01/2019
Date Data Arrived at EDR: 01/30/2019
Date Made Active in Reports: 02/14/2019
Number of Days to Update: 15

Source: Department of Environmental Conservation
Telephone: 518-402-8651
Last EDR Contact: 05/01/2019
Next Scheduled EDR Contact: 08/12/2019
Data Release Frequency: Quarterly

PA MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2017
Date Data Arrived at EDR: 10/23/2018
Date Made Active in Reports: 11/27/2018
Number of Days to Update: 35

Source: Department of Environmental Protection
Telephone: 717-783-8990
Last EDR Contact: 04/15/2019
Next Scheduled EDR Contact: 07/29/2019
Data Release Frequency: Annually

RI MANIFEST: Manifest information
Hazardous waste manifest information

Date of Government Version: 12/31/2017
Date Data Arrived at EDR: 02/23/2018
Date Made Active in Reports: 04/09/2018
Number of Days to Update: 45

Source: Department of Environmental Management
Telephone: 401-222-2797
Last EDR Contact: 05/17/2019
Next Scheduled EDR Contact: 09/02/2019
Data Release Frequency: Annually

WI MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2017
Date Data Arrived at EDR: 06/15/2018
Date Made Active in Reports: 07/09/2018
Number of Days to Update: 24

Source: Department of Natural Resources
Telephone: N/A
Last EDR Contact: 06/10/2019
Next Scheduled EDR Contact: 09/23/2019
Data Release Frequency: Annually

Oil/Gas Pipelines
Source: PennWell Corporation
Petroleum Bundle (Crude Oil, Refined Products, Petrochemicals, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)) N = Natural Gas Bundle (Natural Gas, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)). This map includes information copyrighted by PennWell Corporation. This information is provided on a best effort basis and PennWell Corporation does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of PennWell.

Electric Power Transmission Line Data
Source: PennWell Corporation
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Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:
Source: American Hospital Association, Inc.
Telephone: 312-280-5991
The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing
Source: Centers for Medicare & Medicaid Services
Telephone: 410-786-3000
A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes
Source: National Institutes of Health
Telephone: 301-594-6248
Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on private school locations in the United States.

Daycare Centers: Licensed Facilities
Source: Department of Social Services
Telephone: 916-657-4041

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.
Source: FEMA
Telephone: 877-336-2627
Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetland Inventory
Source: Department of Fish and Wildlife
Telephone: 916-445-0411

Current USGS 7.5 Minute Topographic Map
Source: U.S. Geological Survey

STREET AND ADDRESS INFORMATION

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GEOCHECK ®- PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

RATTLESNAKE RESERVOIR
4769 PORTOLA PARKWAY
IRVINE, CA 92620

TARGET PROPERTY COORDINATES

Latitude (North):	33.727369 - 33˚ 43' 38.53''
Longitude (West):	117.745705 - 117˚ 44' 44.54''
Universal Tranverse Mercator:	Zone 11
UTM X (Meters):	430914.2
UTM Y (Meters):	3731984.0
Elevation:	327 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map:	5636489 EL TORO, CA
Version Date:	2012
Southwest Map:	5640942 TUSTIN, CA
Version Date:	2012

EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principle investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

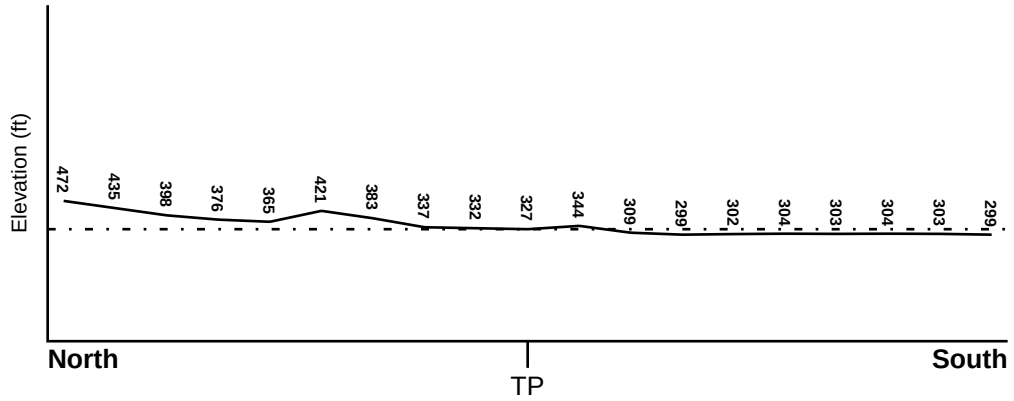
TOPOGRAPHIC INFORMATION

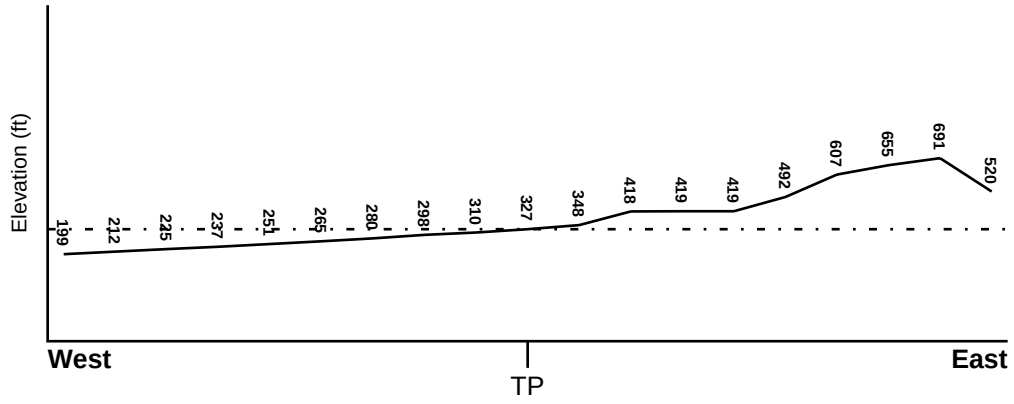
Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

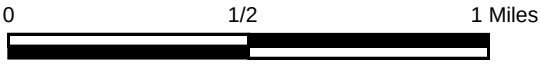
General Topographic Gradient: General WSW

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES





Target Property Elevation: 327 ft.



Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

Flood Plain Panel at Target Property	FEMA Source Type
06059C0305J	FEMA FIRM Flood data

Additional Panels in search area:	FEMA Source Type
06059C0282J	FEMA FIRM Flood data
06059C0284J	FEMA FIRM Flood data

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property	NWI Electronic Data Coverage
EL TORO	YES - refer to the Overview Map and Detail Map

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Site-Specific Hydrogeological Data*:

Search Radius:	1.25 miles
Status:	Not found

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

MAP ID	LOCATION FROM TP	GENERAL DIRECTION GROUNDWATER FLOW
Not Reported		

* ©1996 Site−specific hydrogeological data gathered by CERCLIS Alerts, Inc., Bainbridge Island, WA. All rights reserved. All of the information and opinions presented are those of the cited EPA report(s), which were completed under a Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS) investigation.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

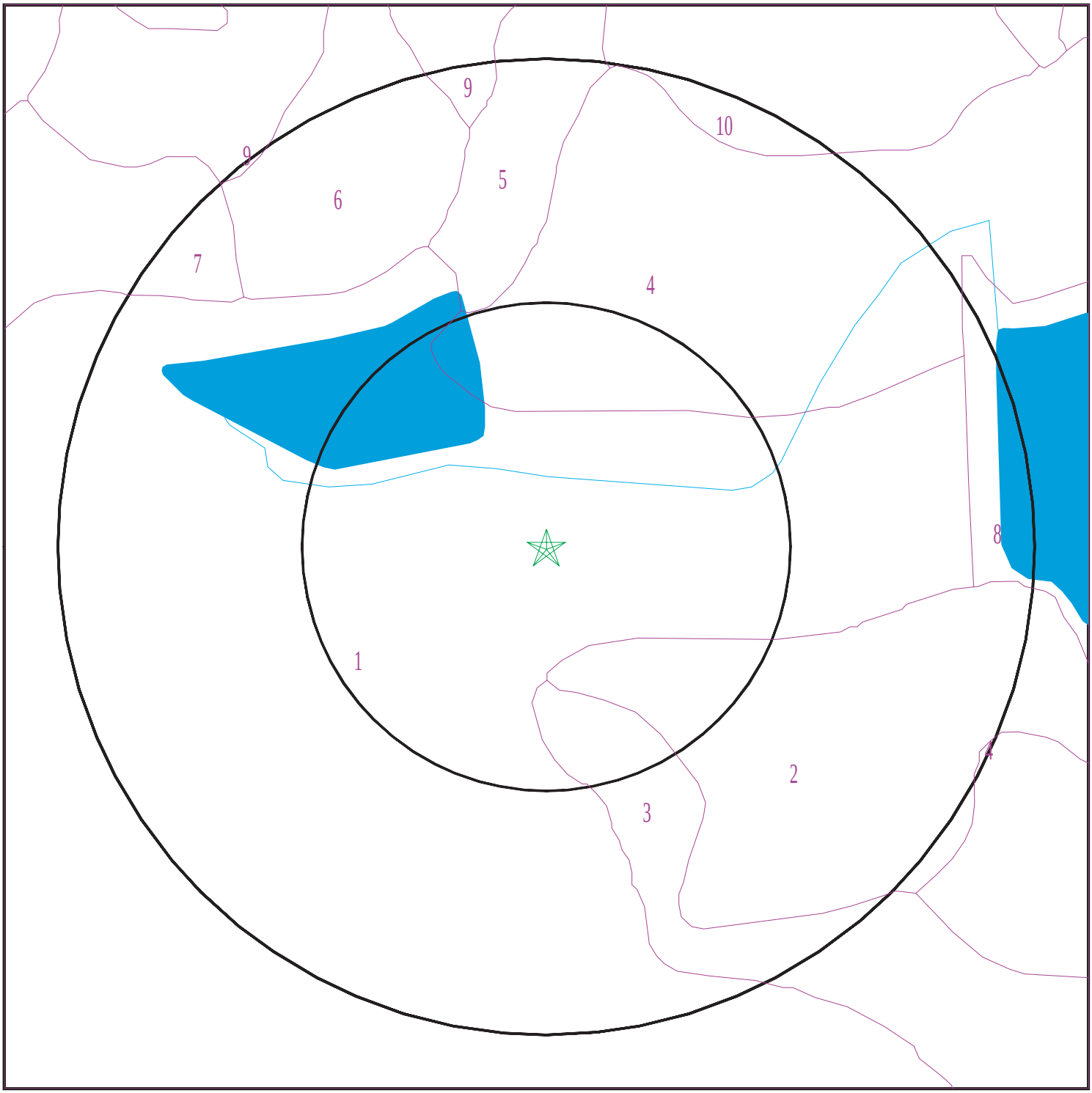
Era:	Cenozoic
System:	Tertiary
Series:	Eocene
Code:	Te *(decoded above as Era, System & Series)*

GEOLOGIC AGE IDENTIFICATION

Category: Stratifed Sequence

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

SSURGO SOIL MAP - 5688367.2s



Target Property
SSURGO Soil
Water

0 1/16 1/8 1/4 Miles

N

SITE NAME: Rattlesnake Reservoir ADDRESS: 4769 Portola Parkway Irvine CA 92620 LAT/LONG: 33.727369 / 117.745705	CLIENT: Psomas CONTACT: Megan Larum INQUIRY #: 5688367.2s DATE: June 19, 2019 12:27 pm

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GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. The following information is based on Soil Conservation Service SSURGO data.

Soil Map ID: 1

Soil Component Name: MOCHO

Soil Surface Texture: loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	31 inches	loam	Not reported	Not reported	Max: 14 Min: 4	Max: 8.4 Min: 7.9
2	31 inches	61 inches	loam	Not reported	Not reported	Max: 14 Min: 4	Max: 8.4 Min: 7.9

Soil Map ID: 2

Soil Component Name: CALLEGUAS

Soil Surface Texture: clay loam

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	14 inches	clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: 1.4 Min: 0	Max: Min:
2	14 inches	18 inches	weathered bedrock	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: 1.4 Min: 0	Max: Min:

Soil Map ID: 3

Soil Component Name: ALO

Soil Surface Texture: clay

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	25 inches	clay	Not reported	Not reported	Max: Min:	Max: Min:
2	25 inches	29 inches	weathered bedrock	Not reported	Not reported	Max: Min:	Max: Min:

Soil Map ID: 4

Soil Component Name: BALCOM

Soil Surface Texture: clay loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	33 inches	clay loam	Not reported	Not reported	Max: Min:	Max: Min:
2	33 inches	38 inches	weathered bedrock	Not reported	Not reported	Max: Min:	Max: Min:

Soil Map ID: 5

Soil Component Name: SORRENTO

Soil Surface Texture: loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	11 inches	loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 14 Min: 4	Max: 8.4 Min: 7.9
2	11 inches	61 inches	silty clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 14 Min: 4	Max: 8.4 Min: 7.9
3	61 inches	72 inches	stratified loamy fine sand to silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 14 Min: 4	Max: 8.4 Min: 7.9

Soil Map ID: 6

Soil Component Name: PITS

Soil Surface Texture: extremely gravelly coarse sand

Hydrologic Group: Class A - High infiltration rates. Soils are deep, well drained to excessively drained sands and gravels.

Soil Drainage Class:
Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Not Reported

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	5 inches	extremely gravelly coarse sand	Not reported	Not reported	Max: 141 Min: 42	Max: Min:
2	5 inches	59 inches	extremely gravelly sand	Not reported	Not reported	Max: 141 Min: 42	Max: Min:

Soil Map ID: 7

Soil Component Name: ALO VARIANT

Soil Surface Texture: clay

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	25 inches	clay	Not reported	Not reported	Max: Min:	Max: Min:
2	25 inches	38 inches	clay	Not reported	Not reported	Max: Min:	Max: Min:
3	38 inches	42 inches	weathered bedrock	Not reported	Not reported	Max: Min:	Max: Min:

Soil Map ID: 8

Soil Component Name: Water

Soil Surface Texture: clay

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class:

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Not Reported

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

No Layer Information available.

Soil Map ID: 9

Soil Component Name: SOPER

Soil Surface Texture: gravelly loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	9 inches	gravelly loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: 4 Min: 1.4	Max: Min:
2	9 inches	29 inches	gravelly clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: 4 Min: 1.4	Max: Min:
3	29 inches	33 inches	weathered bedrock	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: 4 Min: 1.4	Max: Min:

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Map ID: 10

Soil Component Name: ANAHEIM

Soil Surface Texture: clay loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	25 inches	clay loam	Not reported	Not reported	Max: Min:	Max: Min:
2	25 inches	29 inches	weathered bedrock	Not reported	Not reported	Max: Min:	Max: Min:

LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

WELL SEARCH DISTANCE INFORMATION

DATABASE	SEARCH DISTANCE (miles)
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 1 mile
State Database	1.000

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No Wells Found		

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

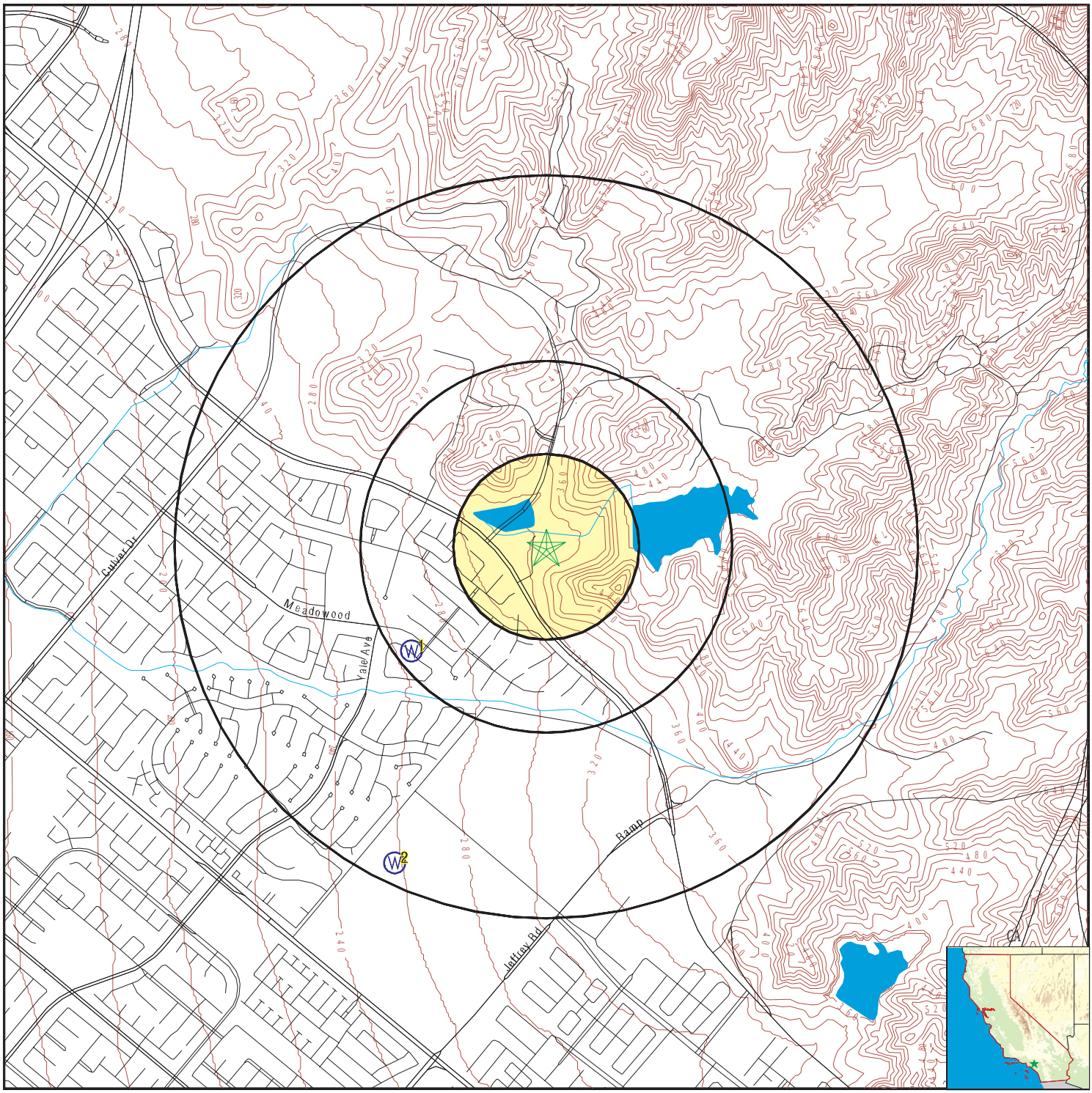
MAP ID	WELL ID	LOCATION FROM TP
No PWS System Found		

Note: PWS System location is not always the same as well location.

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
1	CADWR8000005165	1/4 - 1/2 Mile SW
2	6274	1/2 - 1 Mile SSW

PHYSICAL SETTING SOURCE MAP - 5688367.2s



0 1/4 1/2 1 Miles

- County Boundary
- Major Roads
- Contour Lines
- Earthquake Fault Lines
- Earthquake epicenter, Richter 5 or greater
- Water Wells
- Public Water Supply Wells
- Cluster of Multiple Icons
- Groundwater Flow Direction
- GI Indeterminate Groundwater Flow at Location
- GV Groundwater Flow Varies at Location
- HD Closest Hydrogeological Data
- Oil, gas or related wells

N

SITE NAME: Rattlesnake Reservoir ADDRESS: 4769 Portola Parkway Irvine CA 92620 LAT/LONG: 33.727369 / 117.745705	CLIENT: Psomas CONTACT: Megan Larum INQUIRY #: 5688367.2s DATE: June 19, 2019 12:27 pm

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GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID Direction Distance Elevation	Database	EDR ID Number
1 **SW** **1/4 - 1/2 Mile** **Lower**	**CA WELLS**	**CADWR8000005165**

State Well #:	05S08W19H001S	Station ID:	28153
Well Name:	Not Reported	Well Use:	Unknown
Well Type:	Unknown	Well Depth:	0
Basin Name:	Coastal Plain Of Orange County		
Well Completion Rpt #:	Not Reported		

---

2 **SSW** **1/2 - 1 Mile** **Lower**	**CA WELLS**	**6274**	

Seq:	6274	Prim sta c:	05S/10W-27A01 S
Frds no:	3010092011	County:	30
District:	08	User id:	TEE
System no:	3010092	Water type:	G
Source nam:	WELL 15	Station ty:	WELL/AMBNT/MUN/INTAKE/SUPPLY
Latitude:	334254.1	Longitude:	1174507.1
Precision:	2	Status:	AU
Comment 1:	LOCATED 337' E OF GREENVILLE ST, 104' S OF WARNER AVE.		
Comment 2:	Not Reported	Comment 3:	Not Reported
Comment 4:	Not Reported	Comment 5:	Not Reported
Comment 6:	Not Reported	Comment 7:	Not Reported

System no:	3010092	System nam:	Irvine Ranch Water District
Hqname:	Not Reported	Address:	P.O. BOX 57000
City:	IRVINE	State:	CA
Zip:	92716	Zip ext:	Not Reported
Pop serv:	135000	Connection:	50321
Area serve:	IRVINE		

Sample date:	20-JUN-17	Finding:	7.
Chemical:	COLOR	Report units:	UNITS
Dlr:	0.		
Sample date:	29-MAR-17	Finding:	7.
Chemical:	COLOR	Report units:	UNITS
Dlr:	0.		
Sample date:	28-FEB-17	Finding:	6.
Chemical:	COLOR	Report units:	UNITS
Dlr:	0.		
Sample date:	17-JAN-17	Finding:	258.
Chemical:	TOTAL DISSOLVED SOLIDS	Report units:	MG/L
Dlr:	0.		
Sample date:	17-JAN-17	Finding:	404.
Chemical:	SPECIFIC CONDUCTANCE	Report units:	US
Dlr:	0.		
Sample date:	17-JAN-17	Finding:	7.9
Chemical:	PH, LABORATORY	Report units:	Not Reported
Dlr:	0.		

Sample date:	17-JAN-17	Finding:	148.
Chemical:	ALKALINITY (TOTAL) AS CACO3	Report units:	MG/L
Dlr:	0.		
Sample date:	17-JAN-17	Finding:	181.
Chemical:	BICARBONATE ALKALINITY	Report units:	MG/L
Dlr:	0.		
Sample date:	17-JAN-17	Finding:	104.
Chemical:	HARDNESS (TOTAL) AS CACO3	Report units:	MG/L
Dlr:	0.		
Sample date:	17-JAN-17	Finding:	31.6
Chemical:	CALCIUM	Report units:	MG/L
Dlr:	0.		
Sample date:	17-JAN-17	Finding:	6.
Chemical:	MAGNESIUM	Report units:	MG/L
Dlr:	0.		
Sample date:	17-JAN-17	Finding:	47.
Chemical:	SODIUM	Report units:	MG/L
Dlr:	0.		
Sample date:	17-JAN-17	Finding:	1.5
Chemical:	POTASSIUM	Report units:	MG/L
Dlr:	0.		
Sample date:	17-JAN-17	Finding:	13.8
Chemical:	CHLORIDE	Report units:	MG/L
Dlr:	0.		
Sample date:	17-JAN-17	Finding:	37.4
Chemical:	SULFATE	Report units:	MG/L
Dlr:	0.5		
Sample date:	17-JAN-17	Finding:	0.33
Chemical:	FLUORIDE (F) (NATURAL-SOURCE)	Report units:	MG/L
Dlr:	0.1		
Sample date:	17-JAN-17	Finding:	4.1
Chemical:	VANADIUM	Report units:	UG/L
Dlr:	3.		
Sample date:	28-DEC-16	Finding:	5.
Chemical:	COLOR	Report units:	UNITS
Dlr:	0.		
Sample date:	20-DEC-16	Finding:	7.
Chemical:	COLOR	Report units:	UNITS
Dlr:	0.		
Sample date:	13-JUL-16	Finding:	7.
Chemical:	COLOR	Report units:	UNITS
Dlr:	0.		
Sample date:	07-JUL-16	Finding:	6.
Chemical:	COLOR	Report units:	UNITS
Dlr:	0.		
Sample date:	29-APR-15	Finding:	3.
Chemical:	COLOR	Report units:	UNITS

Dlr:	0.		
Sample date:	29-APR-15	Finding:	402.
Chemical:	SPECIFIC CONDUCTANCE	Report units:	US
Dlr:	0.		
Sample date:	29-APR-15	Finding:	8.2
Chemical:	PH, LABORATORY	Report units:	Not Reported
Dlr:	0.		
Sample date:	29-APR-15	Finding:	148.
Chemical:	ALKALINITY (TOTAL) AS CACO3	Report units:	MG/L
Dlr:	0.		
Sample date:	29-APR-15	Finding:	181.
Chemical:	BICARBONATE ALKALINITY	Report units:	MG/L
Dlr:	0.		
Sample date:	29-APR-15	Finding:	0.32
Chemical:	TOTAL ORGANIC CARBON (TOC)	Report units:	MG/L
Dlr:	0.3		
Sample date:	29-APR-15	Finding:	107.
Chemical:	HARDNESS (TOTAL) AS CACO3	Report units:	MG/L
Dlr:	0.		
Sample date:	29-APR-15	Finding:	32.7
Chemical:	CALCIUM	Report units:	MG/L
Dlr:	0.		
Sample date:	29-APR-15	Finding:	6.3
Chemical:	MAGNESIUM	Report units:	MG/L
Dlr:	0.		
Sample date:	29-APR-15	Finding:	47.4
Chemical:	SODIUM	Report units:	MG/L
Dlr:	0.		
Sample date:	29-APR-15	Finding:	1.5
Chemical:	POTASSIUM	Report units:	MG/L
Dlr:	0.		
Sample date:	29-APR-15	Finding:	14.
Chemical:	CHLORIDE	Report units:	MG/L
Dlr:	0.		
Sample date:	29-APR-15	Finding:	38.1
Chemical:	SULFATE	Report units:	MG/L
Dlr:	0.5		
Sample date:	29-APR-15	Finding:	0.38
Chemical:	FLUORIDE (F) (NATURAL-SOURCE)	Report units:	MG/L
Dlr:	0.1		
Sample date:	29-APR-15	Finding:	4.5
Chemical:	VANADIUM	Report units:	UG/L
Dlr:	3.		
Sample date:	29-APR-15	Finding:	254.
Chemical:	TOTAL DISSOLVED SOLIDS	Report units:	MG/L
Dlr:	0.		

Sample date:	30-APR-14	Finding:	0.886
Chemical:	GROSS ALPHA COUNTING ERROR	Report units:	PCI/L
Dlr:	0.		
Sample date:	30-APR-14	Finding:	0.469
Chemical:	RADIUM 228 COUNTING ERROR	Report units:	PCI/L
Dlr:	0.		
Sample date:	30-APR-14	Finding:	0.418
Chemical:	RADIUM, TOTAL, MDA95-NTNC ONLY, BY 903.0		
Report units:	PCI/L	Dlr:	0.
Sample date:	30-APR-14	Finding:	1.11
Chemical:	GROSS ALPHA MDA95	Report units:	PCI/L
Dlr:	0.		
Sample date:	30-APR-14	Finding:	0.3
Chemical:	URANIUM MDA95	Report units:	PCI/L
Dlr:	0.		
Sample date:	30-APR-14	Finding:	0.253
Chemical:	RADIUM 228 MDA95	Report units:	PCI/L
Dlr:	0.		
Sample date:	30-APR-14	Finding:	0.262
Chemical:	RA-226 OR TOTAL RA BY 903.0 C.E.	Report units:	PCI/L
Dlr:	0.		
Sample date:	30-APR-14	Finding:	0.61
Chemical:	URANIUM COUNTING ERROR	Report units:	PCI/L
Dlr:	0.		
Sample date:	14-AUG-13	Finding:	4.5
Chemical:	VANADIUM	Report units:	UG/L
Dlr:	3.		
Sample date:	14-AUG-13	Finding:	414.
Chemical:	SPECIFIC CONDUCTANCE	Report units:	US
Dlr:	0.		
Sample date:	23-APR-12	Finding:	3.
Chemical:	COLOR	Report units:	UNITS
Dlr:	0.		
Sample date:	23-APR-12	Finding:	8.2
Chemical:	PH, LABORATORY	Report units:	Not Reported
Dlr:	0.		
Sample date:	23-APR-12	Finding:	144.
Chemical:	ALKALINITY (TOTAL) AS CACO3	Report units:	MG/L
Dlr:	0.		
Sample date:	23-APR-12	Finding:	144.
Chemical:	BICARBONATE ALKALINITY	Report units:	MG/L
Dlr:	0.		
Sample date:	23-APR-12	Finding:	106.
Chemical:	HARDNESS (TOTAL) AS CACO3	Report units:	MG/L
Dlr:	0.		
Sample date:	23-APR-12	Finding:	32.6
Chemical:	CALCIUM	Report units:	MG/L

Dlr:	0.		
Sample date:	23-APR-12	Finding:	6.
Chemical:	MAGNESIUM	Report units:	MG/L
Dlr:	0.		
Sample date:	23-APR-12	Finding:	47.2
Chemical:	SODIUM	Report units:	MG/L
Dlr:	0.		
Sample date:	23-APR-12	Finding:	1.8
Chemical:	POTASSIUM	Report units:	MG/L
Dlr:	0.		
Sample date:	23-APR-12	Finding:	14.4
Chemical:	CHLORIDE	Report units:	MG/L
Dlr:	0.		
Sample date:	23-APR-12	Finding:	39.
Chemical:	SULFATE	Report units:	MG/L
Dlr:	0.5		
Sample date:	23-APR-12	Finding:	0.32
Chemical:	FLUORIDE (F) (NATURAL-SOURCE)	Report units:	MG/L
Dlr:	0.1		
Sample date:	23-APR-12	Finding:	5.6
Chemical:	VANADIUM	Report units:	UG/L
Dlr:	3.		
Sample date:	23-APR-12	Finding:	236.
Chemical:	TOTAL DISSOLVED SOLIDS	Report units:	MG/L
Dlr:	0.		
Sample date:	23-APR-12	Finding:	400.
Chemical:	SPECIFIC CONDUCTANCE	Report units:	US
Dlr:	0.		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS
RADON

AREA RADON INFORMATION

State Database: CA Radon

Radon Test Results

Zipcode	Num Tests	> 4 pCi/L
92620	45	3

Federal EPA Radon Zone for ORANGE County: 3

Note: Zone 1 indoor average level > 4 pCi/L.
: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
: Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for ORANGE COUNTY, CA

Number of sites tested: 30

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	0.763 pCi/L	100%	0%	0%
Living Area - 2nd Floor	Not Reported	Not Reported	Not Reported	Not Reported
Basement	Not Reported	Not Reported	Not Reported	Not Reported

PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)
Source: United States Geologic Survey
EDR acquired the USGS 7.5' Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

Current USGS 7.5 Minute Topographic Map
Source: U.S. Geological Survey

HYDROLOGIC INFORMATION

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.
Source: FEMA
Telephone: 877-336-2627
Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetland Inventory
Source: Department of Fish and Wildlife
Telephone: 916-445-0411

HYDROGEOLOGIC INFORMATION

AQUIFLOW[R] Information System
Source: EDR proprietary database of groundwater flow information
EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit
Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)
The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

SSURGO: Soil Survey Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)
Telephone: 800-672-5559
SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Service, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)
This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

STATE RECORDS

Water Well Database
Source: Department of Water Resources
Telephone: 916-651-9648

California Drinking Water Quality Database
Source: Department of Public Health
Telephone: 916-324-2319
The database includes all drinking water compliance and special studies monitoring for the state of California since 1984. It consists of over 3,200,000 individual analyses along with well and water system information.

OTHER STATE DATABASE INFORMATION

California Oil and Gas Well Locations
Source: Department of Conservation
Telephone: 916-323-1779
Oil and Gas well locations in the state.

California Earthquake Fault Lines
Source: California Division of Mines and Geology
The fault lines displayed on EDR's Topographic map are digitized quaternary fault lines prepared in 1975 by the United State Geological Survey. Additional information (also from 1975) regarding activity at specific fault lines comes from California's Preliminary Fault Activity Map prepared by the California Division of Mines and Geology.

RADON

State Database: CA Radon
Source: Department of Public Health
Telephone: 916-210-8558
Radon Database for California

Area Radon Information
Source: USGS
Telephone: 703-356-4020
The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

EPA Radon Zones
Source: EPA
Telephone: 703-356-4020
Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

OTHER

Airport Landing Facilities: Private and public use landing facilities
Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

California Earthquake Fault Lines: The fault lines displayed on EDR's Topographic map are digitized quaternary fault lines, prepared in 1975 by the United State Geological Survey. Additional information (also from 1975) regarding activity at specific fault lines comes from California's Preliminary Fault Activity Map prepared by the California Division of Mines and Geology.

STREET AND ADDRESS INFORMATION

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Appendix E

Noise Calculations

Construction Generated Noise

Building Type	Office, Hotel, Hospital, School, Public Works	**Distance (ft)**
Construction Noise at 50 Feet (dBA Leq)		50
Construction Phase	**All Applicable Equipment in Use**[1]	
Ground Clearing/Demolition	84	
Excavation	89	
Foundation Construction	78	
Building Construction	87	
Finishing and Site Cleanup	89	

Residential Use to the West of the Project Site		
Maximum Construction Noise (dBA Leq)		340
Construction Phase	**All Applicable Equipment in Use**[1]	
Ground Clearing/Demolition	67	
Excavation (Site Preparation)	72	
Foundation Construction	61	
Building Construction	70	
Paving	72	
Average Construction Noise (dBA Leq)		

OCFA Fire Station to the South of the Project Site		
Maximum Construction Noise (dBA Leq)		175
Construction Phase	**All Applicable Equipment in Use**[1]	
Ground Clearing/Demolition	73	
Excavation (Site Preparation)	78	
Foundation Construction	67	
Building Construction	76	
Paving	78	

Residential Uses to the North of the Project Site		
Maximum Construction Noise (dBA Leq)		100
Construction Phase	**All Applicable Equipment in Use**[1]	
Ground Clearing/Demolition	78	
Excavation (Site Preparation)	83	
Foundation Construction	72	
Building Construction	81	
Paving	83	

Source: Bolt, Beranek and Newman, "Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances," prepared for the USEPA, December 31, 1971. Based on analysis for Office Building, Hotel, Hospital, School, and Public Works.

Construction Generated Vibration

Residential Use to the West of the Project Site		Closest Distance (feet):	340
	Approximate RMS a Velocity at 25 ft,	Approximate RMS Velocity Level,	
Equipment	inch/second	inch/second	
Vibratory roller	0.21	0.004	
Large bulldozer	0.089	0.002	
Small bulldozer	0.003	0.000	
Jackhammer	0.035	0.001	
Loaded trucks	0.076	0.002	
	Criteria	0.250	
OCFA Fire Station to the South of the Project Site		Closest Distance (feet):	175
	Approximate RMS a Velocity at 25 ft,	Approximate RMS Velocity Level,	
Equipment	inch/second	inch/second	
Vibratory roller	0.21	0.011	
Caisson Drill	0.089	0.005	
Large bulldozer	0.089	0.005	
Small bulldozer	0.003	0.000	
Jackhammer	0.035	0.002	
Loaded trucks	0.076	0.004	
	Criteria	0.250	
Residential Uses to the North of the Project Site		Closest Distance (feet):	100
	Approximate RMS a Velocity at 25 ft,	Approximate RMS Velocity Level,	
Equipment	inch/second	inch/second	
Vibratory roller	0.21	0.026	
Caisson Drill	0.089	0.011	
Large bulldozer	0.089	0.011	
Small bulldozer	0.003	0.000	
Jackhammer	0.035	0.004	
Loaded trucks	0.076	0.010	
	Criteria	0.250	

Based on distance to nearest structure

[1.] Determined based on use of jackhammers or pneumatic hammers that may be used for pavement demolition at a distance of 25 feet

Notes: RMS velocity calculated from vibration level (VdB) using the reference of one microinch/second.

Source: Based on methodology from the United States Department of Transportation Federal Transit Administration, *Transit Noise and Vibration Impact Assessment* (2006).